Draft Environmental Impact Report (Draft EIR)

[State Clearinghouse No. 2009041043]

for

Los Angeles International Airport (LAX) Central Utility Plant Replacement Project

Volume 1

Main Document

City of Los Angeles
Los Angeles City File No. EIR-09021-AD

July 2009

Draft Environmental Impact Report (Draft EIR)

[State Clearinghouse No. 2009041043]

for

Los Angeles International Airport (LAX) Central Utility Replacement Project

Volume 1

Main Document

City of Los Angeles
Los Angeles City File No. EIR-09021-AD

July 2009

Table of Contents

Appendices

Appendix A – Initial Study, Notice of Preparation (NOP), NOP Comments
Appendix B – Traffic
Appendix C – Human Health Risk Assessment

List of Tables

List of Figures

This page intentionally blank.

1. INTRODUCTION AND EXECUTIVE SUMMARY

This document is a Draft Environmental Impact Report (Draft EIR) for the proposed Central Utility Plant Replacement Project (CUP-RP) at Los Angeles International Airport (LAX). LAX is owned and operated by the City of Los Angeles, whose Board of Airport Commissioners oversees the policy, management, operation, and regulation of LAX, as well as LA/Ontario International Airport, Van Nuys Airport, and LA/Palmdale Regional Airport. Los Angeles World Airports (LAWA) is a self-supporting administrative department of the City of Los Angeles charged with administering the day-to-day operations of LAX. This Draft EIR has been prepared by LAWA as the lead agency in conformance with the California Environmental Quality Act (CEQA).[1] The project is located within the Central Terminal Area (CTA) of the airport.

Included in this chapter of the Draft EIR is a brief summary of the proposed project, an overview of the purpose and focus of the Draft EIR, a description of the organization of the Draft EIR, a general discussion of areas of controversy/issues to be resolved, and a summary of the environmental analysis.

1.1 Summary of Proposed Project

In accordance with CEQA Guidelines Section 15123, this chapter contains a brief summary of the proposed project and its potential environmental impacts. More detailed information regarding the project, including figures depicting the regional and local context of the project and proposed construction schedule, is provided in Chapter 2 of this EIR.

The proposed project provides for the replacement of the existing CUP and cogeneration facilities at LAX. The existing CUP provides heating and cooling for the terminals within the CTA and generates electricity (cogeneration)[2] that is sold back to the Los Angeles Department of Water and Power (LADWP). Included as part of the CUP-RP are the following components: replacement of the existing CUP and maintenance shop building, including a new electrical cogeneration facility; replacement of existing cooling towers; construction of an underground thermal energy storage (TES) tank at the site of the existing CUP; electrical upgrades to include a new electrical substation and a retro-fit of the existing LADWP substation; installation of a new fire management system and a new fire life safety system, and replacement of the direct buried chilled water and hot water service lines in the CTA. The project includes the demolition of the existing CUP and associated ancillary facilities. In addition, the project includes the potential installation of a recycled-reclaimed water pipeline and treatment system and the potential use of biogas from the Hyperion Treatment Plant (HTP) to augment the natural gas system. Staging for construction equipment, as well as construction worker parking, would be located in surface parking lots within the CTA.

1.2 Relationship to the LAX Master Plan

Although the CUP-RP is not a component of the LAX Master Plan, LAWA will implement applicable commitments and mitigation measures identified in the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP) as part of the CUP-RP. The LAX Master Plan commitments and mitigation measures proposed to be implemented as part of the project are indentified below in **Table 1-1**, beginning on page 1-6, and in the individual technical sections within Chapter 4, Setting, Environmental Impacts, and Mitigation Measures, of this EIR. In addition, relevant information and assumptions from the LAX Master Plan EIR and other recent Master Plan project EIRs are also used in this EIR where indicated.

---

1 California Environmental Quality Act, Public Resources Code Section 21000 et seq, and California Code of Regulations, Title 14 Section 15000 et seq. (CEQA Guidelines).

2 Cogeneration is a process in which the boiler system and a turbine system are integrated to generate heat for both hot water and electricity and in which waste energy may be utilized to produce heat and electricity.

1.3 Purpose of this EIR

This EIR is a Project EIR, as defined by Section 15161 of the State CEQA Guidelines and, as such, serves as an informational document for the general public and project decision-makers. The Lead Agency, LAWA, is responsible for the preparation and distribution of this Draft EIR pursuant to Public Resources Code Section 21067. This EIR shall be used in connection with all other permits and all other approvals necessary for the construction and operation of the proposed project. This EIR shall be used by the Regional Water Quality Control Board (RWQCB), South Coast Air Quality Management District (SCAQMD), the Los Angeles Department of Building and Safety, the Los Angeles Department of Public Works, the Los Angeles Fire Department and all other responsible public agencies that must approve activities undertaken with respect to the project.

This EIR evaluates the environmental impacts determined by the Initial Study to be potentially significant and provides mitigation measures as appropriate. This methodology is consistent with CEQA Guidelines Section 15063(c)(3)(A). Pursuant to CEQA Guidelines Section 15128, proposed project effects found not to be significant are discussed in the Initial Study, attached as Appendix A. Areas of environmental concern evaluated in the Initial Study are based on Appendix G, *Environmental Checklist Form*, of the CEQA Guidelines. Environmental areas determined to be less than significant in the Initial Study are discussed in Chapter 5 of this EIR. In general, impacts that cannot be mitigated to a level below significance are considered significant unavoidable adverse impacts. In accordance with Section 15130 of the State CEQA Guidelines, this EIR also includes an examination of the effects of cumulative development at LAX and in the study area. Cumulative development includes all anticipated future projects that, in conjunction with the proposed CUP-RP, may result in a cumulative impact. In addition, this EIR evaluates the extent to which environmental effects could be reduced or avoided through the implementation of feasible alternatives to the proposed project. Furthermore, LAWA is responsible for certifying the EIR and adopting any mitigation measures needed to address the proposed project's significant environmental impacts. For projects that result in significant unavoidable adverse environmental effects, LAWA may, after making a series of findings, pursuant to CEQA Guidelines Section 15091, certify the EIR and adopt a Statement of Overriding Considerations pursuant to CEQA Guidelines Section 15093.

1.4 Organization of this EIR

This EIR follows the preparation and content guidance provided in CEQA and the State CEQA Guidelines. Listed below is a summary of each chapter of the report.

Chapter 1 – Introduction and Executive Summary

This chapter provides a summary of the proposed project and environmental analysis, including a summary of potentially significant impacts and proposed mitigation measures.

Chapter 2 – Project Description

This chapter presents the location of the project, the objectives of the project, a description of the individual components of the project and project plans, and a construction schedule. In addition, the chapter identifies the intended use of the EIR and the approvals required for implementation of the proposed project.

Chapter 3 – Overview of Project Setting

This chapter provides an overview of existing conditions for areas proposed for improvement and areas potentially affected by the proposed project. This chapter also describes other projects proposed in the nearby area that may, in conjunction with the CUP-RP, result in cumulative impacts on the existing environment.

Chapter 4 – Setting, Environmental Impacts, and Mitigation Measures

The introductory section of Chapter 4 describes the analytical framework for the environmental review of the CUP-RP. The remaining sections of the chapter provide detailed analysis of the potential environmental impacts of the project on surface transportation, air quality, human health risk, and global climate change.

Chapter 5 – Other Environmental Considerations

This chapter contains several subsections, most of which are required under CEQA Guidelines Section 15126.2, Consideration and Discussion of Significant Environmental Impacts. The chapter provides a summary of significant unavoidable impacts that would result from the proposed project, an analysis of significant irreversible changes in the environment that would result from the project, and an evaluation of the project's potential to result in growth-inducing impacts by fostering economic or population growth or the construction of housing, either directly or indirectly. Potential secondary effects that could result due to implementation of mitigation measures proposed for the project are also discussed. Last, a discussion of environmental effects determined not to be significant within the Initial Study is provided.

Chapter 6 – Project Alternatives

This chapter provides an evaluation of project alternatives that could feasibly attain most of the basic objectives of the project while avoiding or substantially reducing any of the significant effects of the project identified in Chapter 4. Significant impacts include air pollutant emissions occurring during construction of the CUP-RP that would exceed the CEQA daily thresholds of significance established by the SCAQMD for VOC and NO_x; construction-related airborne concentrations would be significant for PM10 on an annual and 24-hour basis; cumulative construction-related emissions of CO, VOC, NO_x, PM10, and PM2.5 would be significant and unavoidable. Project-related cancer risks for CUP-RP construction impacts with mitigation would be above the level of significance of 10 in one million for adult workers within the study area. In addition, project impacts related to global climate change are considered to be significant and unavoidable during construction and cumulatively significant and unavoidable during operation.

Project Alternatives include a "No Project Alternative" and a "Direct Burial Alternative". The No Project Alternative assumes that redevelopment of the CUP would not occur. As the existing CUP would not be replaced, existing equipment, such as the turbine, boilers and other systems, would continue to break down with resultant costs and environmental implications. In the event new or expanded terminal space were constructed in conformance with approved plans, the No Project Alternative would cause the development of decentralized heating and cooling systems throughout the CTA to augment the existing CUP. The No Project Alternative would avoid all construction-related impacts of the proposed project, including those related to air pollutant emissions and global climate change. The significant human health risk impact of the proposed project would be less than significant under the No Project Alternative. However, the No Project Alternative would continue to operate the existing CUP and would result in greater operational GHG emissions compared to the proposed CUP-RP. The 6 percent reduction in operational GHG emissions and implementation of sustainability goals associated with the proposed project and the Direct Burial Alternative would not occur under the No Project Alternative.

The Direct Burial Alternative would change the construction technique used in the development of the underground chilled water and hot water pipelines extending west from the CUP. Under the Direct Burial Alternative, the Utilidor proposed to extend west from the CUP would not be developed and chilled water and hot water lines would be placed directly in trenches. Since concrete would not be inserted or poured into the trench, the Direct Burial Alternative would require a smaller clear space. Excavated materials associated with the pipelines extending west from the CUP, and associated construction activities, would be considerably reduced (23,500 cubic yards (cy) for the Direct Burial Alternative versus 143,500 cy for the proposed Utilidor). The Direct Burial Alternative would also have greater flexibility in passing through existing underground facilities and pipelines. The Direct Burial Alternative would avoid the significant

VOC emissions and PM10 concentration impact associated with construction of the proposed project. It would also avoid the significant construction related impact on global climate change.

As discussed in section 6.4.3.3, the environmentally superior alternative is the No Project Alternative because it would eliminate the significant impacts associated with construction, including air pollutant emissions, human health risk, and global climate change. The environmentally superior build alternative is the Direct Burial Alternative because it would avoid the significant air quality and global climate change impacts of the proposed project as stated above.

Chapter 7 – List of Preparers, Parties to Whom Sent, References, NOP Comments, and List of Acronyms

This chapter provides the following: a list of the individuals from the City of Los Angeles and contractors who performed key roles in the preparation and development of this Draft EIR; a list of the parties to whom copies of this Draft EIR were sent for review or to whom notice of the availability of this Draft EIR was sent; a list containing the bibliography of documents used in the preparation of this Draft EIR; a list of agencies, organizations and individuals who provided comments on the EIR NOP; and a list of acronyms used in this Draft EIR.

1.5 Executive Summary of Environmental Impacts

Table 1-1 summarizes the environmental impacts of the proposed CUP-RP related to surface transportation, air quality, human health risks, and global climate change, as identified in Chapter 4, Setting, Environmental Impacts, and Mitigation Measures, of this EIR. In accordance with the requirements of the CEQA Guidelines, and as further described in Chapter 5, Other Environmental Considerations, all other environmental categories addressed in Appendix G of the CEQA Guidelines, including aesthetics, agricultural resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, parks and recreation, and utilities were determined to be less than significant in the Initial Study prepared for the proposed project. The Initial Study is included as Appendix A of this EIR.

1.6 Areas of Known Controversy and Issues to be Resolved

Several letters were received during the public circulation period for the Notice of Preparation (NOP) prepared for this EIR. Comments from public agencies addressed truck traffic, approval of pipeline alignments, and mitigation measures for air pollutant emissions associated with construction and operation. These issues are addressed in this EIR. An agency comment was also received related to the location of ten plugged or abandoned wells within or in close proximity to LAX. All plugged and abandoned wells in the vicinity are located to the west or south of the CTA. The nearest plugged and abandoned wells are two plugged dry holes located approximately 900 feet to the south and approximately 900 feet to the west, respectively, of the CUP.[3] No active wells are located on LAX property. No plugged or abandoned wells are located in the vicinity of either of the two possible recycled/reclaimed water treatment system sites; or possible pipeline routes, which would be located within existing street rights of way to the east of the CUP. As no plugged or abandoned wells are located within areas of potential disturbance associated with the proposed project, this issue is not addressed in the EIR.

---

3 California Division of Oil, Gas, and Geothermal Resources, Regional Wildcat Map W1-5, June 1986.

An additional comment letter expressed concern about the future need for the proposed CUP-RP if demand for airline services permanently declines as a result of a future diminished economy and limited availability of energy resources. The proposed CUP-RP is intended to replace existing outdated and inefficient equipment and to address anticipated capacity shortfalls to accommodate the CTA's existing, as well as the anticipated demand of CTA facilities. Based on the size, age, and condition of the existing CUP, there is an estimated existing shortfall of approximately 3,500 tons of cooling capacity relative to existing demand. This EIR does not address, and it is considered speculative to assume, that there will be a permanent and substantial decrease in demand for airline services in the near future. However, this EIR does describe environmentally sustainable features of the project, conformance of the project with LAWA's Sustainability Plan,[4] and the project's potential effects on climate change.

4 Los Angeles World Airports, Final Sustainability Plan, April 2008.

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
Construction Surface Transportation: The comparison of the project's peak construction period traffic to existing baseline conditions would not result in any significant impacts at the study area intersections.	**C-1. Establishment of a Ground Transportation/Construction Coordination Office**. Establish this office for the life of the construction projects to coordinate deliveries, monitor traffic conditions, advise motorists and those making deliveries about detours and congested areas, and monitor and enforce delivery times and routes. LAWA will periodically analyze traffic conditions on designated routes during construction to see whether there is a need to improve conditions through signage and other means. This office may undertake a variety of duties, including but not limited to: ♦ Inform motorists about detours and congestion by use of static signs, changeable message signs, media announcements, airport website, etc.; ♦ Work with airport police and the Los Angeles Police Department to enforce delivery times and routes; ♦ Establish staging areas; ♦ Coordinate with police and fire personnel regarding maintenance of emergency access and response times; ♦ Coordinate roadway projects of Caltrans, City of Los Angeles, and other jurisdictions with those of the airport construction projects; ♦ Monitor and coordinate deliveries; ♦ Establish detour routes; ♦ Work with residential and commercial neighbors to address their concerns regarding construction activity; and ♦ Analyze traffic conditions to determine the need for additional traffic controls, lane restriping, signal modifications, etc.	None required	Less than significant

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
	♦ **C-2. Construction Personnel Airport Orientation**. All construction personnel will be required to attend an airport project-specific orientation (pre-construction meeting) that includes where to park, where staging areas are located, construction policies, etc. ♦ **ST-2. Non-Peak CTA Deliveries.** Deliveries to the CTA terminal reconstruction projects will be limited to non-peak traffic hours whenever possible. ♦ **ST-9. Construction Deliveries**. Construction deliveries requiring lane closures shall receive prior approval from the Construction Coordination Office. Notification of deliveries shall be made with sufficient time to allow for any modifications to approved traffic detour plans. ♦ **ST-12. Designated Truck Delivery Hours**. Truck deliveries shall be encouraged to use night-time hours and shall avoid the peak periods of 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m. [*Note: This measure provides guidelines for controlling the arrival and departure times of construction related traffic during peak commute periods, and served as input for developing an estimated schedule of CUP-RP construction delivery activity*.] ♦ **ST-14. Construction Employee Shift Hours**. Shift hours that do not coincide with the heaviest commuter traffic periods (7:00 a.m. to 9:00 a.m., 4:30 p.m. to 6:30 p.m.) will be established. Work periods will be extended to include weekends and multiple work shifts, to the extent possible and necessary. [*Note: This measure provides guidelines for controlling the arrival and departure times of construction employees, and served as direct input for determining the employee traffic activity associated with the CUP-RP. Traffic analysis was limited to weekday traffic conditions to provide a conservative estimate of potential impacts given that weekday traffic activity is typically significantly higher than during the weekend traffic*.]		

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
	♦ **ST-16. Designated Haul Routes**. Every effort will be made to ensure that haul routes are located away from sensitive noise receptors. ♦ **ST-17. Maintenance of Haul Routes**. Haul routes on off-airport roadways will be maintained periodically and will comply with City of Los Angeles or other appropriate jurisdictional requirements for maintenance. Minor striping, lane configurations, and signal phasing modifications will be provided as needed. ♦ **ST-18. Construction Traffic Management Plan**. A complete construction traffic plan will be developed to designate detour and/or haul routes, variable message and other sign locations, communication methods with airport passengers, construction deliveries, construction employee shift hours, construction employee parking locations and other relevant factors. ♦ **ST-22. Designated Truck Routes**. For dirt and aggregate and all other materials and equipment, truck deliveries will be on designated routes only (freeways and non-residential streets). Every effort will be made for routes to avoid residential frontages. The designated routes on City of Los Angeles streets are subject to approval by LADOT's Bureau of Traffic Management and may include, but will not necessarily be limited to: Pershing Drive (Westchester Parkway to Imperial Highway); Florence Avenue (Aviation Boulevard to I-405); Manchester Boulevard (Aviation Boulevard to I-405); Aviation Boulevard (Manchester Avenue to Imperial Highway); Westchester Parkway/Arbor Vitae Street (Pershing Drive to I-405); Century Boulevard (Sepulveda Boulevard to I-405); Imperial Highway (Pershing Drive to I-405); La Cienega Boulevard (north of Imperial Highway); Airport Boulevard (Arbor Vitae Street to Century Boulevard); Sepulveda Boulevard (Westchester Parkway to Imperial Highway); I-405; and I-105.		

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
Cumulative Traffic: The project's construction traffic, combined with related projects, would not cause any of the study area intersections to experience impacts that would be considered cumulatively considerable.	LAX Master Plan Commitments C-1, C-2, ST-2, ST-9, ST-12, ST-14, ST-16, ST-17, ST-18, ST-22, listed above.	None required	Less than significant
Air Quality – Construction- Related Emissions: Maximum daily construction-related mass emissions resulting from the CUP-RP would be significant for VOC and NO_x, as estimated by the emissions inventory.	**MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality.** This mitigation measure specifies that LAWA will expand and revise existing air quality mitigation programs at the airport through the development of an LAX Master Plan-Mitigation Plan for Air Quality (LAX MP-MPAQ). The goal of the LAX MP-MPAQ is to reduce air pollutant emissions associated with implementation of the LAX Master Plan to levels equal to, or less than, the thresholds of significance identified in the LAX Master Plan Final EIR. A framework for the LAX MP-MPAQ was adopted by the Board of Airport Commissioners in December 2005. This document provides the overall structure for the air quality mitigation program; ultimately, the full LAX MP-MPAQ will define specific measures to be implemented within the context of the three individual components specific to the categories of emissions associated with the Master Plan, namely construction, transportation and operations (i.e., MM-AQ-2, MM-AQ-3 and MM-AQ-4, respectively). The construction component of the LAX MP-MPAQ has been adopted by the Board of Airport Commissioners (see below); LAWA is currently working to complete the other elements of the full LAX MP-MPAQ, specifically the transportation and operations elements. **MM-AQ-2. Construction-Related Measure**. This mitigation measure describes numerous specific actions to reduce fugitive dust emissions and exhaust emissions from on-road and off-road mobile and stationary sources. Mitigation strategies include the following: ♦ Post a publicly visible sign with the telephone number and person to contact regarding dust complaints; this person shall respond and take corrective action within 24 hours.	None available	Maximum peak daily emissions resulting from construction would remain significant and unavoidable for VOC and NOx.

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
	♦ Prior to final occupancy, the applicant demonstrates that all ground surfaces are covered or treated sufficiently to minimize fugitive dust emissions. ♦ All roadways, driveways, sidewalks, etc. being installed as part of the project should be completed as soon as possible; in addition, building pads should be laid as soon as possible after grading. ♦ Pave all construction access roads at least 100 feet on to the site from the main road. ♦ To the extent feasible, have construction employees' work/commute during off-peak hours. ♦ Make available on-site lunch trucks during construction to minimize off-site worker vehicle trips. ♦ Prohibit staging and parking of construction vehicles (including workers' vehicles) on streets adjacent to sensitive receptors such as schools, daycare centers, and hospitals. ♦ Prohibit construction vehicle idling in excess of ten minutes. ♦ Specify combination of electricity from power poles and portable diesel- or gasoline-fueled generators using "clean burning diesel" fuel and exhaust emission controls. ♦ Suspend use of all construction equipment during a second-stage smog alert in the immediate vicinity of LAX. ♦ Utilize construction equipment having the minimum practical engine size (i.e., lowest appropriate horsepower rating for intended job). ♦ Require that all construction equipment working on-site is properly maintained (including engine tuning) at all times in accordance with manufacturers' specifications and schedules.		

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
	♦ Prohibit tampering with construction equipment to increase horsepower or to defeat emission control devices. ♦ The contractor or builder shall designate a person or persons to ensure the implementation of all components of the construction-related measure through direct inspections, record reviews, and investigations of complaints. **Community Benefits Agreement (CBA):** Best Available Emission Control Devices Required -LAWA shall require that all diesel equipment used for construction related to the LAX Master Plan Program be outfitted with the best available emission control devices primarily to reduce diesel emissions of PM, including fine PM, and secondarily, to reduce emissions of NO_x. This requirement shall apply to diesel-powered off-road equipment (such as construction machinery), on-road equipment (such as trucks) and stationary diesel engines (such as generators). The emission control devices utilized for the equipment at the LAX Master Plan Program construction shall be: (i) verified or certified for use by CARB for on-road or off-road vehicles or engines; or (ii) verified or certified for use by EPA for on-road or off-road vehicles or engines. Devices certified or verified for mobile engines may be effective for stationary engines and that technology from EPA/CARB on-road verification lists may be used in the off-road context.		
Air Quality - Construction Related Concentrations: Construction-related airborne concentrations of PM10 on an annual and 24-hour basis would exceed SCAQMD concentration thresholds. The peak annual and 24-hour concentration occurs at the CTA receptor in the center of the airport's existing gates and passenger parking area. No other receptors, including fenceline receptors and all of the community sites, had modeled concentrations that exceeded	LAX Master Plan Mitigation Measures MM-AQ-1 and MM-AQ-2 and LAWA CBA for Best Available Emission Control Devices, listed above.	None available	Dispersion modeling estimates that project construction-related airborne concentrations would be significant and unavoidable for PM10 on a 24-hour and annual basis.

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
the SCAQMD thresholds of 1.0 or 10.4 $\mu g/m^3$.			
Air Quality - Operations (Emissions and Concentrations): Peak daily emissions of CO, VOC, NOx, PM10, and PM2.5 would decrease after the CUP-RP is completed, relative to the existing CUP emissions, and SO2 emissions would be unchanged. Added to background concentrations, CO, NO_2, and SO_2 were compared to the most stringent of the CAAQS or NAAQS for each averaging period and incremental PM10 and PM2.5 impacts were compared directly to the SCAQMD operational significance thresholds. The comparisons indicate that CO and NO_2 concentrations would decrease with the CUP-RP operations, whereas SO_2 and PM10 would slightly increase. PM2.5 would be unchanged. None of the criteria pollutants concentrations would exceed the respective significance threshold, even at the CTA receptor located immediately adjacent to the new CUP building. Therefore, operational impacts on criteria pollutant concentrations from the CUP-RP would not be significant.	No mitigation measures are required.	None required	Less than significant.
Air Quality (Cumulative): The cumulative projects, in conjunction with the CUP-RP would exceed the thresholds of significance for construction-related emissions with respect to CO, VOC, NOx (as ozone precursors), PM10, and PM2.5. Cumulative concentrations would be significant for NO_2 and PM10.	LAX Master Plan Mitigation Measures MM-AQ-1 and MM-AQ-2 and LAWA CBA for Best Available Emission Control Devices, listed above	None available	Cumulative construction-related emissions of CO, VOC, NOx, PM10, and PM2.5 would remain significant and unavoidable, as would cumulative concentrations of NO_2 and PM10.

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
Human Health Risk: Project-related cancer risks for CUP-RP construction and CUP replacement-specific incremental operational impacts would be below the level of significance of 10 in one million for potentially exposed residents (adults and young child through adulthood [adult + child]), and school children. Project-related cancer risks for CUP-RP during construction would be above the level of significance of 10 in one million for potentially exposed adult workers within the study area. Project-related cancer risks for CUP replacement-specific incremental operational impacts would be below the level of significance of 10 in one million for potentially exposed adult workers within the study area. Project-related chronic non-cancer hazard indices for CUP-RP construction and incremental operational impacts would be below thresholds of significance for all receptor types (i.e., child resident, school child, adult resident and adult worker). Project-related acute non-cancer hazard indices would not exceed the threshold of significance of 1 for any target organ system at any modeled receptor location. Estimated maximum air concentrations for all Toxic Air Contaminants (TACs) at on-airport locations would not exceed Permissible Exposure Limit-Time Weighted Average (PEL-TWA) or threshold Limit Values (TLVs) for workers.	LAX Master Plan Mitigation Measures MM-AQ-1 and MM-AQ-2 and LAWA CBA for Best Available Emission Control Devices, listed above.	None available	Project-related cancer risks for potentially exposed adult workers within the study area during construction of the CUP-RP construction would be significant and unavoidable. All other potential human health hazards and risk would be less than significant.
Human Health Risk (Cumulative): No threshold standards exist that establish acceptable levels of human health risks relative to cumulative impact. A SCAQMD study indicates that cancer risk associated	LAX Master Plan Mitigation Measures MM-AQ-1 and MM-AQ-2 and LAWA CBA for Best Available Emission Control Devices, listed above.	None available	Less than significant

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
with sources of TACs from past and present projects in the region are substantial. The study does not have sufficient resolution to determine the fractional contribution of current LAX operations to TACs in the Basin airshed. However, mitigation would reduce cancer risks below those predicted for pre-mitigation conditions and would result in a decrease in cumulative risks for many people living closest to the airport. Predicted concentrations of TACs released from construction and operational activities for the CUP-RP suggest that chronic health hazards would not be expected. In summary, estimated cumulative risks and hazards from emissions for concurrent construction projects at LAX would not be measurable against urban background conditions in the South Coast Air Basin (Basin).			
Global Climate Change (Construction): The amount of greenhouse gas emissions associated with construction of the proposed project would be substantial. Although construction of the project would comply with LAWA's Sustainable Airport Planning, Design and Construction Guidelines that serve to reduce greenhouse gas emissions, the project and cumulative potential impacts related to global climate change are considered to be significant during construction.	LAX Master Plan Mitigation Measures MM-AQ-1 and MM-AQ-2 and LAWA CBA for Best Available Emission Control Devices, listed above.	None available	Significant and unavoidable
Global Climate Change (Operation): Operation of the proposed new CUP would result in a net environmental benefit by reducing emissions of GHGs by approximately 6 percent. Operation of the	LAX Master Plan Mitigation Measures MM-AQ-1 and MM-AQ-2 and LAWA CBA for Best Available Emission Control Devices, listed above.	None required	No impact

Table 1-1

Summary of Environmental Impacts Related to the Central Utilities Plant Replacement Project

Impact by Discipline	LAX Master Plan Mitigation Measures and Commitments	New Mitigation Measures	Level of Significance after Mitigation
project would result in no impact to global climate change at the project level because it reduces GHG emissions and is consistent with LAWA's Sustainability Plan.			
Global Climate Change (Cumulative): Although operation of the proposed new CUP would result in a net environmental benefit by reducing emissions of GHGs by approximately 6 percent, when considered in conjunction with other projects, it would not meet LAWA's GHG reduction goal of 35 percent. Therefore, the project's contribution to cumulative global climate change impacts during construction and operation would be cumulatively significant and unavoidable.	LAX Master Plan Mitigation Measures MM-AQ-1 and MM-AQ-2 and LAWA CBA for Best Available Emission Control Devices, listed above.	None available	Cumulatively significant and unavoidable due to inconsistency with a LAWA GHG emission reduction goal.

This page intentionally left blank.

2. PROJECT DESCRIPTION

The proposed project provides for the replacement of the existing Central Utility Plant (CUP) at Los Angeles International Airport (LAX), which currently provides heating and cooling to the LAX Central Terminal Area (CTA). Also, the existing CUP has a cogeneration function that generates electricity that is sold to the Los Angeles Department of Water and Power (LADWP). The CUP Replacement Project (RP) includes the following components: replacement of the existing CUP and maintenance shop building, including replacement of the boilers and electrical co-generation equipment; replacement of existing cooling tower system; construction of an underground thermal energy storage (TES) tank at the site of the existing CUP; electrical upgrades to include a new electrical substation and a retro-fit of the existing LADWP substation; and replacement of the direct buried chilled water and hot water service lines in the CTA. The project includes the demolition of the existing CUP and associated ancillary facilities. In addition, the project includes the potential installation of a recycled/reclaimed water pipeline and off-site treatment system and the possible use of biogas from digesters at the Hyperion Treatment Plant (HTP) to augment the existing natural gas system at the CUP. Staging for construction equipment, as well as construction worker parking would be located in surface parking lots within the CTA. The following provides additional details regarding the CUP-RP, including the background of the project, the project objectives, and the project characteristics.

2.1 Site Background and Existing Conditions

The CUP was constructed in 1961 and includes a network of approximately 18 miles of piping that serve the CTA, including terminals and concourses, the East Administration Building and Theme Building. In addition to providing hot water and chilled water to the closed loop piping systems that heat and cool these facilities, the adjacent, associated cogeneration plant[5] provides electrical co-generated power back to the City's LADWP grid. The cogeneration facility became operational in 1985. On-site facilities and equipment, including the existing CUP and cogeneration system are several decades old and, although considered technologically advanced at the time they were installed, are now considered to be obsolete. More specifically, facilities and equipment no longer meet energy and safety codes. As the equipment ages, the associated costs to repair and maintain the CUP, control air pollution emissions, and comply with environmental rules and regulations increase. Furthermore, the facility is facing capacity shortfalls and replacement of the CUP is needed to accommodate both existing and anticipated demand for heating and cooling within the CTA. Based on the size, age, and condition of the existing CUP, there is an estimated shortfall of approximately 3,500 tons of cooling capacity[6] relative to existing demands. Although the heating and cooling capacity of the CUP has increased during the life of the facility (from 700 tons of cooling and 66 MMBTUs of heating in 1960 to 10,500 tons of cooling and 75 MMBTU of heating in 1985), no changes have been made to the CUP since 1985. The system currently also operates with less efficiency due to heated motor windings that degrade over time, and clogging and soiling in pipes, tubes and internal parts to equipment that increases pressure and wear on mechanical parts.

Some facilities in the CTA currently use supplemental heating and cooling systems to make up for increased demand and the CUP's reduced capacity. These include a variety of smaller systems scattered around the existing terminals that were added during various remodels and improvements. These systems were added in most cases for ease of installation and to give local temperature control to individual areas and tenants. Since the central utility system is limited to larger zones, and is operating at

5 The cogeneration plant provides an integration of the boiler system and a turbine system to generate both heat for hot water and electricity.

6 A ton of cooling capacity is equivalent to 12,000 British Thermal Units (BTUs), which is the amount of cooling that would be provided by melting a ton of ice. For example, a central air conditioning system that is rated as a 2-ton system would provide the same cooling as melting two tons of ice per day (24-hour period).

maximum capacity in most cases, the option of supplemental smaller units is currently the only solution for upgraded or localized HVAC in terminal areas.

2.2 Location and Surrounding Uses

2.2.1 CUP Site

The project site is situated within LAX in the City of Los Angeles. As shown in **Figure 2-1**, LAX is bordered by the community of Westchester (part of the City of Los Angeles) to the north, the City of El Segundo to the south, the City of Inglewood and the unincorporated community of Lennox to the east, and the Pacific Ocean to the west. The airport is located approximately 12 miles southwest of downtown Los Angeles.

Regional access to the airport from the north and south is provided by the I-405 (San Diego) freeway, while major access from the east is provided by the I-105 (Glenn M. Anderson) freeway. Major arterials serving the airport include Century Boulevard, Sepulveda Boulevard, Aviation Boulevard, and Lincoln Boulevard. Major roadways adjacent to the airport include Imperial Highway, Pershing Drive, and Westchester Parkway. An overall view of the existing airport and its primary features and CUP site is provided in **Figure 2-2. Figure 2-2** identifies the existing CUP, existing LADWP electrical Substation 686, three underground storage tanks, and the maintenance shop. The CUP's underground water service lines are not indicated in the figure. **Figure 2-2** also depicts major roadways in and around the airport.

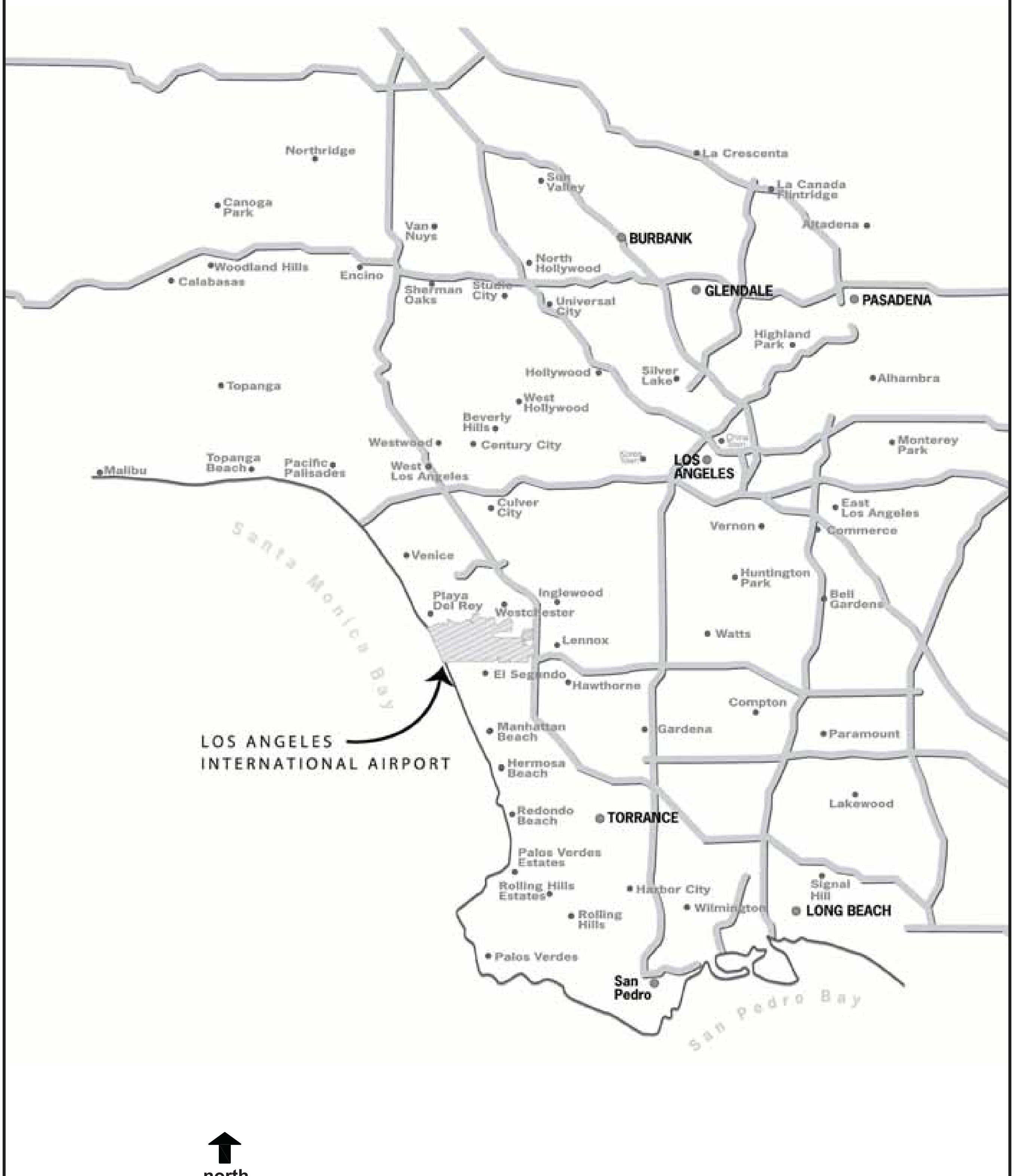
The existing CUP is situated within the CTA and accessed via Century Boulevard and World Way. **Figure 2-3** shows the location of the existing CUP within the context of the CTA. As shown in **Figure 2-3**, Parking Structures P-2 and P-2A are located to the north and west of the existing CUP, and Parking Structures P-5 and P-6 are located to the south and west of the CUP. The CUP and respective parking structures are separated from the terminals by World Way North and World Way South. The Air Traffic Control Tower is located directly to the east of the CUP site and the Theme Building is located approximately 400 feet to the east of the CUP site.

2.2.2 Potential Off-Site Recycled/Reclaimed Water Facilities

Another component of the CUP-RP is the potential use of recycled/reclaimed water for cooling tower make-up water[7] to reduce the demands for potable water. LAWA and DWP are currently evaluating potential design options for, and feasibility of, installation of a recycled/reclaimed water pipeline that connects to the new (replacement) CUP and construction of an off-site treatment system to condition the water prior to use in the cooling tower system (i.e., prevent the corrosiveness of the water and prevent the potential for water odors) . Two potential treatment system sites currently being considered are located in proximity to an existing 24-inch LADWP recycled/reclaimed water pipeline, which originates at LADWP's West Basin Municipal Water Recycling Center in the City of El Segundo. **Figure 2-4**, shows the location of the existing 24-inch recycled/reclaimed pipeline, the two potential recycled/reclaimed water treatment system sites, and the potential routes for the approximately 8-inch treated water pipeline (pipeline between the potential treatment sites and the new CUP). The impacts analysis provided in this Draft EIR for the CUP-RP addresses the impacts associated with construction of an off-site water treatment plant at either of the two locations and installation of associated pipeline to the CUP. Although a schedule for construction of the treatment plant and pipeline, should the system be approved for implementation, has not yet been determined, the EIR impacts analysis assumes a construction duration of approximately one-year beginning in early 2011. This assumption would put construction of the recycled/reclaimed water system concurrent with other components of the CUP-RP, thereby providing a conservative analysis as compared to assuming construction of the subject water system occurs sometime after the rest of the CUP-RP is completed.

---

[7] Make-up water refers to the replenishment of water that is evaporated in the heat removal process of the cooling tower.

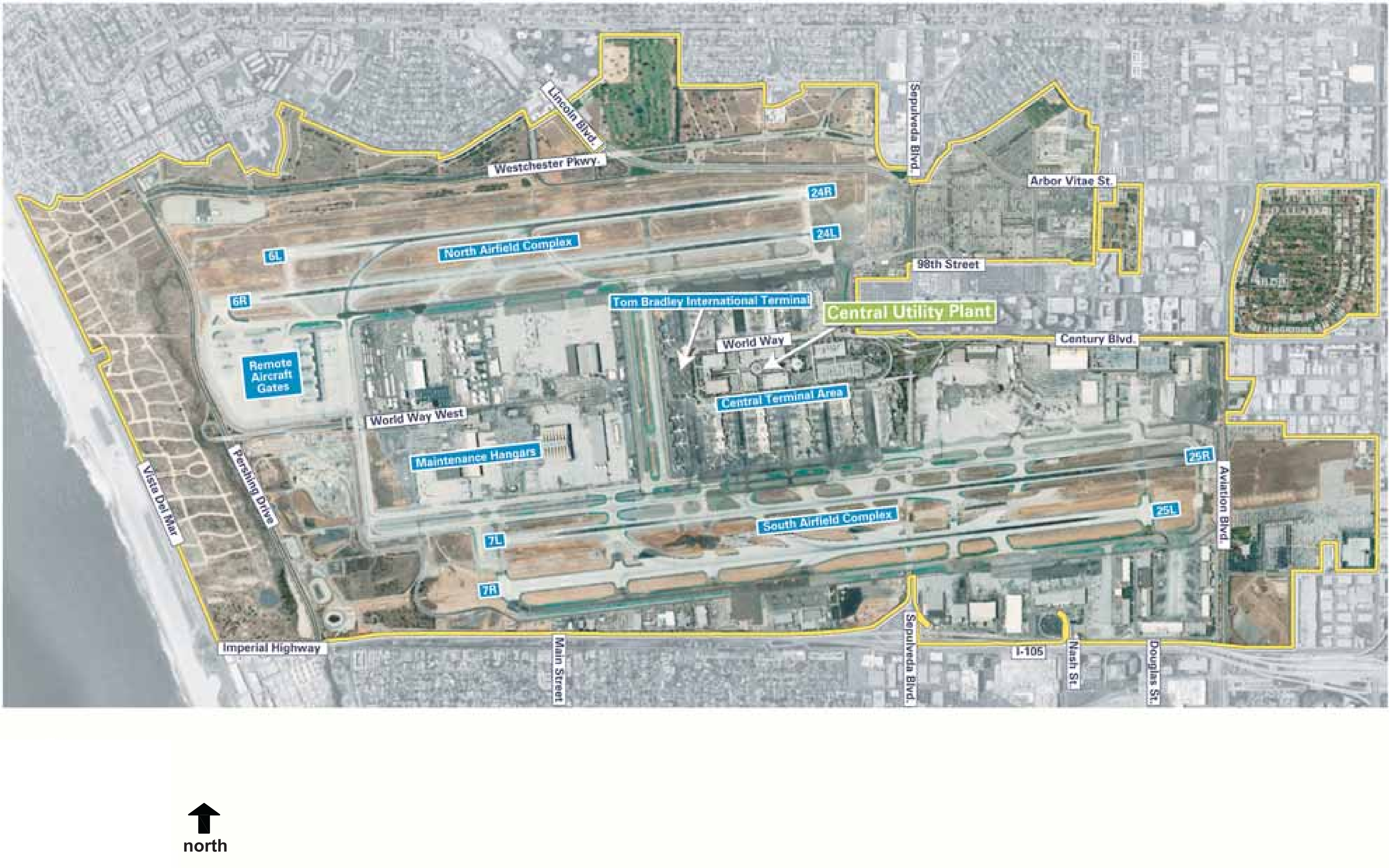


Source: CDM, 2008.
Prepared by: PCR, June, 2009.

LAX Central Utilities Plant Replacement Project Draft EIR

Regional Location Map

Figure 2-1



Source: CDM, 2009.
Prepared by: PCR, June 2009.

LAX Central Utilities Plant Replacement Project Draft EIR	Aerial View of the Airport	Figure 2-2

north

Source: CDM, 2009.
Prepared by: PCR, June 2009.

LAX Central Utilities Plant Replacement Project Draft EIR	Existing CUP Facilities	Figure 2-3

Source: CDM, 2009.
Prepared by: PCR, June 2009.

LAX Central Utilities Plant Replacement Project Draft EIR

Potential Reclaimed Water Pipeline and Treatment System Locations

Figure 2-4

Potential Treatment Site 1 (Site 1) is located within LAX property at the southeast corner of 96th Street and Vicksburg Avenue. This site is currently vacant. Adjoining land uses to the south and east, as well as land uses directly across 96th Street to the north and Vicksburg Avenue to the west, are occupied by surface parking lots associated with the airport. The LAX City Bus Center is located at the north side of 96th Street, just to the northeast of Site 1.

Site 2 is located within LAX property at the northeast corner of 96th Street and Jenny Avenue. The site, which is located within a surface parking lot for a rental car agency, is surrounded by surface parking lots to the north and east, across Jenny Avenue to the west, and across 96th Street to the south.

2.3 Statement of Project Objectives

The objectives of the proposed CUP-RP include the following:

- Reduce operating costs and improve energy efficiency at LAX.
- Replace the existing, obsolete CUP and cogeneration facilities which no longer meet energy and safety codes with state-of-the-art facilities.
- Replace existing equipment in order to avoid increasingly high repair and maintenance costs.
- Replace aged infrastructure that cannot handle current demands of the CTA and other LAWA infrastructure.
- Increase heating and cooling capacity to accommodate current demand and demand associated with approved projects at LAX.
- Replace the existing cogeneration system in order to reduce emissions of regulated pollutants and costs associated with long-term operations and emissions controls.

2.4 Description of the Proposed Project

The CUP Replacement Project comprises several components, including the following:

- New central utility plant and maintenance shop building, including potentially, a new cogeneration system;
- Replacement of the existing cooling tower system;
- Site electrical upgrades to include a new electrical substation and existing LADWP substation retrofit;
- Construction of a thermal energy storage (TES) tank;
- Replacement of a portion of the existing direct-buried chilled water and high temperature hot water service lines in the CTA and other related underground utilities as required;
- Demolition of the existing CUP and existing cooling tower system, along with demolition of an associated existing electrical substation (LADWP Substation IS 686) and existing maintenance building located at the footprint of the new CUP;
- Installation of a new Fire Management System and a new Fire Life Safety System
- Potential installation of a recycled/reclaimed water pipeline and treatment system to allow water from an existing, recycled/reclaimed water pipeline to be used in the new the CUP; and
- Potential utilization of biogas from digesters at the Hyperion Treatment Plant (HTP) to augment the existing natural gas system.

2.4.1 <u>New CUP with Cogeneration and Maintenance Shop</u>

This component of the project consists of the construction of a new CUP. The proposed plant, to be constructed adjacent to the current plant, would require the construction of a new 2-story building with basement that would house the cooling, heating and co-generation equipment. The new CUP would replace the existing CUP and maintenance buildings. The existing CUP is one story above ground with a full basement, totaling 18,000 square feet. The maintenance shops are single-story and contain a total floor area of 6,000 square feet. Supporting facilities for the existing CUP include approximately 32,000 square feet of buildings that house electrical equipment, cooling towers, LADWP switch gear, chemicals, fuel, parts storage, maintenance shop, and receiving dock space. The new maintenance shops would be immediately west of the new CUP in the area currently occupied by the existing CUP. This is also the site of the future underground thermal storage tank. The gross square footage of the new maintenance building, located above the thermal storage tank, would be approximately 20,000 square feet. **Figure 2-5** illustrates the location of the new CUP, the maintenance building, and TES system associated with the co-generation facilities**.** The gross square footage of the new CUP building would be approximately 60,000 square feet (SF).

Although equipment sizes may vary with finalization of the schematic design, the current design for the new CUP and electrical co-generation facility would include the following technologies:

- Cooling technology:
  - Approximately 20,000 tons of electric driven chillers; and,
  - Approximately 4,000 tons of co-generated steam driven chillers
- Heating technology:
  - Potentially 30 million British Thermal Units per hour (MMBTU/hr) of natural-gas fired boilers; and/or a combination of:
  - Approximately 90 MMBTU from co-generated recovered heat.

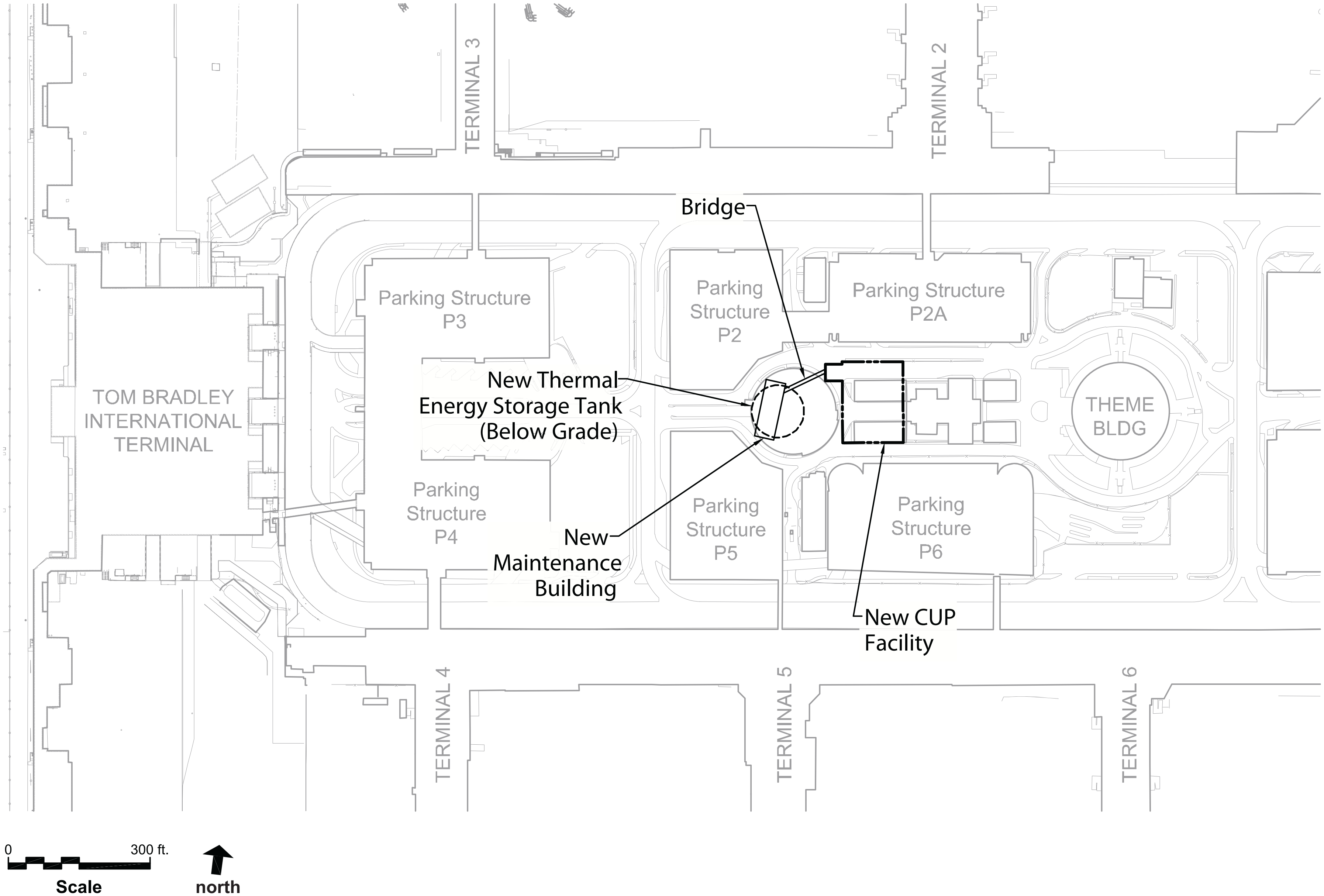
The potential cogeneration equipment would provide 9 megawatts (MW) of self-generated power to offset the electrical load required for plant operation. The transformers would be reconfigured by LADWP to supply power to the new CUP. The existing CUP currently generates 7.5 MW, which is sold to the LADWP. The new CUP may sell co-generated power back to LADWP; however, the current plan is to use all 9 MW within the CUP. The new CUP would be connected to LADWP at approximately 4160V.

New equipment would be provided in the cogeneration system and conventional heating and cooling systems. New equipment that would be provided for the cogeneration system includes:

- Two new 4.5MW natural gas-powered combustion turbine driven generators, producing 4160V, 3-phase, 60 hertz (Hz) power (both active);
- Turbine generator control panels to permit paralleling the two generators together to a common electrical bus;
- Two 45,000 pound per hour (lb/hr) heat recovery steam generators (HRSG), (both active); and
- Two 2,000 ton steam-driven chillers (both active).

New equipment that would increase the output capacity of the new CUP's conventional heating and cooling systems, compared to the existing CUP, include the following:

- 5 kilovolt (kV) distribution switchgear to provide power to the electrical loads within the new CUP;
- Six 3,000- to 3,260- ton electric-driven chillers (estimate 5 active, 1 standby);
- One 30 MMBTU/hr natural gas-fired boilers (1 standby);
- Boiler feedwater pumps (estimate 3 active, 1 standby);
- Two 45,000 lb/hr heat recovery boilers (both active);
- Condensate transfer pumps (estimate 3 active, 1 standby);
- Primary chilled water pumps (estimate 7 active, one standby);
- Secondary chilled water pumps (estimate 6 active, 1 standby);
- Primary heating water pumps (estimate 6 active, 1 standby);
- Cooling tower/condenser water pumps (all active);



Source: LAX Development Program Team, 2009.
Prepared by: PCR, June 2009.

LAX Central Utilities Plant Replacement Project Draft EIR

Preliminary Site Layout

Figure
2-5

- Cooling tower system (all cells active);
- Two plant-air compressors (both active, alternating operation);
- De-aerating feed water heater;
- Water treatment equipment;
- Building ventilation systems;
- Administration area HVAC systems;
- Miscellaneous shop equipment; and
- One 10-ton bridge crane.

The building containing the new CUP would be heavily reinforced, with a foundation supported by subsurface pilings. The building would be concrete below-grade and steel above-grade. A curtain-wall system of panels and glass would make up the above-grade, exterior walls of the building.

The building would be designed to be architecturally consistent with the CTA, and would be constructed in accordance with LAWA's Sustainable Airport Planning, Design and Construction Guidelines.[8]

LAWA, in coordination with LADWP and the City of Los Angeles Bureau of Sanitation, is currently evaluating the potential for utilizing biogas from digesters at the Hyperion Treatment Plant (HTP) to augment the existing natural gas system. Biogas is methane gas that is produced as a natural byproduct of the sewage treatment process. The HTP would treat biogas on-site and blend it with natural gas, which, if determined feasible for the CUP, would be piped to the replacement CUP via an existing Southern California Gas Company pipeline from the HTP**.** The HTP is located directly across Imperial Highway from the airport's southwest corner. No new construction or other modification to the existing natural gas pipeline would be required to convey the biogas to the replacement CUP. The biogas component of blended gas would be relatively small (i.e., less than 10 percent of the blended gas), and would enable the proposed gas turbines to operate on either pure natural gas or the blended gas with little, if any, difference in turbine performance or turbine emissions.

2.4.2 Replacement of Existing Cooling Tower System

A new cooling tower system would be located on the roof of the new CUP. The cooling tower system would provide heat rejection for the two steam-driven chillers and six electric-chillers, which would process a total of approximately 60,000 gallons per minute (gpm) of condenser water and provide 24,125 tons of heat rejection (cooling).

Chillers have water-cooled condensers that need to reject the heat produced within the chiller's refrigeration circuit. The refrigerant is compressed and expanded in the evaporator to chill water, which is pumped throughout the CTA. The amount of heat that is rejected in the condensers is approximately 3 gpm/ton of cooling. This amount of water is then pumped to the cooling tower system and, through the process of evaporation, this "warm" condenser water is cooled and sent back to the chillers for another cycle.

The existing cooling tower system, which is located adjacent to Parking Structure P-6 south of the existing CUP, would remain operational until the new cooling tower system is fully installed and commissioned. The CUP's current water demand is approximately 83.6 million gallons per year, approximately 86 per cent of which (72.4 million gallons) is used for the existing cooling towers. Estimated future water demand for the new cooling tower system would be approximately 150 million gallons per year.

The existing cooling tower system is shown in **Figure 2-3**. The existing tower system is a four cell, concrete structure that is approximately 60 feet wide by 155 feet long and extends approximately 40 feet above grade and 10 feet below grade. Once the new cooling tower system is fully operational; the

[8] Los Angeles World Airports, Sustainable Airport Planning, Design, and Construction Guidelines, January 2008.

existing tower system would be demolished and the area would be used for additional electrical transformers.

2.4.3 Electrical Substation and other Electrical Upgrades

Power to the existing CUP is currently provided by LADWP Industrial Station (IS) 686. IS 686 has a total capacity of 10 megavolt amperes (MVA). The current connected load of the existing CUP is 10.3 MW.[9] When the CUP operates at its peak demand, such as that required to meet the CTA cooling needs during high summer-time temperatures experienced in the past five years, approximately 8.5MW of power is required, which is purchased from LADWP. However, the current CUP is undersized for the peak cooling demands within the CTA and supplemental cooling occurs with decentralized systems, commonly referred to as package units, at reduced efficiency in comparison to a centralized plant. Electrical usage in the package units is estimated to average 3 MW, supplied through other circuits. The existing CUP can produce 7.5 MW when operating optimally, and all power produced is continuously sold to the LADWP.

The replacement CUP is being designed with a conservative estimate of connected load at 30MW. Actual power demand to operate the replacement CUP will vary seasonally and according to the volume of air (occupied space) the CUP is dispatched to cool. Future power demand will be similar to existing levels when the CUP is initially commissioned, reaching a design peak of 23MW for summertime cooling at full capacity. The replacement CUP is designed to provide additional cooling capacity to the CTA and use of the package units will likely be discontinued. The replacement CUP would produce 9MW of power which would be used on-site at the CUP and supplemented with purchased power from LADWP as needed, up to 14MW at peak. Use of the TES system (see 2.4.4 below) would further reduce the peak electrical demand, by allowing one chiller to be removed from service for up to 4 hours during peak demand. Nonetheless, the electrical supply system is sized to safely deliver power from the LADWP grid to fully operate the CUP in the event that the turbines and TES are temporarily inoperable (malfunction, routine maintenance, etc.). Although no electricity is being delivered from the CUP cogeneration units to other non-CUP facilities within the airport under normal conditions, during winter, when the electrical demand of the existing CUP drops and the cogeneration units are running, electricity may be exported from the CUP to the LADWP grid.

To support the new CUP and associated facilities, additional electrical capacity would be required. In addition to this capacity shortfall, existing IS 686 is within the footprint of the new CUP building and would need to be relocated. The existing electrical plant is shown in **Figure 2-3**.

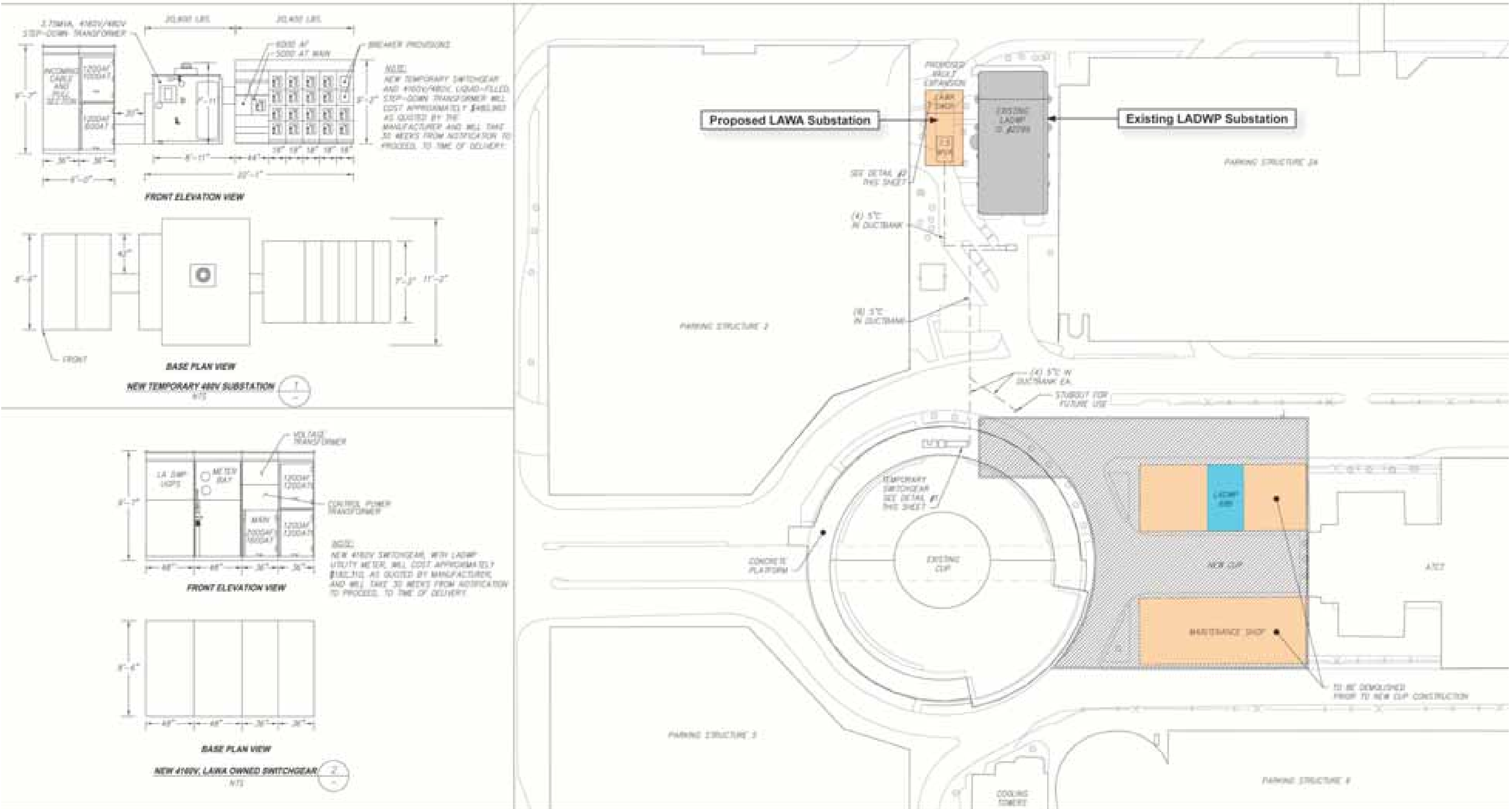
The existing LADWP IS 2299 equipment is currently arranged to deliver power from the existing CUP cogeneration system to the LADWP utility grid. There are two 5 MVA transformers that boost the incoming 4.16 kV co-generation power to 34.5 kV. The transformers would be reconfigured by LADWP to supply power to the new CUP.

The electrical upgrades for the new CUP consist of two components: (1) the conversion of the existing IS 2299 to supply power to the new CUP and (2) the installation of a new 7.5 MVA substation. The location of existing LADWP IS 2299 and the new substation site is shown in **Figure 2-6**. As shown in **Figure 2-6**, the existing LADWP IS 2299 is located to the north of the new CUP and east of Parking Area P2.

As shown in **Figure 2-6**, the new substation would be located adjacent to and between existing IS 2299 and Parking Structure P-2. This area is currently occupied by sidewalk and landscaping. The new 7.5 MVA substation would require LAWA metering and distribution equipment to be installed adjacent to the substation. The area required for the new LADWP substation is 35 feet by 30 feet and the area required for the LAWA equipment is 20 feet by 30 feet. The construction of the new substation and LAWA equipment is currently anticipated to require an excavation of the entire 55-foot by 30-foot approximate area down to 2 feet below existing grade. The total area required for the existing and new substation is

---

9 Connected load is defined as the sum of the maximum power ratings of all load-consuming devices connected to a power distribution system.



0 134 ft.
Scale
north

Source: CDM, 2009.
Prepared by: PCR, June 2009.

LAX Central Utilities Plant Replacement Project Draft EIR	CUP Electrical Substations	Figure 2-6

approximately 1,650 square feet; however, consideration is being given to a design option that would increase the building footprint area to approximately 110 feet by 30 feet. There would be no material difference between these facilities, with respect to environmental effects.

Elevated concrete support pads would be installed for the new equipment and the area surrounding the support pads would be asphalt pavement. The three to four transformers at the new and converted substations would fulfill the total load of approximately 30 MVA needed for the new CUP.

Additional electrical infrastructure required to support the new CUP would include:

- Electrical manholes located to the north of the new CUP;
- Ductbank between the new substation, LADWP IS 2299, existing CUP, manholes and the new CUP; and
- New 250 kilowatt (KW) standby generator.

2.4.4 Thermal Energy Storage Tank

A naturally stratified chilled water TES underground tank would be installed within the footprint of the existing CUP. The purpose of the TES is to make chilled water during the daily period when electric demands and charges are low. Subsequently, during the peak energy rate and usage time of day, the stored energy within the chilled water would be released from the tank and pumped into the chilled water system, thereby, reducing the number of water chillers that would have been required to meet the cooling demands during the peak of the day. The TES tank would include a monolithically poured (i.e., all poured at one time) concrete floor slab on excavated fill with supporting foundation, precast side wall panels and a vehicle-load-rated, cast-in-place flat roof. Concrete columns would be installed on the floor slab to support the roof. The approximate tank volume would be 2,666,000 gallons. Tank dimensions are currently expected be approximately 40-feet-deep at the side wall, with a 106-foot interior diameter; or 27-feet deep at the sidewall, with an interior diameter of 130 feet. Excavation depth is assumed to be no greater than 45 feet below-grade. The area above the TES is proposed to be paved for use as a driveway and for access for truck deliveries, in addition to providing area for the new maintenance facilities.

2.4.5 Replacement of Existing Direct-Buried Chilled Water and Hot Water Service Lines

The existing direct-buried chilled water and hot water service lines in the CTA loop roadway would be removed and replaced. Existing chilled and hot water lines that are "exposed" during excavation would be removed. The balance of "out of service" chilled and hot water lines would be surveyed, filled with concrete slurry and abandoned in place. The new chilled water and hot water service lines would be routed into a new utility tunnel/corridor (Utilidor) and distributed to the terminals. These tunnels would be approximately 15 feet high by 15 feet wide to accommodate the anticipated piping needs.

The Utilidor is essentially a subsurface concrete box that would require an approximately 22-foot-wide trench to accommodate the placement of forms for poured concrete or the placement of concrete panels. Total estimated excavation (cut and fill) for the Utilidor that would extend west from the replacement CUP would be approximately 143,500 cubic yards (cy). Due to the relative inflexibility of the concrete tunnel, the Utilidor would be constructed in long straight runs, and may require the relocation of exiting underground facilities that crisscross the area. Connections from the main trunk line of the Utilidor to the terminal buildings would require trenches to be excavated across the entire width of World Way and would require trenching across West Way at three separate locations, including through the middle and at the intersections of West Way/World Way North and Westway/World Way South. Reinforced steel decking would be used over portions of the Utilidor trenches to bridge the trench and allow construction to occur while also permitting traffic to continue to use the roadways during peak airport traffic conditions. **Figure 2-7** shows the conceptual alignments of the anticipated pipeline replacements/improvements.

2.4.6 Demolition of Existing CUP and Associated Existing Electrical Substation

The maintenance shop buildings and LADWP Substation IS 686 east of the existing CUP would be demolished to make way for the new (replacement) CUP. The existing cooling tower system would remain operational until all of the new cooling tower system is fully installed and commissioned. Prior to the full installation of the new cooling tower system, the existing CUP would be demolished and the proposed thermal energy tank would be installed. Once the new cooling tower system is fully operational, the existing cooling tower system would be demolished. The initial commissioning of the new (replacement) CUP would occur several months before the decommissioning of the existing CUP to provide time to test and adjust all the new system components. The CUP system would be continuously operational during the transition between existing and new facilities. The impacts analysis presented in this Draft EIR account for the period of overlap in operation of both the existing CUP and the new (replacement) CUP (i.e., air pollutant emissions).

2.4.7 Facility Management System and Fire Life Safety System

The Facility Management System and Fire Life Safety System would be a new state-of-the-art open-architecture based Facility Monitoring and Control System (FMCS) that would serve the CTA and the new CUP. The FMCS would interface with all integrated controls in the new CUP (chillers, pumps, valves, cogeneration controls, cooling towers, etc.). The FMCS would be expandable to meet future needs of LAX, and would upgrade the controls within the first mechanical room inside each terminal.

The existing controls for the terminals, Theme Building, and East Administration would be moved from the existing CUP to the new CUP with minimum disruption to data and alarms. Services would be unaffected as local controllers would continue to function, or placed in manual control. During the transition, a new system would be set up and running independently of the terminals and old CUP. Once functional, the existing terminal data would be brought over and tested. As the new CUP comes on-line, these systems would be added. The actual computer servers and equipment would be moved to the new CUP and server room once the new CUP is fully ready, without losing control and monitoring functions.

Installation of both systems would mainly consist of swapping-out/installing control boxes, switches, sensors, wiring, and other equipment, with minimal physical intrusion and alterations. However, construction would involve the installation of a new external underground fiber optic line between the Communications Center (located at the east edge of the CTA) to the new CUP, as well as from the new CUP to the old CUP and the Theme Building. Installation would be minimal and would be coordinated/integrated with other improvements including pipeline improvements (i.e. the fiber optic conduit would be located in the same trench while open).

2.4.8 Potential Off-Site Reclaimed Water Treatment System Sites

LAWA is evaluating the feasibility of utilizing recycled/reclaimed water from LADWP as process/make-up water within the proposed system (i.e., water for the cooling tower system). Discussions are currently underway between LAWA and LADWP to establish a pipeline to convey recycled/reclaimed water from an existing 24-inch line to the north and east of LAX to the replacement CUP. A treatment system would be required to remove chlorine and ammonia from the recycled/reclaimed water. The pipeline alignment and location of a treatment system have not yet been determined. However, the pipeline would likely extend through the CTA and along existing street rights-of-way to the north and east of the new CUP. Two locations on LAWA-owned property are currently under preliminary consideration, including Sites 1 and 2, discussed above (see **Figure 2-4**). The treatment system would include a 3,000- to 6,000-square-foot, 15- to 20-foot-high building to house the treatment equipment. The building size would depend on the type of treatment method that is used. One or two above-grade treated water storage tanks would be located outside of the building. Although storage tanks have not yet been designed, it is anticipated that the above-ground tanks would be approximately eight feet in diameter and 15 feet in height. The treatment system would also contain a small, 12-foot by 12-foot building to house a chlorination system to

north

Source: CDM, 2009.
Prepared by: PCR, June 2009.

Conceptual Alignment of Chilled Water and Hot Water Service Lines (Utilidor)

Figure 2-7

prevent the potential for water odor to emanate during the evaporative process of the cooling tower system. The total area required for the treatment facility would be approximately 14,000 square feet. Installation of the treatment system on a corner lot would allow truck access from two streets. The two sites are shown in the previously cited **Figure 2-4**.

As shown in **Figure 2-4**, Site 2 is located along the route of the existing 24-inch line. However, a new approximately 8-inch pipeline would be required from either Site 1 or Site 2 to convey treated water to the CUP site. Any new pipeline would be located within existing street rights-of-way. With the selection of the potential treatment Site 1, a water line would be needed to convey recycled/reclaimed water from the existing 24-inch recycled/reclaimed water pipeline to the treatment plant, although a line to convey treated water from the treatment plant to the new CUP would be shorter in distance than from Site 2. The installation of the pipeline and treatment system would be the responsibility of LAWA or LADWP individually, or in combination.

2.4.9 Project Sustainability

In August 2007, the Board of Airport Commissioners adopted LAWA's Sustainability Vision and Principles, which provide the basis for LAWA's sustainability program. In April 2008, the Board of Airport Commissioners adopted LAWA's Sustainability Plan, followed by LAWA's Sustainability Report in June 2008 (updated June 2009). The primary objectives of these plans are to increase water conservation; reduce energy use and increase use of green power; reduce emissions from all operations; support sustainable planning, design, and construction practices; and integrate sustainable practices into internal policies, business processes, and written agreements.

The proposed CUP-RP would help support the objectives of LAWA's Sustainability Plan. The project would be constructed in accordance with LAWA's Sustainable Airport Planning, Design, and Construction Guidelines (Version 4.0, April 2009), and as such would include Leadership in Energy and Environmental Design (LEED®) Silver level design, sustainable construction, optimized energy savings with TES, green power, and self generation (cogeneration).

In addition to these features, LAWA is also pursuing use of biogas from the adjacent HTP and the potential use of recycled/reclaimed water from the existing West Basin Municipal Water Recycling Center in the City of El Segundo. In the event that LAWA uses recycled/reclaimed water in place of potable water, there would be a reduction in GHG and other air pollutant emissions associated with electricity generation needed to power the pumps used to transport water long distances as most of LADWP's water is imported from outside the service area. Specifically, the project would be consistent with and help implement the following sustainability objectives set forth in LAWA's Sustainability Plan:[10]

- Increase water conservation in all airport facilities and for all operations.[11]
- Replace the existing, obsolete CUP and cogeneration facilities which no longer meet energy and safety codes with state-of-the-art facilities.
- Increase use of green power at all airport facilities and in all operations.[12]
- Incorporate sustainable planning, design, and construction practices into all airport projects.
- Integrate sustainable practices into internal policies, business processes, and written agreements.

The project would also be consistent with and help implement the following City of Los Angeles goals to implement the *Green LA Plan*:[13]

- Increase the efficiency of natural gas-fired power plants.
- Increase bio-gas co-firing of natural gas-fired power plants.[14]

---

10 Los Angeles World Airports, Sustainability Plan, April, 2008.
11 Conformance with this objective assumes future availability and use of reclaimed water.
12 Conformance with this objective assumes future use of biogas.
13 City of Los Angeles, Green LA – An Action Plan to Lead the Nation in Fighting Global Warming (2007).

2.5 Construction Phasing and Schedule

Construction is proposed to commence in approximately November 2009 with the relocation of known existing utilities in the footprint of the new CUP; thus, allowing construction of new facilities. Simultaneously, construction of the utility tunnel and the replacement of existing direct-buried chilled water and hot water services lines to the west of the CUP would begin prior to construction of the replacement CUP. The construction of the new CUP, including clearing of the proposed CUP site, construction of all CUP-related facilities, and construction of new chilled water and hot water service lines to the west of the replacement CUP, is anticipated to take approximately four years. Construction of new chilled water and hot water service lines to the north, south, and east of the replacement CUP (i.e., to Terminals 1, 2, 5, 6/7, and 8) would occur over time in conjunction with miscellaneous terminal improvements and roadway work where construction occurs in proximity to the existing service lines. Construction of the recycled/reclaimed water system would take approximately twelve months, and is assumed for the purposes of this Draft EIR to begin in early 2011.

The majority of construction would occur during day time hours, six days a week; however, portions of buried lines that carry chilled water and heating hot water from the CUP to the terminals may be constructed during nighttime hours when traffic levels are low and impact on driving lanes would be reduced. Nighttime construction within the CTA would also occur in conjunction with the relocation of existing utility lines and with construction of the replacement CUP to reduce construction-related disruption. Construction staging and parking would be located within a surface parking area immediately west of the existing CUP. The project, including the TES, the CUP, the new substation, and the maintenance building, would require approximately 66,000 cy of cut and fill. Construction of new approximately 8-inch recycled/reclaimed water lines would require approximately 2,188 cy of cut and fill and new utility line tunnels (utilidor) would require approximately 168,500 cy of cut and fill. Total excavation (cut and fill) for the proposed project would be 236,688 cy of soil. The excavated soil not used as backfill (i.e., soils displaced by the pipe and base material) would be trucked off-site by the contractor.

2.6 Intended Uses of This EIR

This EIR will be used by LAWA, the Board of Airport Commissioners, and the Los Angeles City Council to evaluate and consider the environmental impacts of the CUP-RP in taking action on this project and identifying potentially feasible mitigation measures and alternatives. Information in this EIR may also be used by LAWA and the construction team as input for permit and other approval applications.

In addition to the City of Los Angeles, implementation of the proposed Project may require various federal, state, and local approvals, for which the approving agencies may use the EIR in their respective decision-making and approval processes, including the following.

2.6.1 State and Regional Actions

2.6.1.1 State Water Resources Control Board Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) administer regulations regarding water quality in the State. Permits or approvals required from the SWRCB and/or RWQCB may include but not be limited to:

- General Construction Storm Water Permit;
- Standard Urban Stormwater Mitigation Plan;

---

[14] Assumes future use of biogas, should biogas from the Hyperion Treatment Plant be available for use at the CUP, and such use is determined to be feasible for the project.

- Submittal of a Recycled Water Report to the RWQCB for the use of recycled water as a dust control measure for construction.

2.6.1.2 South Coast Air Quality Management District (SCAQMD)

The SCAQMD is the regional agency granted the authority to regulate air pollutant emissions from stationary sources in the air basin. Permits or approvals required from the SCAQMD may include but not be limited to:

- Revisions to the existing Title V Operating Permit (a national operating permit program for air pollution sources) for operation of the CUP.
- Obtaining Authority to Construct and Permit to Operate the new emission units (boilers, turbines, etc.).
- Preparation of a Report of Construction Air Quality Emissions for submittal to SCAQMD.

2.6.2 Local Actions

Local actions and approvals that may be required for the proposed project include, but may not be limited to the following:

- Certification of the Final EIR for the CUP Replacement Project.
- Preparation of a project-specific Storm Water Management Plan or Standard Urban Storm Water Mitigation Plan for approval by the Department of Public Works, Bureau of Sanitation - Watershed Protection Division. (The Plan should be consistent with the overall airport Storm Water Pollution Prevention Plan and associated permits).
- Preparation of a Wet Weather Erosion Control Plan for approval by the Department of Public Works, Bureau of Engineering and the Department of Building and Safety.
- LAX Plan Compliance Review in accordance with Section 7 of the Los Angeles International Airport Specific Plan.

2.6.3 Miscellaneous Actions and Permits

A number of other actions and permits may be required for the implementation of the proposed project. The list of actions and permits is expected to include, but not be limited to:

- Los Angeles Department of Building and Safety Electrical Permit;
- Los Angeles Department of Building and Safety Building Permit for removal, construction, repair, etc., of any structure(s);
- Los Angeles Department of Public Works, Bureau of Engineering Sewer/Storm Drain Permit; and
- Los Angeles Fire Department Plan Check.

This page intentionally left blank.

3. OVERVIEW OF PROJECT SETTING

This chapter provides an overview of the existing land use and environmental setting relevant to the proposed CUP-RP. Detailed descriptions of the existing setting with respect to the specific environmental topics evaluated in this EIR are provided in Chapter 4. In addition to providing an overview of the existing project setting, this chapter describes other related projects proposed at LAX and in the nearby area that may, in conjunction with the CUP-RP, result in cumulative impacts on the environment.

3.1 Land Use Setting

3.1.1 CUP Site

As indicated in Chapters 1 and 2, and depicted in **Figure 2-3**, the CUP site is located in the CTA of the airport, and accessed via World Way. Existing Parking Structures P-2 and P-2A are located to the north and west of the CUP and Parking Structures P-5 and P-6 are located to the south and west, respectively. Terminal buildings are located directly to the north, west, and south of the parking structures across World Way North, West, and South, respectively. The Air Traffic Control Tower (ATCT) is located directly to the east of the CUP site, and the LAX Theme Building is located approximately 400 feet to the east of the CUP site. The CUP site has been actively used for airport operations and is currently occupied by the existing CUP, a LADWP electrical substation, a maintenance shop, and three underground storage tanks previously used for fuel (diesel oil) storage, but no longer in service. The project site also consists of existing tunnels for high pressure hot water and chilled water pipes that serve the airport's existing terminal buildings.

The nearest land uses in the project vicinity that are not airport-related include the following:

- ♦ The community of Westchester to the north of LAX (approximately 0.86 mile between the CUP and the nearest point in Westchester).
- ♦ A mix of commercial, hotel, office, and residential uses to the east of LAX (approximately 0.5 miles between the CUP and the nearest hotel on Century Boulevard and approximately 1.5 miles to the western edge of the City of Inglewood).
- ♦ Residential, commercial, office and institutional uses to the south (approximately 0.88 mile between the CUP and the northern edge of the City of El Segundo).

3.1.2 Off-Site Potential Recycled/Reclaimed Water Treatment System Sites

As indicated in Chapters 1 and 2, and depicted in **Figure 2-4**, the project includes a potential recycled/reclaimed water treatment system, which would be located on one of two possible sites, known as Sites 1 and 2. Site 1 is located within LAX property at the southeast corner of 96th Street and Vicksburg Avenue. This site is currently vacant. Adjoining land uses to the south and east, as well as land uses directly across 96th Street to the north and Vicksburg Avenue to the west, are occupied by surface parking lots associated with the airport. The LAX City Bus Center is located at the north side of 96th Street, just to the northeast of Site 1. Site 1 is located approximately 0.75 mile to the east of the CUP site and 0.25 mile west of the existing 24-inch recycled/reclaimed water line. In this area, the existing recycled/reclaimed water line, which originates in the City of El Segundo, is located in the Jenny Avenue right-of-way.

Site 2 is located within LAX property at the northeast corner of 96th Street and Jenny Avenue. The site, which is currently occupied by a surface parking lot for a rental agency, is surrounded by surface parking lots to the north and east, across Jenny Avenue to the west, and across 96th Street to the south. Site 2 is adjacent to the existing 24-inch recycled/reclaimed water line and is located approximately 1 mile east of the CUP site.

The land uses along the pipeline route between the CUP and each of the two potential treatment plant sites consist primarily of parking lots, office buildings, hotels, and airport buildings.

3.2 Environmental Setting

The following provides an overview of the existing environmental setting related to the proposed project and those topical issues identified in the Initial Study as having the potential to result in significant environmental impacts. Additional information regarding existing conditions is provided in Chapter 4.

- **Air Quality:** The project site is located within the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). In general, emissions of ozone, carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and particulate matter (PM10) measured at the nearest SCAQMD monitoring station (approximately 1.5 miles from the existing CUP site) are lower than other measured concentrations around the Basin. The existing air quality setting immediate to the CUP site is dominated by vehicle traffic in the CTA; aircraft activity; and airport services, such as the existing CUP facility. The nearest sensitive receptor is more than 1,400 meters (approximately 0.86 mile) from the CTA. Among the alternative locations for a potential recycled/reclaimed water treatment facility, the closest to a sensitive receptor is Site 3, which is approximately 200 meters (approximately 1/8th mile) from homes to the north of 88th Street. If Site 3 were selected, a segment of reclaimed water pipeline construction for Site 3 would pass closer than 200 meters from homes, but may be routed further from those homes. The pipeline routes for Sites 1 and 2, as well as the sites themselves, are farther than 200 meters from sensitive receptors.
- **Traffic:** The traffic study area for the proposed project is generally bounded by I-405 to the east, I-105 and Imperial Highway to the south, Pershing Drive to the west, and Sepulveda Boulevard and Howard Hughes Parkway to the north. Traffic at LAX and in the surrounding study area is heaviest in the July/August peak period. Although service levels are generally good in the study area, the intersections of Imperial Highway/Sepulveda Boulevard and the Century Boulevard/Northbound I-405 ramp experience periods of congestion. The existing traffic setting at the project site is characterized primarily by private and commercial vehicles accessing the CTA via World Way, including buses, shuttles, taxis, limousines, and LAWA vehicles. Traffic levels and operating conditions vary throughout the day and week, ranging from good to poor.
- **Human Health Risk Assessment:** Residential, commercial, and student receptor sites in the area are sensitive uses relative to potential health risks associated with pollutant emissions. The nearest schools to the LAX fenceline are St. Bernard High School and Visitation Elementary School, located to the north of LAX, and Imperial Avenue School located to the south of LAX. Areas within the airport that are occupied on a daily basis for long periods of time by airport workers, including terminal, service, and security personnel are also particularly sensitive to health risk associated with construction and operational pollutant emissions generated within the airport. Additionally, construction workers within airport areas are present on a daily basis for several weeks or months depending on the individual projects.
- **Global Climate Change:** The United Nations Intergovernmental Panel on Climate Change (IPCC) predicts that global mean temperature will increase until the year 2100, given the substantial amounts of greenhouse gases (GHGs) already released, and the difficulties associated with reducing emissions to a level that would stabilize the climate. California is a substantial contributor of GHG, as the second largest contributor in the U.S. and the sixteenth largest in the world (as compared to other nations). The major source of GHG in California is transportation, contributing 41 percent of the State's total GHG emissions. Electricity generation is the second largest source, contributing 22 percent of the State's GHG emissions. The existing airport is a contributor to GHG, due to mobile emissions associated with motor vehicles and air traffic and stationary emissions associated with the airport's existing CUP and off-site energy providers.

3.3 Development Setting

This section identifies past, present, and reasonably foreseeable related projects, including LAX development projects (LAX Master Plan projects and other LAX projects with independent utility) and non-LAX development projects that could, in conjunction with the CUP-RP, result in cumulative impacts to the environment. The proposed CUP-RP is not a component of the LAX Master Plan.

3.3.1 LAX Master Plan Development Projects

- **Bradley West Project**: The Bradley West Project proposes the development of Group IV contact gates on the west side of the terminal that will be designed to accommodate Group VI aircraft including new large aircraft (NLA) such as A380 and 747-8. The placement of new gates will require the westward relocation of existing cross-field Taxiways Q and S as proposed in the approved LAX Master Plan. This project also proposes improvements to certain interior portions of the terminal, including improvements to the central processor facility, where Customs and Border Protection (CBP) inspections occur, and major improvements to the north and south concourses including provisions for additional passenger holdroom area. Construction of the Bradley West Project is anticipated to occur over approximately five and one-quarter years, beginning in late 2009, if approved, and finishing in early 2015. The construction program for this project will be designed to have new contact gates ready for use in 2012. A Draft EIR has been prepared for this project and was circulated for public review and comments. The Draft EIR comment period ended on June 23, 2009. The initial phase of this project, which would overlap construction activities for the proposed CUP-RP, involves the westerly relocation of Taxiway S and includes relocation of existing uses and activities located within the proposed taxiway work area and demolition/removal of existing structures and apron area within the subject area. Construction of a portion of the new (relocated) taxiway is expected to overlap the CUP-RP's construction activities.
- **LAX Crossfield Taxiway Project**: The Crossfield Taxiway Project (CFTP) includes the construction of a crossfield taxiway between the north runway complex and the south runway complex, and an associated connection to, and extension of, the existing Taxiway D. As part of the CFTP, a new vehicle service road will be constructed parallel to and immediately west of the new taxiway (identified as Taxiway C13). Construction of these proposed improvements would require removal and potential relocation of certain ancillary and support facilities. A vehicle parking lot would be constructed just west of the main project area to replace the American Airlines employee parking lot that currently occupies the area proposed for the resituated overnight parking (RON). Also occurring in conjunction with the taxiway improvements would be the construction of a new fire station/aircraft rescue and fire fighting (ARFF) facility. An EIR was completed for the CFTP and the project was approved in early 2009. Construction of the CFTP is anticipated to occur between spring 2009 and summer 2010. Construction activities are expected to overlap the proposed CUP-RP's construction activities.
- **Midfield Satellite Concourse Project**: The Midfield Satellite Concourse was identified in the approved LAX Master Plan, along with the associated connector between the Midfield Satellite Concourse, Tom Bradley International Terminal (TBIT), and the CTA, as well as construction of Taxiway C12, and a new Central Terminal Processor (CTP) in the CTA. LAWA and the consultant team responsible for the more detailed planning, design, engineering, and management of development projects in the midfield area are in the early stages of developing the project description for the Midfield Satellite Concourse Project. Once the project is proposed, a project-level EIR tiered from the LAX Master Plan EIR will be completed. Construction of this project, if approved, would not occur until 2015 or later and would not overlap the proposed CUP-RP's construction activities.
- **Consolidated Rental Car (RAC) Facility**: This project would provide for the consolidation and centralization of rental car operations at LAX, as contemplated in the approved LAX Master Plan. LAWA has selected a consultant team to help develop the detailed planning, engineering, and design information necessary to implement this project. It is anticipated that an EIR tiered from the LAX Master Plan EIR will be completed for this project; however, specific project details have not yet been

determined. Construction of this project is not anticipated to begin until 2015, or later, and would not overlap construction activities associated with the CUP-RP.

- **South Airfield Improvement Project (SAIP)**: This project provided for the relocation of Runway 7R/25L approximately 55 feet to the south and construction of a new 75-foot wide parallel taxiway between Runways 7R/25L and 7L/25R. Construction of the SAIP began in March 2006 and was completed in June 2008. No overlap with construction of the CUP-RP would occur.

As indicated above, the Bradley West Project and LAX Crossfield Taxiway Project would be under construction at LAX during construction of the proposed CUP-RP. However, the SAIP, the Midfield Satellite Concourse Project, and the RAC Facility would not take place during the construction of the proposed project and would not contribute to cumulative construction-related impacts. Construction of the CFTP (spring 2009 to summer 2010) would result in a short overlap with the construction of the proposed CUP-RP, which is projected to begin in October 2009. The resulting potential cumulative impacts are addressed in Chapter 4 of this EIR.

3.3.2 LAX Specific Plan Amendment Study

The LAX Master Plan, approved by the Los Angeles City Council in December 2004, is the strategic framework for future development at LAX. The LAX Specific Plan, approved in December 2004 as part of the LAX Master Plan Program, establishes procedures for approval of all projects defined in the LAX Master Plan Program. The approval procedures are different for a subset of the LAX Master Plan projects. These projects are commonly referred to as the "Yellow Light Projects". Such projects, as delineated in Section 7.H of the LAX Specific Plan, include the following: [15]

- Ground Transportation Center (GTC);
- Automated People Mover (APM) 2 from the GTC to the CTA;
- Demolition of CTA Terminals 1, 2, and 3;
- North Runway re-configuration, including center taxiways; and
- On-site road improvements associated with the GTC and APM 2.

In January 2005, a number of lawsuits challenging the approval of the LAX Master Plan Program were filed. In early 2006, the City of Los Angeles and plaintiffs gave final approval to a settlement of the subject lawsuits. As part of the Stipulated Settlement, LAWA is proceeding with the Specific Plan Amendment Study (SPAS) process to identify potential alternative designs, technologies, and configurations for the LAX Master Plan Program that would provide solutions to the problems that the Yellow Light Projects were designed to address, consistent with a practical capacity of LAX at 78.9 million annual passengers, the same practical capacity as included in the approved LAX Master Plan. The outcome of the SPAS process is a potential amendment to the approved LAX Specific Plan. LAWA is in the process of preparing a Draft EIR for the SPAS, including giving further consideration to the range of alternatives to be addressed in the Draft EIR. The nature and characteristics of the potential airfield improvement alternatives presented in the Notice of Preparation (NOP) for the SPAS Draft EIR are being reviewed in light of the current status and anticipated completion schedule for the LAX North Airfield Study currently being conducted by the NASA Ames Research Center. The nature and characteristics of the potential ground access system alternatives presented in the NOP are being reviewed to determine if there are other potential system options that would broaden the diversity and range of alternatives.

The SPAS process has not yet reached a point where the nature and implementation timing of the Yellow Light Project improvements can be delineated with reasonable accuracy and certainty.

---

15 Section 7.H of the LAX Specific Plan as approved in December 2004 also included the West Satellite Concourse and associated APM segments; however, those improvements were later removed from that section of the Specific Plan through a Specific Plan Amendment. As such, they are not considered to be Yellow Light Projects, which is consistent with Section V.D.1 of the Stipulated Settlement described herein.

3.3.3 LAX Development Projects Independent of the Master Plan

In addition to the proposed project, it is anticipated that a number of other, stand-alone construction activities at LAX that were not part of the LAX Master Plan could be underway concurrent with construction of the CUP-RP, including both LAWA and tenant projects. These include the following:[16]

- **Tom Bradley International Terminal Interior Improvements Program**: This project provides for the renovation of interior public spaces within TBIT including the departure lobby, departure concourse, arrival concourse, bus hold room, "meeter-greeter" area, in-transit lounge, in-bound and out-bound baggage systems; upgrade of the building's paging system and Information Technology (IT) systems; and upgrade of the existing elevators, escalators, and moving walks. Construction activities for this project began in February 2007 and are anticipated to be complete by February 2010. Therefore, construction of TBIT interior improvements would overlap construction activities associated with the CUP-RP.
- **Security Program - In-Line Baggage Screening Systems**: This project calls for the construction of in-line baggage screening systems in the CTA terminals pursuant to the requirements of the federal Transportation Security Administration (TSA). The project includes replacement of the existing airline baggage handling spaces, construction of new baggage screening rooms, replacement of the outbound baggage conveyor systems, and installation/integration of TSA-provided Explosion Detection System machines. The project also includes Explosive Trace Detection work stations, On-Screen Resolution Control Rooms and Closed-Circuit Television systems. Construction activities for the installation of in-line baggage screening systems within Terminal 3 began in January 2008 and are anticipated to be complete by January 2010. Similar projects within Terminal 6 will also be implemented between June 2010 and September 2011. Therefore, construction of in-line baggage screening systems would overlap construction activities associated with the CUP-RP.
- **Airfield Improvement Program (Taxiway/Taxilane/Service Roads)**: This project will reconstruct various taxiways and taxi-lanes with Portland Cement Concrete (PCC), and includes the removal of existing deteriorated Asphalt Concrete (AC) pavement, subgrade preparation, and construction of new pavement, pavement markings, and signage. The work on this project is anticipated to occur between June 2010 and December 2012. Therefore, construction would overlap construction activities associated with the CUP-RP.
- **Replacement of Elevators and Escalators**: This project provides for the replacement of existing elevators and escalators within parking structures and terminals. It is anticipated to occur between February 2010 and February 2013. Therefore, construction would overlap construction activities associated with the CUP-RP.
- **Airport Operations Center (AOC)/Emergency Operation Center (EOC)**: This project is to build out, within the existing Telecom building located east of Terminal 8 at LAX, a new AOC/EOC to consolidate LAWA's various operations centers into one location and to serve as a centralized emergency management location during an incident. The new AOC/EOC will house state-of-the-art facilities and will have increased robust operational and emergency management capabilities for resources coordination, data collection, and information processing. Project design has not yet been

---

16 In addition to the LAX development projects listed in this section, several other improvement projects identified on LAWA's draft Capital Improvements Program (CIP) in late 2008 were included in the various technical analyses of cumulative impacts for the CUP-RP. In particular, the modeling of cumulative construction traffic impacts, cumulative air quality impacts, cumulative global climate change impacts, and cumulative construction-related human health risks included such projects. In early 2009, the LAWA Board of Airport Commissioners approved only some of the CIP projects for implementation in Fiscal Year 2009-2010. As such, construction of some of the LAX development projects assumed in the cumulative impacts modeling would not occur concurrent with construction of the CUP-RP. Such projects include construction of: Phase III of the AOA Perimeter Fence Enhancements; Concessions Upgrades in the CTA; Passenger Boarding Bridge Replacements at Terminals 1, 3, 6, and Remote Gates; Baggage Claim Device replacement in Terminal 3; Miscellaneous improvements within the CTA, such as sewer line replacements in Terminals 1 and 6, CTA seismic retrofits, and CTA joint repair, roadway improvements, and security barriers; Bus Wash Rack Facility; and K-9 Training Facility. Given the relatively small and short-term nature of these type projects, the modeling analyses that includes such projects is still considered to be representative, if not slightly conservative, of the cumulative impacts associated with the proposed project.

completed, but it is anticipated that the project will require the configuration of the existing building and could involve the construction of up to 10,000 square feet of additional building space. Construction is anticipated to commence in November 2009 and take approximately one year. Therefore, construction would overlap construction activities associated with the CUP-RP.

- **Terminal/Apron Electrical Service Capacity Upgrades**: This project adds a new LADWP Substation and associated switchgear outside Terminals 2 through 8 on the apron to accommodate all GSE, including facilitation of systems to accommodate electric GSE consistent with Master Plan requirements; increases electrical capacity in Terminal 4 by a total of 3000 ampere (A) including upgrading the LADWP transformers from two 2500 kilovolt-ampere (KVA) to two 3750 KVA transformers that can deliver a total of 9000A; and, provides an accessible hatch to bring equipment from the apron to the basement LADWP vault or main electrical room. Construction of these improvements is anticipated to occur between December 2010 and June December 2011, which would overlap construction activities associated with the CUP-RP.
- **Renovation of Former United Airlines Commuter Facility**: Various interior and exterior improvements are proposed for the existing commuter terminal formerly operated by United Express located just east of Terminal 8. Such improvements include: (1) installation of a new electrical transformer and/or switchgear to upgrade the existing 800 AMP (amperes) service to 4,000 AMP service, which, among other things, would allow preconditioned air and electricity to be provided to parked aircraft instead of having to rely on the use of aircraft on-board auxiliary power units/generators, and would also support new charging stations for electric ground service equipment (eGSE); (2) upgrading of building electrical, plumbing, and mechanical systems to meet applicable code requirements; new carpet, paint, and other interior renovations; (3) installation of jetways (i.e., enclosed corridors) that will convert seven of the 18 existing aircraft hard-stand gates (i.e., aircraft parking positions that passengers and crew reach by walking across the apron area) to contact gates; and, (4) the installation of a large outdoor metal canopy to provide shading and weather protection for the baggage claim area and for eGSE parking/charging. The development of seven contact gates, as replacements for seven hard-stand gates, at the subject facility would not change the existing number of commuter gates (18) assigned to that area. It is anticipated that renovation of the subject facility would begin in the latter part of 2009 and take approximately 3 months to complete. It is not expected that construction would overlap construction activities associated with the CUP-RP.
- **Westchester Golf Course Three-Hole Restoration Project**: LAWA is planning to add three holes to the existing 15-hole Westchester Golf Course, located in the northern portion of the airport property within the area known as LAX Northside. Construction of the proposed improvements will take approximately six months from the start of construction to opening of the holes. The most notable construction activities, including demolition of existing pavement and rough grading and trenching, would occur within the first two weeks of construction. This would be followed by approximately nine weeks of fine grading. The balance of the construction period for the Westchester Golf Course Three-Hole Restoration Project will be used for hydroseeding and placement of sod, growth and maturation of the course, and for finish work, such as lighting installation. Although construction of the golf course improvements may be complete, or substantially complete, before construction for the CUP-RP begins, in order to provide a conservative cumulative analysis, it is assumed that construction of the Westchester Golf Course Three-Hole Restoration Project would be initiated in fall 2009 at approximately the same time as the initiation of the CUP-RP. Therefore, this EIR assumes that construction would overlap construction activities associated with the CUP-RP.
- **Korean Air Cargo Terminal Improvement Project**: This project includes additional warehouse and office space, as well as a more efficient truck loading and docking area at the existing Korean Air facility at LAX, which is located on West Imperial Highway within the South Cargo Complex East. Specific improvements include the addition of 16,350 square feet of warehouse space, the addition of 8,800 new square feet of office space, and the conversion of 6,657 square feet of existing office space to warehouse space, for a total net increase in warehouse square footage of 23,007 and in office space of 2,143 square feet. Upon completion, the facility would have a square footage of 183,506, a net increase of 25,150 square feet. In addition, the project includes the remodel of the existing truck docking area. At this time, it is estimated that construction would begin in early 2010

and take approximately one year to complete. The time period would overlap construction activities associated with the CUP-RP.

- **West Aircraft Maintenance/Aircraft Parking Area**: With the advent of the Airbus A380, which was put into commercial service at LAX in late 2008, and the pending release of the Boeing 747-8 and 787, there is growing market interest by airlines and aircraft maintenance/service providers in the development of areas at major airports where service and maintenance of new large aircraft (i.e., Airplane Design Group "ADG" VI aircraft) can occur. One such area of interest at LAX is an area at the west end of the airfield, between Pershing Drive and Taxiway AA south of World Way West. LAWA is currently developing a project description for the development of the 60-acre site to include a 200,000-square-foot maintenance hangar sized to accommodate (fully enclose) an A380, an aircraft parking/apron area of 50 acres with sufficient thickness to bear the weight of an A380, a 1.5-acre employee parking lot with 200 vehicle parking spaces, a 29,000-square-foot maintenance shop, and a 121,000-square-foot ground run-up enclosure (GRE)[17] sized to accommodate an A380. Construction of the project, if approved, would occur between late 2013 and early 2015. Therefore, construction of the west aircraft maintenance/aircraft parking area would not overlap construction activities associated with the CUP-RP.
- **Miscellaneous Construction and Maintenance Activities**: As part of ongoing construction and maintenance at LAX, and in accordance with its Capital Improvement Program, LAWA expects to undertake a number of projects within the CTA, the airfield, and other portions of the airport that would overlap construction activities associated with the proposed CUP-RP. These projects consist of routine upgrades and enhancements to existing facilities, and are generally smaller in scale than the other projects identified in this section.

In addition to the projects identified above, there are several projects in the planning stages that may occur on LAX property but are not related to the airport and are being undertaken by independent agencies or parties. These projects are described below.

- **Westchester Rainwater Improvement Project**: This project would treat urban runoff from the 2,400-acre watershed that currently flows into the Argo Drain and ultimately to Dockweiler State Beach and coastal waters. The project would add stormwater treatment facilities on LAX property near the intersection of Pershing Drive and Westchester Parkway. Project components would include stormwater flow diversion structures, debris removal, and underground detention and infiltration facilities that would remove bacteria and other pollutants, such as trash, oil and grease, metals and pesticides, from urban runoff. Construction of the project is anticipated to begin in late 2009 and take about a year to complete, which would overlap construction activities associated with the CUP-RP.
- **Metro Bus Maintenance and Operations Facility**: The development of a Metro bus maintenance and operations facility is being considered for a 24-acre parcel located on the west side of La Cienega Boulevard near Lennox Boulevard. Should the project move forward, the facility would house a bus division with approximately 234 standard and 106 articulated buses, a dispatch center and a maintenance shop. It would also support bus storage, fueling and related routine maintenance operations activity. In addition, approximately 525 parking spaces would be provided for employees, non-revenue vehicles and visitors. Construction of the project, if advanced to implementation, would begin in spring 2011 and extend through the end of 2012, which would overlap construction activities associated with the CUP-RP.

In addition to these projects, there is a project currently being considered by LAWA that, while not involving any construction activity at LAX or elsewhere, could indirectly affect LAX in a way that could result in cumulative impacts when combined with the other projects at LAX. Specifically, the Van Nuys Airport Noisier Aircraft Phaseout Project proposes to prohibit certain aircraft operations at Van Nuys Airport that exceed specified takeoff noise levels. Van Nuys Airport is a general aviation municipal airport

---

17 A "ground run-up enclosure" is a walled structure within which an aircraft is placed following certain maintenance activities, and the engines of the aircraft are operated at various thrust settings to confirm that they meet appropriate specifications. The walled enclosure serves to shield surrounding areas from the high noise levels of the engines during testing.

located approximately 22 miles north of LAX. It is anticipated that the phased implementation of that project, if approved, would result in the affected aircraft operators choosing to utilize other airports in the region including, but not limited to, LAX. Based on a survey of the potentially affected operators regarding which other regional airports would they likely use instead of Van Nuys Airport, it is estimated that a total of approximately 31 flights, representing 31 landing and takeoff operations (LTOs) or 62 total operations, would go to LAX per year. This equates to a daily average of approximately 0.2 additional flights at LAX. As noted above, the Van Nuys Airport Noisier Aircraft Phaseout Project does not involve any construction activities.

3.3.4 Non-LAX Planned Development

Planned development projects in the City of Los Angeles and neighboring communities within the vicinity of the traffic study area are listed in **Table 3-1**. The list was prepared to document and describe all known local area development projects that may contribute traffic to the CUP-RP study area. The list of non-LAX related projects was developed in consultation with representatives of the Los Angeles Department of Transportation (LADOT), Culver City, El Segundo, Hawthorne, Inglewood, Manhattan Beach, and the County of Los Angeles. The construction schedules and specific dates of occupancy for most of the developments were not provided. The traffic study area is generally bounded by I-405 to the east, I-105 and Imperial Highway to the south, Pershing Drive to the west, and Sepulveda Boulevard and Howard Hughes Parkway to the north.

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
1	Baldwin Hills Scenic Overlook Park	Hetzler Road	10,300 sq. ft. visitor center, passive recreation area	CC	Completed per City of Culver City
2	Baldwin Site	12803 W. Washington Boulevard	New 3-story mixed use development totaling 37,308 sq. ft.	CC	Empty lot per field visit of 1/14/2009
3	Brentwood Site Mixed Use	8810/8840/8850 Washington Boulevard	New mixed use development w/preliminary concept of up to (approx.) 133 residential units and 17,084 sq. ft. retail	CC	Existing closed auto dealership per field check of 1/15/2009
4	Brooke Kaufman	4227 Ince Boulevard	6 condo units on 3 lots	CC	Existing homes
5	Child Care Center	4024/4026 Wade St.	Conversion of a 1,371 sq. ft. duplex into a day care; no new square footage	CC	Completed per City of Culver City
6	Condominiums	3846 Bentley Avenue	4 units	CC	Existing single family home per field visit of 1/14/2009
7	Condominiums	3873 Bentley Avenue	2 units	CC	Construction complete per field visit of 1/14/2009
8	Condominiums	3862 Huron Avenue	5 units	CC	Building permit; existing home per field visit of 1/14/2009
9	Condominiums	4048 Lincoln Avenue	3 townhome condominiums	CC	In construction per field visit of 1/14/2009
10	Condominiums	9650 Lucerne Avenue	5 townhome condominiums	CC	Existing apartments per field visit of 1/14/2009
11	Condominiums	4058 Madison Ave.	4 units	CC	Existing home. Notice of pending development per field check of 1/14/2009
12	Condominiums	4228 Madison Avenue	2 units	CC	Building permit; no such address per field visit 1/14/2009
13	Condominiums	3972 Tilden Avenue	4 units	CC	Under construction per field visit of 1/14/2009

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
14	Condominiums	4014 Van Buren Place	4 units	CC	In construction per City of Culver City
15	Condominiums	4025 Wade Street	4 units	CC	Under construction per field visit of 1/14/2009
16	Condominiums (Former Burger King site)	13340 Washington Boulevard	41 unit condominium development with 6 live/work condominium units in Culver City and 35 units in LA	CC/LA	Fenced empty lot per field of 1/14/2009
17	Czuker Site Mixed Use	8770 Washington Boulevard	New mixed use development w/preliminary concept of up to (approx.) 115 residential units, 41,600 sq. ft. retail; 1,400 sq. ft. cafe; 53,500 sq. ft. office	CC	Pre-application stage
18	Distribution & Warehouse	3434 Wesley Street	10,500 sq. ft. office, warehouse and distribution	CC	Empty fenced lot per field check of 1/14/2009
19	Dr. Brenord Dutt	5800 Uplander Way	Add 3 stories; 57,050 sq. ft. to a 2-story office	CC	Notice of pending development posted per field check of 1/14/2009
20	Radisson Office Tower	6161 Centinela Avenue	342,409 sq. ft. office tower and 9-level parking structure	CC	Entitlements pending
21	FAYNSOD Family Trust	11501-11509 Washington Blvd.	Mixed Use: 3 Retail (2,359 sq. ft.), 1 Office (937 sq. ft.), & 2 Apts. (1,867 sq. ft.)	CC	Parking lot with fenced storage area per field check of 1/14/2009
22	Fire Station No. 3	6030 Bristol Pkwy	Two-story, 12,156 sq. ft. fire station	CC	Under construction per field check of 1/14/2009
23	Glencoe/Washington Mixed Use	13365 Washington Blvd.	4,183 sq. ft. retail and 19 condominium units	CC	Building permit; existing closed restaurant per field visit 1/14/2009
24	Greg Reitz	8665 Hayden Place	63,679 sq. ft. of office	CC	Existing storage warehouse per field check of 1/14/2009
25	Hampton Inn	3954 Sepulveda Blvd.	77-unit hotel	CC	Building permit
26	Huron Townhouses	3823-3833 Huron Avenue	15 new townhouses; 3 existing units to be removed	CC	Completed per City of Culver City
27	Irving Residential/Office	4043 Irving Place	Four story; 26 residential units and 3 office units	CC	Entitlements pending

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
28	Live/Work Lofts	10839 Washington Blvd.	3 Live/Work units and 12 parking spaces	CC	Appeared to be completed per field visit of 1/14/2009
29	Lux @ 9910 Mixed Use	9901 Washington Boulevard	14,112 sq. ft. mixed use development with 131 dwelling units; 12,178 sq. ft. of retail and three levels of subterranean parking with 244 parking spaces	CC/LA	Entitlement stage
30	New vehicle repair shop	11167 Washington Place	Construction of a new vehicle repair shop with 1,196 sq. ft. of repair area with two service bays and 191 sq. ft. of office	CC	Entitlement stage
31	Office Building	9919 Jefferson Boulevard	113,467 sq. ft. 3-story office building	CC	Empty lot per field check of 1/14/2009
32	Office & Retail Bldg.	700-701 Corporate Pointe	240,612 sq. ft. of office and 4,242 sq. ft. of retail	CC	Vacant lot per field visit of 1/14/2009
33	Parcel B	9300 Culver Boulevard	74,600 sq. ft. of office, 21,700 sq. ft. of restaurant and 21,700 sq. ft. of retail	CC	Surface parking lot per field visit of 1/14/2009
34	Modification to CUP, expanding school	12095-12101 Washington Boulevard	Conversion of a 28,000 sq. ft. office building into classrooms and administrative offices; addition of 2,000 sq. ft.	CC	No construction per field visit of 1/14/2009
35	Sony	10202 Washington Blvd.	Approved to build net new 100,000 sq. ft. of office, post-production, stage, and support uses	CC	Under construction per field visit of 1/14/2009
36	Southbay Ventures	4139/4145 Duquesne Avenue	6 units on 2 lots	CC	Fenced lot per field visit of 1/14/2009
37	Triangle Site - Washington/National Transit Oriented Development	NW corner of Washington and National Boulevards	New transit oriented development to include light rail station and mixed use development (preliminary concept includes up to 290 dwelling units; 149 room hotel; 70,000 sq. ft. office; 31,500 sq. ft. retail and 10,000 sq. ft. restaurant	CC	Empty lot per field visit of 1/15/2009
38	Turning Point School (K through 8)	8794 National Boulevard	Addition/remodel of net 9,000 sq. ft.	CC	Closed school; no construction per field visit of 1/14/2009
39	Union 76	10638 Culver Boulevard	Gas station and convenience store with new car wash; 2,500 sq. ft.	CC	Existing gas station (no car wash) per field visit of 1/14/2009

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
40	Uptown Lofts	9900 Culver Boulevard	5,457 sq. ft. of office and 18 condominium units	CC	Under construction per field visit of 1/14/2009
41	Warner Parking Structure	8511 Warner Drive	51,520 sq. ft. retail/restaurant; 784 parking spaces on 5 levels	CC	Surface parking lot per field visit of 1/14/2009
42	11957 Washington Boulevard Office Project	11957 Washington Boulevard	73,569 sq. ft., 4-story office building	CC	Empty lot per field visit of 1/14/2009
43	Washington Place Office Condos	12402 Washington Place	42,000 sq. ft. 4-story office and retail building; 9,300 sq. ft. of retail; 30,400 sq. ft. of office	CC	Closed auto repair per field visit of 1/14/2009
44	Westfield Fox Hills Mall Expansion	200 Fox Hills Mall	293,786 sq. ft. of retail and 427 parking spaces	CC	Under construction; Completion 10/2009
45	West Los Angeles Community College Master Plan	Overland Avenue at Freshman Drive	Approx. 291,300 sq. ft. of new building and renovation. Anticipate future student population of approx. 18,904 students and 1,248 employees by Fall 2022. Project includes second access road, parking structures, landscaping and development of athletic facilities	CC/CO	Parking lot completed; math/science bldg. under construction per field check 1/2009
46	Best Western Jamaica Bay Inn (Parcel 27R)	4175 Admiralty Way	Renovation & expansion 42-room hotel by an additional 69 rooms	CO	No construction per field visit of 1/9/2009
47	Boat Central (Parcels 52 and GG)	13501 Fiji Way	Dry-stack boat storage of 345 parking spaces; boat trailer storage of 24 parking spaces; mast-up sail boat storage of 30 parking spaces	CO	No construction per field visit of 1/9/2009
48	Del Rey Shores Apartments (Parcels 100 and 101)	4247-4275 Via Marina	544 apartments (202 existing units to be removed)	CO	No construction per field visit of 1/9/2009
49	Diner (Parcel 33)	4211 Admiralty Way	351 apartments; 24,500 sq. ft. retail; 10,000 sq. ft. restaurant (existing restaurant to be removed)	CO	Existing Panifico's Restaurant per field visit of 1/9/2009

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
50	Fisherman's Village (Parcels 55, 56 & W)	13715 Fiji Way	26,570 sq. ft. of specialty retail; 785-seat restaurant; 132-room hotel; 9 boat slips	CO	No construction per field visit of 1/9/2009
51	Gateway Marina Del Rey (Parcel 95)	404-514 Washington Boulevard	16,350 sq. ft. specialty retail center; 9,160 sq. ft. high turn-over, sit-down restaurant with 240 seats; 7,890 sq. ft. of general office building, 6,100 sq. ft. walk-in bank 72 apartments; 337 Parking Spaces (removal of 7,500 sq. ft. drive-up bank)	CO	No construction per field visit of 1/9/2009; Existing Islands restaurant and Caldwell Bank
52	Government Office Building	Panay Way and Via Marina	26,000 sq. ft.	CO	No construction per field visit of 1/9/2009
53	Villas Apartments	4170 Admiralty Way (Admiralty Way and Palawan Way, NW Corner)	Congregate Care Facility 114 Occupied DU's, 5,000 sq. ft. of specialty retail; parking lot with 94 parking spaces, 6,000 sq. ft. of general office/commercial; parking structure with 447 parking spaces; removal of 6,000 sq. ft. health club	CO	Construction completed per field visit of 1/9/2009
54	Legacy Partners Neptune Marina Apartments/Woodfin Suites Hotel (Parcels 10R, FF & 9U)	Marquesas Way and Via Marina	526 apartments (removal of 136 apartments); 288-room hotel; 1.47-acre public park	CO	No construction per field visit of 1/9/2009
55	Lincoln Boulevard Mixed Use Project	4363 Lincoln Boulevard	158 high-rise residential condominium units; 3,178 sq. ft. of specialty retail; parking structure with 409 parking spaces. Beverly Hills Rent-a car facility (48,000 sq. ft.) to be removed	CO	Existing rent-a-car facility per field visit of 1/9/2009
56	Lloyd Taber Marina del Rey Library (Parcel 40)	4533 Admiralty Way	Library	CO	Existing Library. No construction per field visit of 1/9/2009
57	Marina City Club Towers Marina del Rey	4333 Admiralty Way	600 units	CO	No construction per field visit of 1/9/2009
58	Marina del Rey Apartment Community (Parcels 12 & 15)	Panay Way and Via Marina	940 apartments; 82 units senior apartments; 4,000 sq. ft. retail; 6,000 sq. ft. commercial	CO	No construction per field visit 1/9/2009

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
59	Marina Del Rey Center (Parcel 97)	514-586 Washington Boulevard	Replace two 1-story commercial structures with two larger 1-story structures (+486 sq. ft.)	CO	Existing strip mall. No construction per field visit of 1/9/2009
60	Marina del Rey Residential Project (Parcels 12, 15 and FF)	Panay Way and Via Marina	1201 residential units on 2 parcels on the west side of Marina Del Rey	CO	No construction per field visit of 1/9/2009
61	Marina Expressway Homes	Marina Expressway Eastbound & Mindanao Way	28 Single family condominiums	CO	No construction per field visit of 1/9/2009
62	Marriott Residence Inn (Parcel IR)	Admiralty Way and Via Marina	149-room hotel. Existing Marriott hotel on NE corner	CO	No construction per field visit of 1/9/2009
63	Sea Glass Town Homes	6719 Pacific Av	36 condominiums	CO	No construction per field visit of 1/9/2009
64	Villa Venetia Residential (Parcel 64)	13900-13910 Fiji Way	478 mid-rise apartments (removal of 224 existing apartments); 34 boat slips; 5,000 sq. ft. restaurant	CO	No construction per field visit of 1/9/2009
65	Waterside Shopping Center (Parcels 50 and 83)	13555 Fiji Way	4,880 sq. ft. of specialty retail, with removal of 2,400 sq. ft.	CO	Existing West Marine Boats appears to be a new facility
66	The Aerospace Corp. (Office and Laboratory)	2350 E El Segundo Boulevard	150,000 sq. ft. office and 15,000 sq. ft. lab	ES	Final stages of construction
67	Commercial Buildings	126, 130, 134 & 138 Lomita St	4 new commercial buildings	ES	Nearing end of construction per field visit of 1/7/2009
68	Condominiums	347 Concord Street	3 units	ES	Existing apartments (project not begun) per field visit of 1/7/2009
69	Condominiums	425 & 429 Indiana Street	8 units	ES	Empty lot per field visit of 1/7/2009
70	Condominiums	1700 Mariposa Avenue	11 units	ES	Empty lot per field visit of 1/7/2009
71	Condominiums	412 Richmond Street	4 units	ES	Existing apartments (project not begun) per field visit of 1/7/2009
72	Condominiums	203 Whiting Street	4 units	ES	Under construction per field visit of 1/7/2009

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
73	Corporate Headquarters Office	455/475 Continental Boulevard	330,000 sq. ft. office; 22,500 sq. ft. research and development	ES	Existing office building (project not begun) per field visit of 1/8/2009
74	El Segundo Corporate Campus	700-800 N Nash Street	1,740,000 sq. ft. office; 75,000 sq. ft. retail; 7,000 sq. ft. child care; 7,000 sq. ft. medical office; 19,000 sq. ft. health club; 75,000 sq. ft. restaurant; 100-room hotel; 25,000 sq. ft. light industrial, 75,000 sq. ft. research & development; 65,000 sq. ft. technology/telecommunications	ES	Partially completed. Health club and hotel components are on hold
75	Electronics Superstore	Aviation Boulevard and Utah Ave/ 135th St	152,504 sq. ft. electronics superstore in place of 90,243 sq. ft. R&D, 51,209 sq. ft. office, and 11,502 sq. ft. warehouse	ES	Existing office building (project not begun) per field visit of 1/8/2009
76	High Bay Lab	901 N Nash St	55,772 sq. ft.	ES	Construction close to completion
77	Northrup-Grumman	SE corner of Mariposa Ave and Douglas Street	190,000 sq. ft. industrial uses	ES	Under construction
78	Office	888 N Sepulveda Boulevard	120,000 sq. ft.	ES	Empty lot per field visit of 1/8/2009
79	Office	141 Main Street	commercial	ES	Existing closed restaurant per field visit of 1/7/2009
80	Plaza El Segundo Phase 2A	NE Corner of Sepulveda Blvd and Rosecrans Ave	commercial	ES	Empty lot per field visit of 1/8/2009. Project on hold
81	Segundo Business Park	222 Kansas Street (at Grand Avenue)	commercial	ES	Demolition permit only received by the City
82	Xerox Phase IV	1951-1961 El Segundo Blvd	255,242 sq. ft. office; 350-room hotel	ES	Existing office building and surface lot per field visit 1/8/2009; Project on hold
83	Condominiums	13429-31 Kornblum Avenue	6 units	HA	Existing single family home per field visit of 1/7/2009
84	Condominiums	14629 Lemoli Avenue	3 units	HA	Construction completed per field visit of 1/7/2009
85	Condominiums	11533 Freeman Avenue	5 unit conversion	HA	Project completed per field visit of 1/7/2009

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
86	Condominiums	11975 Manor Drive	3 units	HA	Vacant lot per field visit of 1/7/2009
87	Condominiums/Office	13806 Hawthorne Blvd	171 units and 32,500 sq. ft. of office space	HA	Closed mortuary per field visit of 1/7/2009
88	Condominiums	11418 Grevillea Avenue	7 units	HA	Existing lawn mower business per field visit of 1/7/2009
89	Hotel Extensions	4334 W. Imperial Highway	165 rooms	HA	Under construction, per field check of 1/7/2009
90	L.A. Air Force Base - Lawndale Annex	East of Aviation Blvd and South of Rosecrans Avenue	285 condominium units	HA	Fusion Development at Aviation Blvd and 149th Place is completed. No other condominium projects seen per field visit of 1/7/2009
91	LA Air Force Base - Area A	SE corner of El Segundo Bl and Aviation Bl	625 condominiums	HA	Under construction per field visit of 1/8/2009
92	LA Air Force Base - Area B	NW corner of El Segundo Bl and Aviation Bl	63,000 sq. ft. warehouse; 560,000 sq. ft. office park; 93,750 sq. ft. base exchange; 43,125 sq. ft. health club; 34,463 sq. ft. medical office	HA	Existing surface parking lot per field visit of 1/8/2009
93	Prestige Villas	4500 116th Street	116 condominium units	HA	Existing closed RFK Medical Center per field visit of 1/7/2009
94	Recycling Center at Ralph's Grocery Store	11873 Hawthorne Blvd	Recycling center	HA	No construction per field visit 1/7/2009
95	Single Family Homes	14000 Yukon Avenue	6 units	HA	Four existing single family homes per field visit of 1/7/2009
96	Wiseburn School District	5403 W. 138th St and 5309 W. 135th St and 13500 Aviation Blvd	School Renovation. Existing Peter Burnett School at 5403 W. 138th Street	HA	Construction at Juan Cabrillo Elementary School (5309 W. 135th Street) completed per field visit 1/7/2009
97	Adult School and Day Care	106 East Manchester Blvd.	27,477 sq. ft.; office conversion	IN	Construction completed per field visit of 1/9/2009

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
98	Auto Sales and Retail	Prairie Avenue and Imperial Highway, NE Cor	49,000 sq. ft.	IN	Under construction per field visit of 1/9/2009
99	Commercial Building Addition	234 W. Manchester Boulevard	12,029 sq. ft.	IN	Construction completed per field visit of 1/9/2009
100	Condominiums	501 East 99th Street	12 units	IN	Existing home per field visit of 1/9/2009
101	Condominiums	940 North Cedar Street	14 units	IN	Existing apartments per field visit 1/9/2009
102	Condominiums	448 North Edgewood Street	6 units	IN	Existing home per field visit of 1/9/2009
103	Condominium	417- 420 N. Market Street	12 units	IN	Fenced lot per field visit of 1/9/2009
104	Condominiums	450 N. Market Street	12 units	IN	Existing abandoned building per field visit of 1/9/2009
105	Condominiums	912 S. Myrtle Avenue	7 units	IN	Existing apartments per field visit of 1/9/2009
106	Condominiums	927 South Osage Avenue	7 units	IN	Existing home per field visit of 1/9/2009
107	Condominium	222 W. Spruce Avenue	10 units	IN	Vacant lot per field visit of 1/9/2009
108	Hollywood Park Mixed-Use Development	1050 South Prairie Avenue	2,995 dwelling units; 300-room hotel; 620,000 sq. ft. retail; 75,000 sq. ft. office/commercial; 10,000 sq. ft. of civic use; 300-room hotel with 20,000 sq. ft. of meeting space. Pavilion/casino would be maintained on the project site.	IN	Draft EIR released fall 2008
109	Mixed retail/restaurant	Florence Avenue and La Brea Avenue, SE corner	49,800 sq. ft.	IN	Vacant lot per field visit of 1/9/2009
110	Mixed retail/restaurant	Southwest corner of Century/Prairie (Haagen)	97,490 sq. ft.	IN	Existing Taco Bell per field visit of 1/9/2009
111	Residential	704 N. Market Street	6 units	IN	Vacant lot per field visit of 1/12/2009

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
112	Retail and Office	10318 S. Prairie Avenue	10,000 sq. ft.	IN	Under construction per field visit of 1/12/2009
113	Senior Center and Housing	111 N. Locust Street	95,188 sq. ft.	IN	Vacant lot per field visit of 1/12/2009
114	Shopping Center	11441 S. Crenshaw Boulevard	101,323 sq. ft.	IN	Burlington Coat Factory store completed; further construction pending per field visit of 1/12/2009
115	Shopping Center	433 North Centinela Avenue	7,384 sq. ft.	IN	Vacant lot per field visit of 1/12/2009
116	Shopping Center	10922 South Prairie Avenue	8,416 sq. ft.	IN	Vacant paved lot per field visit of 1/12/2009
117	Single Family Homes	11901 S. Yukon Avenue	9 units	IN	In construction per field visit of 1/12/2009
118	Transitional Housing	733 Hindry Avenue	232,966 sq. ft.	IN	Existing transitional housing per field visit of 1/12/2009
119	Transitional Housing	812 S. Osage Avenue	20 units	IN	Vacant lot per field visit of 1/12/2009
120	Ambrose Hotel	901 Abbot Kinney Boulevard	57-room hotel, 1,200 sq. ft. of retail and 4,300 sq. ft. restaurant	LA	No construction. Existing building for lease per field check of 1/14/09
121	Animo High School	841 California Avenue	420-student charter school	LA	Under construction per field visit of 1/14/09
122	Bank of America	7215 W. Manchester Avenue	Walk-in bank	LA	Empty lot per field visit of 3/23/2009
123	Car Wash	9204 Airport Boulevard	15,251 sq. ft. of car rental facility to be removed	LA	No construction per field check of 1/12/2009
124	Central Region Elementary School	Teale Street E/O Lincoln Boulevard	650 students	LA	Empty lot per field visit of 1/14/2009
125	Chevron Gas Station	6101 W. Manchester Avenue	1,000 sq. ft. gas station with a drive through Starbucks; 2,000 sq. ft. 24-hour convenience store	LA	Under construction
126	Condominiums	7430 Arizona Avenue	43 units	LA	Under construction

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
127	Daycare Center	7900 S. Loyola Boulevard	16 student daycare center	LA	Daycare construction complete. William H. Hannon Library under construction per field visit of 1/14/2009
128	Grosvernor Court	5550 Grosvenor Boulevard	208 condo units	LA	Existing surface parking lot per field visit of 1/14/2009
129	Lincoln Boulevard Mixed Use	4004 S. Lincoln Boulevard	98 unit condos & 6,020 sq. ft. retail	LA	Existing strip mall per field visit of 1/14/2009
130	Lincoln Boulevard/ Manchester Avenue	7280 - 7298 W. Manchester Avenue	Apartments to replace specialty retail	LA	Existing realtor and other structure per field check of 1/12/2009
131	Metro Bus Facility	La Cienega Boulevard at Lennox Boulevard	Metro bus maintenance facility with approx. 234 standard and 106 articulated buses, a dispatch center and maintenance shop	LA	Environmental review
132	Office Building	5901 Center Drive (at Howard Hughes Pkwy)	249,020 sq. ft., five-story office building	LA	Building permit application in review but no start date. Will be built to suit
133	Private School	5401 Beethoven Street	420 students	LA	Construction completed per field visit of 1/14/2009
134	Radisson Hotel	6225 W. Century Blvd	340 room hotel; 2,544-space parking structure w/1,733 spaces for airport parking	LA	Project buildout year is 2012
135	Residential Mixed Use Project	8601 Lincoln Boulevard (at Manchester Avenue)	527 apartments, 12 live/work units, 22,600 sq. ft. of ground retail uses and 8,000 sq. ft. of restaurant.	LA	Construction nearing completion per field visit of 3/23/09
136	Villa Allegra	Sepulveda Blvd, W/S, south of Howard Hughes	Townhomes	LA	Under construction per field visit of 1/13/2009; Spring 2009 opening
137	The Village at Playa Vista (Playa Vista Phase II)	Jefferson Boulevard between McConnell Drive and Centinela Avenue	2,600 residential units; 175,000 sq. ft. office; 150,000 sq. ft. retail; 40,000 sq. ft. community serving	LA	Three office buildings in construction per field visit of 1/14/2009
138	Warehouse and Office	12700 Braddock Drive	134,557 sq. ft. warehouse; 1,357 sq. ft. office; 58,323 sq. ft. of University of CA laundry building to be removed	LA	Existing storage facility per field visit of 1/14/2009

Table 3-1

List of Other Related Projects

No.	Project Name	Address	Description	City[1,2]	Comments
139	Washington Square	300 Washington Blvd (at Via Dolce)	123 unit condominiums; 6,000 sq. ft. office space. (Existing 176,671 sq. ft. office building to be removed)	LA	Under construction per field visit of 1/14/2009
140	Westchester Lutheran School Expansion	7831 Sepulveda Boulevard	600 students	LA	Under construction per field visit of 1/14/2009
141	Bank and Retail	1129 N. Sepulveda Boulevard	4,000 sq. ft. bank and 2,000 sq. ft. retail; demolition of existing gas station	MB	Fenced structure per field visit of 1/7/2009
142	Mixed-Use Project (former Good Stuff restaurant)	1300 Highland Avenue	15,000 sq. ft. commercial/office/condominium	MB	Under construction per field visit of 1/7/2009
143	Medical Plaza	222 Sepulveda Blvd (NE Corner of Sepulveda Blvd and 2nd St)	12,000 sq. ft. medical office building and 1,000 sq. ft. retail. (Existing 5,000 sq. ft. auto repair shop to be removed)	MB	Existing limousine detailing business per field visit of 1/7/2009
144	Retail	1727 Artesia Boulevard	5,800 sq. ft. retail	MB	Construction nearing completion per field visit of 1/7/2009
145	Retail	1700 Rosecrans Avenue	10,000 sq. ft. retail (from warehouse)	MB	Construction complete per field visit of 1/7/2009
146	Rite Aid Store	1100 Manhattan Beach Blvd	13,000 sq. ft. retail (Existing 8,600 sq. ft. gas station to be removed)	MB	Fenced empty lot per field visit of 1/7/2009
147	Walgreens	2400 Sepulveda Boulevard	15,000 sq. ft. retail (demolition of vacant Albertsons store)	MB	Not started per field visit of 1/7/2009

[1] CC = Culver City; CO = County of Los Angeles; ES = El Segundo; HA = Hawthorne; IN = Inglewood; LA = City of Los Angeles; MB = Manhattan Beach

[2] Projects in Culver City from "Culver City Related Projects List" dated November 6, 2008 and sent by Ms. Diana Chang, Sr. Management Analyst/Transportation Planner, City of Culver City staff to LAWA. Projects in the City of Los Angeles updated via e-mail from Mr. Eddie Guerrero, Transportation Engineer, LADOT on March 25, 2009. Projects in County of Los Angeles from "Related Projects List," dated April 3, 2008, developed and prepared by Suen Fei Lau, Associate Civil Engineer, Los Angeles County Department of Public Works. Updates to projects in El Segundo provided by Maryam Jonas, El Segundo Public Works Department, on January 21, 2009 via e-mail to LAWA staff. Projects in City of Hawthorne were based on the City's website: http://www.cityofhawthorne.com/depts/planningcommdev/pending_applications/default.asp dated January 15, 2009 and updated via an e-mail from Mr. Christopher Palmer, Planning Assistant, City of Hawthorne, on January 20, 2009 to LAWA staff. Projects in Inglewood from "Related Projects" list dated 3/27/08. Projects in Manhattan Beach sent from Manhattan Beach City staff to LAWA in May 2008.

Source: Fehr & Peers, 2009.

4. SETTING, ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

EIR Type

This EIR, as defined by Section 15161 of the State CEQA Guidelines, is a Project EIR and, as such, is site- and project-specific. This EIR evaluates the environmental impacts determined by the Initial Study to be potentially significant and provides mitigation measures as appropriate. This methodology is consistent with CEQA Guidelines Section 15063(c)(3)(A). Pursuant to CEQA Guidelines Section 15128, proposed project effects found not to be significant are discussed in the Initial Study, attached as Appendix A. Environmental areas determined to be less than significant in the Initial Study are also discussed in Chapter 5 of this EIR. In general, impacts that cannot be mitigated to a level below significance are considered significant, unavoidable adverse impacts. LAWA, as the Lead Agency is responsible for certifying the EIR and adopting any mitigation measures needed to address the proposed project's significant environmental impacts.

Baseline for Determining Significant Environmental Impacts

The environmental baseline for determining significant impacts is generally, with a few exceptions, the physical conditions that existed at the time the NOP for this EIR was published (April 2009). For purposes of evaluating potential construction traffic impacts, intersection turning movement volumes collected in July and August 2008 were used as a basis for the analysis. The use of Summer 2008 traffic conditions as the baseline for evaluating construction traffic impacts is considered reasonable and appropriate because it accounts for peak summer traffic volumes, and, because background traffic conditions in 2009 and 2010 are not anticipated to be substantially different or greater than those in 2008. As evidenced from historical data summarized in Section 4.1, traffic volumes in the study area have declined over recent years and may continue to decline over the course of the primary construction activities as a result of the recent economic downturn. Therefore, the higher baseline of activity for 2008 provides a higher forecast and more conservative future volume than may likely materialize. Hence, a 2008 baseline is considered to provide a conservative but suitable basis for assessing the significance of project-related construction traffic impacts.

For certain analyses, such as the evaluation of operational air pollutant emissions, future conditions, that is, when the project is fully operational, are evaluated against existing conditions described in more detail in Sections 4.2.2.2 and 4.2.3. Daily air pollutant emissions inventories were developed for the CUP-RP from plant operations both before and after completion of the CUP-RP. Emissions estimates for CO, VOC, NO_x, SO_2, PM10, PM2.5, TACs, and GHGs were developed for new and existing combustion turbines, utility boilers, and cooling towers.

Incorporation of LAX Master Plan Commitments and Mitigation Measures into the Environmental Analysis

While the CUP-RP is not an LAX Master Plan project, LAWA is proposing that several of the Master Plan commitments and mitigation measures identified in the LAX Master Plan Mitigation Monitoring and Reporting Program[18] be applied to and included as part of the proposed CUP-RP. Relevant Master Plan commitments and mitigation measures are cited within individual sections of this chapter where applicable.

---

18 City of Los Angeles, Los Angeles World Airports, LAX Master Plan Alternative D Mitigation Monitoring and Reporting Program, September 2004.

Evaluation of Cumulative Impacts

Section 15130 of the State CEQA Guidelines requires that the analysis of potential project impacts include cumulative impacts, which are defined as “two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts". Under the requirements of the CEQA Guidelines, analysis of cumulative impacts need not be as in-depth as that performed relative to the proposed project, but instead should “be guided by the standards of practicality and reasonableness". Build out of the project is forecasted to occur in approximately four years. Accordingly, this chapter considers the effects of other proposed development projects that may be constructed at some point during the same time period. The analysis of cumulative air quality, human health risk, and global warming impacts in this EIR utilize a listing of all anticipated related projects occurring within LAX property, including development that is part of the LAX Master Plan and development that is independent from the LAX Master Plan All related projects within LAX property are individually described in Chapter 3 of this EIR. The construction traffic cumulative impact analysis includes all related projects within LAX property and projects that are located off-airport within the traffic study area for the project. The traffic study area is an area surrounding the airport and generally bounded by I-405 to the east, I-105 and Imperial Highway to the south, Pershing Drive to the west, and Sepulveda Boulevard and Howard Hughes Parkway to the north. The traffic study area includes 147 related projects which, combined with on-airport projects and the proposed project, have the potential to generate significant cumulative impacts. The related projects within the surrounding traffic study area are listed and briefly described in **Table 3-1** of this EIR.

4.1 Construction Surface Transportation

4.1.1 Introduction

The traffic analysis presented in this section addresses the construction traffic impacts specific to the CUP-RP. The impacts were determined for both the peak construction period for the CUP-RP (third quarter 2010[Q3 2010]) and the overall cumulative peak (Q3 2011) as discussed in Section 4.1.2.4. In this case, the peak construction month for the CUP-RP does not correspond to the peak cumulative construction period, which includes traffic from the construction of other known projects anticipated to be under construction during the approximately four-year CUP-RP construction schedule.

This CUP-RP analysis incorporates relevant analysis and assumptions from the LAX Master Plan Final EIR,[19] the South Airfield Improvement Project (SAIP) EIR,[20] the LAX Crossfield Taxiway Project (CFTP) EIR,[21] and the LAX Bradley West Project Draft EIR.[22] Given that the traffic conditions resulting from the construction of the CFTP, LAX Bradley West Project and the CUP-RP are similar in terms of regional approach/departure patterns and construction peaking characteristics, the analysis procedures and data were applied and updated as appropriate for the CUP-RP based on the particular characteristics of the project.

As described in Chapter 2, Section 2.2, the CUP-RP site is located within the Central Terminal Area (CTA) and accessed via Century Boulevard and World Way. All employee parking and construction staging associated with the construction of CUP-RP would be located within the CTA within the CUP-RP construction site. The anticipated construction-related traffic impacts at off-airport intersections and within the CTA associated with the construction of the CUP-RP were assessed herein, including construction employee vehicles and construction equipment and material delivery trucks. In addition to the new CUP facilities to be constructed within the CTA, another component of the CUP-RP includes the potential installation of a recycled/reclaimed water pipeline and an off-site treatment system that would be located at one of two possible sites. The potential effects of construction related traffic associated with the construction of these off-site facilities is also addressed herein.

This analysis addresses, in particular, the impacts from construction-related traffic that would occur during the peak period of project construction and during the overall cumulative peak. This peak-period analysis is considered to provide conservative results in that project-related traffic during periods when construction activities are less intensive would result in fewer traffic impacts than presented herein. The peak-period analysis focuses primarily on construction-related impacts on the off-airport public roadway system associated with the proposed CUP-RP. In addition, potential impacts associated with the construction-related activity using the on-airport roadway system within the CTA were evaluated. Furthermore, as indicated in the Initial Study contained in Appendix A of this EIR, the future operation of the replacement CUP would not result in any material long-term operational changes to traffic activity and traffic flows within the airport study area as, in the long-term, the CUP-RP project would not increase the number of employees traveling to LAX each day. Therefore, an operational analysis of future traffic activity associated with the project operations was not warranted for this EIR.

---

19 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

20 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for South Airfield Improvement Project, Los Angeles International Airport (LAX), October 2005.

21 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Crossfield Taxiway Project, Los Angeles International Airport (LAX), January 2009.

22 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX), May 2009.

4.1.2 Methodology

4.1.2.1 Overview

As noted above, this analysis focuses on construction impacts related to the CUP-RP. The analysis methodology for the CUP-RP EIR is based largely on the approach and data used for the LAX Bradley West Project EIR. The analyses and data are applicable to the CUP-RP because the construction of the projects overlap and share many of the same characteristics related to vehicle peaking patterns and travel paths. The Notice of Preparation (NOP) for the CUP-RP Draft EIR study was issued in April 2009. Although baseline conditions for purposes of assessing impacts under CEQA are normally based on traffic conditions at the time the NOP was published, this analysis is based on traffic activity when the airport is at peak conditions which occur during the summer (July/August) months; specifically July/August 2008, which also represents the most current comprehensive traffic counts completed by LAWA. (See Section 4.1.2.2, below, for more detailed discussion on the determination of baseline.)

The CUP-RP study area/geographic scope is defined consistent with the Bradley West Project EIR and the CFTP EIR, based on consultation with Los Angeles World Airports (LAWA) and the Los Angeles Department of Transportation (LADOT). Construction staging and construction parking for the CUP-RP are proposed to be located at the surface lots near the work area, as further described and depicted in Sections 4.1.4.1 and 4.1.5.1, below. The study area for the analysis includes those roads and intersections that would most likely be affected by employee and truck traffic associated with construction of the CUP-RP. The methodology used in this analysis is based on data and procedures used for the LAX Master Plan Final EIR construction traffic study,[23] subsequently updated and refined based on analyses prepared for the SAIP, CFTP and Bradley West Project construction traffic studies. The procedures are also consistent with the information and requirements defined in LADOT Traffic Study Policies and Procedures, revised by the LADOT in March 2002, notwithstanding that a construction traffic analysis is not typically required by LADOT.

The following steps and assumptions were used to develop the analysis methodology:

- The study area (explained further in Section 4.1.3.1 below) was defined according to the travel paths that would be used by construction traffic to access the project site, equipment, materials staging, and parking areas. Construction delivery vehicle travel paths would be regulated according to the construction traffic management plan detailed within the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP).[24] The specific mitigation commitments associated with the LAX Master Plan are described in more detail within Section 4.1.7 below. The proposed CUP-RP improvements are located within the CTA. Construction employee parking for this project is adjacent to the project construction site. Consequently, all CUP-RP construction employee vehicle activity and construction delivery trips would access the construction site via the off-airport roadway system. Vehicles would enter the construction area via Sepulveda Boulevard and Century Boulevard to World Way North. The routing would provide direct access to East Way and to the construction site located on Center Way. Vehicles exiting the site would use World Way South to access the external roadway system via Sepulveda Boulevard and Century Boulevard.
- Intersection traffic volume data were collected at the key study area intersections in July and August 2008 during the a.m. commute peak hours (7:00 a.m. to 9:00 a.m.) and the p.m. commute peak hours (4:30 p.m. to 6:30 p.m.). These data were then adjusted to represent peak hour volumes that would occur during (a) the a.m. peak inbound hour for construction employees and deliveries and (b) the p.m. peak outbound hour for construction employees and deliveries. Pursuant to the mitigation requirements set forth in the LAX Master Plan Final EIR, construction truck delivery and construction employee traffic activity would not be scheduled during the morning or afternoon commute peak

---

23 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.3.

24 As described in Section 4.1.7 below, although the CUP-RP is not a component of the LAX Master Plan, LAX Master Plan commitments that are applicable to construction traffic are applied to this project to mitigate potential construction-related impacts.

periods. The estimated peak hours for construction-related traffic were determined by reviewing the estimated hourly construction-related trip activity. The a.m. peak construction hour was determined to be 5:00 a.m. to 6:00 a.m. and the p.m. peak construction hour was determined to be 3:30 p.m. to 4:30 p.m.

- Key off-airport intersections, including intersections with freeway ramps in the proposed study area, were analyzed. Impacts to roadway segments and freeway[25] links, typically required to be analyzed during peak commute periods, were not analyzed because peak construction-related traffic activity is anticipated to occur outside of peak commute periods.

In general, this analysis complements the assumptions and analyses included in the LAX Master Plan Final EIR and subsequent detailed project-level construction traffic studies prepared for the SAIP EIR, the CFTP EIR and the Bradley West Project Draft EIR. Additional data collected in 2008 and incorporated in the recent Bradley West Project Draft EIR were also used in this study to provide technical analyses that (a) incorporate the most current available data, (b) accommodate a more focused study area, and (c) consider alternative peak construction hours that were not specifically modeled or analyzed in the LAX Master Plan Final EIR (i.e., construction peak hours specific to CUP-RP construction).

The following describes the methodology and assumptions underlying the various traffic conditions considered in this traffic analysis, and how the project's direct and indirect (cumulative) impacts were identified relative to those conditions.

4.1.2.2 Determination of Baseline Traffic Conditions

Baseline conditions used in the analysis of project-related construction traffic impacts are defined as the existing conditions within the CUP-RP traffic study area at the time the NOP for the CUP-RP Draft EIR was published in 2009. For purposes of this analysis, intersection turning movement volumes collected in July and August 2008, which represent the most current comprehensive traffic counts completed by LAWA, were used as a basis for preparing the traffic analysis and assessing potential project-related traffic impacts. The use of 2008 traffic conditions as the baseline for evaluating construction traffic impacts is reasonable and appropriate, given that construction traffic is anticipated to begin in 2009 and reach a peak in 2010. The background traffic conditions in 2009 at the time of the NOP is not anticipated to be substantially different from that observed in 2008; however, as shown in historical data summarized below in Section 4.1.3.3, traffic volumes in the study area have declined over recent years and may continue to decline over the course of the primary construction activities as a result of the recent economic downturn. This higher baseline of activity would result in a higher forecast and more conservative future volume than may likely materialize. Hence, a 2008 baseline is considered to provide a conservative but suitable basis for assessing the significance of project-related construction traffic impacts. The following steps were taken to develop baseline traffic conditions information.

Prepare Model of Study Area Roadways and Intersections--A traffic model of study area roadways and intersections was developed to assist with intersection capacity analysis (i.e., geometric configuration, quantitative delineation of capacity, and operational characteristics of intersections likely to be affected by project traffic). The model was developed using TRAFFIX,[26] a commercially available traffic analysis software program designed for developing traffic forecasts and analyzing intersection and roadway capacities. The model uses widely accepted traffic engineering methodologies and procedures, including the Transportation Research Board Critical Movement Analysis (CMA) Circular 212 Planning

---

[25] During a review of the analysis methodology and study area for the CUP-RP, LADOT staff indicated in an email to LAWA staff on June 30, 2009, that DOT " …does consider intersection analysis to be a more than sufficient means for conducting roadway and freeway link review" associated with the temporary nature of construction. Congestion Management Program (CMP) analysis is not required for construction-related activity because it is not anticipated that the CUP-RP would generate traffic during the a.m. or p.m. peak commute periods. Additionally, because the CUP-RP would not alter roadway circulation patterns or increase traffic volumes subsequent to construction, a CMP analysis is not required for post-construction traffic operations.

[26] Dowling Associates, TRAFFIX Version 7.7. Based on information provided by Dowling Associates in May 2, 2008, over 425 site TRAFFIX licenses are owned by public and private entities, including licenses owned by 44 cities, 5 countries, and Caltrans within the State of California.

Method,[27] which is the required intersection analysis methodology for traffic impact studies conducted within the City of Los Angeles.

Review Off-Airport Traffic Data Collected in 2008--Intersection turning movement counts for Baseline conditions were collected during a.m. and p.m. peak commute hours in July and August 2008. July and August are considered to be the peak months for airport-related traffic around LAX; therefore, additional seasonal adjustments were not required to convert the counts to peak month conditions. However, to estimate background traffic activity during peak construction periods, it was necessary to convert these data to represent the traffic activity that would occur during the clock hour that directly proceeds the peak commute hours. This adjustment to the peak commute hour data reflects the fact that, as a result of LAX Master Plan Commitments ST-12 and ST-14 identified within the LAX Master Plan MMRP, construction work hours and construction vehicle deliveries are required to be scheduled so as to avoid peak commute hours. An adjustment factor was developed using 24-hour automatic traffic recorder (ATR) counts[28] collected at multiple locations within the study area during June 2008. The adjustment factor was calculated as the ratio of traffic volumes during the construction peak period divided by the traffic volumes during the corresponding commute peak period (see Section 4.1.3.3 below for discussion of the data used to develop the adjustment factor). It was assumed that the traffic volumes recorded in June 2008 provide a reasonable representative profile of the hourly peaking pattern of background traffic on the study area roadway network during the summer 2008 season and would, therefore, be representative of hourly peaking patterns in July and August 2008.

Calculate Baseline Traffic Volumes--Baseline traffic volumes consist of the data collected in July and August 2008 during the a.m. and p.m. peak commute hours adjusted using the ratio described in the preceding paragraph to represent estimated traffic volumes during the construction peak hour. The intersection levels of service calculated using these volumes served as a basis of comparison for assessing potential impacts generated by construction of the CUP-RP.

4.1.2.3 Determination of Baseline Plus Peak CUP-RP Traffic Conditions

This traffic analysis was designed to assess the direct impacts associated with the CUP-RP, as well as the effects of future cumulative conditions as described below in Section 4.1.2.4. For purposes of determining the direct project-related impacts, a traffic scenario was developed consisting of baseline traffic described above plus the additional traffic that would be generated by the CUP-RP during the peak construction period. The following steps were conducted to determine the Baseline Plus Peak CUP-RP traffic volumes.

Analyze Peak CUP-RP Construction Activity--Vehicle trips associated with construction of the CUP-RP during the peak month of construction activity were estimated and distributed throughout the study area network. The trips were estimated based on a review of the proposed construction schedule, associated equipment crews, and associated equipment, including trucks and other construction vehicles, for the CUP-RP and the associated water reclamation facilities. Project-related construction trips were summarized to delineate peak month inbound and outbound construction employee trips, delivery truck trips, and transfer trips by hour of the day. The estimate of CUP-RP construction trips was based on construction employee workload schedules prepared for this project.[29] The construction employee trip distribution patterns were based on regional patterns developed for the CFTP using the modeling results prepared for the LAX Master Plan EIR, specific haul route information, airline passenger survey information, and regional population distributions.

Estimate Baseline Plus Peak CUP-RP Traffic Volumes--The Estimated Baseline Plus Peak CUP-RP (referred to hereinafter as Baseline Plus) traffic volumes were estimated by adding the project volumes

---

27 Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, January 1980.

28 Traffic data were collected in support of the SGI Group Inc, LAX Air Quality and Source Apportionment Study, July 30, 2008.

29 U.S. Cost, Central Utility Plant (CUP) Phase 1 Resource Loaded Schedule, June 24, 2009.

during the peak project activity period anticipated to occur in the third quarter of 2010 to baseline traffic volumes.

4.1.2.4 Delineation of Future Cumulative Traffic Conditions

In addition to the Baseline Plus Project condition described above, future cumulative traffic conditions were analyzed. In accordance with Section 15355 of the CEQA Guidelines, cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." For this traffic analysis, cumulative traffic conditions were assessed for the period during the overall CUP-RP construction program when the cumulative traffic associated with other LAX development programs would be greatest. This peak cumulative period was estimated to occur during the third quarter of 2011. To add a conservative measure to this analysis, the traffic volumes associated with the peak period of CUP-RP construction during the third quarter of 2010 was added to cumulative peak period from the third quarter of 2011. Similarly, the traffic volumes associated with the peak period of the Bradley West Project construction during the fourth quarter 2011 was added to the cumulative peak period (Q3 2011).

The conservative assumptions used to prepare the cumulative impacts analysis accounts for potentially two points in time during the approximate 4-year construction schedule when the combined impacts of CUP-RP-related construction traffic and construction traffic from other projects may differ; one point is when construction activities specific to the CUP-RP are at their peak and other project construction is also underway (Q3 2010) and the second point is when CUP-RP construction levels are lower than peak, but the construction activity of other projects may combine to produce a peak period in traffic that is higher than the CUP-RP peak (Q3 2011). Refer to Section 4.1.5 below for information related to peaking characteristics of the CUP-RP and other concurrent construction projects.

In accordance with CEQA Guidelines Section 15130(b), there are essentially two options for delineating cumulative development for evaluating potential impacts:

a. List past, present, and reasonably foreseeable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or

b. Summarize projections contained in an adopted general plan or related planning document, or in a prior adopted or certified environmental document, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

For purposes of the CUP-RP, the first of the two options, commonly referred to as "the list approach," was used to delineate cumulative projects - see Section 4.1.5.1 for a description of cumulative projects and Sections 4.1.5.1 and 4.1.5.3 for specific project listings and descriptions regarding how and when the traffic generation related to those projects would overlap with that of the CUP-RP. Background traffic was increased to reflect additional growth from non-specific projects, which adds an element of the second option to result in a cumulative impacts analysis that is more conservative.

Cumulative impacts were determined using a process that requires the development of the two sets of future cumulative traffic volume conditions, as described below.

Cumulative Traffic (Third Quarter 2011) Without Project

This scenario combines baseline traffic volumes with growth from all sources other than the project during the peak construction period for the CUP-RP. The following steps were taken to develop the traffic volumes for this scenario.

Develop Third Quarter 2011 Focused Study Area Roadway Network--The TRAFFIX model was updated, as necessary, to reflect any committed and funded study area transportation improvements that would be in place by the third quarter of 2011. Additional information on committed transportation improvements is provided in Section 4.1.5.2 below.

Estimate Third Quarter 2011 Cumulative Traffic Volumes--Cumulative (Q3 2011) traffic volumes were estimated using the following process:

- Baseline traffic volumes defined previously in Section 4.1.2.3 were multiplied by a growth factor of 2 percent per year to account for local background traffic growth through 2011. This assumption was deemed to be conservative given that roadway traffic in the study area generally decreased between 2004 and 2008 (refer to "Annual Growth Patterns" in Section 4.1.3.3 below) and would likely continue to decline over the near term as a result of the recent economic downturn. This annual growth rate assumption is consistent with previous direction provided by LADOT for use in the SAIP study.[30]
- Construction trips for committed development projects on airport property that are expected to commence during the period of CUP-RP construction were directly estimated and included in the analysis. Construction trips associated with the peak period of cumulative construction (Q3 2011) were estimated based on the construction cost of the project and the timeline for project completion. As an additional measure of conservativeness, the traffic volumes associated with the peak period of the Bradley West Project construction (Q4 2011) were assumed to occur during the third quarter 2011 when the overall peak cumulative condition is anticipated to occur. The projects that were considered as part of this analysis and the estimated trips associated with these projects are described in more detail in Section 4.1.5.1 below.
- The location and trip generation characteristics of the development identified on the list of related projects (refer to Section 4.5.3 below, and Table 3-1 in Chapter 3, particularly the other approved "non-airport" development projects that would be in place by the third quarter 2011) were reviewed and incorporated. Given that these other "non-airport" projects are not in the immediate vicinity of the study area, it was determined that the effects of associated traffic activity would be indirectly included as part of the assumed 2 percent growth rate.

Cumulative Traffic (Third Quarter 2011) With Project

The project-related (Q3 2010) construction traffic volumes described in Section 4.1.2.3 above were added to the Cumulative Traffic (Q3 2011) "Without Project" traffic volumes described in the previous section. This is a realistic traffic scenario that is intended to represent the estimated total peak hour traffic volumes (consisting of background traffic, traffic related to ambient growth, traffic related to other projects, and CUP-RP construction peak traffic) that would use the study area intersections during the overall cumulative peak in the third quarter of 2011.

4.1.2.5 Delineation of Impacts and Mitigation Measures

The following steps were conducted to calculate intersection levels of service, identify impacts, and identify potential mitigation measures, if necessary.

Analyze Intersection and Roadway Levels of Service--The levels of service on the study area intersections and roadways were analyzed using TRAFFIX. Intersection level of service (LOS) was estimated using the CMA planning level methodology, as defined in Transportation Research Board Circular 212,[31] in accordance with LADOT Traffic Studies Policies and Procedures guidelines,[32] and the L.A. CEQA Thresholds Guide.[33] Intersection level of service was analyzed for the following conditions:

- Baseline (2008);
- Baseline (2008) Plus Peak CUP-RP;
- Cumulative Traffic (Q3 2011) Without Project;
- Cumulative Traffic (Q3 2011) With Project.

---

30 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for South Airfield Improvement Project, Los Angeles International Airport (LAX), August 2005, page IV-38.

31 Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, January 1980.

32 Los Angeles Department of Transportation, Traffic Study Policies and Procedures, Revised March 2002, Available: http://www.lacity.org/LADOT/TrafficStudyGuidelines.pdf.

33 City of Los Angeles, Department of City Planning, L.A. CEQA Thresholds Guide, Your Resource for Preparing CEQA Analysis in Los Angeles, 2006.

Identify Project Impacts--Project-related impacts associated with construction of the CUP-RP were identified. Intersections that were anticipated to be significantly affected by project-related construction were identified according to the criteria established in the L.A. CEQA Thresholds Guide.[34] Impacts were determined by comparing the -LOS results for the following:

- **Baseline Plus Peak CUP-RP Compared with Baseline** - This comparison is utilized to isolate the potential impacts of the project.
- **Cumulative Impacts** - Cumulative impacts were determined using a two-step process. Initially, the "Cumulative Traffic (Q3 2011) With Project" condition was compared to the baseline condition to determine if a cumulative impact would occur relative to baseline. An impact was deemed significant if it would exceed the allowable threshold of significance defined in the LADOT Guidelines. If a cumulative impact were determined, then a second comparison of the "With Project" vs. the "Without Project" LOS conditions was made to determine if the project's contribution of the cumulative impact is determined to be "cumulatively considerable" in accordance with the impact thresholds defined in Section 4.1.6 below.

Identify Potential Mitigation Measures--The traffic analysis methodology included provisions to identify mitigation measures, as necessary, for intersections determined to be significantly affected by construction-related traffic. The identification of appropriate mitigation measures includes integration of the applicable LAX Master Plan commitments intended to address construction-related impacts.

4.1.3 Baseline Conditions

As indicated above, baseline conditions relate to the facilities and general conditions that existed during the 2008 peak summer months (July/August), given that background traffic conditions in 2009 are not anticipated to be substantially different from those in 2008.

4.1.3.1 Study Area

The construction traffic analysis study area is depicted in **Figure 4.1-1**. The scope of the study area was determined by identifying the intersections most likely to be used by construction-related vehicles accessing (1) the CUP-RP construction site and adjacent construction employees parking and staging areas and (2) the construction employee parking and staging areas for other concurrent construction projects at LAX. The study area is generally bounded by I-405 to the east, I-105 and Imperial Highway to the south, Pershing Drive to the west, and Sepulveda Boulevard and Howard Hughes Parkway to the north. **Figure 4.1-1** depicts the CUP-RP construction site, which is located within the CTA that is accessed by World Way via Sepulveda Boulevard and Century Boulevard.

4.1.3.2 Study Area Roadways

The principal freeways and roadways serving as access routes within the construction traffic analysis study area include the following:

- **I-405 (San Diego Freeway)** - This north-south freeway generally forms the eastern boundary of the construction traffic analysis study area and provides regional access to the airport and the surrounding area. Access to the study area is provided via ramps at Howard Hughes Parkway, Century Boulevard, I-105, Imperial Highway, and three locations along La Cienega Boulevard.
- **I-105 (Glenn M. Anderson or Century Freeway)** - Along with Imperial Highway (described below), this east-west freeway forms the southern boundary of the construction traffic analysis study area, and extends from the San Gabriel Freeway (I-605) on the east to Sepulveda Boulevard on the west. Access to the study area is provided via ramps at Sepulveda Boulevard and along Imperial Highway. The westbound off-ramp from the I-105 Freeway to northbound Sepulveda Boulevard is currently

[34] City of Los Angeles, Department of City Planning, L.A. CEQA Thresholds Guide, Your Resource for Preparing CEQA Analysis in Los Angeles, 2006.

being widened by the California Department of Transportation (Caltrans). The construction is scheduled to be completed during the first quarter of 2010.

- **Aviation Boulevard** - This north-south four-lane roadway bisects the study area.
- **Century Boulevard** - This eight-lane divided roadway serves as the primary entry to the LAX CTA, the location of the CUP-RP. This roadway also provides access to off-airport businesses and hotels and on-airport aviation-related facilities (e.g., air cargo facilities) located between the airport CTA and I-405.
- **Imperial Highway** - This east-west roadway is located at-grade and beneath much of the elevated I-105 freeway. The number of lanes on this roadway varies from six-lanes east of the merge with I-105 to four-lanes west of the merge with I-105.
- **La Cienega Boulevard** - This north-south roadway parallels I-405 at the east boundary of the study area. The roadway varies from four to six lanes.
- **Pershing Drive** - This north-south four-lane divided roadway forms the western boundary of the construction traffic analysis study area.
- **Westchester Parkway** - This east-west four-lane divided arterial roadway forms a portion of the northern boundary of the study area.
- **Sepulveda Boulevard (State Route 1 south of Lincoln Boulevard)** - This major north-south six-lane arterial roadway provides direct access to the airport via I-405 and Westchester Parkway on the north and via I-105 on the south. Sepulveda Boulevard between I-105 and Century Boulevard is located in a tunnel section beneath the south airfield runways.
- **111th Street** - This east-west roadway has one lane in each direction separated by a continuous two-way left turn lane. This roadway provides access to the airport's Public Parking Lot B, Airport Employee Parking Lot E, and other businesses in the study area.

4.1.3.3 Existing Traffic Conditions

Traffic conditions at the study area intersections and existing traffic activity (peak month, hourly, and annual) are discussed below.

Study Area Intersections

Intersection locations and intersection control and geometry are discussed in this section.

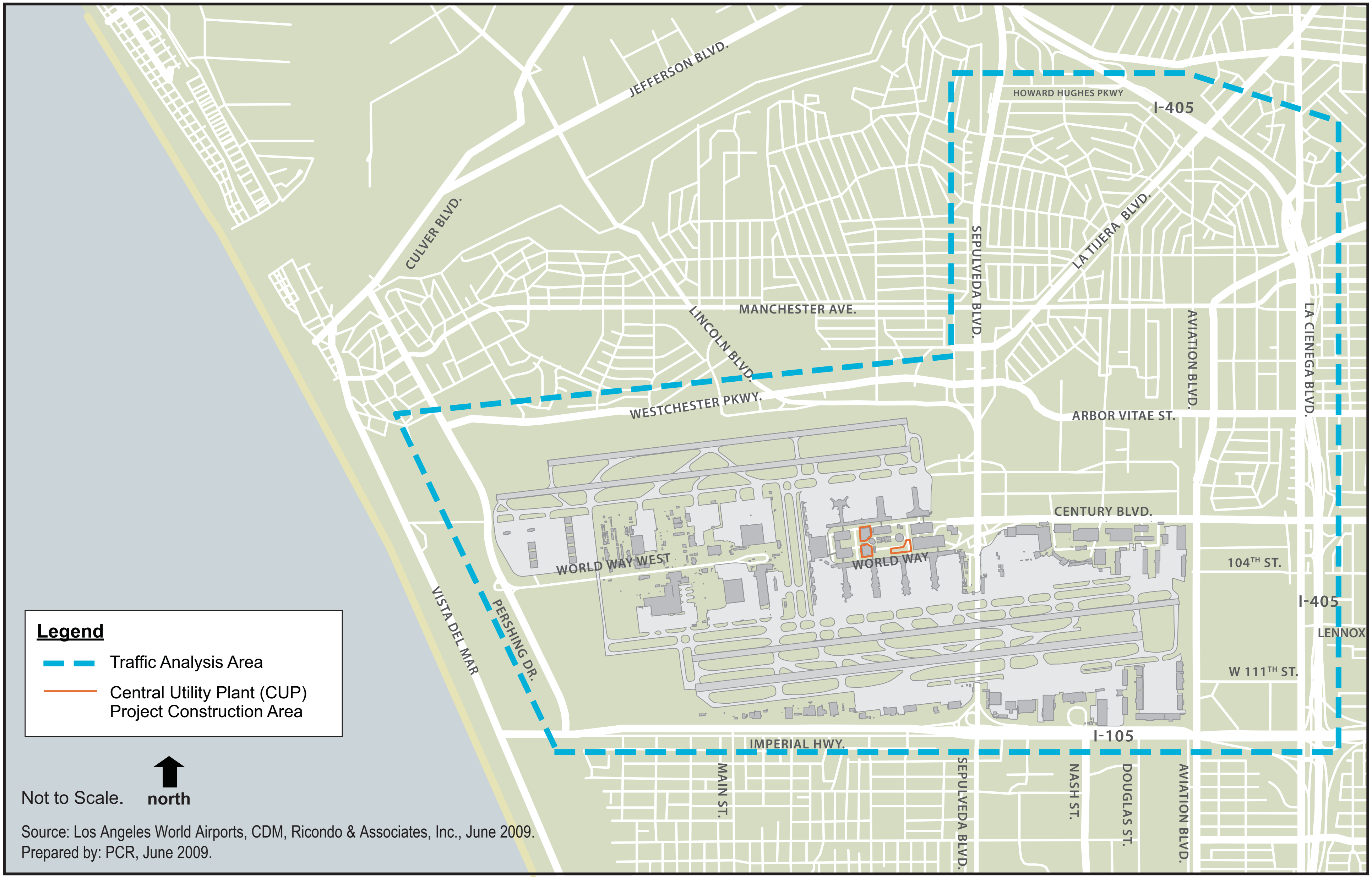
Intersection Locations

The anticipated routes used by construction-related vehicles were reviewed to identify the intersections likely to be used by vehicles accessing the CUP-RP construction site or one of the construction employee parking/staging areas associated with other concurrent construction projects at LAX. Based on this review, the key intersections to be analyzed are depicted in **Figure 4.1-2**.

Intersection Control and Geometry

All of the study area intersections listed above and depicted in **Figure 4.1-2** are signalized. In addition, all of the intersections are included in LADOT's Automated Traffic Surveillance and Control (ATSAC) system, except Imperial Highway and the I-405 northbound ramps (east of La Cienega Boulevard) (Intersection #75) and Century Boulevard and the I-405 northbound ramps east of La Cienega Boulevard (Intersection #39). The ATSAC system provides for monitoring of intersection traffic conditions and the flexibility to adjust traffic signal timing in response to current conditions.

The geometry for the intersections listed above is provided in Appendix B-1.



LAX Central Utilities Plant Replacement Project Draft EIR

Construction Traffic Analysis Study Area

Figure 4.1-1

Intersection Number[35]	Intersection Location
14.	Aviation Boulevard and Century Boulevard
16.	Imperial Highway and Aviation Boulevard
19.	Aviation Boulevard and 111th Street
36.	La Cienega Boulevard and Century Boulevard
39.	Century Boulevard and I-405 Northbound Ramps East of La Cienega Boulevard
47.	Imperial Highway and Douglas Street
65.	Sepulveda Boulevard and Howard Hughes Parkway
67.	Imperial Highway and La Cienega Boulevard
68.	Imperial Highway and Main Street
69.	Imperial Highway and Pershing Drive
71.	Imperial Highway and Sepulveda Boulevard
73.	Imperial Highway and Nash Street
74.	Imperial Highway and I-105 Ramp
75.	Imperial Highway and I-405 Northbound Ramp
89.	La Cienega Boulevard and Lennox Boulevard
94.	La Cienega Boulevard and 111th Street
96.	La Cienega Boulevard and I-405 Southbound Ramps North of Century Boulevard
97.	La Cienega Boulevard and I-405 Southbound Ramps South of Century Boulevard
98.	La Cienega Boulevard and I-405 Southbound Ramps North of Imperial Highway
101.	Sepulveda Boulevard and La Tijera Boulevard
108.	Sepulveda Boulevard and Lincoln Boulevard
114.	Sepulveda Boulevard and Manchester Avenue
123.	Westchester Parkway and Pershing Drive
135.	Sepulveda Boulevard and Westchester Parkway
136.	Sepulveda Boulevard and 76th/77th Street
137.	Sepulveda Boulevard and 79th/80th Street
138.	Sepulveda Boulevard and 83rd Street
1000.[36]	La Cienega Boulevard and 104th Street

Traffic Activity

Traffic data collected to support the traffic analyses required for the CUP-RP are summarized below.

Peak Month Activity

Monthly traffic data in the vicinity of LAX over the past nine years were reviewed to identify the typical peak month of traffic activity associated with airport operations. The average daily traffic (ADT) volumes accessing the CTA by month for January 2000 through December 2008 are provided in **Table 4.1-1**. As shown, CTA traffic reached peak activity during the summer months of July and August. August is typically the peak month for airport roadway traffic followed closely by July. Given the influence of airport activity on the study area roadways and intersections, it was determined that the analysis of 2008 background traffic should be based on peak August 2008 conditions.

The peak CUP-RP construction period is anticipated to occur in the third quarter of 2010, a period in which average daily CTA traffic volumes have historically been lower than during peak summer months, or third quarter conditions. The project-related traffic analysis was based on peak month traffic activity combined with peak CUP-RP construction activity. Using peak month data for background roadway traffic combined with peak traffic associated with CUP-RP construction produces a conservative result, representing the maximum potential traffic activity in the study area for purposes of defining future roadway traffic conditions.

---

35 The intersection numbers correspond with the intersection number designations associated with the August 2008 intersection traffic count database that has been collected to support analyses associated with the LAX Specific Plan Amendment Study.

36 The intersection of La Cienega Boulevard and 104th Street is not included in the August 2008 intersection traffic count database that has been collected to support analyses associated with the LAX Specific Plan Amendment Study.

Table 4.1-1

CTA Average Daily Traffic Volumes

Monthly Traffic	2000	2001	2002	2003	2004	2005	2006	2007	2008
January	82,136	90,683	65,135	66,039	61,775	69,554	67,727	66,999	67,483
February	79,791	87,509	61,148	60,808	59,802	60,930	63,715	65,339	64,924
March	86,627	93,186	66,794	59,921	64,431	63,748	69,034	68,380	69,819
April	92,863	96,566	68,164	60,434	68,164	64,771	69,230	70,268	69,184
May	98,052	96,341	70,867	64,306	68,155	68,982	70,303	71,599	72,022
June	102,392	101,585	72,282	65,903	74,650	75,699	72,647	73,669	75,118
July	106,445	**105,842**	75,433	74,047	**78,674**	75,635	75,895	78,342	75,640
August	**108,871**	103,308	**79,427**	**76,556**	77,986	**79,046**	**78,236**	**82,193**	**76,434**
September	95,917	59,987	66,630	60,762	66,276	68,151	67,171	68,316	65,227
October	92,169	42,370	65,166	59,904	66,395	66,607	66,981	68,152	64,260
November	96,308	56,579	62,264	59,944	65,525	68,200	70,326	72,098	64,128
December	94,551	60,649	71,845	68,666	73,107	70,700	71,978	71,900	70,972
Average Daily Traffic [1]	94,775	82,892	68,841	64,840	68,948	69,406	70,329	71,492	69,639
% Annual Change	--	-12.5%	-17.0%	-5.8%	6.3%	0.7%	1.3%	1.7%	-2.6%
Million Annual Passengers	67.3	61.6	56.2	55.0	60.7	61.5	61.0	62.4	59.8
% Annual Change	--	-8.5%	-8.8%	-2.1%	10.4%	1.3%	-0.8%	1.5%	-4.2%

[1] Estimates for average daily traffic are calculated by weighting the monthly average daily traffic volumes by the number of days in the month. The month of February has 29 days in 2000, 2004, and 2008.

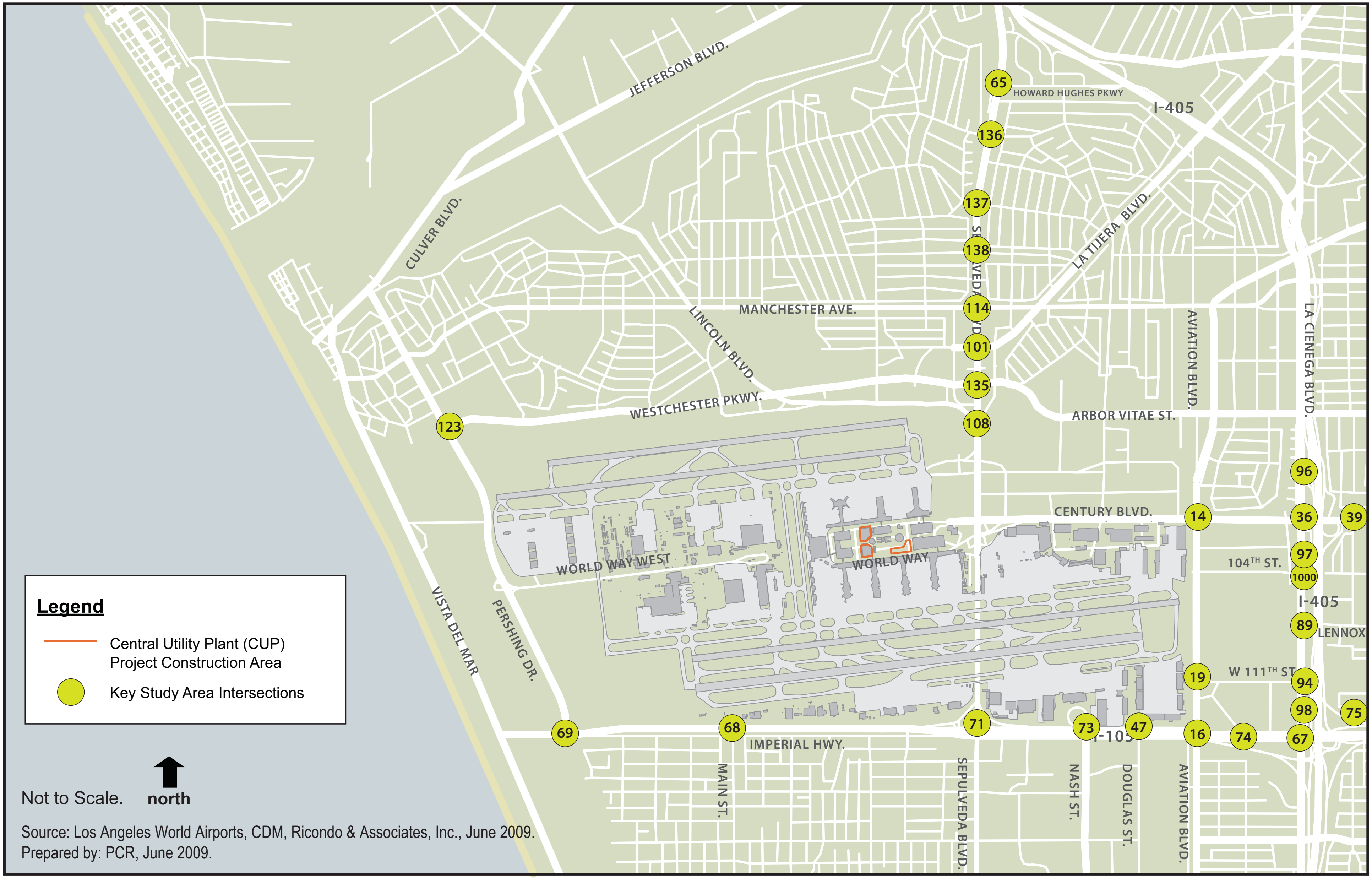
Source: City of Los Angeles, Los Angeles World Airports, Ground Transportation Report, Ground Transportation Planning and Design, February 26, 2009. Ricondo & Associates, Inc. June 2009.

Project-related Peak Hours

Certain project commitments identified in the LAX Master Plan Final EIR are required to be implemented in conjunction with LAX Master Plan development projects and are also being required for LAX projects independent of the Master Plan, including the CUP-RP. Many of these commitments would have a direct effect on the traffic generated by the construction associated with the CUP-RP. Specifically, Master Plan Commitments ST-12 (Designated Truck Delivery Hours) and ST-14 (Construction Employee Shift Hours) are designed to control truck deliveries and construction employee trip activity to avoid the a.m. (7:00 a.m. to 9:00 a.m.) and p.m. (4:30 p.m. to 6:30 p.m.) peak commute periods, and would apply to the CUP-RP. These commitments, along with other transportation-related commitments relevant to the CUP-RP, are listed in Section 4.1.7 below.

The anticipated project-related traffic peak hours were identified by reviewing estimates of the construction-related traffic associated with the CUP-RP. Using these data, the peak hours analyzed for the project were determined to be the following:

- **Project Construction A.M. Peak Hour (6:00 a.m. to 7:00 a.m.)** - The project construction a.m. peak hour represents the peak period for construction employees arriving to the construction employee parking lots. Based on review of the employee schedule, employees are likely to arrive between 5:00 a.m. and 6:00 a.m. However, it was determined that peak period volumes between 6:00 a.m. and 7:00 a.m. in combination with peak employee activity would produce a more conservative estimate of activity in the event that the future construction employees need to arrive up to the desired "cut-off" time of 7:00 a.m., just prior to the start of the morning peak commute period.
- **Project Construction P.M. Peak Hour (3:30 p.m. to 4:30 p.m.)** - The project construction p.m. peak hour represents the peak period for construction employees leaving the construction employee parking lots. This period also represents the peak period for trucks delivering materials to the project



LAX Central Utilities Plant Replacement Project Draft EIR

Construction Traffic Study Area Intersections

Figure
4.1-2

site or material staging areas. The peak period was assumed to end at 4:30 p.m., just prior to the start of the afternoon peak commute period.

Hourly Traffic Patterns

ATR data collected in June 2008 at multiple locations within the study area were used to evaluate traffic peaking patterns throughout the day and to adjust intersection turning movement traffic volume data collected during the a.m. and p.m. commute peak hours to corresponding traffic during the construction peak hours. It is anticipated that the data collected in June 2008 would provide a representative profile of the hourly peaking pattern of background traffic using the study area roadway network during the summer 2008 season and would, therefore, be representative of hourly peaking patterns during the 2008 peak months. Hourly traffic volumes counted at five locations within the study area are graphically depicted in **Figure 4.1-3**. The volumes depicted in **Figure 4.1-3** represent traffic along the following roadways: (a) Aviation Boulevard, (b) Sepulveda Boulevard, and (c) Imperial Highway (three locations). These data were collected in the first and second week of June 2008. The reported traffic conditions represent activity on a typical busy weekday (Tuesday through Thursday).

As shown in **Figure 4.1-3**, the study area roadways tend to experience peaking patterns that correlate with the regional commute peaks. The morning peak period in the study area generally occurs over a sustained period between 7:00 a.m. and 9:00 a.m. The afternoon peak period generally occurs between 5:00 p.m. and 6:00 p.m., which is within the 4:30 p.m. to 6:30 p.m. peak commute period.

Table 4.1-2 shows the percentage difference between the commute and construction peak hours at five locations within the study area during June 2008. As depicted in **Table 4.1-2** and **Figure 4.1-3**, the traffic volumes on the study area roadways during the project construction peak hours were lower than the traffic volumes during the adjacent a.m. and p.m. commute peak periods. During the a.m. construction peak hour (6:00 a.m. to 7:00 a.m.), the roadway volumes were about 36 percent lower on average than the roadway volumes during the adjacent a.m. peak commute hour (7:00 a.m. to 8:00 a.m.). During the construction p.m. peak hour (3:30 p.m. to 4:30 p.m.), traffic volumes were approximately 11 percent lower on average than during the typical evening commuter peak (4:30 p.m. to 5:30 p.m.). For purposes of this analysis, and as a conservative assumption, background volumes during the construction peak periods were calculated by reducing the volumes collected during the peak commute periods by a factor obtained from the ATR location reflecting the least reduction between the construction and commute peak hour periods. As such, the a.m. construction peak hour volumes were estimated by reducing all of the a.m. commute peak volumes by 28.5 percent (reflecting the a.m. percentage change at Imperial Highway west of Sepulveda Boulevard). The p.m. construction peak hour volumes were assumed to be the same as the p.m. commute peak volumes (i.e., no reduction was applied based on the p.m. percentage change at Sepulveda Boulevard south of the tunnel).

Annual Growth Patterns

Historical traffic data collected during the a.m. and p.m. commute peak hours were analyzed to assess historical growth patterns in the study area. As shown in **Table 4.1-3**, it was calculated that traffic volumes on the study area intersections decreased approximately 1.5 percent per year (compounded annually), on average, between 2004 and 2006. Study area traffic volumes continued to decrease an average of approximately 2.5 percent per year between 2006 and 2008. Overall between 2004 and 2008, traffic volumes at the study area intersections decreased at a compounded annual rate of 2.0 percent between 2004 and 2008. Although the traffic volumes on the study area intersections have decreased annually, on average, as shown in **Table 4.1-1**, average daily traffic accessing the CTA increased annually from 2004 through 2007. However, the average annual increases were nominal, ranging from 0.6 to 1.7 percent per year. Average daily traffic accessing the CTA during the peak month of August continued to increase at a higher rate. In 2008, average annual traffic accessing the CTA decreased 2.6 percent compared with traffic in 2007.

Table 4.1-2

Comparison of Traffic Volumes during the Commute and Construction Peak Hours

	AM Peak Hour			PM Peak Hour		
Location	**Construction Peak Hour 6:00 am-7:00 am**	**Commute Peak Hour 7:00 am-8:00 am**	**Percentage Change**	**Construction Peak Hour 3:30 pm-4:30 pm**	**Commute Peak Hour 4:30 pm-5:30 pm**	**Percentage Change**
Imperial Highway, East of Sepulveda Boulevard[1]	1,263	1,990	-36.5%	1,890	2,257	-16.3%
Imperial Highway, West of Sepulveda Boulevard[2]	1,450	2,027	-28.5%	2,611	3,218	-18.9%
Imperial Highway, West of Aviation Boulevard[3]	971	1,741	-44.2%	1,864	2,537	-26.5%
Aviation Boulevard., North of 111th Street[4]	1,411	2,270	-37.8%	2,144	2,369	-9.5%
Sepulveda Boulevard, South of the Tunnel[5]	4,018	6,293	-36.2%	6,070	6,071	0.0%
Total/Average	**9,113**	**14,321**	**-36.4%**	**14,579**	**16,452**	**-11.40%**

1 Data Collected on Tuesday June 3, 2008
2 Data Collected on Wednesday June 4, 2008
3 Data Collected on Tuesday June 3, 2008
4 Data Collected on Tuesday June 10, 2008
5 Data Collected on Wednesday June 4, 2008

Source: Ricondo & Associates, Inc., using data from the traffic survey conducted in support of the SGI Group Inc., LAX Air Quality and Source Apportionment Study, July 30, 2008.

In summary, traffic volume on the study area roadways during the peak month of August declined even during a period when airport passenger activity continued to experience growth on an average daily basis. However, rather than assuming that traffic activity would continue to decrease through the 2011 study period, a conservative assumption of 2 percent growth per year was used to adjust these volumes to represent future year traffic conditions. This annual growth rate assumption is consistent with previous direction provided by LADOT for use in the SAIP, CFTP and Bradley West Project traffic studies.[37]

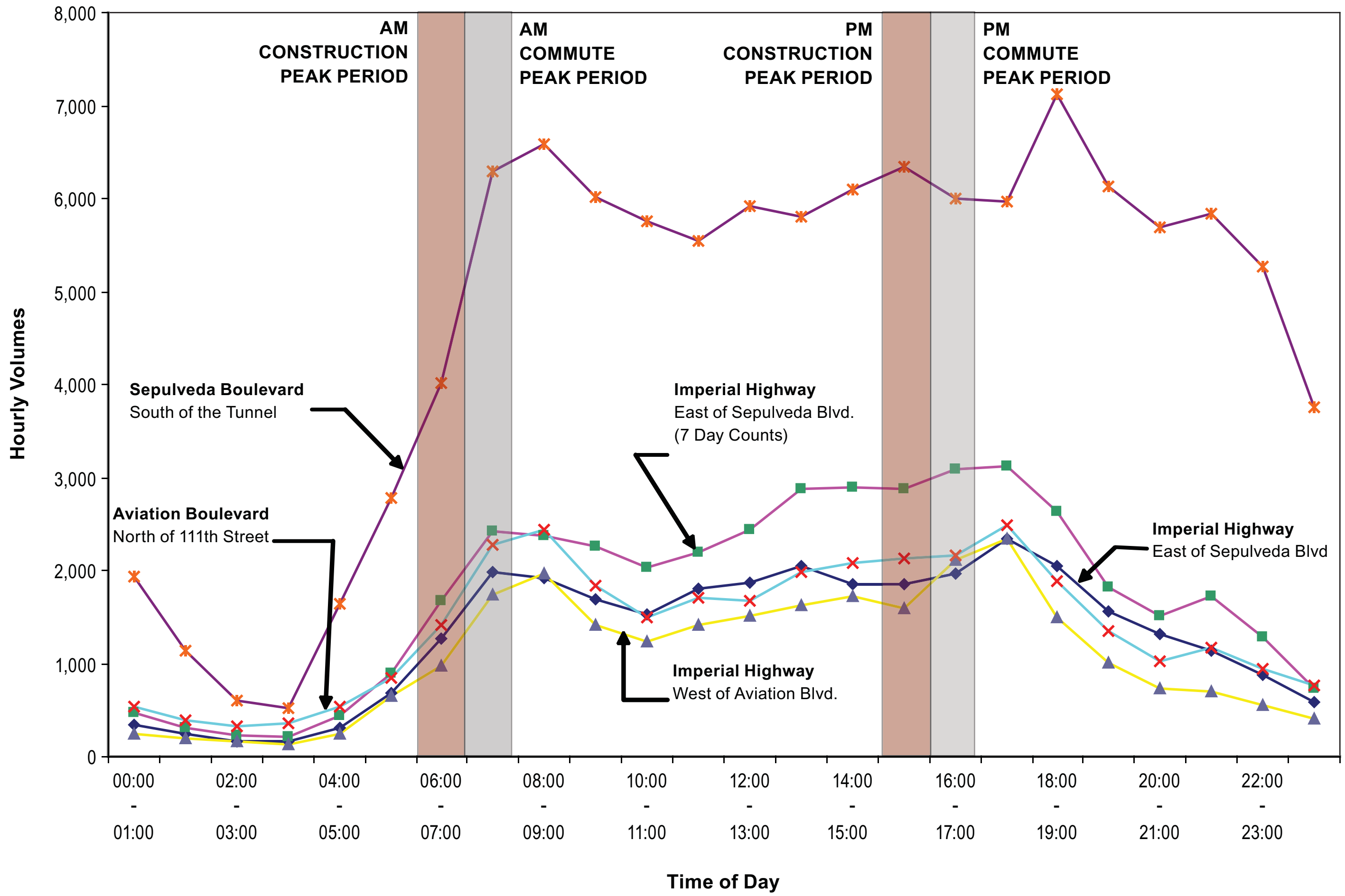
4.1.3.4 Baseline Intersection Volumes

Baseline traffic volumes consist of the traffic volumes that represent traffic activity at the time the NOP for the CUP-RP Draft EIR was published (April 2009). Baseline volumes were estimated based on actual data collected during the 2008 a.m. and p.m. commute peak hours that were adjusted using factors derived from ATR counts in the study area to reflect 2008 conditions during the a.m. and p.m. construction peak hours. Baseline intersection traffic volumes are provided in Appendix B-3.

4.1.3.5 Baseline (2008) Intersection Analyses

Intersection LOS was analyzed using the CMA methodology to assess the estimated operating conditions during baseline conditions for the a.m. and p.m. construction peak hours. LOS is a qualitative measure that describes traffic operating conditions (e.g., delay, queue lengths, congestion). Intersection level of service ranges from A (i.e., excellent conditions with little or no vehicle delay) to F (i.e., excessive vehicle delays and queue lengths). LOS definitions for the CMA methodology are presented in **Table 4.1-4**.

37 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for South Airfield Improvement Project, Los Angeles International Airport (LAX), August 2005, page IV-38.



Source: Los Angeles World Airports, Traffic Survey Conducted in Support of LAWA Air Quality and Source Apportionment Study; Source Group Inc., 2008.
Prepared by: PCR, June 2009.

LAX Central Utilities Plant Replacement Project Draft EIR

Automatic Traffic Recorder Hourly Volumes (June 2008)

Figure **4.1-3**

Table 4.1-3

Historical Traffic Volumes on Study Area Intersections

Study Area Intersections[1]		Peak Hour[1]	Intersection Total			Average Annual Growth Rate	
			August 2004	August 2006	August 2008	2004 to 2006	2006 to 2008
14.	Aviation Blvd. & Century Blvd.	AM	5,670	5,159	5,125	-4.6%	-0.3%
		PM	6,367	5,084	5,512	-10.6%	4.3%
16.	Imperial Hwy. & Aviation Blvd.	AM	3,840	3,779	3,941	-0.8%	2.1%
		PM	4,841	4,516	4,634	-3.4%	1.3%
19.	Aviation Blvd. & 111th St.	AM	2,470	2,004	2,435	-9.9%	10.2%
		PM	2,848	2,349	2,714	-9.2%	7.5%
36.	La Cienega Blvd. & Century Blvd.	AM	5,409	5,022	4,792	-3.6%	-2.3%
		PM	5,947	5,576	5,621	-3.2%	0.4%
39.	Century Blvd. & I-405 NB Ramps	AM	4,033	3,633	3,215	-5.1%	-5.9%
		PM	3,618	3,592	3,812	-0.4%	3.0%
47.	Imperial Hwy. & Douglas St.	AM	1,833	2,235	2,076	10.4%	-3.6%
		PM	2,566	2,665	2,499	1.9%	-3.2%
65.	Sepulveda Blvd. & H. Hughes Pkwy.	AM	N/A[2]	5,400	4,652	N/A	-7.2%
		PM	N/A	6,326	5,581	N/A	-6.1%
67.	Imperial Hwy. & La Cienega Blvd.	AM	2,975	3,213	2,863	3.9%	-5.6%
		PM	4,057	3,930	4,138	-1.6%	2.6%
68.	Imperial Hwy. & Main St.	AM	3,114	2,789	3,147	-5.4%	6.2%
		PM	3,238	2,907	3,229	-5.2%	5.4%
69.	Imperial Hwy. & Pershing Dr.	AM	2,720	2,601	2,567	-2.2%	-0.7%
		PM	2,612	2,510	2,608	-2.0%	1.9%
71.	Imperial Hwy. & Sepulveda Blvd.	AM	7,003	7,627	5,873	4.4%	-12.2%
		PM	7,818	7,236	6,897	-3.8%	-2.4%
73.	Imperial Hwy. & Nash St.	AM	4,232	4,229	3,658	0.0%	-7.0%
		PM	2,577	2,676	2,491	1.9%	-3.5%
74.	Imperial Hwy. & I-105 EB Ramps	AM	3,027	3,230	3,355	3.3%	1.9%
		PM	3,321	3,138	3,469	-2.8%	5.1%
75.	Imperial Hwy. & I-405 NB Ramps	AM	1,951	2,298	1,852	8.5%	-10.2%
		PM	2,732	2,822	2,944	1.6%	2.1%
89.	La Cienega Blvd. & Lennox Blvd.	AM	1,569	1,452	1,349	-3.8%	-3.6%
		PM	1,986	2,031	1,875	1.1%	-3.9%
94.	La Cienega Blvd. & 111th St.	AM	1,601	1,579	1,505	-0.7%	-2.4%
		PM	2,140	2,052	2,037	-2.1%	-0.4%
96.	La Cienega Blvd. & I-405 Southbound Ramps North of Century	AM	2,341	2,316	2,106	-0.5%	-4.6%
		PM	2,573	2,615	2,365	0.8%	-4.9%

Table 4.1-3

Historical Traffic Volumes on Study Area Intersections

			Intersection Total			Average Annual Growth Rate	
Study Area Intersections[1]		**Peak Hour**[1]	**August 2004**	**August 2006**	**August 2008**	**2004 to 2006**	**2006 to 2008**
97.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	AM	1,687	1,714	1,878	0.8%	4.7%
		PM	2,700	2,726	2,682	0.5%	-0.8%
98.	La Cienega Blvd. & I-405 Southbound Ramps North of Imperial	AM	1,690	1,524	1,550	-5.0%	0.8%
		PM	2,124	1,834	1,993	-7.1%	4.2%
101.	Sepulveda Blvd. & La Tijera Blvd.	AM	N/A	3,918	3,425	N/A	-6.5%
		PM	N/A	4,972	4,397	N/A	-6.0%
108.	Sepulveda Blvd. & Lincoln Blvd.	AM	N/A	6,183	5,690	N/A	-4.3%
		PM	N/A	7,170	6,504	N/A	-4.8%
114.	Sepulveda Blvd. & Manchester Ave.	AM	N/A	5,358	4,687	N/A	-6.5%
		PM	N/A	6,328	5,649	N/A	-5.5%
123.	Westchester Pkwy. & Pershing Dr.	AM	N/A	1,741	1,725	N/A	-0.5%
		PM	N/A	1,945	1,609	N/A	-9.0%
135.	Sepulveda Blvd. & Westchester Pkwy.	AM	N/A	4,298	3,558	N/A	-9.0%
		PM	N/A	4,878	4,326	N/A	-5.8%
136.	Sepulveda Blvd. & 76th/77th St.	AM	N/A	4,949	4,293	N/A	-6.9%
		PM	N/A	5,160	4,865	N/A	-2.9%
137.	Sepulveda Blvd. & 79th/80th St.	AM	N/A	4,688	3,594	N/A	-12.4%
		PM	N/A	4,718	4,204	N/A	-5.6%
138.	Sepulveda Blvd. & 83rd St.	AM	N/A	4,325	3,115	N/A	-15.1%
		PM	N/A	4,698	3,866	N/A	-9.3%
1000.	La Cienega Blvd. & 104th St.	AM	N/A	N/A	N/A	N/A	N/A
		PM	N/A	N/A	N/A	N/A	N/A
Average Compounded Annual Growth Rate							
Year - to - Year				**-1.5%**	**-2.5%**		
2004 - 2008					**-2.0%**		

1 AM Peak Hour refers to traffic volumes collected between 8:00 a.m. and 9:00 a.m.; PM Peak Hour refers to traffic volumes collected between 5:00 p.m. and 6:00 p.m.
2 N/A = Not Available

Source: Ricondo & Associates, Inc., using data collected by Wiltec on August 3 to 5, 2004; August 1 to 9, 2006; and July 16 to August 28, 2008.

Table 4.1-4

Level of Service Thresholds and Definitions for Signalized Intersections

Level of Service (LOS)	Volume/Capacity Ratio Threshold	Definition
A	0 - 0.6	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 - 0.7	VERY GOOD. An occasional approach phase is fully used; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701 - 0.8	GOOD. Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 - 0.9	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901 - 1.0	POOR. Represents the most vehicles that intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	Greater than - 1.0	FAILURE. Backups from nearby intersections or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, January 1980.

In accordance with LADOT analysis procedures, the volume/capacity (v/c) ratio calculated using the CMA methodology is further reduced by 0.07 for those intersections included within the ATSAC system (discussed earlier in Section 4.1.3.3) to account for the improved operation and increased efficiency from the ATSAC system that is not captured as part of the CMA methodology. Application of the ATSAC reduction is described in Attachment D of the LADOT Traffic Study Policies and Procedures Manual.[38]

The estimated intersection LOS for baseline conditions is provided in **Table 4.1-5**. As shown in **Table 4.1-5**, it was estimated that most of the intersections operated at LOS C or better in 2008 during the construction a.m. and p.m. peak periods analyzed for the CUP-RP. The three exceptions occurred at the following locations:

(1) Intersection of La Cienega Boulevard and Century Boulevard (Intersection #36), which was estimated to operate at LOS E during the construction p.m. peak period;

(2) Intersection of Imperial Highway and Sepulveda Boulevard (Intersection #71), which was estimated to operate at LOS F during the construction p.m. peak period;

(3) Intersection of Sepulveda Boulevard and Manchester Avenue (Intersection #114), which was estimated to operate at LOS D during the construction p.m. peak period.

Table 4.1-5

Baseline Intersection Analysis Results

Intersection		Peak Hour[1]	V/C[2]	LOS[3]
14.	Aviation Blvd. & Century Blvd.	Construction AM	0.469	A
		Construction PM	0.757	C
16.	Imperial Hwy. & Aviation Blvd.	Construction AM	0.523	A
		Construction PM	0.667	B
19.	Aviation Blvd. & 111th St.	Construction AM	0.353	A

38 Los Angeles Department of Transportation, Traffic Study Policies and Procedures, Revised March 2002, Available: http://www.lacity.org/LADOT/TrafficStudyGuidelines.pdf.

Table 4.1-5

Baseline Intersection Analysis Results

	Intersection	Peak Hour[1]	V/C[2]	LOS[3]
		Construction PM	0.488	A
36.	La Cienega Blvd. & Century Blvd.	Construction AM	0.392	A
		Construction PM	0.910	E
39.	Century Blvd. & I-405 N/B Ramp	Construction AM	0.514	A
		Construction PM	0.548	A
47.	Imperial Hwy. & Douglas St.	Construction AM	0.155	A
		Construction PM	0.412	A
65.	Sepulveda Blvd. & H. Hughes Pkwy.	Construction AM	0.256	A
		Construction PM	0.643	B
67.	Imperial Hwy. & La Cienega Blvd.	Construction AM	0.220	A
		Construction PM	0.568	A
68.	Imperial Hwy. & Main St.	Construction AM	0.405	A
		Construction PM	0.716	C
69.	Imperial Hwy. & Pershing Dr.	Construction AM	0.481	A
		Construction PM	0.434	A
71.	Imperial Hwy. & Sepulveda Blvd.	Construction AM	0.509	A
		Construction PM	1.185	F
73.	Imperial Hwy. & Nash St.	Construction AM	0.377	A
		Construction PM	0.300	A
74.	Imperial Hwy. & I-105 Ramp	Construction AM	0.533	A
		Construction PM	0.541	A
75.	Imperial Hwy. & I-405 NB Ramp	Construction AM	0.246	A
		Construction PM	0.554	A
89.	La Cienega Blvd. & Lennox Blvd.	Construction AM	0.224	A
		Construction PM	0.408	A
94.	La Cienega Blvd. & 111th St.	Construction AM	0.122	A
		Construction PM	0.363	A
96.	La Cienega Blvd. & I-405 Southbound Ramps North of Century	Construction AM	0.442	A
		Construction PM	0.560	A
97.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	Construction AM	0.238	A
		Construction PM	0.424	A
98.	La Cienega Blvd. & I-405 Southbound Ramps North of Imperial	Construction AM	0.173	A
		Construction PM	0.279	A
101.	Sepulveda Blvd. & La Tijera Blvd.	Construction AM	0.377	A
		Construction PM	0.663	B
108.	Sepulveda Blvd. & Lincoln Blvd.	Construction AM	0.409	A
		Construction PM	0.715	C
114.	Sepulveda Blvd. & Manchester Ave.	Construction AM	0.501	A
		Construction PM	0.877	D
123.	Westchester Pkwy. & Pershing Dr.	Construction AM	0.212	A
		Construction PM	0.255	A
135.	Sepulveda Blvd. & Westchester Pkwy.	Construction AM	0.331	A
		Construction PM	0.636	B
136.	Sepulveda Blvd. & 76th/77th St.	Construction AM	0.510	A
		Construction PM	0.552	A
137.	Sepulveda Blvd. & 79th/80th St.	Construction AM	0.421	A
		Construction PM	0.508	A
138.	Sepulveda Blvd. & 83rd St.	Construction AM	0.308	A
		Construction PM	0.459	A
1000.	La Cienega Blvd. & 104th St.	Construction AM	0.154	A
		Construction PM	0.356	A

1 The hours of analysis include the construction a.m. peak (6:00 a.m. - 7:00 a.m.) and the construction p.m. peak (3:30 p.m. - 4:30 p.m.).
2 Volume to capacity ratio.
3 LOS range: A (excellent) to F (failure).

Source: Ricondo & Associates, Inc., using TRAFFIX, December 2008.

Appendix B-4 provides the level of service results from the TRAFFIX program, including the volume, geometry and other inputs used to produce these results.

4.1.3.6 Service Levels within the CTA

The CTA curbside and roadway system consists of a two-level roadway system. The upper level roadway and curbside system generally accommodate departing passenger activities, and the lower level roadways and curbsides are generally used for arriving passenger activities. The CTA roadway network provides access to the airport's CTA public parking structures, which are intended to accommodate the short-term and daily parking customers. The two-level on-airport curbside and roadway network is accessed from the following three off-airport roadways:

- Century Boulevard;
- Sepulveda Boulevard; and
- 96th Street Bridge/Sky Way.

Each of these roadways provides vehicular access to both the departures (upper) level or the arrivals (lower) level curbsides and roadways. On-airport access from the departures level to the arrivals level is provided via a recirculation ramp located at the eastern end of the CTA and a ramp at the western end of Center Way, connecting to West Way. Access from the arrivals level to the departures level is provided via the ramp at the western end of Center Way, connecting to West Way (upper level). The departures level and arrivals level outer roadways are both signed for a speed limit of 25 miles per hour.

The existing CUP is located on Center Way, west of the Theme Building. Traffic activity along Center Way is generally comprised of traffic volumes exiting the CTA parking facilities. Center Way intersects with Century Boulevard and Sepulveda Boulevard at the eastern limits of the CTA.

Table 4.1-6 depicts traffic volumes entering the lower level roadway system during a typical Friday in August 2008. The lower level traffic activity is relevant to this study because all construction related traffic accessing the CTA would use the lower level roadway system to reach the CUP site located on Center Way. As shown in **Table 4.1-6**, the lower level peak hour occurs during the late evening from 21:00 to 22:00 hours (9:00 p.m. to 11:00 p.m.), when approximately 2,937 vehicles access the lower level roadway system (7.4 percent of the daily total volume.)

4.1.4 Project-Generated Traffic

Traffic that would be generated by the CUP-RP is defined below for the anticipated peak period of traffic generation.

4.1.4.1 CUP-RP Construction Traffic during Project Peak (Third Quarter 2010)

The peak construction period for the CUP-RP is anticipated to occur during the third quarter of 2010. Construction employee and delivery vehicle trips were estimated on an hourly basis over the typical busy day (with the exception of the peak a.m. and p.m. commute periods) during the peak construction period. Based on the resource loaded schedule developed for the project, it is estimated that 168 construction employees would access the CUP-RP construction site on a daily basis during the peak period of construction.[39] The construction schedule is based on a single-shift work schedule. Vehicle occupancy was assumed to be 1.15 employees per vehicle. According to a study published by the Southern California Association of Governments (SCAG), the average vehicle occupancy on several regional roadways in the Los Angeles region ranged from approximately 1.15 to 1.30.[40] Provided the temporary nature of construction employment and the lower likelihood of rideshare opportunities, a conservative estimate of vehicle occupancy of 1.15 employees per vehicle was assumed. By applying the assumed

---

39 U.S. Cost, Central Utility Plant (CUP) Phase 1 Resource Loaded Schedule, June 24, 2009.

40 Southern California Association of Governments, Regional High-Occupancy Vehicle Lane System Performance Study, November 4, 2004.

vehicle occupancy factor, it was projected that 146 construction employee vehicles per day during the CUP-RP construction peak period would access and egress the study area in support of CUP-RP construction.

Table 4.1-6

CTA Hourly lower Level Vehicle Counts (August 2008)

Hour		Lower Level Vehicles	Percent of Day
0:00	1:00	1,140	2.9%
1:00	2:00	644	1.6%
2:00	3:00	262	0.7%
3:00	4:00	304	0.8%
4:00	5:00	458	1.2%
5:00	6:00[1]	662	1.7%
6:00	7:00	696	1.7%
7:00	8:00	897	2.3%
8:00	9:00	1,175	3.0%
9:00	10:00	1,530	3.8%
10:00	11:00	2,083	5.2%
11:00	12:00	2,233	5.6%
12:00	13:00	2,420	6.1%
13:00	14:00	2,078	5.2%
14:00	15:00	2,332	5.9%
15:00	16:00	2,179	5.5%
16:00	17:00[1]	2,030	5.1%
17:00	18:00	2,029	5.1%
18:00	19:00	2,203	5.5%
19:00	20:00	2,407	6.1%
20:00	21:00	2,590	6.5%
21:00	22:00	2,937	7.4%
22:00	23:00	2,582	6.5%
23:00	0:00	1,909	4.8%
Daily Total		**39,780**	**100.0%**

Note: Data collected on Friday, August 15, 2008.

[1] The construction employee shift changes occur during the construction a.m. peak (5:00 a.m. – 6:00 a.m.) and the construction p.m. peak (3:30 p.m. – 4:30 p.m.).

Source: Los Angeles World Airports, August 2008.

For purposes of the intersection analyses, all vehicle trips were converted to a "passenger car equivalents" (PCEs) to account for the additional impact that large vehicles, such as delivery and transfer trucks and shuttle buses, would have on roadway traffic operations. As such, the number of construction-related vehicle trips was multiplied by the following PCE factors, consistent with the assumptions in the LAX Master Plan Final EIR:

Vehicle Type	PCE Factor
Construction employees[41]	1.0
Construction delivery/transfer trucks	2.5
Employee shuttle buses	2.0

[41] It should be noted that a different conversion factor was applied to determine the number of construction employee vehicles that would access the project area. A vehicle occupancy factor of 1.15 employees per vehicle was used to convert from employees to vehicles. This conversion factor is different than the PCE factor discussed here, which is used to adjust for the additional impact that large vehicles have on roadway traffic operations.

The employees for the CUP-RP are assumed to park in the surface lots adjacent to the work area, therefore no employee shuttle trips are anticipated for employees working on this project.

Delivery trucks carrying construction equipment and material would enter and exit the materials staging areas. It is estimated that approximately two construction-related truck delivery round trips would access the site during both the a.m. and p.m. construction peak hours. Using an assumed PCE factor of 2.5 per vehicle and distributing these volumes in accordance with the anticipated delivery schedule, it was estimated that 5 PCEs entering and 5 PCEs exiting the study area during the construction a.m. and p.m. peak periods.

The estimated project-related construction trips (in PCEs) during the CUP-RP construction peak in the third quarter of 2010 are summarized by hour in **Table 4.1-7**. **Table 4.1-7** includes construction employee vehicle trips and construction delivery truck trips. Transfer truck trips are typically used to transfer goods between the construction staging area and the construction site; however, given that both staging and the construction site are adjacent and within the CTA it is not anticipated that any transfer truck activity would use the external roadway system. As shown, during the morning, construction employees were assumed to arrive between 5:00 a.m. and 6:00 a.m. to begin work at 6:00 a.m. These volumes were added to the 6:00 a.m. to 7:00 a.m. traffic volumes to produce a conservative estimate of construction employees arriving in the a.m. peak hour that is higher than would occur if the peak construction traffic were added to the 5:00 a.m. to 6:00 a.m. background traffic activity. During the afternoon, the second-shift employees were assumed to arrive during a half-hour period between 3:30 p.m. and 4:00 p.m. to begin the second shift at 4:00 p.m. The first shift was assumed to end at 4:00 p.m., with most employees accessing the parking lot and leaving the airport during the half-hour period from 4:00 p.m. to 4:30 p.m.

The calculation of 168 peak day employees is based on an assumption that CUP-RP construction during the peak period occurs on a single-shift work schedule, with 10-hour days, and five-day work-weeks. Appendix B-3 provides third quarter 2010 peak hour intersection traffic volumes.

4.1.4.2 CUP-RP Construction Trip Distribution

The locations of the CUP-RP construction site, construction employee parking area, delivery staging areas, and other relevant features are depicted in **Figure 4.1-4**.

As shown in **Figure 4.1-4**, delivery trucks are anticipated to use the regional freeway system (I-405 and I-105), Century Boulevard, and World Way to access the materials and equipment staging areas located within the CTA. Specifically, truck delivery traffic accessing the study area from the north is assumed to use I-405 and Century Boulevard to access the CTA. Truck delivery traffic accessing the study area from the south and east is assumed to use I-405, I-105, and northbound Sepulveda Boulevard to access the CTA. Project-related construction employees are anticipated to park in the area adjacent to the construction area. The regional and local traffic flow distributions are also provided in **Figure 4.1-4**. The estimated flow paths used by employees are documented in Appendix B-2.

For purposes of distributing traffic on the study area roadway network, it was assumed that construction employee and delivery vehicle trips would originate from geographic locations in proportion to the regional population distribution shown in **Table 4.1-8**. The regional population distribution was developed during the SAIP traffic study and is based on information obtained from the LAX Master Plan Final EIR and the 2001 Air Passenger Survey. LAWA conducts airline passenger surveys on a regular basis to determine airline passenger travel characteristics and to assess changes in these travel patterns over time. Based on a review of the 2006 Air Passenger Survey data, it was determined that the regional travel and access patterns and regional population distribution percentages have not materially changed from the data obtained in 2001. Therefore, the distribution pattern assumptions used to distribute construction employee and construction delivery trips on the study area roadway network remain unchanged from those in the 2005 SAIP EIR.

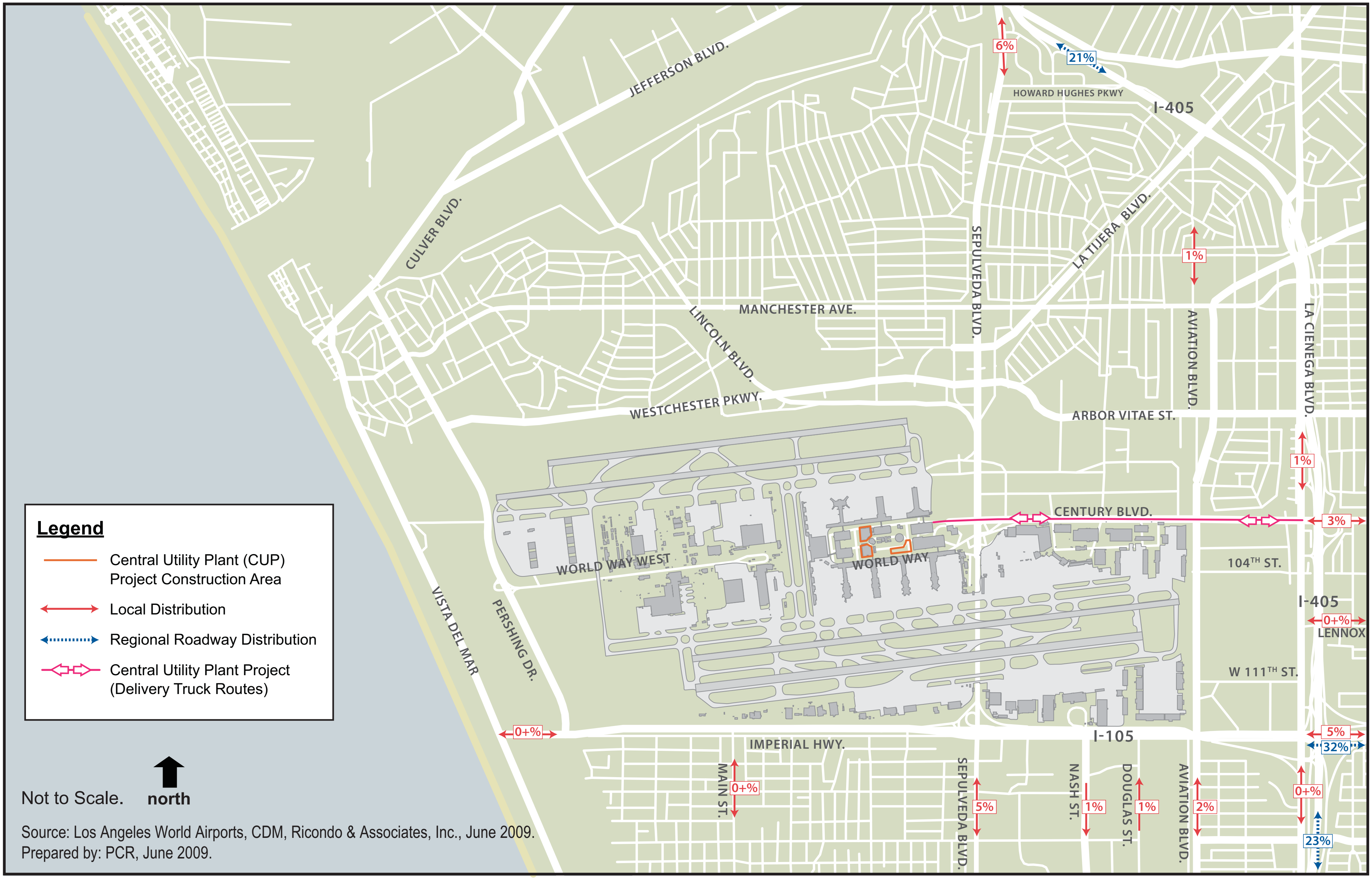
Table 4.1-7

CUP-RP Peak (Third Quarter 2010) - Project-Related Construction Traffic Volumes

Hour		Construction Trips in Passenger Car Equivalents (PCEs)								
		Employee Trips In[1]	Employee Trips Out[1]	Shuttle Trips In[2]	Shuttle Trips Out[2]	Delivery Trips In[3]	Delivery Trips Out[3]	Transfer Trips In[3]	Transfer Trips Out[3]	Total Construction Trips
0:00	1:00	0	0	0	0	0	0	0	0	0
1:00	2:00	0	0	0	0	0	0	0	0	0
2:00	3:00	0	0	0	0	0	0	0	0	0
3:00	4:00	0	0	0	0	0	0	0	0	0
4:00	5:00	0	0	0	0	0	0	0	0	0
5:00	6:00	146	0	0	0	5	5	5	5	166
6:00	7:00	0	0	0	0	5	5	5	5	20
7:00	8:00	0	0	0	0	0	0	0	0	0
8:00	9:00	0	0	0	0	0	0	0	0	0
9:00	10:00	0	0	0	0	0	0	0	0	0
10:00	11:00	0	0	0	0	0	0	0	0	0
11:00	12:00	0	0	0	0	8	8	8	8	32
12:00	13:00	0	0	0	0	8	8	8	8	32
13:00	14:00	0	0	0	0	8	8	8	8	32
14:00	15:00	0	0	0	0	8	8	8	8	32
15:00	16:00	0	0	0	0	5	5	5	5	20
16:00	17:00	0	146	0	0	5	5	5	5	166
17:00	18:00	0	0	0	0	0	0	0	0	0
18:00	19:00	0	0	0	0	0	0	0	0	0
19:00	20:00	0	0	0	0	0	0	0	0	0
20:00	21:00	0	0	0	0	0	0	0	0	0
21:00	22:00	0	0	0	0	0	0	0	0	0
22:00	23:00	0	0	0	0	0	0	0	0	0
23:00	0:00	0	0	0	0	0	0	0	0	0
Total		**146**	**146**	**0**	**0**	**52**	**52**	**52**	**52**	**500**

1 Estimate is based on 168 peak day construction employees. An occupancy factor of 1.15 employees per vehicle is included in the employee trip calculations.
2 The employees for the CUP-RP are assumed to park in the surface lots adjacent to the work area, therefore no employee shuttle trips are anticipated for employees working on this project.
3 Truck trips (i.e., delivery and transfer) were converted at a rate of 2.5 PCEs per vehicle. Transfer truck trips are not expected to use the external roadway system outside of LAX.

Source: U.S. Cost, Central Utility Plant Resource Loaded Schedule, June 24, 2009.



LAX Central Utilities Plant Replacement Project Draft EIR	Project Construction Vehicle Routes & Trip Distribution	Figure 4.1-4

Table 4.1-8

Regional Population Distribution

Area	Population (2002)	Percent of Population	Route Percentage to Airport				
			I-405 North	I-405 South	I-105 East	Local Roads	Total [1]
Primary Study Area	423,185	3%	0%	0%	0%	3%	3%
South LA County	9,052,477	54%	15%	5%	18%	16%	54%
North LA County	706,077	4%	2%	0%	2%	0%	4%
Orange County	2,772,302	17%	0%	14%	0%	2%	17%
Riverside/San Bernardino County	2,961,693	18%	0%	4%	12%	2%	18%
Ventura County	771,734	5%	4%	0%	0%	0%	5%
Total [1]	**16,687,468**	**100%**	**21%**	**23%**	**32%**	**24%**	**100%**

1 Totals may not add due to rounding.

Sources: LAX Master Plan Supplement to the Draft EIR, Figure 4.3.2-3 (Existing 1996 Airport Traffic versus Non-Airport Traffic Comparison); 2001 LAX Passenger Survey Report (Table 39), Los Angeles International Airport, April 2004, Applied Management & Planning Group; 2006 LAX Passenger Survey Report, Los Angeles International Airport, December 2007, Applied Management & Planning Group.

As shown in **Table 4.1-8** and in **Figure 4.1-4**, it was estimated that approximately 21 percent of the construction-related traffic would access the airport from I-405 north, 23 percent from I-405 south, 32 percent from I-105 east, and 24 percent from local roadways. These route characteristics represent the roadway that a construction-related vehicle would use to access the study area.

In assigning traffic to the study area roadways, it was assumed that construction vehicles, consisting of delivery trucks and construction employee automobiles, would approach the study area in proportion to the regional distributions described above. The freeway ramps, roadways, and intersections representing the travel paths for construction-related vehicles within the study area were determined by reviewing the potential paths that would be used by vehicles traveling to the employee parking lots and to the construction staging areas, and assigning those trips to the most logical routes. The analysis is not particularly sensitive to the regional approach assumptions, given that a large proportion of the construction-related trips would access the study area via a limited number of freeway access points that may accommodate traffic originating from several regional directions.

Detailed trip distribution patterns were estimated for vehicles in the study area based on consultation with LAWA staff. The assumed study area circulation routes for construction employees, shuttle buses, delivery trucks, and transfer trucks are described in Appendix B-2.

4.1.5 Future Cumulative Traffic

The components of traffic for the future cumulative traffic condition are described in this section. The future cumulative traffic condition takes into consideration past, present, and reasonably foreseeable projects and includes growth in ambient background traffic and both airport and non-airport developments in the vicinity of the airport. (See Section 4.1.3.3 and Section 4.1.2.4 above for additional discussion of annual growth assumptions and cumulative methodology). Known development projects in the airport vicinity that may contribute traffic to the project study area roadway system during the peak CUP-RP construction period were also considered. These trips would result from either the construction or the operation of those development projects. The list of local area development projects presented in **Table 3.1** in Chapter 3 of this Draft EIR represents projects during a snapshot in time. The list is constantly changing as projects rotate off the list and new projects are approved and added to the list. Given that approval, construction, and operation of local area development projects is a continuous process, the traffic associated with the construction and operation of many past and current local area developments are represented in the traffic volume data that were collected in 2008 and used as a basis for the traffic study. The development schedule and traffic characteristics of larger projects in close proximity to the CUP-RP study area were reviewed and their effects were incorporated into the cumulative analysis. Other future "non-airport" projects that are not in the immediate vicinity of the study area were accounted for indirectly as part of the assumed 2 percent growth rate.

4.1.5.1 Cumulative Projects

Development projects considered in the cumulative impacts analysis include both LAX Master Plan projects as well as other capital improvement projects undertaken by LAWA and other local agencies. Based on information available at the time the CUP-RP construction traffic analysis was undertaken (June 2009), the development projects anticipated to be under construction concurrent with CUP-RP construction and of a nature that would contribute to cumulative traffic impacts (i.e., the projects would be under construction during the cumulative peak period Q3 2011) included the following:

- LAX Bradley West Project[42] – This project provides for the development of additional aircraft gates on the west side of TBIT, new concourses, secure/sterile passenger corridors between TBIT and Terminals 3 and 4, and improvements within the TBIT central core for more efficient passenger processing.
- Security Program - In-Line Baggage Screening System (T6) - This project is to construct an in-line baggage screening system at LAX Terminal 6.
- Airfield Improvements Program – Taxiway / Taxilane / Service Roads – This project would reconstruct various taxiways and taxilanes.
- Terminal/Apron Electrical Service Capacity Upgrades - This project upgrades electrical systems to accommodate all ground support equipment at LAX.
- Replacement of Elevators and Escalators - This project provides the replacement of existing elevators and escalators within parking structures and terminals at LAX.
- CTA Seismic Retrofits – Retrofit pedestrian and vehicular bridges.
- Miscellaneous Construction and Maintenance Activities.
- Metro Bus Maintenance and Operations Facility – This project involves the construction of a facility that would house a bus division with approximately 234 standard and 106 articulated buses, a dispatch center and maintenance base.

Table 4.1-9 provides estimated construction costs, and the assumed start and end dates of construction for the CUP-RP and each of the construction projects identified above, as well as other construction projects concurrent with CUP-RP construction, but that do not coincide with the overall cumulative peak period (Q3 2011). Several of these other improvement projects identified on LAWA's draft Capital Improvements Program (CIP) in late 2008 were included in the analyses to define the peak month of cumulative activity associated with construction of the CUP-RP. The modeling of cumulative construction traffic impacts takes into account such projects. In early 2009, the LAWA Board of Airport Commissioners approved only some of the CIP projects for implementation in Fiscal Year 2009-2010. As such, construction of some of the LAX development projects assumed in the cumulative impacts modeling would not occur concurrent with construction of the CUP-RP. Such projects include construction of: Phase III of the AOA Perimeter Fence Enhancements; Concessions Upgrades in the CTA; Passenger Boarding Bridge Replacements at Terminals 1, 3, 6, and Remote Gates; Baggage Claim Device replacement in Terminal 3; Miscellaneous Improvements within the CTA; Bus Wash Rack Facility; and K-9 Training Facility. Given the relatively small and short-term nature of these type projects, the modeling analyses that includes such projects is still considered to be representative, if not slightly conservative, of the cumulative impacts associated with the proposed project.

42 The cumulative traffic analysis assumes a more conservative "surge" condition for the Bradley West project. The "surge" condition assumes a short-term 60 percent surge in employees as might occur with a more intense single shift or five-day work week. Under this scenario, the employee parking demand is distributed between the Northwest Construction Staging/Parking Area (63%) and the Southeast Construction Staging/Parking Area (37%). This scenario results in more traffic activity using roadways nearer the CTA and is, therefore, anticipated to create a "worst case" demand scenario for purposes of assessing cumulative impacts associated with the construction of the CUP-RP. This demand condition is based on the Scenario 3 demand condition analyzed in the *LAX Bradley West Project Draft EIR*, May 2009.

Table 4.1-9

Construction Projects Concurrent with the CUP-RP Construction Period

Project Number	Concurrent Construction Project	Estimated Total Construction Cost (millions)	Start Date	End Date	Estimated Employee Hours during Projects (Total)
N/A[1]	CUP-RP	$558	Nov-09	Oct-13	416,400
1	LAX Bradley West Project [2]	$2,000	Nov-09	Feb-15	4,463,800
2	Security Program - In-Line Baggage Screening Systems (T6) [2]	$80	Jun-10	Sep-11	133,900
3	Airfield Improvements Program - Taxiway / Taxi lane / Service Roads [2]	$125	Jun-10	Dec-12	209,200
4	Airport Operations Center (AOC) / Emergency Operations Center (EOC)	$8	Nov-09	Nov-10	10,000
5	Terminal / Apron Electrical Service Capacity Upgrades [2]	$49	Dec-10	Dec-11	65,600
6	K9 Training Facility	$3	Mar-13	Mar-14	6,200
7	Terminal 1 Upgrades & Renovation	$50	Sep-09	Jun-10	111,600
8	Terminal 3 and 6 Upgrades & Renovation	$100	Dec-11	Dec-12	223,200
9	Baggage Claim Devices Replacement (T3)	$10	Jun-09	Jun-11	11,000
10	Bus Wash Rack Facility	$2	Dec-09	Dec-10	3,300
11	Replacement of Elevators and Escalators [2]	$175	Feb-10	Feb-13	97,600
12	CTA ADA Improvements [2, 3]	$5	Feb-09	Feb-13	-
13	CTA Seismic Retrofits [2]	$17	Mar-11	Sep-12	28,100
14	Sewer Line Replacement (T1, T6)	$3	Sep-09	Sep-10	4,700
15	CTA Joint Repair, Roadway Improvements, and Security Barriers	$15	Sep-09	Dec-10	24,300
16	Westchester Golf Course 3-Hole Restoration Project	$2	Mar-09	May-10	3,300
17	Misc. Construction and Maintenance Activities [2]	$200	Jan-09	Dec-15	111,600
18	Metro Bus Maintenance and Operations Facility [2]	$95	Mar-11	Dec-12	212,000
19	Westchester Rainwater Improvement (Storm water BMP) Project	N/A[1]	May-09	Mar-10	N/A
20	Korean Air Cargo Terminal Improvement Project	N/A[1]	Jan-10	Dec-10	N/A
21	Crossfield Taxiway Project	$133	Apr-09	Jul-10	297,000
22	TBIT Interior Improvements Program	$693	Feb-07	Feb-10	1,392,000
23	AOA Perimeter Fence Enhancements - Phase III	$17	Feb-09	Feb-10	19,000

1 N/A = Not Available
2 Project occurs during cumulative peak period (Third Quarter 2011)
3 The CTA ADA Improvement project cost is assumed to consist entirely of construction materials, therefore this project is not expected to result any employee hours.

Source: CDM (Cumulative Project List Assumptions, Construction Costs, and Schedule), Ricondo & Associates, Inc. (Estimated Employee Hours), U.S. Cost (CUP-RP), 2009.

Monthly construction employee hours anticipated for the CUP-RP and the Bradley West Project were derived from the resource loaded schedules developed by U.S. Cost for these two projects.[43] Detailed construction schedule characteristics were not available for each of the other projects noted within **Table 4.1-9**. Therefore, it was necessary to estimate future employee hours and trips associated with construction of these projects for purposes of estimating cumulative traffic impacts.

The resource loaded schedule developed for the Bradley West Project was used to estimate the construction activity at the other concurrent projects. Specifically, the ratio of total construction employee hours to total labor cost was calculated for the Bradley West Project. This ratio was applied to the

43 U.S. Cost, Bradley West Resource Loaded Schedule, November 19, 2008; U.S. Cost, Central Utility Plant (CUP) Phase 1 Resource Loaded Schedule, June 24, 2009.

estimated labor costs associated with the other cumulative projects to provide an estimate of total employee hours required over the course of each of these other projects. In addition, the general distribution of employee hours over the course of the Bradley West Project construction program was used to allocate total employee hours over the course of the individual projects on a monthly basis. This methodology was considered appropriate for this analysis as the Bradley West Project represented the most current information related to construct activity and costs and provided detailed information related to the primary variables involved with determining labor schedules (i.e. project costs and timeline). Although, it is likely that the other cumulative projects may experience different peaking patterns, the profile of the monthly distribution of employee hours over the course of the Bradley West Project provides a relatively peaked profile which is anticipated to provide a conservative estimate of traffic activity associated with the other cumulative projects. Furthermore, based on the information in **Table 4.1-9**, the Bradley West Project represents approximately 53% of the total dollar volume of construction labor for the projects in the table (excluding the CUP where construction trips were directly estimated from a resource loaded schedule) and would therefore serve as an appropriate surrogate for estimating activity associated with these other cumulative projects.

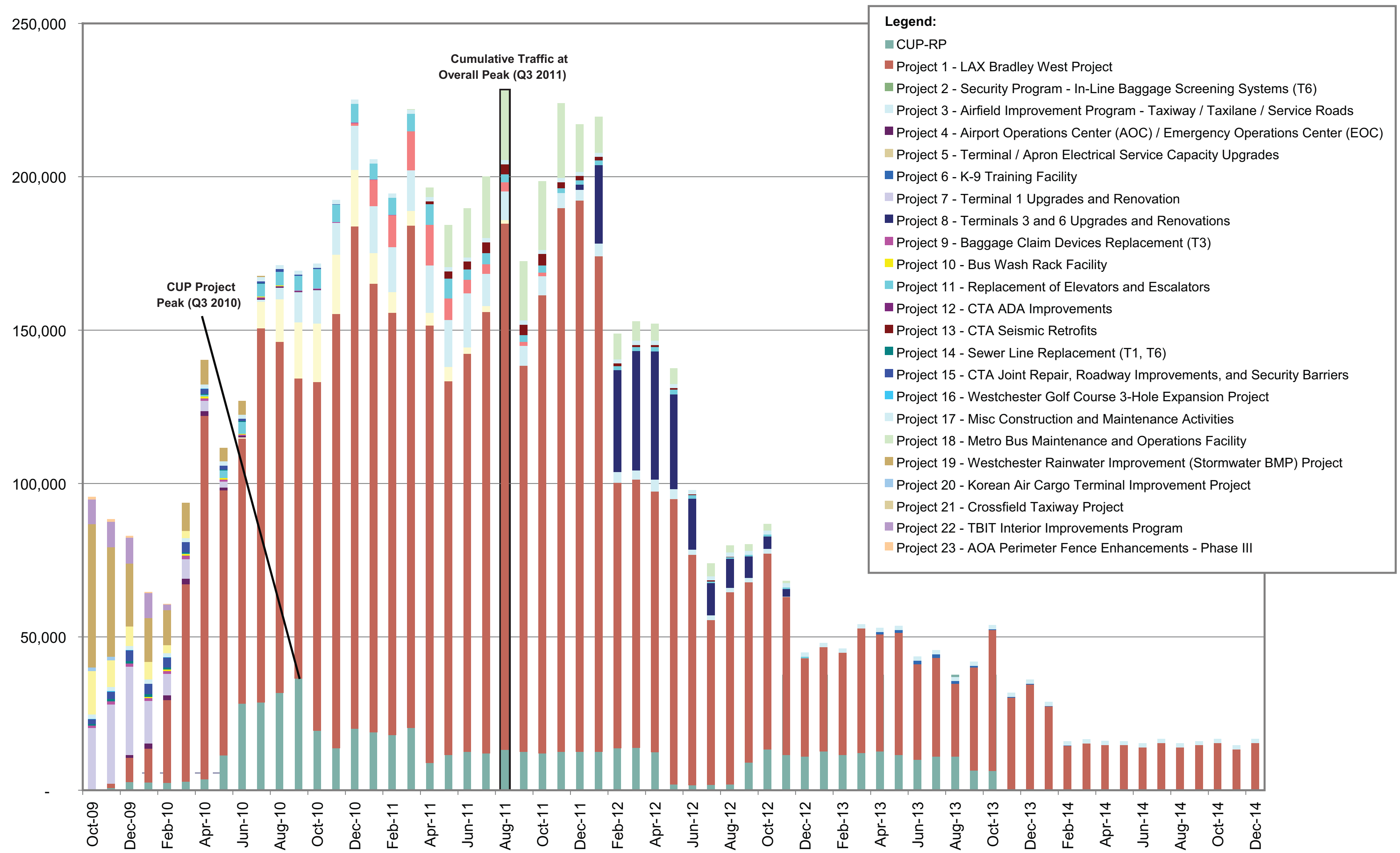
Figure 4.1-5 provides a chart of estimated employee hours by month for the CUP-RP and the concurrent construction projects during the CUP-RP construction period. The figure includes all anticipated construction projects that are expected to occur over the course of the CUP-RP construction period. This project list includes ongoing construction projects, such as the Crossfield Taxiway Project, noted as project 21 in the figure, which is expected to be completed prior to the peak month of CUP-RP construction. As shown in **Figure 4.1-5**, the peak period for CUP-RP construction (estimated to be Q3 2010) does not coincide with the overall cumulative peak during construction of the CUP-RP (estimated to be Q3 2011). The CUP-RP is expected to be completed in 2013.

As discussed previously, the assumed conservative two percent annual growth in background traffic is anticipated to produce a conservative traffic volume scenario that would account for additional construction-related traffic in the event that additional construction projects are initiated during the time frame evaluated for this study.

Estimated a.m. and p.m. construction peak hour vehicle trips associated with CUP-RP construction during the third quarter 2010 and the eight concurrent construction projects during the third quarter 2011 (cumulative peak period) are provided in **Table 4.1-10**. Traffic volumes associated with each concurrent construction project (other than the Bradley West Project) were estimated by calculating the relationship of vehicle trips to employee hours for the Bradley West Project and multiplying this relationship by the estimated total number of employee hours for each project in the third quarter 2011. The distribution of vehicle trips arriving at and departing the study area by hour of the day, for each of the cumulative projects, were assumed to coincide with the peak construction periods for the CUP-RP and Bradley West projects.

The number of shuttle buses required to transport the construction employees associated with the other concurrent construction projects during the third quarter 2011 from remote parking areas to their respective construction sites was estimated based on an assumption that each bus would carry 40 passengers. The assumed PCE factor for employee shuttle buses is 2.0 per vehicle.

For purposes of distributing traffic within the study area, it was necessary to identify the employee parking and staging locations for the concurrent projects. The locations of construction staging areas and general access and circulation patterns of construction-related vehicle activity for the CUP-RP and the concurrent construction projects are depicted in **Figure 4.1-6**. The anticipated contractor employee parking and staging areas for the eight concurrent construction projects are also depicted in **Figure 4.1-6** at multiple locations within the study area. The exhibit only depicts parking and staging areas associated with the projects that were anticipated to be under construction concurrent with the peak cumulative period analyzed for this study. The regional and local area distribution patterns are anticipated to be generally the same as for the CUP-RP, with adjustments as necessary for access to the individual sites. The estimated flow paths used by the employees and delivery trucks are documented in Appendix B-2.



Source: U.S. Cost (Estimated employee hours for CUP-RP and Bradley West Projects), CDM (Construction cost and schedule), Ricondo & Associates, Inc., March 2009 (Estimated employee hours for all other projects).
Prepared by: Ricondo & Associates, Inc., June 2009.

Estimated Employee Hours for Central Utility Plant and Other Concurrent Construction Projects

Figure **4.1-5**

Table 4.1-10

A.M. and P.M. Construction Peak Hour Traffic Volumes at Overall Cumulative Peak by Project

	Construction Trips in Passenger Car Equivalents (PCEs)															
	Construction A.M. Peak Hour (6:00 a.m. - 7:00 a.m.)								Construction P.M. Peak Hour (3:30 p.m. - 4:30 p.m.)							
	Employees		Shuttles		Delivery Trucks[1]		Transfer Trucks[2]		Employees		Shuttles		Delivery Trucks[1]		Transfer Trucks	
Project	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**
CUP-RP (Q3 2010)[3]	146	--	--	--	5	5	5	5	--	146	--	--	5	5	5	5
Other Concurrent Projects in Q3 2011																
1. LAX Bradley West Project[4]	767	--	45	45	26	26	52	52	193	767	45	45	26	26	52	52
2. Security Program - In-Line Baggage Screening Systems (T6)	3	--	2	2	3	3	6	6	--	3	2	2	3	3	6	6
3. Airfield Improvements Program - Taxiway / Taxi lane / Service Roads	31	--	2	2	3	3	6	6	--	31	2	2	3	3	6	6
5. Terminal / Apron Electrical Service Capacity Upgrades	10	--	2	2	3	3	6	6	--	10	2	2	3	3	6	6
11. Replacement of Elevators and Escalators	9	--	2	2	3	3	6	6	--	9	2	2	3	3	6	6
13. CTA Seismic Retrofits	10	--	2	2	3	3	6	6	--	10	2	2	3	3	6	6
17. Misc. Construction and Maintenance Activities	4	--	2	2	3	3	6	6	--	4	2	2	3	3	6	6
18. Metro Bus Maintenance and Operations Facility	76	--	6	6	3	3	6	6	--	76	6	6	3	3	6	6
Total for Other Concurrent Projects in Q3 2011	**910**	**0**	**63**	**63**	**47**	**47**	**94**	**94**	**193**	**910**	**63**	**63**	**47**	**47**	**94**	**94**

1 Peak hour for delivery trucks was assumed to represent 10 percent of daily trips based on Bradley West Project.
2 Transfer trucks would not access the public roadway system for those projects with contiguous staging areas and construction sites.
3 The CUP-RP trips shown here are based on 131 peak day construction employees generating 114 daily employee vehicles.
4 The Bradley West Project trips shown here are based on 1,100 peak day construction employees generating 960 daily employee vehicles.

Source: Ricondo & Associates, Inc., 2009.

4.1.5.2 Transportation Network Improvements

Caltrans is currently constructing high occupancy vehicle (HOV) lanes northbound and southbound on I-405 from I-10 to SR-90. Originally expected to be completed by late 2008, the project remains under construction. It is not believed that this construction has resulted in traffic diverting from the freeway system to local streets in the study area.

Construction of the westbound I-105 off-ramp to northbound Sepulveda Boulevard began in August 2008. This project would widen the off-ramp to install a third lane. While this project has resulted in the ramp being closed infrequently during the early morning (midnight to 5 a.m.) hours, lane closures on the westbound I-105 off-ramp to northbound Sepulveda Boulevard are not expected to occur until the last half of 2009. According to an e-mail from Mr. David Njoya, Construction Engineer/Senior Resident Engineer for Caltrans, to LAWA on August 18, 2008,[44] the traffic generated by the contractor's work force is minimal, with no more than 20 people working on the project at one time. Therefore, the volume of construction and employee traffic generated by the off-ramp widening project would be indirectly included as part of the assumed 2 percent growth factor for study area traffic. The off-ramp widening project is scheduled for completion in the first quarter of 2010.

In addition, Caltrans recently improved Lincoln Boulevard (SR-1). In August 2008, Caltrans opened four lanes northbound from Loyola Marymount University (LMU) Drive to Jefferson Boulevard and four lanes southbound from Jefferson Boulevard, narrowing to three lanes just north of LMU Drive. During Phase 2 of the project, completed in January 2009, Lincoln Boulevard was widened from La Tijera Boulevard to LMU Drive to provide an additional northbound lane along with traffic signal modifications.

The City of Los Angeles is currently improving Sepulveda Boulevard from Howard Hughes Parkway to south of 92nd Street. One component of the project is to widen Sepulveda Boulevard south of Manchester Avenue to create three moving lanes of traffic, with parking, for both northbound and southbound directions. While the entire project is not expected to be finished until later this year, the physical widening of the roadway has already been completed.

The City of Los Angeles is scheduled to widen Arbor Vitae Street between Airport Boulevard and La Cienega Boulevard in order to provide two lanes in each direction plus a center turning lane. Construction of this project is expected to begin the last half of 2009 and would take approximately one year to complete.

4.1.5.3 Local Area Construction and Development Projects

Planned development projects in the City of Los Angeles and neighboring communities within the vicinity of the study area are noted in **Table 3-1** in Chapter 3 of this Draft EIR. The list was prepared to document and describe all known local area development projects that may contribute traffic to the CUP-RP study area. The list is based on consultation with representatives of the LADOT, City of Culver City, City of El Segundo, City of Hawthorne, City of Inglewood, Los Angeles County, and City of Manhattan Beach. **Table 3-1** lists, if known, the estimated daily and hourly trips generated by the development project and includes notes relating to project status. The a.m. and p.m. peak hour trips presented in the table represent the development-related traffic generated during the a.m. and p.m. peak commute periods that do not coincide with the "off-peak" construction peak periods analyzed for construction of the CUP-RP.

As described in Section 4.1.2.1 above, CUP-RP construction-related traffic would be managed such that construction-related trips related to the project would not occur during a.m. and p.m. peak commute periods. Therefore, it is anticipated that traffic volumes generated by these concurrent projects during the peak hours analyzed for construction traffic would be generally lower than the a.m. and p.m. commuter peak hour volumes shown in **Table 3-1**.

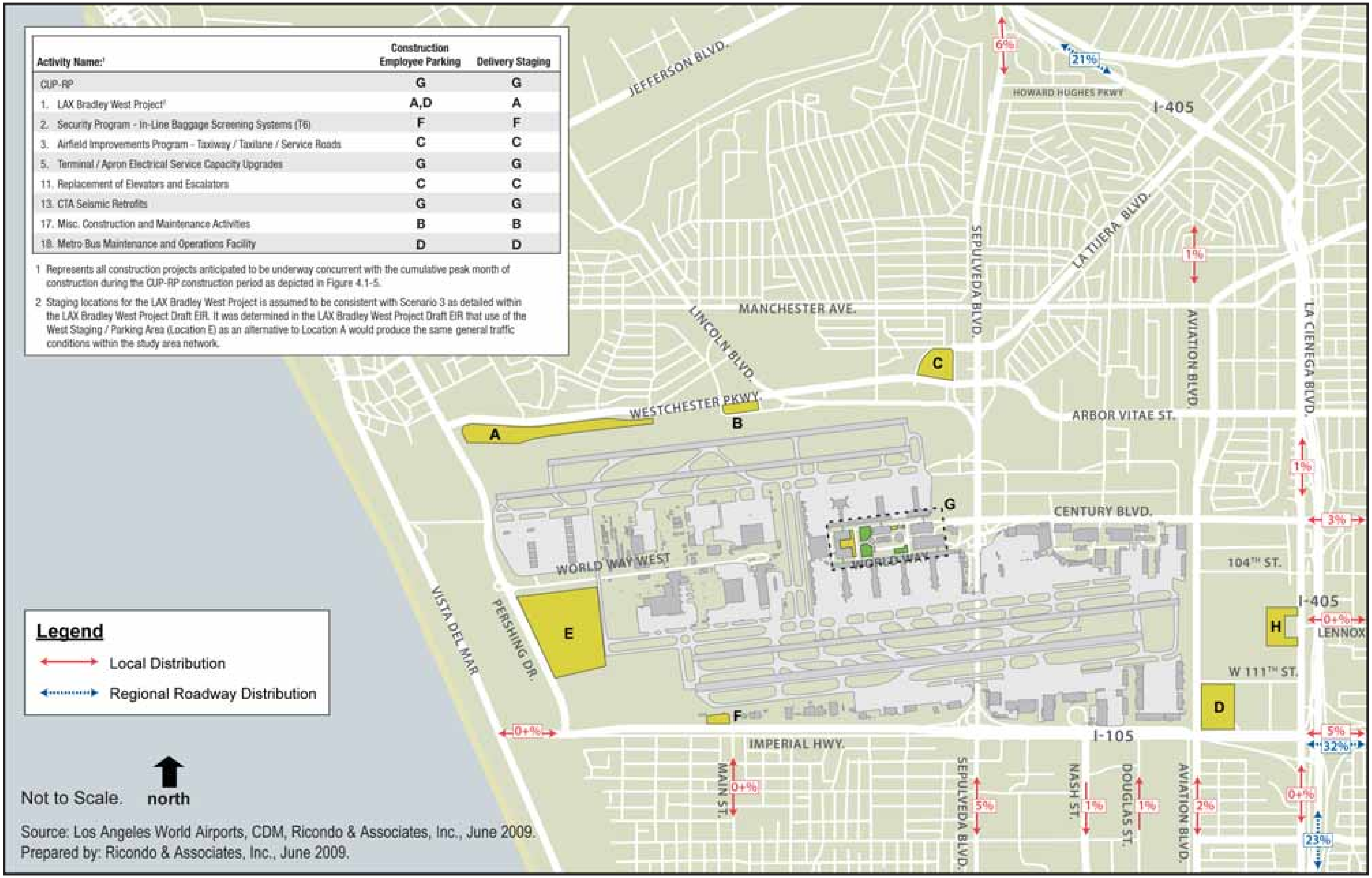
---

[44] Njoya, David, Construction Engineer/Senior Resident Engineer, Caltrans, Personal Communication, August 18, 2008.

Activity Name:[1]	Construction Employee Parking	Delivery Staging
CUP-RP	G	G
1. LAX Bradley West Project[2]	A,D	A
2. Security Program - In-Line Baggage Screening Systems (T6)	F	F
3. Airfield Improvements Program - Taxiway / Taxilane / Service Roads	C	C
5. Terminal / Apron Electrical Service Capacity Upgrades	G	G
11. Replacement of Elevators and Escalators	C	C
13. CTA Seismic Retrofits	G	G
17. Misc. Construction and Maintenance Activities	B	B
18. Metro Bus Maintenance and Operations Facility	D	D

1 Represents all construction projects anticipated to be underway concurrent with the cumulative peak month of construction during the CUP-RP construction period as depicted in Figure 4.1-5.

2 Staging locations for the LAX Bradley West Project is assumed to be consistent with Scenario 3 as detailed within the LAX Bradley West Project Draft EIR. It was determined in the LAX Bradley West Project Draft EIR that use of the West Staging / Parking Area (Location E) as an alternative to Location A would produce the same general traffic conditions within the study area network.



Source: Los Angeles World Airports, CDM, Ricondo & Associates, Inc., June 2009.
Prepared by: Ricondo & Associates, Inc., June 2009.

LAX Central Utilities Plant Replacement Project Draft EIR	Employee Parking and Staging Locations for Central Utility Plant Project and Other Projects at Construction Peak	Figure 4.1-6

The construction schedules and specific dates of occupancy for most of the developments listed in **Table 3-1** were not available. However, given the locations of these projects, it is reasonable to assume that construction-related traffic would access the project areas via freeway ramps and roadways that are outside the CUP-RP study area. As such, construction vehicle trips generated by those developments would be represented within the 2 percent growth rate assumed for background traffic and would have negligible impact on the study area intersections.

In summary, the few local development projects anticipated to be under construction or operational during the project construction period for the CUP-RP are anticipated to generate relatively few commute peak hour trips (and even fewer trips during the peak hours analyzed for the CUP-RP) within the project study area. Given these characteristics, it is anticipated that traffic volumes generated by the developments listed in **Table 3-1** that would be under construction or operational during the project peak construction period would be included in the assumed 2 percent growth factor for background traffic. The potential effect of trips on the study area intersections generated by local developments would be further reduced given that the peak hours evaluated for this study do not coincide with the a.m. and p.m. commute peak periods that generally correspond with the peak traffic generation periods for most of these developments.

4.1.6 CEQA Thresholds of Significance

Study area intersections defined in Section 4.1.3.1 either fall entirely within the City of Los Angeles or share a boundary with the City of El Segundo and the City of Inglewood. The intersections which fall entirely within the City of Los Angeles were evaluated for potential traffic impacts using the LADOT significant traffic impact criteria. Intersections lying on the boundary of multiple jurisdictions were evaluated using the more conservative criteria; in all of these cases the LADOT criteria was shown have the most conservative thresholds.

4.1.6.1 City of El Segundo Impact Criteria

In the City of El Segundo, an impact is considered significant if one of the following thresholds is exceeded:[45]

- The LOS is E or F, its final v/c ratio is 0.901 or greater, and the project-related increase in v/c is 0.020 or greater.

4.1.6.2 City of Inglewood Impact Criteria

In the City of Inglewood, an impact is considered significant if one of the following thresholds is exceeded:[46]

- The LOS is F, its final v/c ratio is 1.001 or greater, and the project-related increase in v/c is 0.020 or greater.

4.1.6.3 City of Los Angeles Impact Criteria

In accordance with LADOT criteria defined in its *Traffic Study Policy and Procedures*,[47] an impact is considered to be significant if one of the following thresholds is exceeded:

- The LOS is C, its final v/c ratio is 0.701 to 0.80, and the project-related increase in v/c is 0.040 or greater, or
- The LOS is D, its final v/c ratio is 0.801 to 0.90, and the project-related increase in v/c is 0.020 or greater, or

---

45 Samaras, Paul, Principal Planner, City of El Segundo, Personal Communication, April 21, 2009.

46 Mai, Alan, Associate Traffic Engineer, City of Inglewood, Personal Communication, January 6, 2009.

47 Los Angeles Department of Transportation, Traffic Study Policies and Procedures, Revised March 2002, Available: http://www.lacity.org/LADOT/TrafficStudyGuidelines.pdf.

- The LOS is E or F, its final v/c ratio is 0.901 or greater, and the project-related increase in v/c is 0.010 or greater.

The "final v/c ratio" as defined by LADOT consists of the future v/c ratio at an intersection that includes volume from the project, baseline, ambient background growth,[48] and other related projects, but without proposed intersection traffic mitigation[49] as potentially required by the project. The "project-related increase" is defined as the change in the unmitigated LOS condition between the (a) future v/c "with" the project, baseline, ambient background growth (for the cumulative analysis), and other related project growth, and (b) the future v/c "without" the project, but with baseline, ambient background growth, and other related project growth.

For purposes of this analysis and in accordance with CEQA, project impacts were determined by comparing the level of service results for the following conditions:

- **Project Impacts--**The direct project impacts are determined by calculating the difference in LOS for (a) the Baseline Plus Peak CUP-RP LOS and (b) the Baseline LOS. This comparison is required to isolate the direct impacts of the project. The difference in LOS is compared to the thresholds identified earlier in this section to determine if the project would result in a significant impact.
- **Cumulative Impacts--**The cumulative impacts analysis is intended to provide a comparison of future traffic conditions, consisting of traffic generated by all anticipated sources described previously in this document. Cumulative impacts were analyzed using a two-step process. Initially, the cumulative "With Project" LOS condition was compared with the baseline condition to determine if a cumulative impact would occur relative to the baseline. A cumulative impact was deemed significant it if exceeded the allowable threshold of significance defined earlier in this section. If a cumulative impact was determined, then a second comparison was conducted by calculating the difference in LOS for the "With Project" and "Without Project" levels of service to determine the proposed project's contribution. If the calculated differences in LOS exceed the threshold guidelines defined in this section, then it was determined that the project component would represent a cumulatively considerable contribution (significant impact).

For evaluation of impacts due to temporary disruption of traffic during construction affecting on-airport and off-airport roadways in Sections 4.1.8.3 and 4.1.8.4, a significant impact would occur if:

- Substantial congestion, inconvenience to motorists, or hazardous conditions were caused on a regular or frequent basis.

4.1.7 Incorporation of LAX Master Plan Commitments and Mitigation Measures

As previously indicated, although the CUP-RP is not a component of the LAX Master Plan, LAWA is requiring that applicable commitments and mitigation measures identified in the LAX Master Plan MMRP be implemented as part of the CUP-RP. LAX Master Plan commitments and mitigation measures for LAX Master Plan Alternative D are described within the September 2004 document, Alternative D Mitigation Monitoring & Reporting Program (MMRP). The following transportation-related commitments identified in the LAX Master Plan MMRP would be applied to the CUP-RP and thus are included as part of the project for purposes of environmental review:

- **C-1. Establishment of a Ground Transportation/Construction Coordination Office**. Establish this office for the life of the construction projects to coordinate deliveries, monitor traffic conditions,

---

48 This definition applies to the cumulative analysis and not the project-specific analysis where ambient background growth and trips from other concurrent construction projects are not included in the calculation of the “final v/c ratio.” The “final v/c ratio” for the project-specific analysis is calculated using future project volumes associated with construction of the project added directly to the Baseline volumes.

49 As discussed in Section 4.1.7, commitments identified within the LAX Master Plan Mitigation Monitoring and Reporting Program are considered as part of these analyses. Future transportation network improvements described in Section 4.1.5.2 are assumed within future year transportation networks and are not considered as possible mitigation measures to address potential project-related impacts.

advise motorists and those making deliveries about detours and congested areas, and monitor and enforce delivery times and routes. LAWA would periodically analyze traffic conditions on designated routes during construction to see whether there is a need to improve conditions through signage and other means.

This office may undertake a variety of duties, including but not limited to:

- Inform motorists about detours and congestion by use of static signs, changeable message signs, media announcements, airport website, etc.;
- Work with airport police and the Los Angeles Police Department to enforce delivery times and routes;
- Establish staging areas;
- Coordinate with police and fire personnel regarding maintenance of emergency access and response times;
- Coordinate roadway projects of Caltrans, City of Los Angeles, and other jurisdictions with those of the airport construction projects;
- Monitor and coordinate deliveries;
- Establish detour routes;
- Work with residential and commercial neighbors to address their concerns regarding construction activity; and
- Analyze traffic conditions to determine the need for additional traffic controls, lane restriping, signal modifications, etc.

- **C-2. Construction Personnel Airport Orientation**. All construction personnel will be required to attend an airport project-specific orientation (pre-construction meeting) that includes where to park, where staging areas are located, construction policies, etc.
- **ST-2. Non-Peak CTA Deliveries**. Deliveries to the CTA terminal reconstruction projects will be limited to non-peak traffic hours whenever possible.
- **ST-9. Construction Deliveries**. Construction deliveries requiring lane closures shall receive prior approval from the Construction Coordination Office. Notification of deliveries shall be made with sufficient time to allow for any modifications to approved traffic detour plans.
- **ST-12. Designated Truck Delivery Hours**. Truck deliveries shall be encouraged to use night-time hours and shall avoid the peak periods of 7:00 a.m. to 9:00 a.m. and 4:30 p.m. to 6:30 p.m.

  [*Note: This measure provides guidelines for controlling the arrival and departure times of construction related traffic during peak commute periods, and served as input for developing an estimated schedule of CUP-RP construction delivery activity*.]
- **ST-14. Construction Employee Shift Hours**. Shift hours that do not coincide with the heaviest commuter traffic periods (7:00 a.m. to 9:00 a.m., 4:30 p.m. to 6:30 p.m.) would be established. Work periods will be extended to include weekends and multiple work shifts, to the extent possible and necessary.

  [*Note: This measure provides guidelines for controlling the arrival and departure times of construction employees, and served as direct input for determining the employee traffic activity associated with the CUP-RP. Traffic analysis was limited to weekday traffic conditions to provide a conservative estimate of potential impacts given that weekday traffic activity is typically significantly higher than during the weekend traffic*.]
- **ST-16. Designated Haul Routes**. Every effort will be made to ensure that haul routes are located away from sensitive noise receptors.
- **ST-17. Maintenance of Haul Routes**. Haul routes on off-airport roadways will be maintained periodically and will comply with City of Los Angeles or other appropriate jurisdictional requirements

for maintenance. Minor striping, lane configurations, and signal phasing modifications would be provided as needed.

- **ST-18. Construction Traffic Management Plan**. A complete construction traffic plan will be developed to designate detour and/or haul routes, variable message and other sign locations, communication methods with airport passengers, construction deliveries, construction employee shift hours, construction employee parking locations and other relevant factors.
- **ST-22. Designated Truck Routes**. For dirt and aggregate and all other materials and equipment, truck deliveries will be on designated routes only (freeways and non-residential streets). Every effort will be made for routes to avoid residential frontages. The designated routes on City of Los Angeles streets are subject to approval by LADOT's Bureau of Traffic Management and may include, but will not necessarily be limited to: Pershing Drive (Westchester Parkway to Imperial Highway); Florence Avenue (Aviation Boulevard to I-405); Manchester Boulevard (Aviation Boulevard to I-405); Aviation Boulevard (Manchester Avenue to Imperial Highway); Westchester Parkway/Arbor Vitae Street (Pershing Drive to I-405); Century Boulevard (Sepulveda Boulevard to I-405); Imperial Highway (Pershing Drive to I-405); La Cienega Boulevard (north of Imperial Highway); Airport Boulevard (Arbor Vitae Street to Century Boulevard); Sepulveda Boulevard (Westchester Parkway to Imperial Highway); I-405; and I-105.
- **MM-ST-1. Require CTA Construction Vehicles to Use Designated Lanes**. Whenever feasible, construction vehicles shall be restricted to designated roadways or lanes of traffic on CTA roadways adjacent to the existing close-in parking, thus limiting the mix of construction vehicles and airport traffic.
- **MM-ST-2. Modify CTA Signage**. During construction, additional signage will be installed, as required, to separate construction traffic from non-construction traffic to the extent feasible.

4.1.8 Impact Analysis

As described previously in Section 4.1.2, potential traffic-related impacts pertaining to construction of the CUP-RP were assessed by conducting the two impact comparisons described in the following sections.

4.1.8.1 Impact Comparison 1--Peak Project Traffic Plus Baseline Traffic Measured against Baseline

This comparison provides the basis for determining project-related impacts. The comparison is based on project specific traffic activity during the peak CUP-RP (Q3 2010) added to baseline traffic volumes. The resulting levels of service were compared to the levels of service associated with the baseline condition. A significant impact would be realized if/when the thresholds of significance defined in Section 4.1.6 above are met or exceeded.

Impact comparisons between the peak project traffic added to the baseline compared to the baseline is depicted in **Table 4.1-11**. As shown in the table, no significant impacts are anticipated for any of the study area intersections.

4.1.8.2 Impact Comparison 2--Cumulative Traffic (Q3 2011) Measured against Baseline

This comparison was conducted in two steps which is consistent with CEQA Guidelines Section 15130. An initial comparison was conducted by comparing the level of service associated with cumulative traffic volumes during the peak period of CUP-RP construction with the baseline levels of service. This initial comparison was conducted to determine if there would be a significant cumulative impact. If a significant cumulative impact was determined, then an additional comparison was conducted to determine if the project would produce a cumulatively considerable contribution to the significant cumulative impact. This second comparison was conducted by comparing cumulative conditions both with and without the project. Cumulatively considerable contributions are realized when the thresholds of significance defined in Section 4.1.6 above are met or exceeded.

Table 4.1-11

Level of Service Analysis Results - Impact Comparison 1 Baseline Compared to Project plus Baseline

			Baseline		CUP-RP Plus Baseline			
	Intersection	**Peak Hour[1]**	**V/C[2]**	**LOS[3]**	**V/C[2]**	**LOS[3]**	**Change in V/C**	**Significant Impact**
14.	Aviation Boulevard and Century Boulevard	Construction AM	0.469	A	0.503	A	0.034	--
		Construction PM	0.757	C	0.777	C	0.020	--
16.	Imperial Highway and Aviation Boulevard	Construction AM	0.523	A	0.533	A	0.010	--
		Construction PM	0.667	B	0.667	B	0.000	--
19.	Aviation Boulevard and 111th Street	Construction AM	0.353	A	0.377	A	0.024	--
		Construction PM	0.488	A	0.511	A	0.023	--
36.	La Cienega Boulevard and Century Boulevard	Construction AM	0.392	A	0.407	A	0.015	--
		Construction PM	0.910	E	0.910	E	0.000	--
39.	Century Boulevard and I-405 Northbound Ramp	Construction AM	0.514	A	0.516	A	0.002	--
		Construction PM	0.548	A	0.549	A	0.001	--
47.	Imperial Highway and Douglas Street	Construction AM	0.155	A	0.155	A	0.000	--
		Construction PM	0.412	A	0.412	A	0.000	--
65.	Sepulveda Boulevard and Howard Hughes Pkwy.	Construction AM	0.256	A	0.256	A	0.000	--
		Construction PM	0.643	B	0.644	B	0.001	--
67.	Imperial Highway and La Cienega Boulevard	Construction AM	0.220	A	0.222	A	0.002	--
		Construction PM	0.568	A	0.570	A	0.002	--
68.	Imperial Highway and Main Street	Construction AM	0.405	A	0.405	A	0.000	--
		Construction PM	0.716	C	0.716	C	0.000	--
69.	Imperial Highway and Pershing Drive	Construction AM	0.481	A	0.481	A	0.000	--
		Construction PM	0.434	A	0.443	A	0.009	--
71.	Imperial Highway and Sepulveda Boulevard	Construction AM	0.509	A	0.514	A	0.005	--
		Construction PM	1.185	F	1.185	F	0.000	--
73.	Imperial Highway and Nash Street	Construction AM	0.377	A	0.379	A	0.002	--
		Construction PM	0.300	A	0.300	A	0.000	--
74.	Imperial Highway and I-105 Ramp	Construction AM	0.533	A	0.553	A	0.020	--
		Construction PM	0.541	A	0.551	A	0.010	--
75.	Imperial Highway and I-405 Northbound Ramp	Construction AM	0.246	A	0.248	A	0.002	--
		Construction PM	0.554	A	0.556	A	0.002	--
89.	La Cienega Boulevard and Lennox Boulevard	Construction AM	0.224	A	0.224	A	0.000	--
		Construction PM	0.408	A	0.408	A	0.000	--
94.	La Cienega Boulevard and 111th Street	Construction AM	0.122	A	0.122	A	0.000	--
		Construction PM	0.363	A	0.371	A	0.008	--
96.	La Cienega Blvd. & I-405 Southbound Ramps North of Century	Construction AM	0.442	A	0.444	A	0.002	--
		Construction PM	0.560	A	0.562	A	0.002	--
97.	La Cienega Blvd. & I-405 Southbound Ramps South of Century	Construction AM	0.238	A	0.238	A	0.000	--
		Construction PM	0.424	A	0.436	A	0.012	--
98.	La Cienega Blvd. & I-405 Southbound Ramps North of Imperial	Construction AM	0.173	A	0.173	A	0.000	--
		Construction PM	0.279	A	0.279	A	0.000	--
101.[5]	Sepulveda Boulevard and La Tijera Boulevard	Construction AM	0.377	A	0.378	A	0.001	--

Table 4.1-11

Level of Service Analysis Results - Impact Comparison 1 Baseline Compared to Project plus Baseline

	Intersection	Peak Hour[1]	Baseline V/C[2]	Baseline LOS[3]	CUP-RP Plus Baseline V/C[2]	CUP-RP Plus Baseline LOS[3]	Change in V/C	Significant Impact
		Construction PM	0.663	B	0.673	B	0.010	--
108.	Sepulveda Boulevard and Lincoln Boulevard	Construction AM	0.409	A	0.409	A	0.000	--
		Construction PM	0.715	C	0.715	C	0.000	--
114.[5]	Sepulveda Boulevard and Manchester Avenue	Construction AM	0.501	A	0.501	A	0.000	--
		Construction PM	0.877	D	0.886	D	0.009	--
123.	Westchester Parkway and Pershing Drive	Construction AM	0.212	A	0.212	A	0.000	--
		Construction PM	0.255	A	0.255	A	0.000	--
135.[5]	Sepulveda Boulevard and Westchester Parkway	Construction AM	0.331	A	0.331	A	0.000	--
		Construction PM	0.636	B	0.645	B	0.009	--
136.[5]	Sepulveda Boulevard and 76th/77th Street	Construction AM	0.510	A	0.510	A	0.000	--
		Construction PM	0.552	A	0.552	A	0.000	--
137.	Sepulveda Boulevard and 79th/80th Street	Construction AM	0.421	A	0.421	A	0.000	--
		Construction PM	0.508	A	0.508	A	0.000	--
138.	Sepulveda Boulevard and 83rd Street	Construction AM	0.308	A	0.308	A	0.000	--
		Construction PM	0.459	A	0.459	A	0.000	--
1000.	La Cienega Boulevard and 104th Street	Construction AM	0.154	A	0.154	A	0.000	--
		Construction PM	0.356	A	0.364	A	0.008	--

1 The hours of analysis include the construction a.m. peak (6:00 a.m. - 7:00 a.m.), and the construction p.m. peak (3:30 p.m. - 4:30 p.m.).
2 Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection with the exception of intersections #39 and #75, which are not a part of the LADOT system.
3 Level of Service range: A (excellent) to F (failure).
4 -- Indicates "No Impact"
5 The Baseline plus Project level of service did not include the additional capacity from the widening of Sepulveda Boulevard that was completed subsequent to publication of the NOP for the CUP-RP Draft EIR (April 2009). As a result, the level of service for the baseline conditions would provide improved conditions relative to the results shown if these improvements were included.

Source: Ricondo & Associates, Inc., using TRAFFIX, 2009.

The impact comparison for this condition is depicted in **Table 4.1-12**. As shown in the table there would be several cumulative impacts, however the proposed project would not result in a cumulatively considerable contribution/significant cumulative impact under the LADOT thresholds detailed above.

4.1.8.3 Impact of Construction on Service Levels within the CTA

The construction of the LAX Utilidor between the East Central Utility Plant (CUP) with the Tom Bradley International Terminal (TBIT) and Terminals 3 and 4 would occur in three phases. Dual Utilidors extend from the East CUP westerly along both sides of Center Way past West Way. At that point, the southerly Utilidor would shift alignment to Center Way North into a single Utilidor that would continue to the intersection of Center Way North and World Way (i.e., the lower level roadway). From this point, the Utilidor would split northbound and southbound along the left curb of World Way, nearest to the parking structures. The portion of the Utilidor that extends to the south would provide connections beneath World Way to the south end of TBIT and Terminal 4. The portion of the Utilidor that would extend to the north would provide connections beneath World Way between TBIT and Terminal 3, as well as a second crossing directly in front of Terminal 3.

Impact of Construction Activities on CTA Traffic Operations

Construction plans for the Utilidor limit the potential impact on CTA traffic on the Arrivals (lower) level by keeping the alignment of the Utilidor as close to the parking structures as possible. Due to the size of the Utilidor and the proposed method of construction, an approximately 22-foot-wide trench would be required. Due to the alignment of the Utilidor and the width of the trench, construction activity is expected to require the closure of one or two lanes on World Way. The number of lane closures could vary by location depending upon the required trench width and the trench alignment at a specific location. For example, the temporary closure of one lane on World Way adjacent to Terminal 3 would be sufficient to accommodate construction, but that roadway width equivalent to two traffic lanes adjacent to the TBIT may be required in order to avoid parking structure footers and utilities in that area. However, it is antipated that the lane closures would occur during the nighttime hours when lower level traffic volumes are much lower than during peak daytime periods. During the peak daytime hours, the trenches will be covered with reinforced steel decking; however, there may be extenuating circumstances of limited duration that a lane closure may be required during the hours outside of 12:00 a.m. through 9:00 a.m. As discussed previously, the number of lanes required to be closed on World Way would depend on the final alignment of the Utilidor, specifically how close the construction activity can occur to the parking structures without impacting the structure's foundation and footings. Connections from the main trunk line of the Utilidor to the terminal buildings would require trenches to be excavated across the entire width of World Way. As discussed in more detail in the subsequent paragraph, reinforced steel decking would be used over portions of the Utilidor trenches on World Way and West Way which would allow use of the roadways during peak airport traffic conditions. In addition, trenching across West Way at three separate locations would require the temporary closure of this roadway. However, roadway closures associated with West Way and World Way would be conducted overnight during non-peak CTA traffic hours, to limit impacts to CTA traffic.

The proposed temporary lane closures required to accommodate Utilidor construction are expected to generate temporary traffic congestion within the CTA during peak and non-peak activity periods. In particular, the temporary closure of up to two travel lanes during overnight non-peak periods and potentially during limited periods during the hours outside of 12:00 a.m. through 9:00 a.m on World Way from Terminal 3 to south of Center Way would be expected to generate congestion within the CTA. To minimize the impacts of construction on CTA traffic along the Arrivals level roadways, reinforced steel decking would be used over portions of the Utilidor trenches to bridge the trench and allow construction to continue while also permitting Arrivals level traffic to continue to use the roadways during peak airport traffic conditions. In particular, the Utilidor trenches along World Way adjacent to Terminals 3, 4 and TBIT, and the crossings of West Way would be decked to permit construction of the Utilidor to proceed while allowing traffic to continue to use all lanes of the Arrivals level roadways. Congestion would result from potential loss of capacity associated with these temporary lane closures as well from the effects of

Table 4.1-12

Level of Service Analysis Results - Impact Comparison 2 Cumulative Traffic (Third Quarter 2011)

			Baseline [A]		CUP-RP Peak (Q3 2011) Without Project [B]		CUP-RP Peak (Q3 2011) With Project[1] [C]		Cumulative Impact Determination [C]-[A]		Cumulative Considerable Determination/Significant Impact [C]-[B]	
	Intersection	**Peak Hour[1]**	**V/C[2]**	**LOS[3]**	**V/C[2]**	**LOS[3]**	**V/C[2]**	**LOS[3]**	**Change in V/C**	**Cumulative Impact?**	**Change in V/C**	**Cumulatively Considerable Contribution?**
14.	Aviation Boulevard and Century	Construction AM	0.469	A	0.504	A	0.538	A	0.069	--	0.034	--
	Boulevard	Construction PM	0.757	C	0.819	D	0.838	D	0.081	Yes	0.019	--
16.	Imperial Highway and Aviation Boulevard	Construction AM	0.523	A	0.682	B	0.692	B	0.169	--	0.010	--
		Construction PM	0.667	B	0.755	C	0.755	C	0.088	Yes	0.000	--
19.	Aviation Boulevard and 111th Street	Construction AM	0.353	A	0.455	A	0.478	A	0.125	--	0.023	--
		Construction PM	0.488	A	0.516	A	0.546	A	0.058	--	0.030	--
36.	La Cienega Boulevard and Century	Construction AM	0.392	A	0.528	A	0.528	A	0.136	--	0.000	--
	Boulevard	Construction PM	0.910	E	1.011	F	1.012	F	0.102	Yes	0.001	--
39.	Century Boulevard and I-405 Northbound	Construction AM	0.514	A	0.586	A	0.588	A	0.074	--	0.002	--
	Ramp	Construction PM	0.548	A	0.593	A	0.594	A	0.046	--	0.001	--
47.	Imperial Highway and Douglas Street	Construction AM	0.155	A	0.215	A	0.215	A	0.060	--	0.000	--
		Construction PM	0.412	A	0.485	A	0.485	A	0.073	--	0.000	--
65.	Sepulveda Boulevard and Howard	Construction AM	0.256	A	0.276	A	0.276	A	0.020	--	0.000	--
	Hughes Parkway	Construction PM	0.643	B	0.690	B	0.691	B	0.048	--	0.001	--
67.	Imperial Highway and La Cienega	Construction AM	0.220	A	0.247	A	0.248	A	0.028	--	0.001	--
	Boulevard	Construction PM	0.568	A	0.647	B	0.649	B	0.081	--	0.002	--
68.	Imperial Highway and Main Street	Construction AM	0.405	A	0.450	A	0.450	A	0.045	--	0.000	--
		Construction PM	0.716	C	0.895	D	0.895	D	0.179	Yes	0.000	--
69.	Imperial Highway and Pershing Drive	Construction AM	0.481	A	0.783	C	0.783	C	0.302	Yes	0.000	--
		Construction PM	0.434	A	0.608	B	0.608	B	0.174	--	0.000	--
71.	Imperial Highway and Sepulveda	Construction AM	0.509	A	0.559	A	0.564	A	0.055	--	0.005	--
	Boulevard	Construction PM	1.185	F	1.265	F	1.265	F	0.080	Yes	0.000	--
73.	Imperial Highway and Nash Street	Construction AM	0.377	A	0.540	A	0.542	A	0.165	--	0.002	--
		Construction PM	0.300	A	0.367	A	0.368	A	0.068	--	0.001	--
74.	Imperial Highway and I-105 Ramp	Construction AM	0.533	A	0.682	B	0.702	C	0.169	Yes	0.020	--
		Construction PM	0.541	A	0.653	B	0.663	B	0.122	--	0.010	--
75.	Imperial Highway and I-405 Northbound	Construction AM	0.246	A	0.298	A	0.300	A	0.054	--	0.002	--
	Ramp	Construction PM	0.554	A	0.624	B	0.626	B	0.072	--	0.002	--
89.	La Cienega Boulevard and Lennox	Construction AM	0.224	A	0.254	A	0.254	A	0.030	--	0.000	--
	Boulevard	Construction PM	0.408	A	0.429	A	0.429	A	0.021	--	0.000	--
94.	La Cienega Boulevard and 111th Street	Construction AM	0.122	A	0.139	A	0.139	A	0.017	--	0.000	--
		Construction PM	0.363	A	0.484	A	0.492	A	0.129	--	0.008	--
96.	La Cienega Blvd. & I-405 Southbound	Construction AM	0.442	A	0.507	A	0.508	A	0.066	--	0.001	--
	Ramps North of Century	Construction PM	0.560	A	0.609	B	0.611	B	0.051	--	0.002	--

Table 4.1-12

Level of Service Analysis Results - Impact Comparison 2 Cumulative Traffic (Third Quarter 2011)

			Baseline [A]		CUP-RP Peak (Q3 2011) Without Project [B]		With Project[1] [C]		Cumulative Impact Determination [C]-[A]		Cumulative Considerable Determination/Significant Impact [C]-[B]	
	Intersection	Peak Hour[1]	V/C[2]	LOS[3]	V/C[2]	LOS[3]	V/C[2]	LOS[3]	Change in V/C	Cumulative Impact?	Change in V/C	Cumulatively Considerable Contribution?
97.	La Cienega Blvd. & I-405 Southbound	Construction AM	0.238	A	0.257	A	0.257	A	0.019	--	0.000	--
	Ramps South of Century	Construction PM	0.424	A	0.454	A	0.466	A	0.042	--	0.012	--
98.	La Cienega Blvd. & I-405 Southbound	Construction AM	0.173	A	0.188	A	0.188	A	0.015	--	0.000	--
	Ramps North of Imperial	Construction PM	0.279	A	0.364	A	0.364	A	0.085	--	0.000	--
101.[5]	Sepulveda Boulevard and La Tijera	Construction AM	0.377	A	0.385	A	0.386	A	0.009	--	0.001	--
	Boulevard	Construction PM	0.663	B	0.688	B	0.697	B	0.034	--	0.009	--
108.	Sepulveda Boulevard and Lincoln	Construction AM	0.409	A	0.439	A	0.439	A	0.030	--	0.000	--
	Boulevard	Construction PM	0.715	C	0.774	C	0.774	C	0.059	Yes	0.000	--
114.[5]	Sepulveda Boulevard and Manchester	Construction AM	0.501	A	0.527	A	0.527	A	0.026	--	0.000	--
	Avenue	Construction PM	0.877	D	0.953	E	0.962	E	0.085	Yes	0.009	--
123.	Westchester Parkway and Pershing Drive	Construction AM	0.212	A	0.414	A	0.414	A	0.202	--	0.000	--
		Construction PM	0.255	A	0.472	A	0.472	A	0.217	--	0.000	--
135.[5]	Sepulveda Boulevard and Westchester	Construction AM	0.331	A	0.347	A	0.347	A	0.016	--	0.000	--
	Parkway	Construction PM	0.636	B	0.667	B	0.689	B	0.053	--	0.022	--
136.[5]	Sepulveda Boulevard and 76th/77th	Construction AM	0.510	A	0.543	A	0.543	A	0.033	--	0.000	--
	Street	Construction PM	0.552	A	0.566	A	0.574	A	0.022	--	0.008	--
137.	Sepulveda Boulevard and 79th/80th	Construction AM	0.421	A	0.452	A	0.452	A	0.031	--	0.000	--
	Street	Construction PM	0.508	A	0.553	A	0.562	A	0.054	--	0.009	--
138.	Sepulveda Boulevard and 83rd Street	Construction AM	0.308	A	0.331	A	0.331	A	0.023	--	0.000	--
		Construction PM	0.459	A	0.499	A	0.499	A	0.040	--	0.000	--
1000	La Cienega Boulevard and 104th Street	Construction AM	0.154	A	0.355	A	0.355	A	0.201	--	0.000	--
.		Construction PM	0.356	A	0.428	A	0.436	A	0.080	--	0.008	--

1 The hours of analysis include the construction a.m. peak (6:00 a.m. - 7:00 a.m.) and the construction p.m. peak (3:30 p.m. - 4:30 p.m.).
2 Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection with the exception of intersections #39 and #75, which are not a part of the LADOT system
3 Level of Service range: A (excellent) to F (failure).
4 -- Indicates "No Impact"
5 The CUP-RP With and Without Project scenarios level of service were calculated to include the widening of Sepulveda Boulevard that was completed subsequent to publication of the NOP for the CUP-RP Draft EIR (April 2009).

Source: Ricondo & Associates, Inc., using TRAFFIX, 2009.

potential reduced capacity resulting from "constrained" operating conditions resulting from narrowed travel lanes and the requirement to drive across the temporary decking.

To the extent feasible, active construction requiring CTA lane closures would be limited to overnight and early morning, off-peak periods to limit impacts on CTA traffic operations. For example, based on a review of CTA lower level traffic activity presented previously in **Table 4.1-6**, it is anticipated that the loss of roadway capacity resulting from the temporary closure of a lower level traffic lane from approximately 12:00 a.m. through 9:00 a.m. would generally result in less congestion than the typical level of congestion experienced during the peak hours on the lower level roadway on a daily basis. This is because, as shown in the table, traffic volumes during the 12:00 a.m. to 9:00 a.m. period are much lower than during the 9:00 to 10:00 p.m. peak hour (2,937 vehicles per hour). Specifically, traffic volumes range from about 9 percent to 40 percent of the peak hour volume, corresponding with 644 vph during the 1:00 a.m. to 2:00 a.m. period and 1,175 vph during the 8:00 a.m. to 9:00 a.m. period, respectively. The outer roadway segment of World Way West adjacent to Terminal 3 is currently operating at LOS B or better from 12:00 a.m. to 9:00 a.m, based on an estimated roadway capacity of 2,470 vehicles per hour on this five-lane segment. With the loss of one travel lane it is estimated that the roadway capacity would be reduced to 1,750 vehicles per hour; however, the roadway would continue to operate at LOS B or better. Given that the roadway is operating at LOS B or better, the loss of one travel lane during the late night hours would not result in substantial congestion, inconvenience to motorists, or hazardous conditions on a regular or frequent basis. Therefore impacts would be less than significant.

As described in Section 4.1.7, LAWA is requiring that applicable commitments and mitigation measures identified in the LAX Master Plan MMRP be implemented as part of the CUP-RP. These commitments and mitigation measures would guide the continued development and refinement of the construction program for the CUP-RP and provide a framework and specific requirements addressing the construction methods that were described above. Of particular importance is ST-18, Construction Management Plan, and C-1, Establishment of a Ground Transportation /Construction Coordination Office. LAWA, through its Ground Transportation Coordination Office, would regularly review and analyze traffic conditions on designated routes and on CTA roadways during construction to see whether there is a need to modify truck delivery schedules, temporary traffic controls, signal timing, directional signing, etc., to improve traffic flow. The specifications for construction of the CUP Project would outline the specific methods required to regulate CUP construction traffic, among other requirements. The specifications would require the contractor to submit a Construction Traffic Management Plan (CTMP) for LAWA's approval that shall include a description of how the contractor would manage all construction related traffic within 30 days of their Notice to Proceed. The CTMP would provide project-specific and detailed procedures that address such items as the location and number of lane closures required, time of day and duration of closures, use of directional signage, construction delivery routes, and other requirements developed to minimize the effects of construction on roadway traffic operations within the CTA.

The CUP-RP construction program is expected to occur over a 48 month period beginning November 2009. The construction of the utilidor would likely result in temporary lane closures during non-peak hours with potential closures during daytime hours under extenuating circumstances as well as potential disruptions on traffic flow resulting from narrower lanes and the need to drive over plated roadway segments. These conditions would likely result in congestion and delays within the CTA during both peak and non-peak activity periods. However, the congestion would be temporary in nature and impacts, while adverse, are less than significant given that it is anticipated that roadway lanes would remain open to CTA traffic except for localized lane closures that would generally be limited to the overnight and early morning periods to be defined as part of the CTMP. Furthermore, all feasible actions to reduce congestion would be incorporated into the required CTMP.

Impact of Construction-Related Traffic on CTA Traffic Operations

As previously stated in Section 4.1.4, during the peak construction period it is estimated that 168 construction employees would access the CUP-RP construction site, representing 146 daily trips. However, the peak shift-changes for construction employees are expected to occur in the early morning (5:00 to 6:00 a.m.) and during the early afternoon (3:30 to 4:30 p.m.), outside the peak period for airport operations. In addition, truck deliveries would be anticipated to contribute an additional 20 equivalent passenger car trips. As shown previously in **Table 4.1-6**, roadway traffic activity on the lower level is very low during the early morning period that would coincide with the a.m. construction peak hour (approximately 22 percent of the traffic experienced during the overall peak hour of 2,937 vehicles per hour). Similarly, the lower level traffic activity is also low during the period that would coincide with the p.m. construction peak hour (approximately 69 percent pf the traffic experienced during the overall peak hour). Limiting construction employee activity and deliveries to these non-peak periods is consistent with LAX Master Plan commitment ST-2, Non-Peak CTA Deliveries. Based on the traffic volumes depicted in the table, the outer roadway segment of World Way adjacent to Terminal 1 that would be used by construction traffic accessing the construction site would operate at LOS A during the a.m. construction peak hour (V/C = 662/3,320 = 0.20) and LOS B during the p.m. construction peak hour (V/C = 2,030/3,320 = 0.61). With the addition of the 166 construction-related trips, the V/C would become 0.66 (2,196/3,320) which remains a LOS B condition. Given that the roadway is operating at LOS B or better, the addition of construction-related traffic would not result in substantial congestion, inconvenience to motorists, or hazardous conditions on a regular or frequent basis. Therefore impacts would be less than significant.

Given the substantially lower level of CTA traffic activity during the a.m. and p.m. construction peak hours, it is anticipated that traffic conditions during the a.m. and p.m. peak construction periods would be better than the peak conditions experienced on a daily basis. Construction traffic within the CTA is not expected to result in significant congestion and, as such, impacts would be less than significant.

4.1.8.4 Impact of Construction Outside of the CTA

As previously described in Section 2.2.2, the CUP-RP may include the construction of a recycled/reclaimed water pipeline and an off-site treatment plant. The location of the treatment plant would be located at one of the following two potential locations:

- **Site 1 –** Located at the southeast corner of 96th Street and Vicksburg Avenue
- **Site 2 –** Located at the northeast corner of 96th Street and Jenny Avenue

The potential sites are located generally north and east of the CTA. It is anticipated that the construction at the sites would generate localized construction traffic activity associated with site preparation and construction related deliveries. It is also anticipated that construction at the sites would generate traffic associated with construction employee arrivals and departures.

The construction of the recycled/reclaimed water pipeline system serving the potential sites would likely result in temporary roadway lane closures to accommodate construction of the pipe system within the roadway right-of-way. It is anticipated that completion of these activities would occur on a daily basis, proceeding at a rate of several hundred linear feet of pipe being installed each day. However, to the extent possible, construction activities would be limited to off-peak periods and complete lane closures would be avoided when possible. Furthermore, as discussed in Section 4.1.7 above, applicable LAX Master Plan commitments related to construction traffic would apply to the CUP-RP and its components, including construction of an off-site water treatment system. Implementation of LAX Master Plan commitments would reduce potential traffic impacts associated with the construction of these water treatment facilities. LAX Master Plan commitments require that motorists be informed about construction-related congestion by use of static signs, changeable message signs and media announcement. LAX Master Plan commitments also require LAWA to work with residential and commercial neighbors to address their concerns regarding construction activity. With respect to pipeline construction occurring in street rights-of-way, construction management would include traffic control devices to ensure adequate and continual access on the affected roadways. Traffic control may include signage to identify anticipated construction periods and duration and specific areas to be affected, traffic control personnel, lane barriers, and temporary detours (within the affected roadways). No full road closures would be required for construction of any of the pipeline systems. With the temporary nature of pipeline construction, and the reduction of impacts through implementation of LAX Master Plan commitments, traffic impacts associated with construction of the recycled/reclaimed water pipeline system would not result in substantial congestion, inconvenience to motorists, or hazardous conditions on a regular or frequent basis, and would, therefore, be less than significant.

4.1.9 Mitigation Measures

As described above in the impact discussions in Section 4.1.8, construction activities associated with the CUP-RP would not result in significant traffic impacts. Therefore, no mitigation measures are required. However, LAX Master Plan Commitments C-1, C-2, ST-2, ST-9, ST-12, ST-14, ST-16, ST-17, ST-18, ST-22, MM-ST-1, and MM-ST-2 would still be implemented as part of the CUP-RP to address all construction-related traffic impacts.

4.2 Air Quality

4.2.1 Introduction

The purpose of this air quality analysis is to examine potential air quality impacts that would result from the proposed CUP-RP. The analysis describes anticipated air quality impacts during the approximately four years of proposed construction activities, and the incremental difference in air quality impacts between baseline operations and future operations after completion of the CUP-RP. The operational impacts for air quality are quantified in terms of criteria pollutant (ambient air pollutant) emissions, and in terms of greenhouse gas emissions discussed in Section 4.4, *Global Climate Change*, of this EIR. An assessment of potential health impacts for people exposed to toxic air contaminants associated with construction and operation of the CUP-RP is provided in Section 4.3, *Human Health Risk Assessment*, of this EIR.

The criteria pollutant emission inventories were developed using standard industry software/models and federal, state, and locally approved methodologies. Results of the emission inventories were compared to daily emissions thresholds established by the South Coast Air Quality Management District (SCAQMD) for the South Coast Air Basin (Basin).[50]

4.2.1.1 Pollutants of Interest

Six criteria pollutants were evaluated for the CUP-RP, including sulfur dioxide (SO_2), carbon monoxide (CO), particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM10), particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (PM2.5), nitrogen dioxide (NO_2), and ozone (O_3) using as surrogates volatile organic compounds (VOC)[51] and oxides of nitrogen (NO_x). Although lead (Pb) is a criteria pollutant, it was not evaluated in this EIR because the CUP-RP would have a negligible impact on lead levels in the Basin.

Following standard industry practice, the evaluation of ozone was conducted by evaluating emissions of VOC and NO_x, which are precursors in the formation of ozone. Ozone is a regional pollutant and ambient concentrations can only be predicted using regional photochemical models that account for all sources of precursors, which is beyond the scope of this analysis. Therefore, no photochemical ozone modeling was conducted for the CUP-RP. Additional information regarding the six criteria pollutants that were evaluated in the air quality analysis is presented below.

Ozone (O_3)

Ozone, a component of smog, is formed in the atmosphere rather than being directly emitted from pollutant sources. Ozone forms as a result of VOCs and NO_x reacting in the presence of sunlight in the atmosphere. Ozone levels are highest in warm-weather months. VOCs and NO_x are termed "ozone precursors" and their emissions are regulated in order to control the creation of ozone.

Ozone damages lung tissue and reduces lung function. Scientific evidence indicates that ambient levels of ozone not only affect people with impaired respiratory systems (e.g., asthmatics), but also healthy children and adults. Ozone can cause health effects such as chest discomfort, coughing, nausea, respiratory tract and eye irritation, and decreased pulmonary functions.

Carbon Monoxide (CO)

Carbon monoxide is an odorless, colorless gas that is toxic. It is formed by the incomplete combustion of fuels. The primary sources of this pollutant in Los Angeles County are automobiles and other mobile sources. The health effects associated with exposure to carbon monoxide are related to its interaction

---

50 South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993; as updated by "SCAQMD Air Quality Significance Thresholds," July 2008, Available: http://www.aqmd.gov/CEQA/handbook/signthres.pdf.

51 The emissions of volatile organic compounds (VOC) and reactive organic gases (ROG) are essentially the same for the combustion emission sources that are considered in this EIR. This EIR will typically refer to organic emissions as VOC.

with hemoglobin once it enters the bloodstream. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity, and impaired mental abilities.

Particulate Matter (PM10) and Fine Particulate Matter (PM2.5)

Particulate matter consists of solid and liquid particles of dust, soot, aerosols, and other matter small enough to remain suspended in the air for a long period of time. PM10 refers to particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (microns, um or µm) and PM2.5 refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers. Particles smaller than 10 micrometers (i.e., PM10 and PM2.5) represent that portion of particulate matter thought to represent the greatest hazard to public health.[52] PM10 and PM2.5 can accumulate in the respiratory system and are associated with a variety of negative health effects. Exposure to particulate matter can aggravate existing respiratory conditions, increase respiratory symptoms and disease, decrease long-term lung function, and possibly cause premature death. The segments of the population that are most sensitive to the negative effects of particulate matter in the air are the elderly, individuals with cardiopulmonary disease, and children. Aside from adverse health effects, particulate matter in the air causes a reduction of visibility and damage to paints and building materials.

A portion of the particulate matter in the air comes from natural sources such as windblown dust and pollen. Man-made sources of particulate matter include fuel combustion, automobile exhaust, field burning, cooking, tobacco smoking, factories, and vehicle movement on, or other man-made disturbances of, unpaved areas. Secondary formation of particulate matter may occur in some cases where gases such as sulfur oxides (SO_x) and NO_x interact with other compounds in the air to form particulate matter. In the Basin, both VOCs and ammonia are also considered precursors to PM2.5. Fugitive dust generated by construction activities is a major source of suspended particulate matter.

The secondary creators of particulate matter, SO_x and NO_x, are also major precursors to acidic deposition (acid rain). While SO_x is a major precursor to particulate matter formation, NO_x has other environmental effects. NO_x has the potential to change the composition of some species of vegetation in wetland and terrestrial systems, to create the acidification of freshwater bodies, impair aquatic visibility, create eutrophication of estuarine and coastal waters, and increase the levels of toxins harmful to aquatic life.

Nitrogen Dioxide (NO_2)

Nitrogen dioxide is a poisonous, reddish-brown to dark brown gas with an irritating odor. NO_2 forms when nitric oxide (NO) reacts with atmospheric oxygen. Most sources of NO_2 are man-made; the primary source of NO_2 is high-temperature combustion. Significant sources of NO_2 at airports are boilers, aircraft operations, and vehicle movements. NO_2 emissions from these sources are highest during high-temperature combustion, such as aircraft takeoff mode.

NO_2 may produce adverse health effects such as nose and throat irritation, coughing, choking, headaches, nausea, stomach or chest pains, and lung inflammation (e.g., bronchitis, pneumonia).

Sulfur Dioxide (SO_2)

Sulfur oxides are formed when fuel containing sulfur (typically, coal and oil) is burned, and during other industrial processes. The term "sulfur oxides" (SO_x) accounts for distinct but related compounds, primarily sulfur dioxide (SO_2) and sulfur trioxide (SO_3). As a conservative assumption for this analysis, it was assumed that all SO_x is emitted as SO_2, therefore SO_x and SO_2 are considered equivalent in this document. Higher SO_2 concentrations are found in the vicinity of large industrial facilities than elsewhere. The physical effects of SO_2 include temporary breathing impairment, respiratory illness, and aggravation of existing cardiovascular disease. Children and the elderly are most susceptible to the negative effects of exposure to SO_2.

---

[52] U.S. Environmental Protection Agency, Particle Pollution and Your Health, September 2003.

4.2.1.2 Scope of Analysis

As discussed above, the air quality analysis conducted for the CUP-RP addresses construction-related impacts for the approximately four years of proposed construction activities. The basic steps involved in performing the analysis are listed below.

Construction:

- Identify construction-related emissions sources.
- Develop peak daily construction emissions inventories.
- Compare emissions inventories with appropriate CEQA thresholds for construction.
- Conduct dispersion modeling for the peak year of project construction emissions.
- Obtain background concentration data from SCAQMD and estimate future concentrations with the CUP-RP.
- Identify potential construction-related mitigation measures (if required).

Operations:

- Identify operational emission sources potentially affected by the CUP-RP.
- Develop peak daily operational emissions inventories for the identified sources.
- Compare emissions inventories with appropriate CEQA thresholds for operations.
- Identify potential operations-related mitigation measures (if required).

4.2.2 Methodology

The air quality assessment for the CUP-RP was conducted in accordance with the SCAQMD's 1993 *CEQA Air Quality Handbook*.[53] A Technical Report that provides details of the methodology used in the assessment is included as Appendix C to this EIR.

Emission inventories were developed for construction of the CUP-RP and operational sources associated with installation and operation of two new cogeneration turbines, two heat recovery steam generators and duct burners, a stand-by auxiliary boiler, and a cooling tower. These new units replace the existing two cogeneration turbines, two utility boilers, and cooling tower. Inventories are developed for emissions of criteria air pollutants and toxic air contaminants (TACs).

4.2.2.1 Construction

Peak daily air pollutant emissions inventories were developed for the CUP-RP from construction-related activities. Emissions estimates for CO, VOC, NO_x, SO_2, PM10, and PM2.5 were developed for off-road construction equipment, on-road on-site construction equipment, and on-road off-site construction equipment. Emissions from off-road equipment and on-road vehicles (tractor trailers, light duty trucks, employee vehicles, etc., which can travel on highways and local roads) were evaluated separately to account for the California Air Resources Board's (CARB's) published emissions factors for both categories of equipment. Fugitive dust emissions resulting from excavation, wind erosion of dirt piles, and dust entrainment from vehicle travel on paved roadways were also quantified as part of the construction emissions inventories. Construction emissions from the potential recycled/reclaimed water pipeline and treatment plant were estimated using the URBEMIS model.

In order to estimate construction emissions, resource requirements and activity schedules were developed by the LAX Development Program Team, an integrated team of LAWA and consultant staff responsible for oversight and program management and staff level approvals. Monthly estimates of equipment usage (in hours) were also developed for each piece of equipment expected to be used during

---

53 South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993, as amended.

CUP-RP construction. From the resource information provided, peak daily emissions estimates were developed for the construction period. Peak-daily emissions estimates were developed for each construction quarter.

Emissions estimates for CUP-RP construction activities included the application of emission reduction measures required by the LAX Master Plan Final EIR and SCAQMD rules, as well as additional control measures set forth in the LAX Master Plan Community Benefits Agreement.[54] These measures are applicable to PM10 and PM2.5 emissions and to a lesser degree to NO_x emissions. The reductions of PM10 and PM2.5 are discussed in Section 4.2.5 below. Due to the uncertainty regarding the compatibility of NO_x control devices in the listed off-road diesel construction equipment, no reduction of NO_x has been assumed in this analysis.

Off-Road Equipment

Off-road construction equipment includes dozers, loaders, sweepers and other heavy-duty construction equipment that is not licensed for travel on public roadways. Off-road equipment types, models, and horsepower ratings were determined by the LAX Development Program Team. Emission rates, in pounds per hour (lb/hr), were obtained from the SCAQMD's CEQA website for off-road equipment operating in the Basin.[55] These emission rates were converted to emission factors by dividing the rate by the specific horsepower from the SCAQMD off-road emission rate list and load factor from the SCAQMD CEQA Handbook Table A9-8-D for each equipment type. These emission factors, in pounds per horsepower-hour (lb/hp-hr), were multiplied by the project equipment horsepower and load factor to develop project-specific emission rates for CO, VOC, NO_x, SO_2, PM10, and CO_2. PM2.5 emission factors were developed using the ratio of PM2.5-to-PM10 emission factors derived from the CARB-approved California Emission Inventory Development and Reporting System (CEIDARS), Version 2.5. The emission factors used to estimate emissions for off-road construction equipment are presented in Attachment 1 of the Technical Report (Appendix C).

Daily emissions for off-road equipment were calculated by multiplying the appropriate emission factor by the horsepower, load factor, and daily operational hours for each type of equipment. Using the resource loaded schedule equipment activity (hours per month), the peak month average day was used to quantify peak daily emissions for off-road equipment. Annual off-road emissions were derived from the daily emissions estimates and the project's construction schedule.

On-Road On-Site Equipment

On-road on-site equipment emissions were generated for on-site pickup trucks, crew vans, water trucks, dump trucks, haul trucks, and other on-road vehicles. Exhaust emissions from on-road on-site sources were calculated using emission factors from the CARB emission factor model EMFAC2007, Version 2.3.[56] The SCAQMD-compiled EMFAC2007 factors[57] were used which incorporate the most conservative result of summer versus winter emission factors for each pollutant.

In developing these emissions factors from EMFAC2007, SCAQMD simplified the technology categories into three for use in CEQA analyses: passenger vehicles (gasoline vehicles less than 8,500 lbs), delivery trucks (gasoline vehicles greater than 8,500 lbs and less than 33,000 lbs), and heavy duty diesel trucks (diesel vehicles greater than 33,000 lbs up to 60,000 lbs).

---

54 Although the CUP-RP is not a component of the LAX Master Plan, the basic framework and requirements of several of the Master Plan commitments and mitigation measures identified in the LAX Master Plan Final EIR are, nevertheless, proposed to be applied to the CUP-RP for the purpose of reducing the potential environmental impacts of the CUP-RP.

55 South Coast Air Quality Management District, OFFROAD2007 Model and South Coast Air Basin Fleet Averages, Available: http://www.aqmd.gov/CEQA/handbook/offroad/offroad.html, accessed January 2009.

56 California Air Resources Board, Research Division, EMFAC 2007 On-Road Emissions Inventory Estimation Model, Version 2.3. The U.S. Environmental Protection Agency has approved this model for use in estimating emissions for on-road vehicles as noticed in the Federal Register Vol. 73, No. 13, pp. 3464-3467, January 18, 2008.

57 South Coast Air Quality Management District, Available: http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html, accessed January, 2009.

EMFAC2007 emission factors are expressed in pounds per mile; therefore, roundtrip distances for on-site travel were determined for each category to calculate emissions in pounds per day. The EMFAC factors account for start-up, running, and idling.[58] In addition, the VOC emission factors include diurnal, hot soak, running, and resting emissions, and the PM10 and PM2.5 factors include tire and brake wear.

Annual on-road on-site emissions were calculated from the daily emissions estimates and the project's construction schedule.

On-Road Off-Site Equipment

On-road off-site trip types identified in the construction schedule include personal vehicles used by personnel/employees and inspectors to access the construction site; deliveries of concrete, building foundation base material, and miscellaneous material; and hauling away of cut material unsuitable for on-site reuse, contaminated soil for disposal, demolition soils that cannot be reused on-site, and miscellaneous material.

On-road off-site vehicle emissions were calculated by determining total vehicle miles traveled (VMT) by each type of vehicle per day. The SCAQMD EMFAC2007 emission factors (all six criteria pollutants including PM2.5) were used to calculate emissions for on-road off-site vehicles.

Total emissions for on-road off-site equipment were calculated using the same methodology assumed for on-road on-site vehicles. In general, the EMFAC2007 emissions factors were multiplied by the total VMT for each vehicle type to obtain emissions in pounds per day. Annual emissions were then calculated using the proposed construction schedule. Data for on-road off-site vehicle emissions, VMT and emissions factors, are included in Attachment 1 of the Technical Report (Appendix C).

Fugitive Dust

Additional sources of PM10 and PM2.5 emissions associated with construction activities are related to fugitive dust. Fugitive dust includes entrained road dust from both off- and on-road vehicles, as well as dust from grading, loading and unloading, hauling and storage activities. Fugitive dust emissions (PM10 and PM2.5) were calculated using the URBEMIS model,[59] USEPA's AP-42,[60] and SCAQMD's CEQA Air Quality Handbook. Daily fugitive dust emissions were calculated for each piece of construction equipment or construction activity, from which annual and peak day fugitive dust emissions were determined.

Fugitive dust emissions for vehicles traveling on paved roads were calculated using the paved road dust factor for high average daily trip (ADT) roads under average conditions developed by Midwest Research Institute (MRI).[61] All haul trucks, flatbed trucks and automobiles were assumed to travel on paved roads.

Fugitive dust emissions from on-site construction activities (grading, loading, hauling, and storage) were calculated from the AP-42 and URBEMIS. The grading, loading, and hauling (on-site) emissions are implicitly included in the URBEMIS 9.2.4 model which was used to estimate grading, loading, and demolition material hauling emissions.

Paving and Painting

Construction materials that can be sources of VOC emissions include hot-mix asphalt paving and architectural coating. VOC emissions from asphalt paving operations result from the evaporation of the

---

58 California Air Resources Board, Research Division, EMFAC 2007 On-Road Emissions Inventory Estimation Model, Version 2.3 User's Guide, EMFAC calculates idling emissions for heavy duty trucks to account for unloading and loading goods. Start-up emissions are only calculated for gasoline vehicles.

59 Jones and Stokes, Associates, Software User's Guide: URBEMIS2007 for Windows Version 9.2 - Emissions Estimation for Land Use Development Projects, prepared on behalf of South Coast Air Quality Management District, November 2007.

60 U.S. Environmental Protection Agency, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition (AP-42), Available: http://www.epa.gov/ttn/chief/ap42/index.html, accessed January 2009.

61 South Coast Air Quality Management District, Improvement of Specific Emission Factors (BACM Project No. 1) Final Report, prepared by Midwest Research Institute, March 29, 1996.

petroleum distillate solvent, or diluent, used to liquefy asphalt cement. Asphalt paving emissions and emissions from architectural coating were calculated using the URBEMIS model. The URBEMIS model is recommended by SCAQMD for estimation of construction and operation emissions from land use development projects.

Construction TAC Emissions

The emissions of TACs from construction activities were developed from the construction PM10 and VOC emission inventories and CARB speciation profiles.[62,63] Specifically, PM10 or VOC emissions from individual sources or source groups were multiplied by the particulate matter or organic gas profile, respectively, for that source or group. The profiles applied to each source or group are summarized **Table 4.2-1**.

Table 4.2-1

Speciation Profile Assignments to CUP-RP Construction Sources and Source Groups

Source Type	Source Group	Particulate Matter Speciation Profile No.	Organic Gas Speciation Profile No.
On-site Equipment (on-road or off-road engines)	Diesel	425 - Diesel vehicle exhaust	818 - Diesel farm equipment
On-site Equipment (on-road)	Diesel	400 - Gasoline vehicle (catalyzed)	441 - Gasoline vehicle (catalyzed)
Fugitive Construction Dust	Fugitive	420 - Construction dust	Not applicable
Paved Road Dust	Road dust	420 - Construction dust	Not applicable
Architectural Coating/Painting	Paint	Not applicable	1811 - Ground traffic marking coatings
Pavement	Pave	Not applicable	715 - Slow cure asphalt

Source: CDM 2009.

4.2.2.2 Operations

Daily air pollutant emissions inventories were developed for the CUP-RP from plant operations both before and after completion of the CUP-RP. Emissions estimates for CO, VOC, NO_x, SO_2, PM10, PM2.5, TACs, and GHGs were developed for new and existing combustion turbines, utility boilers, and cooling towers.

Equipment in the existing CUP that would be replaced or modified includes two 4 megawatt (MW) cogeneration turbine generator sets (both continuously operating), two 27.5 million British thermal units per hour (MMBtu/hr) boilers (one operating and one standby), and one four-bay cooler tower. The exhaust gas from each turbine is routed through a waste heat boiler. The exhaust flows from the waste heat boilers are combined, treated with ammonia to reduce NO_x and discharged from a single stack. The other boilers each exhaust through individual stacks (one per unit).

New equipment in the CUP after completion of the CUP-RP would include two 4.5 MW cogeneration turbine generator sets (both continuously operating), two heat recovery steam generators (HRSG) and

62 California Air Resources Board, California Emission Inventory Development and Reporting System - Particulate Matter Speciation Profiles, 2007, Available: http://www.arb.ca.gov/ei/speciate/pmprof_07_19_07.xls.

63 California Air Resources Board, California Emission Inventory Development and Reporting System - Organic Gas Speciation Profiles, 2005, Available: http://www.arb.ca.gov/ei/speciate/orgprof_10_03_05.xls.

duct burners, one stand-by auxiliary boiler, and one four-bay cooling tower. Heat from the turbine exhaust gas would be used to produce steam in the HRSG; additional steam could be produced by operating the duct burners. Each turbine/duct burner system was assumed to exhaust through one stack. A total of three stacks for fired equipment were included in the air quality analysis, one each for the two turbine/duct burners, and one for the stand-by auxiliary boiler.

Combustion Turbines

The existing combustion turbine annual emissions were based on emissions reported in the 2006-2007 Annual Emissions Report (AER) submitted by LAWA to SCAQMD.[64] This report was the most recent AER completed for a 12-month period and is representative of existing conditions. The AER includes emissions of criteria air pollutants and TACs for the turbines. The peak daily emissions were based on the turbine emission factors obtained from the 2006-2007 AER report and the turbine maximum hourly firing rate listed in the SCAQMD Facility Permit to Operate (CAA Title V Permit)[65] revised in July 2008.

The emissions from the new turbines were based on data obtained from a potential turbine supplier (Solar) for two 4.5-MW units. The TAC profiles from the AER report were assumed to be applicable to the new turbines. The PM data for both existing and new turbines was assumed to represent total PM10 and total PM2.5 (i.e., all PM in the turbine exhaust was less the 2.5 micrometers in diameter). The planned operation of the new turbines would have them operating continuously, so both peak daily and annual emissions are based on the maximum hourly firing rate for the turbines.

The TAC emissions from the existing turbines were used to develop speciation profiles that were then applied to the new turbines. The emissions of organic TAC compounds were referenced to the reported turbine VOC emissions. The resulting profiles were in units of pounds of TAC per pound of VOC (or per pound of NO_x for ammonia). These profiles were multiplied by the VOC emissions for the new turbines to obtain the new turbine organic TAC emissions.

It is anticipated that NOx emissions from the new turbines would be controlled using selective catalytic reduction (SCR), which typically requires a reductant (ammonia) to reduce NOx to molecular nitrogen (N_2) and water. The ammonia needed for SCR can be supplied by using pure anhydrous ammonia, aqeous ammonia, or urea. Due to concerns over the safety of transporting, storing and using anhydrous and aqeous ammonia, LAWA has chosen to incorporate urea as the reductant in the CUP-RP design. Urea is safer to handle and is not considered a regulated substance under the California Accidental Release Prevention Program (CalARP), therefore a risk management program (RMP) is not necessary. Regardless of the reductant used, some unreacted ammonia would be discharged in the turbine exhaust gas. The ammonia emissions were calculated using the turbine exhaust gas flow rate and assumed concentration of ammonia in the exhaust gas. This concentrations was set at 5 parts per million by volume, the limit typically imposed by SCAQMD on ammonia “slip” from SCR units.

The GHG emissions from the turbines were calculated using emission factors for natural gas and global warming potentials (GWPs) for CO_2, methane (CH_4), and nitrous oxide (N_2O) from the CARB regulation for the mandatory reporting of GHGs.[66] The annual quantity of fuel combusted was multiplied by the high heating value (HHV) of the natural gas and the GHG emission factor to obtain GHG emissions and the total quantity of carbon dioxide equivalent (CO_2e) emissions in metric tons.

Utility Boilers

The existing annual boiler emissions were based on emissions reported in the 2006-2007 AER submitted by LAWA to SCAQMD.[67] As with the turbines, the AER includes emissions of criteria air pollutants and TACs for the boilers. The PM emissions were assumed to represent total PM10 and total PM2.5. The

---

64 City of Los Angeles - Department of Airports, AQMD 2006-2007 AER, September 28, 2007.

65 South Coast Air Quality Management District, Facility Permit to Operate – LA City, Department of Airports, Facility ID 800335, July 2, 2008.

66 California Code of Regulations, Subchapter 10, Article 2, sections 95100 to 95133, Title 17.

67 City of Los Angeles - Department of Airports, AQMD 2006-2007 AER, September 28, 2007.

peak daily emissions were based on the boiler emission factors obtained from the 2006-2007 AER report and the boiler maximum hourly firing rate listed in the SCAQMD Facility Permit to Operate (CAA Title V Permit)[68] revised in July 2008.

Criteria pollutant emissions data from the new stand-by auxiliary boiler were provided by the LAX Development Program Team from preliminary design data. This unit only operates when one or more of the new turbines or duct burners are down at a time when steam demand is high. The peak daily and peak annual emissions from the new CUP occur when both turbines and both duct burners are operating, therefore, this stand-by boiler would not contribute to the peak daily or peak annual emissions.

The organic TAC emissions from the existing utility boilers were used to create profiles relative to VOC emissions. These profiles were applied to the VOC emissions from the new boiler to obtain organic TAC emissions from the new unit. As with the turbines, NOx emissions from the new auxiliary boiler may be controlled with ammonia. The ammonia concentration in the boiler exhaust gas is also assumed to be 5 parts per million by volume.

The GHG emissions from the existing utility boilers were calculated using emission factors for natural gas and GWPs for CO_2, CH_4, and N_2O from the CARB regulation for the mandatory reporting of GHGs.[69] The maximum heat input rating in millions of Btu per hour, assuming the boilers were operated at maximum capacity, was multiplied by the maximum annual operating hours and the GHG emission factor to obtain GHG emissions and the total quantity of CO_2e emissions in metric tons. As noted above, the new stand-by auxiliary boiler would not contribute to peak annual emissions, which applies to GHGs as well as criteria pollutants.

Duct Burners

The new duct burners were assumed to have similar operating emission characteristics as the new stand-by auxiliary boiler. Therefore, criteria pollutant, TAC, and GHG emissions factors applied to the auxiliary boiler were also applied to the duct burners. As with the new turbines, the planned operation of the new duct burners would have them operating continuously; therefore, both peak daily and annual emissions are based on the maximum hourly firing rate for the duct burners.

Cooling Towers

The existing cooling tower PM emissions were based on emissions reported in the 2006-2007 AER submitted by LAWA to SCAQMD.[70] Since cooling tower water is not dosed with TAC-containing additives, no other pollutants (criteria or TACs) were included in the AER for the cooling tower. PM emissions from these units were also assumed to represent total PM10 and total PM2.5 (i.e., all PM in the cooling tower discharge was less the 2.5 micrometers in diameter).

The AER also included the method used for calculating cooling tower PM emissions based on basic tower parameters (circulating water flow rates, total dissolved solids content of concentrated cooling water, and cooling tower drift loss). This method was applied to the general cooling tower parameters provided by the LAX Development Program Team for the new units to estimate PM emissions from the new cooling tower system. The equation used was:

$$E = V \times (TDS/10^6) \times (L_{drift}/100) \times D_{water} \times 60 \times OH$$

Where:

E = Annual PM emissions in pounds per year (lbs/year);

V = Cooling tower circulating water rate in gallons per minute (gpm);

TDS = Circulating water total dissolved solids content in parts per million (ppm);

68 South Coast Air Quality Management District, Facility Permit to Operate – LA City, Department of Airports, Facility ID 800335, July 2, 2008.

69 California Code of Regulations, Subchapter 10, Article 2, sections 95100 to 95133, Title 17.

70 City of Los Angeles – Department of Airports, AQMD 2006-2007 AER, September 28, 2007.

L_{drift} = Controlled drift loss of circulating water in percent (%);

D_{water} = Density of water in pounds per gallon (lbs/gal); and

OH = Annual operating hours in hours per year (hr/yr).

4.2.2.3 Dispersion Modeling

Air dispersion modeling was used to predict pollutant concentrations in the vicinity of the airport from construction emissions in the peak year of construction and from incremental operational emissions after completion of the CUP-RP. The USEPA AERMOD[71] dispersion model was used to conduct this analysis.[72] Pollutant concentrations were modeled for CO, NO_2, SO_2, PM10, and PM2.5.

A series of receptors[73] surrounding the airport at the fenceline were established to calculate concentrations from CUP-RP activities. In addition, receptors were located in the community downwind in the prevailing wind direction, and in the Central Terminal Area (CTA). A total of 451 receptors were included in the dispersion analyses. For these modeling analyses, the receptor in the CTA immediately adjacent to the new CUP in the downwind direction would be the most impacted. Modeled concentrations at this location would therefore be higher than concentrations modeled farther away from the new CUP. The area that encompasses the CUP-RP sources and receptors is relatively flat; therefore the flat terrain option was used in the modeling analysis.

The averaging periods selected in AERMOD for each pollutant were based on the Basin's attainment status and averaging periods in the National and California Ambient Air Quality Standards (NAAQS and CAAQS). In particular, 1-hour and 8-hour averages were used for CO, 1-hour and annual averages were used for NO_2, 24-hour and annual averages were used for PM_{10}, and 24-hour averages were used for PM2.5.

In addition, 1-hour and period averages were modeled for PM10 and VOC as the basis for developing acute and chronic, respectively, concentrations of TACs. The resulting concentrations of PM_{10} from each source group was multiplied by the appropriate speciation profile shown in **Table 4.2-1**, above, to obtain the concentrations of TACs associated with the particulate matter. Similarly, the resulting concentrations of VOC from each source group was multiplied by the appropriate speciation profile shown in **Table 4.2-1**, above, to obtain the concentrations of TACs associated with the organic emissions.

To be consistent with air quality concentration impacts analyses conducted as part of EIRs for other LAX projects, such as the LAX Master Plan Final EIR, South Airfield Improvement Project (SAIP) Final EIR, CFTP Final EIR, the Bradley West Project Draft EIR, the same meteorological data file used in the Master Plan, SAIP, CFTP, and Bradley West Project modeling was used in the CUP-RP modeling to provide the meteorological input to AERMOD.

Construction Source Parameters

The off-road equipment used on the construction site and staging area, the on-road on-site transfer and haul trucks, and architectural coating and site paving activities were included in the dispersion modeling of construction-related pollutants. The fugitive dust generated by these sources was included in the PM10 and PM2.5 analyses. **Figure 4.2-1** provides an overview of the modeled receptor locations. **Figure 4.2-2** provides a more detailed view of the CUP-RP source areas.

Engine emissions from off-road construction equipment were modeled as elevated areas sources, while fugitive construction dust was modeled as ground level area sources. Engine emissions from the transfer and haul trucks were modeled as elevated line sources, while road dust was modeled as ground level line

---

71 U.S. Environmental Protection Agency, User's Guide for the AMS/EPA Regulatory Model-AERMOD, EPA-454/B-03-001, September 2004; and Addendum, December 2006.

72 The FAA requires the use of the EDMS model for analysis of aviation sources at the airport; however analysis of construction sources can be conducted using appropriate, USEAP-approved models.

73 Receptors represent locations in the vicinity of the airport where people could potentially be exposed to the CUP-RP construction-related or incremental operations-related air pollutants by breathing the air.

sources. Since AERMOD does not include line sources as one of its standard source types, the line sources were created by a series of volume sources where the initial horizontal dimension was equal to the width of the haul road (20 meters), and the height set at 5 meters for truck engine emissions and 0 meters for road dust.

Because the downwind CTA receptor for this analysis is located very close to the CUP-RP construction site, the NO_2-to-NO_x conversion with distance profile presented in the SCAQMD localized significance threshold (LST) methodology[74] was used to estimate the contribution of CUP-RP construction to ambient NO_2 concentrations.

Operational Source Parameters

All operational sources were modeled as point (stack) sources. Building downwash[75] was included for the existing CUP building and existing cooling tower for the baseline scenario. Building downwash was included for the new CUP buildings as well as the new CUP cooling towers for the future scenario after completion of the CUP-RP. The approximate locations of the new CUP stacks and buildings in the CTA are shown in **Figure 4.2-3**. The individual stack parameters used in the AERMOD dispersion analysis are presented in **Table 4.2-2**.

Table 4.2-2

Stack Parameters Used for CUP-RP Operational Sources in Dispersion Modeling

	Stack Parameters			
Source (No. of Stacks)	**Height (ft)**	**Diameter (m)**	**Temperature (°F)**	**Exit Velocity (m/s)**
Existing Turbine Exhaust (1)	55	1.524	300	20.27
Existing Boilers (2)	55	0.853	300	6.65
Existing Cooling Tower (4 bays)	40	7.010	Ambient	3.40
New Turbine/Duct Burner Exhausts (2)	55	1.000	300	24.79
New Boiler (1)	55	0.853	300	9.66
New Cooling Tower (4 bays)	65	7.010	Ambient	3.40

Source: CDM 2009.

4.2.3 Baseline Conditions

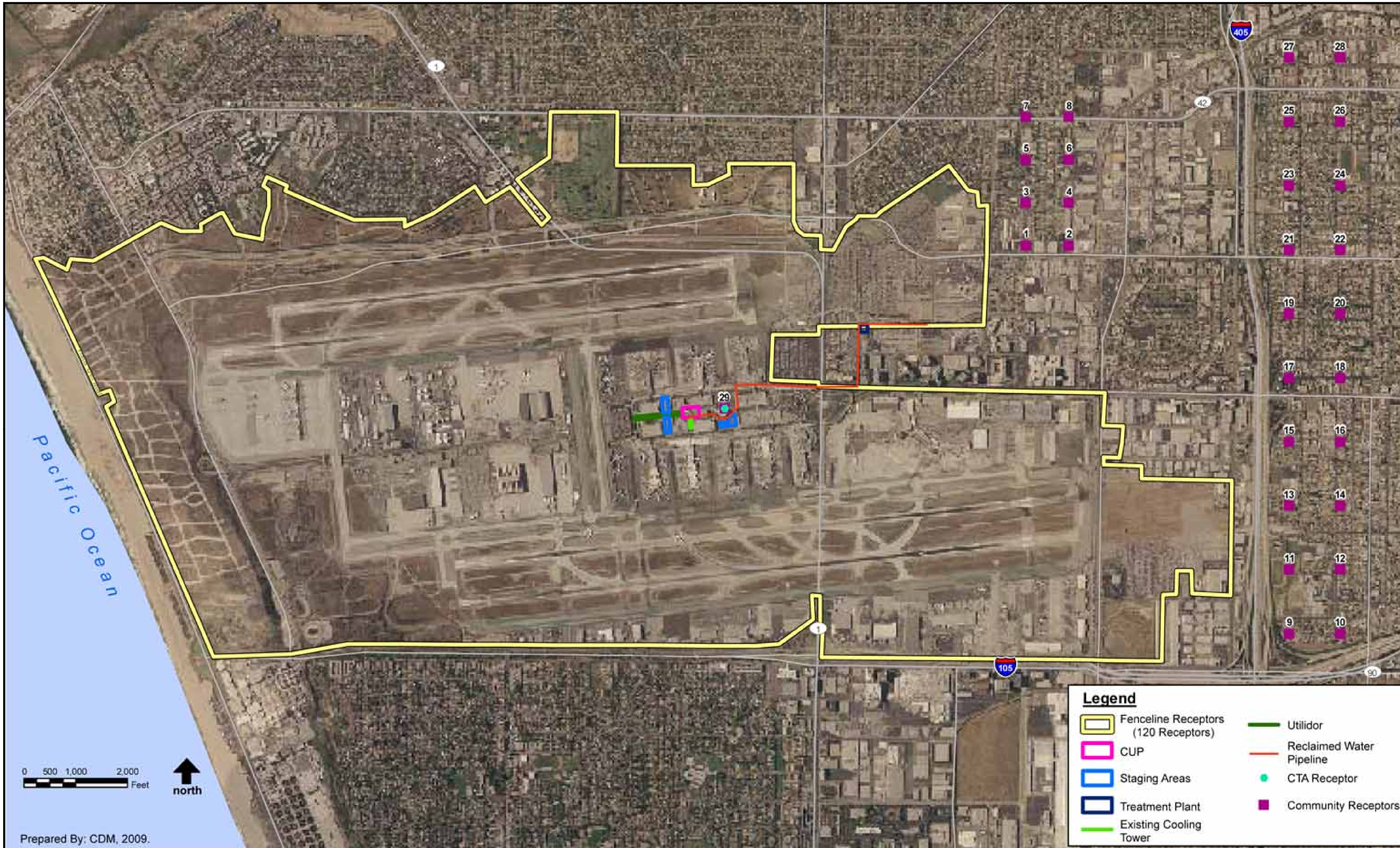
4.2.3.1 Climatological Conditions

The meteorological conditions at the airport are heavily influenced by the proximity of the airport to the Pacific Ocean to the west and the mountains to the north and east. This location tends to produce a regular daily reversal of wind direction: onshore (westerly) during the day and offshore (easterly) at night. Comparatively warm, moist Pacific air masses drifting over cooler air resulting from coastal upwelling of cooler water often form a bank of fog that is generally swept inland by the prevailing westerly winds. The "marine layer" is generally 1,500 to 2,000 feet deep, extending only a short distance inland and rising during the morning hours producing a deck of low clouds. The air above is usually relatively warm, dry,

---

74 South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, by T. Chico and J. Koizumi, June 2003.

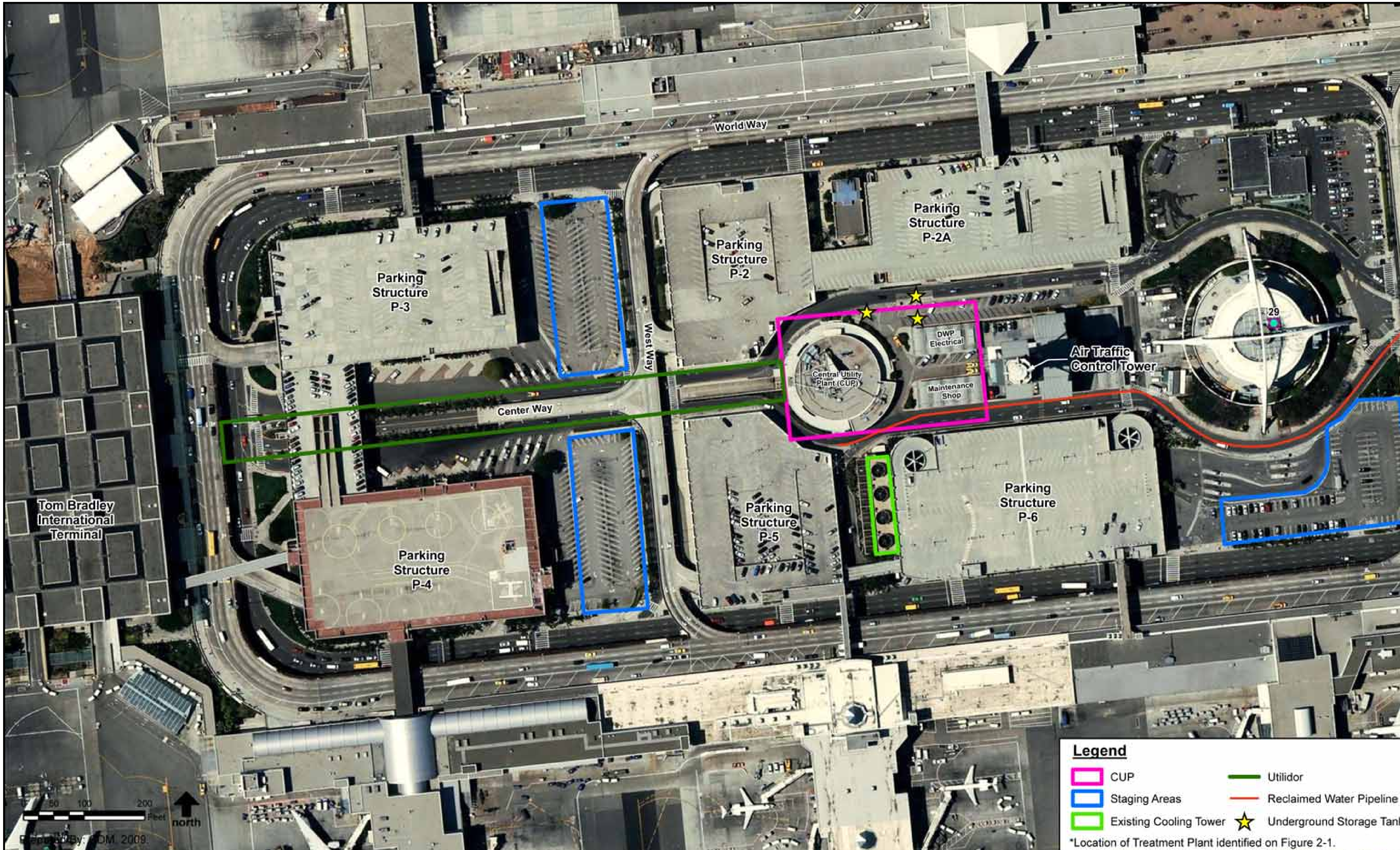
75 Building downwash is an aerodynamic condition that is considered in air pollutant dispersion modeling. Building downwash occurs when the aerodynamic turbulence, induced by nearby buildings, cause pollutants emitted from an elevated source to be mixed rapidly toward the ground (downwash). This can result in higher ground-level concentrations.



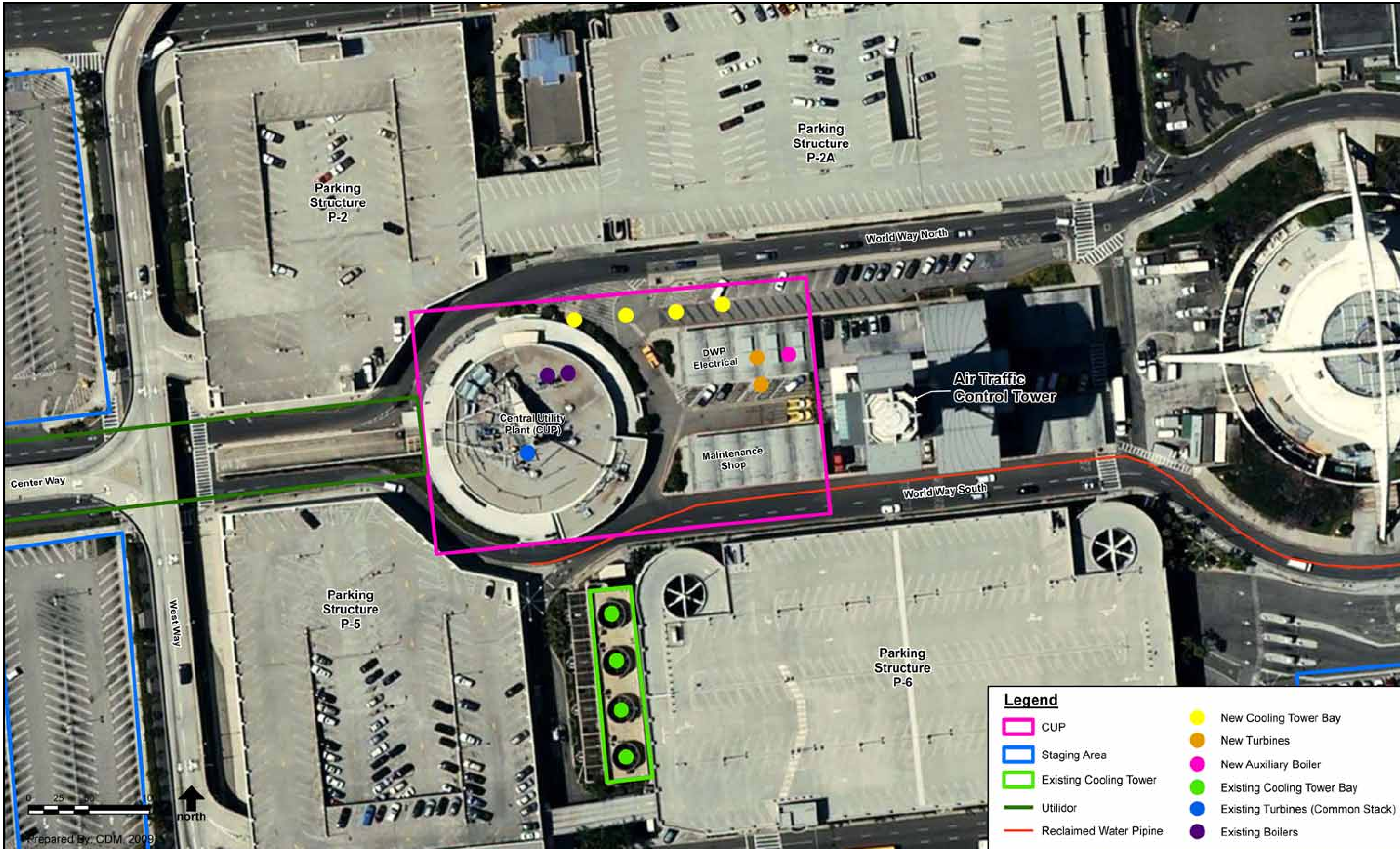
LAX Central Utilities Plant
Replacement Project Draft EIR

Modeled Source and Receptor Locations Construction

Figure
4.2-1



LAX Central Utilities Plant Replacement Project Draft EIR	Construction Sources for AERMOD Modeling	Figure 4.2-2



LAX Central Utilities Plant Replacement Project Draft EIR	Existing and New CUP Exhaust Stacks and CT Bays	Figure 4.2-3

and cloudless. The prevalent temperature inversion in the Basin tends to prevent vertical mixing of air through more than a shallow layer.

A dominating factor in the weather of California is the semi-permanent high-pressure area of the North Pacific Ocean. This pressure center moves northward in summer, holding storm tracks well to the north, and minimizing precipitation. Changes in the circulation pattern allow storm centers to approach California from the southwest during the winter months and large amounts of moisture are carried ashore.

The Los Angeles region receives on average 10 to 15 inches of precipitation per year, of which 83 percent occurs during the months of November through March. Thunderstorms are light and infrequent, and on very rare occasions, trace amounts of snowfall have been reported at the airport.

The annual minimum mean, maximum mean, and overall mean temperatures at the airport are 55°F, 70°F, and 63°F, respectively. The prevailing wind direction at the airport is from the west-southwest with an average wind speed of roughly 8 knots (9.2 miles per hour [mph] or 4.1 meters per second [m/s]). Maximum recorded gusts range from 27 knots (31 mph or 13.9 m/s) in July to 54 knots (62 mph or 27.8 m/s) in March. The monthly average wind speeds range from 5 knots (5.8 mph or 2.6 m/s) in December to 9 knots (10 mph or 4.6 m/s) during the spring, March through June.

4.2.3.2 Regulatory Setting

Air quality is regulated by federal, state, and local laws. In addition to rules and standards contained in the federal Clean Air Act and the California Clean Air Act, air quality in the Los Angeles region is subject to the rules and regulations established by CARB and SCAQMD with oversight provided by the U.S. Environmental Protection Agency (USEPA), Region IX.

Federal

The USEPA is responsible for implementation of the federal Clean Air Act (CAA). The CAA was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, 1990, and 1997). Under the authority granted by the CAA, USEPA has established National Ambient Air Quality Standards (NAAQS) for the following criteria pollutants: CO, Pb, NO_2, O_3, PM10, PM2.5, and SO_2. **Table 4.2-3** presents the NAAQS that are currently in effect for criteria air pollutants. Ozone is a secondary pollutant, meaning that it is formed from reactions of "precursor" compounds under certain conditions. The primary precursor compounds that can lead to the formation of ozone include volatile organic compounds (VOC)[76] and oxides of nitrogen (NO_x).

The CAA also specifies future dates for achieving compliance with the NAAQS and mandates that states submit and implement a State Implementation Plan (SIP) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. The 1990 amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones.

The CUP-RP is located in the Basin, which is a sub-region of the SCAQMD's jurisdiction including all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is designated as a federal nonattainment area for ozone, PM10, and PM2.5. Nonattainment designations under the CAA for ozone, CO, and PM10 are categorized into levels of severity based on the level of concentration above the standard, which is also used to set the required attainment date. The Basin was reclassified in 1998 to attainment/maintenance for NO_2 since concentrations of that pollutant dropped below (became better than) the NO_2 NAAQS in the early 1990s. More recently, the Basin was reclassified to attainment/maintenance for CO in 2007. Attainment/maintenance means that the pollutant is currently in attainment and that measures are included in the SIP to ensure that the NAAQS for that

---

[76] The emissions of volatile organic compounds (VOC) and reactive organic gases are essentially the same for the combustion emission sources that are considered in this analysis. This analysis will typically refer to organic emissions as VOC.

pollutant are not exceeded again (maintained). **Table 4.2-4** presents the attainment designation for each of the federal criteria air pollutants.

Table 4.2-3

National and California Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[2]	NAAQS[1] Primary	NAAQS[1] Secondary
Ozone (O_3)	8-Hour	0.07 ppm[3] (137 $\mu g/m^3$)[4]	0.075 ppm (147 $\mu g/m^3$)	Same as Primary
	1-Hour	0.09 ppm (180 $\mu g/m^3$)	N/A[5]	N/A
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)[6]	9 ppm (10 mg/m^3)	N/A
	1-Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	N/A
Nitrogen Dioxide (NO_2)	Annual	0.030 ppm (57 $\mu g/m^3$)	0.053 ppm (100 $\mu g/m^3$)	Same as Primary
	1-Hour	0.18 ppm (339 $\mu g/m^3$)	N/A	N/A
Sulfur Dioxide (SO_2)	Annual	N/A	0.03 ppm (80 $\mu g/m^3$)	N/A
	24-Hour	0.04 ppm (105 $\mu g/m^3$)	0.14 ppm (365 $\mu g/m^3$)	N/A
	3-Hour	N/A	N/A	0.5 ppm (1,300 $\mu g/m^3$)
	1-Hour	0.25 ppm (655 $\mu g/m^3$)	N/A	N/A
Respirable Particulate Matter (PM10)	AAM[7]	20 $\mu g/m^3$	N/A	N/A
	24-Hour	50 $\mu g/m^3$	150 $\mu g/m^3$	Same as Primary
Fine Particulate Matter (PM2.5)	AAM	12 $\mu g/m^3$	15 $\mu g/m^3$	Same as Primary
	24-Hour	N/A	35 $\mu g/m^3$	Same as Primary
Lead (Pb)	Quarterly	N/A	1.5 $\mu g/m^3$	Same as Primary
	Rolling 3-Mo. Avg	N/A	0.15 $\mu g/m^3$	Same as Primary
	Monthly	1.5 $\mu g/m^3$	N/A	N/A
Sulfates	24-Hour	25 $\mu g/m^3$	N/A	N/A

1 NAAQS = National Ambient Air Quality Standards
2 CAAQS = California Ambient Air Quality Standards
3 ppm = parts per million (by volume)
4 $\mu g/m^3$ = micrograms per cubic meter
5 N/A = Not applicable
6 mg/m^3 = milligrams per cubic meter
7 AAM = Annual arithmetic mean

Source: California Air Resources Board, November 17, 2008.

State

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain California Ambient Air Quality Standards (CAAQS) by the earliest practicable date. The CAAQS are at least as stringent as, and in several cases more stringent than, the NAAQS. The currently applicable CAAQS are presented with the NAAQS in **Table 4.2-3**. The attainment status with regard to the CAAQS is presented in **Table 4.2-4** for each pollutant.

Table 4.2-4

South Coast Air Basin Attainment Status

Pollutant (Status as of June 2009)	National Standards	California Standards
Ozone (O_3)	Nonattainment - Severe 17[1]	Nonattainment
Carbon Monoxide (CO)	Attainment - Maintenance	Attainment
Nitrogen Dioxide (NO_2)	Attainment - Maintenance	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Respirable Particulate Matter (PM10)	Nonattainment - Serious	Nonattainment
Fine Particulate Matter (PM2.5)	Nonattainment	Nonattainment
Lead (Pb)	Attainment	Attainment

[1] The current designation of the region is Severe-17. However, in the 2007 AQMP, SCAQMD requested a re-designation to Extreme non-attainment.

Source: CDM, 2009.

CARB has been granted jurisdiction over a number of air pollutant emission sources that operate in the state. Specifically, CARB has the authority to develop emission standards for on-road motor vehicles, as well as for area sources (such as consumer goods and fuels) and some off-road mobile sources. In turn, CARB has granted authority to the regional air pollution control and air quality management districts to develop stationary source emission standards, issue air quality permits, and enforce permit conditions.

South Coast Air Quality Management District (SCAQMD)

SCAQMD has jurisdiction over an area of 10,743 square miles consisting of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and the Riverside County portions of the Salton Sea Air Basin and Mojave Desert Air Basin. The Basin is a sub-region of SCAQMD's jurisdiction and covers an area of 6,745 square miles. While air quality in this area has improved, the Basin requires continued diligence to meet air quality standards.

The SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the CAAQS and NAAQS. Most recently, SCAQMD and CARB have adopted the 2007 AQMP and have submitted it to USEPA for approval. These plans require, among other emissions-reducing activities, control technology for existing sources; control programs for area sources and indirect sources; a permitting system designed to ensure no net increase in emissions from any new or modified permitted sources of emissions; transportation control measures; sufficient control strategies to achieve a five percent or more annual reduction in emissions (or 15 percent or more in a three-year period) for VOC, NO_x, CO, and PM10; and demonstration of compliance with CARB's established reporting periods for compliance with air quality goals.

The SCAQMD also adopts rules to implement portions of the AQMP. At least one of these rules is applicable to the construction phase of the project. Rule 403 requires the implementation of best available fugitive dust control measures during active construction activities capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the metropolitan planning organization (MPO) for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for the discussion of regional issues related to transportation, the economy, community development, and the environment. As the federally designated MPO for the southern California region, SCAG is mandated by the federal government to research and develop plans for transportation, hazardous waste management, growth management, and air quality. SCAG is also responsible under the federal CAA, §7506(c) for determining conformity of transportation projects, plans, and programs with applicable air quality plans. Pursuant to Government Code § 40460(b), SCAG has the responsibility for preparing and approving portions of the AQMP relating to transportation measures and strategies.

In the Basin, the City of Los Angeles, CARB, and the SCAQMD have adopted or proposed additional rules and policies governing the use of pollution control technologies or cleaner fuels in public vehicle fleets. The Los Angeles City Council has directed the use of particulate traps on some city-owned or operated diesel-fueled vehicles.[77] CARB adopted a Risk Reduction Plan for diesel-fueled engines and vehicles. The SCAQMD has proposed a series of rules that would require the use of clean fuel technologies in on-road school buses, on-road heavy-duty public fleets, and street sweepers. To be consistent with air quality analyses conducted for other LAX projects, such as the LAX Master Plan and the associated Final General Conformity Determination, recent plans and policies addressing ground access vehicle emissions have not been incorporated into the air quality impact analysis described below. The emission reductions that would be associated with implementation of SCAQMD's clean fuel rules are not incorporated into the CUP-RP air quality analysis; therefore, the estimate of ground access vehicle emissions is considered conservative.

4.2.3.3 Historical and Baseline Ambient Air Quality

The SCAQMD maintains a network of air quality monitoring stations located throughout the Basin. The closest monitoring station, and most representative of existing air quality conditions in the project area, is the Southwest Coastal Los Angeles Monitoring Station. Through 2003, this station was located at 5234 West 120th Street (Hawthorne), or about 2.4 miles southeast of the LAX Theme Building and 0.75 mile southeast of the southeast corner of the airport. In April 2004, the station was moved to 7201 W. Westchester Parkway (referred to as the LAX Hastings site), roughly 1.5 miles northwest of the Theme Building and less than 0.5 mile from Runway 24R (northernmost LAX runway). This station monitors ozone, CO, SO_2, NO_2, and PM10. Data available from this monitoring station were summarized for the five-year period of 2004 - 2008 in **Table 4.2-5**. In general, the measured concentrations at these locations are below concentrations measured at many of the other monitors around the Basin. It does appear that 2007 showed some increases in several pollutants compared to 2005 and 2006, especially the PM10 measurements. These PM10 concentrations may have been influenced by the extensive fires that occurred throughout Southern California in the fall of 2007. The fires occurred concurrently with strong Santa Ana winds that blew from the eastern deserts out to the coast, and may have carried the ash to the coastal monitoring stations.

4.2.4 CEQA Thresholds of Significance

The SCAQMD has developed CEQA operational and construction-related thresholds of significance for air pollutant emissions from projects proposed in the Basin. Construction and operational emission thresholds are summarized in **Table 4.2-6**. In accordance with the SCAQMD CEQA Air Quality Handbook, a significant air quality impact would occur if the estimated incremental increase in construction-related emissions attributable to the project would be greater than the daily construction emission thresholds presented in **Table 4.2-6**. A significant air quality impact would occur as well if the estimated incremental increase in operational emissions attributable to the project would be greater than the operational daily emission thresholds presented in **Table 4.2-6**.

---

77 See Council File (CF#) 00-0157.

Table 4.2-5

Southwest Coastal Los Angeles Monitoring Station Ambient Air Quality Data

Pollutant[1,2]	**2004**	**2005**	**2006**	**2007**	**2008**
Ozone (O_3)					
Maximum Concentration 1-hr period, ppm	0.120	0.086	0.084	0.087	0.086
Maximum Concentration 8-hr period, ppm	0.1	0.076	0.067	0.076	0.076
Carbon Monoxide (CO)					
Maximum Concentration 1-hr period, ppm	4	3	3	[3]	[3]
Maximum Concentration 8-hr period, ppm	3.03	2.14	2.27	2.39	2.53
Nitrogen Dioxide (NO_2)					
Maximum Concentration 1-hr period, ppm	0.091	0.091	0.099	0.084	0.094
Annual Arithmetic Mean (AAM), ppm	[3]	0.013	0.015	0.014	0.014
Sulfur Dioxide (SO_2)					
Maximum Concentration 1-hr period, ppm	0.02	0.04	0.02	[3]	[3]
Maximum Concentration 24-hr period, ppm	0.007	0.012	0.010	0.009	0.004
Annual Arithmetic Mean (AAM), ppm	0.003	0.006	0.002	0.003	0.001
Respirable Particulate Matter (PM10)[4,5]					
Maximum National Concentration 24-hr period, μg/m^3	47	44	45	128	50
Maximum California Concentration 24-hr period, μg/m^3	46	44	45	128	50
Annual National Concentration, μg/m^3	21.5	22.9	23.5	29.3	25.6
Annual California Concentration, μg/m^3	[3]	[3]	[3]	[3]	[3]

1 Through 2003, this station was located at 5234 West 120th Street (Hawthorne). In April 2004, the station was moved to 7201 W. Westchester Parkway (Westchester).
2 An exceedance is not necessarily a violation. Violations are defined in 40 CFR 50 for NAAQS and 17 CCR 70200 for CAAQS.
3 There was insufficient (or no) data available to determine the value.
4 Statistics may include data that are related to an exceptional event.
5 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.

Source: California Air Resources Board, 2008.

The SCAQMD has also developed operational and construction-related thresholds of significance[78] for air pollutant concentration impacts from projects proposed in the Basin. These thresholds are summarized in **Table 4.2-7**. In accordance with the SCAQMD CEQA Air Quality Handbook, a significant air quality impact would occur if the estimated incremental ambient concentrations due to project construction-related or operations-related emissions would be greater than the concentration thresholds presented in **Table 4.2-7**.

The SCAQMD has also developed a screening methodology to assess localized significance thresholds (LSTs)[79] using simplified source-receptor geometry and other conservative basis. This methodology involves a series of look up tables which establish the maximum on-site emissions in lbs/day, which is not projected to create an off-site ambient concentration in excess of the applicable standards, equivalent to those listed in **Table 4.2-7**. Rather than model the emissions at each of the two potential locations for the recycled/reclaimed water treatment facility, the analyses relied on this conservative LST methodology.

---

78 South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993; as updated by "SCAQMD Air Quality Significance Thresholds," July 2008, Available: http://www.aqmd.gov/CEQA/handbook/signthres.pdf.

79 South Coast Air Quality Management District, Localized Significance Thresholds, (http://aqmd.gov/ceqa/handbook/LST/-LST.html, accessed June 2009) and Appendix C - Mass Rate LST Look-up Table (http://aqmd.gov/ceqa/handbook/LST/-appC.pdf, accessed June 2009).

Table 4.2-6

SCAQMD CEQA Thresholds of Significance for Air Pollutant Emissions in the South Coast Air Basin

	Mass Emission Thresholds	
	Construction	Operations
Pollutant	lbs/day	lbs/day
CO	550	550
NO_x	100	55
VOC	75	55
SO_2	150	150
PM10	150	150
PM2.5	55	55
Pb	3	3

Source: SCAQMD, 1993, 2009.

Table 4.2-7

SCAQMD CEQA Thresholds of Significance for Air Pollutant Concentrations in the South Coast Air Basin

	Project-Related Concentration Thresholds			
Pollutant	Averaging Period	Construction	Operations	Project Only or Total[1]
PM10	Annual	1.0 μg/m^3	1.0 μg/m^3	Project Only
PM10	24-hour	10.4 μg/m^3	2.5 μg/m^3	Project Only
PM2.5	24-hour	10.4 μg/m^3	2.5 μg/m^3	Project Only
Sulfate	24-hour	1 μg/m^3	1 μg/m^3	Project Only
CO	1-hour	20 ppm (23 mg/m^3)	20 ppm (23 mg/m^3)	Total incl. Background
CO	8-hour	9.0 ppm (10 mg/m^3)	9.0 ppm (10 mg/m^3)	Total incl. Background
NO_x (as NO_2)	1-hour	0.18 ppm (339 μg/m^3)	0.18 ppm (339 μg/m^3)	Total incl. Background
NO_x (as NO_2)	Annual	0.030 ppm (57 μg/m^3)	0.030 ppm (57 μg/m^3)	Total incl. Background

[1] The concentration threshold for attainment pollutants (CO and NO_2) is the CAAQS, which is at least as stringent as the NAAQS. The concentration threshold for nonattainment pollutants (PM10 and PM2.5) has been developed by SCAQMD for project construction or operational impacts.

Source: SCAQMD, 1993, 2009.

The applicable mass emission rates are summarized in **Table 4.2-8**. LAX is in SCAQMD Source Receptor Area 3 (SRA 3). In accordance with SCAQMD guidance, in SRA 3, a significant air quality impact at a sensitive receptor (a residence, day care center, school, nursing home, etc.) would occur if emissions from construction or operations at a 1-acre site within a distance to the sensitive receptor presented in **Table 4.2-8** would exceed the amount specified for that distance in the table.

4.2.5 Incorporation of LAX Master Plan Mitigation Measures and Community Benefits Agreement (CBA) Measures

Although the CUP-RP is not a component of the LAX Master Plan, LAWA is proposing that applicable commitments and mitigation measures identified in the LAX Master Plan MMRP be implemented as part of the CUP-RP. LAX Master Plan commitments and mitigation measures for LAX Master Plan Alternative D are described in the September 2004 document, *Alternative D Mitigation Monitoring & Reporting Program (MMRP)*. Of the three commitments and four mitigation measures that were designed to address air quality impacts related to implementation of the LAX Master Plan, two measures are applicable to construction emissions and hence were considered in the air quality analysis as part of the CUP-RP.

Table 4.2-8

SCAQMD CEQA Localized Significance Thresholds (LSTs) for On-Site Daily Emissions in the South Coast Air Basin (lbs/day; for Emissions from a 1-Acre Site in Source Receptor Area 3)

		Distance to a Sensitive Receptor				
Pollutant	**Type of LST**	**25 meters**	**50 meters**	**100 meters**	**200 meters**	**500 meters**
PM10	Construction	5	14	28	56	140
PM10	Operation	1	4	7	14	34
PM2.5	Construction	3	5	9	21	75
PM2.5	Operation	1	2	3	5	18
CO	Construction or Operation	674	834	1,229	2,367	7,724
NO_x	Construction or Operation	91	93	107	139	218

Source: SCAQMD, 2009.

- **MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality**.[80] This mitigation measure specifies that LAWA will expand and revise existing air quality mitigation programs at the airport through the development of an LAX Master Plan-Mitigation Plan for Air Quality (LAX MP-MPAQ). The goal of the LAX MP-MPAQ is to reduce air pollutant emissions associated with implementation of the LAX Master Plan to levels equal to, or less than, the thresholds of significance identified in the LAX Master Plan Final EIR. A framework for the LAX MP-MPAQ was adopted by the Board of Airport Commissioners in December 2005. This document provides the overall structure for the air quality mitigation program; ultimately, the full LAX MP-MPAQ will define specific measures to be implemented within the context of the three individual components specific to the categories of emissions associated with the Master Plan, namely construction, transportation and operations (i.e., MM-AQ-2, MM-AQ-3 and MM-AQ-4, respectively). The construction component of the LAX MP-MPAQ has been adopted by the Board of Airport Commissioners (see below); LAWA is currently working to complete the other elements of the full LAX MP-MPAQ, specifically the transportation and operations elements.
- **MM-AQ-2. Construction-Related Measure.**[81] This mitigation measure describes numerous specific actions to reduce fugitive dust emissions and exhaust emissions from on-road and off-road mobile and stationary sources. As discussed in the MMRP and Section 4.6.8 of the LAX Master Plan Final EIR, the LAX Master Plan consultants did not quantify potential emission reductions associated with all of the mitigation measures that fall under MM-AQ-2. Emission reduction measures that were quantified and included in the mitigated emissions inventory presented in Section 4.6.8.5 of the LAX

80 Los Angeles World Airports, LAX Master Plan Mitigation Plan for Air Quality (MPAQ) - MM-AQ-1: Framework, prepared by URS Corporation and KB Environmental Sciences, Inc., October 2005.

81 Los Angeles World Airports, LAX Master Plan Mitigation Plan for Air Quality (MPAQ) - MM-AQ-2: Construction-Related Mitigation Measures, prepared by URS Corporation and KB Environmental Sciences, Inc., October 2005.

Master Plan Final EIR are described in **Table 4.2-9**. For the CUP-RP air quality analysis, it was assumed that these mitigation measures would be in place in 2009. Some components of MM-AQ-2 are not readily quantifiable, but would be implemented as part of the CUP-RP. These mitigation strategies, presented in **Table 4.2-10**, are expected to further reduce construction-related emissions associated with the CUP-RP. Other feasible mitigation measures may be defined in the final LAX MP-MPAQ, which will be complete prior to construction of the CUP-RP**.**

Table 4.2-9

Construction-Related Mitigation Measures Incorporated into Construction Emissions Inventories

Mitigation Measure	Potential Emissions Reduction by Equipment
Heavy Duty Diesel (Off-road)	
Particulate Traps (where technologically feasible)	85% PM10 and 85% PM2.5, adjusted for compatibility
Fugitive dust caused by on- and off-site vehicle trips	
Watering (per SCAQMD Rule 403)	61% PM10 and 61% PM2.5

Source: CDM, 2009.

Table 4.2-10

Construction-Related Air Quality Mitigation Measures

Measure	Type of Measure
Post a publicly visible sign with the telephone number and person to contact regarding dust complaints; this person shall respond and take corrective action within 24 hours.	Fugitive Dust
Prior to final occupancy, the applicant demonstrates that all ground surfaces are covered or treated sufficiently to minimize fugitive dust emissions.	Fugitive Dust
All roadways, driveways, sidewalks, etc. being installed as part of the project should be completed as soon as possible; in addition, building pads should be laid as soon as possible after grading.	Fugitive Dust
Pave all construction access roads at least 100 feet on to the site from the main road.	Fugitive Dust
To the extent feasible, have construction employees' work/commute during off-peak hours.	On-Road Mobile
Make available on-site lunch trucks during construction to minimize off-site worker vehicle trips.	On-Road Mobile
Prohibit staging and parking of construction vehicles (including workers' vehicles) on streets adjacent to sensitive receptors such as schools, daycare centers, and hospitals.	Nonroad Mobile
Prohibit construction vehicle idling in excess of ten minutes.	Nonroad Mobile
Specify combination of electricity from power poles and portable diesel- or gasoline-fueled generators using "clean burning diesel" fuel and exhaust emission controls.	Stationary Point Source Controls
Suspend use of all construction equipment during a second-stage smog alert in the immediate vicinity of LAX.	Mobile and Stationary
Utilize construction equipment having the minimum practical engine size (i.e., lowest appropriate horsepower rating for intended job).	Mobile and Stationary

Table 4.2-10

Construction-Related Air Quality Mitigation Measures

Measure	Type of Measure
Require that all construction equipment working on-site is properly maintained (including engine tuning) at all times in accordance with manufacturers' specifications and schedules.	Mobile and Stationary
Prohibit tampering with construction equipment to increase horsepower or to defeat emission control devices.	Mobile and Stationary
The contractor or builder shall designate a person or persons to ensure the implementation of all components of the construction-related measure through direct inspections, record reviews, and investigations of complaints.	Administrative

Source: CDM, 2009.

Additionally, the LAX Master Plan Community Benefits Agreement (CBA) includes several measures that are applicable to the CUP-RP to address potential construction-related air quality impacts. Section X.F of the CBA delineates the measures specific to Construction Equipment, with the majority of such measures being centered on the following requirement:

- **Best Available Emission Control Devices Required**. LAWA shall require that all diesel equipment used for construction related to the LAX Master Plan Program be outfitted with the best available emission control devices primarily to reduce diesel emissions of PM, including fine PM, and secondarily, to reduce emissions of NO_x. This requirement shall apply to diesel-powered off-road equipment (such as construction machinery), on-road equipment (such as trucks) and stationary diesel engines (such as generators). The emission control devices utilized for the equipment at the LAX Master Plan Program construction shall be: (i) verified or certified for use by CARB for on-road or off-road vehicles or engines; or (ii) verified or certified for use by EPA for on-road or off-road vehicles or engines. Devices certified or verified for mobile engines may be effective for stationary engines and that technology from EPA/CARB on-road verification lists may be used in the off-road context.

The estimated compatibility of PM filters for the off-road construction equipment identified for the LAX Crossfield Taxiway Project (CFTP) and applied to the CUP-RP was determined by Clean Fuel Connection, Inc.[82] The compatibility for each type of equipment was provided as a high, medium or low probability. For this analysis, the probabilities were given numeric values such that 90 percent of equipment with high compatibility was assumed to be installed with PM filters, 50 percent of those with medium probability were installed with filters, and 10 percent of those with low probability were installed with filters. This ranking was used to adjust the Level 3 PM filter control efficiency (85 percent reduction) downward. In particular, those pieces of equipment with a high compatibility were assumed to achieve a 76.5 percent reduction over the construction duration, those with a medium compatibility were assumed to achieve a 42.5 percent reduction, and those with a low probability were assumed to achieve an 8.5 percent reduction. Again, these reductions are assumed to be included in the project design since they are required under existing measures and agreements. The specific assignments of emission reductions to equipment types are included in Attachment 1 of the Technical Report (Appendix C). The mitigation measures listed in **Table 4.2-10**, as well as the Best Available Emission Control Devices requirement in the CBA, will be included in the CUP-RP Mitigation Monitoring and Reporting Program.

---

82 Clean Fuel Connection, Inc., Assessment of Compatibility of Verified Diesel Emission Control Systems with Diesel Equipment Identified for Use on the LAX Taxiway C13 and D Project, April 30, 2008.

4.2.6 Impact Analysis

4.2.6.1 Emission Inventory Results

Criteria Air Pollutants

Construction Emissions

Uncontrolled

Uncontrolled CUP-RP peak daily and annual construction emissions inventories are presented in **Table 4.2-11**. In this analysis, "uncontrolled" refers to the emissions that would occur without application of the fugitive dust controls required by SCAQMD Rules 403, 1156, 1157, Regulation XIII, and without installation of diesel particulate filters required under the CBA (see Section 4.2.5 above). Details of the construction emission input parameters and results are provided in Attachment 1 of the Technical Report (Appendix C). As shown in **Table 4.2-11**, the peak daily emissions of CO and SO_2 for the CUP-RP would not exceed the SCAQMD construction emission thresholds presented in **Table 4.2-6**. Peak daily uncontrolled emissions of VOC, NO_x, PM10, and peak daily emissions of PM2.5 associated with the CUP-RP would exceed the respective SCAQMD construction emissions thresholds. Therefore, uncontrolled CUP-RP construction emissions of VOC, NO_x, PM10, and PM2.5 would be significant.

Table 4.2-11

Uncontrolled Maximum Peak CUP-RP Daily Construction Emissions

Pollutant	Project Max	SCAQMD Significance Threshold	Emissions Exceed Threshold?
Maximum Daily Emissions, Uncontrolled (lb/day)[1]			
Carbon monoxide, CO	442	550	No
Volatile organic compounds, VOC	117	75	Yes
Nitrogen oxides, NOx	799	100	Yes
Sulfur dioxide, SO_2	1	150	No
Respirable particulate matter, PM10	231	150	Yes
Fine particulate matter, PM2.5	77	55	Yes

1 "Uncontrolled" indicates that no emission reductions have been assumed for measures required by regulation (e.g., SCAQMD Rule 403), or the LAX Master Plan Community Benefits Agreement (construction equipment diesel particulate filters). These reductions are incorporated into Table 3-2.

Source: CDM, 2009.

Controlled PM10 and PM2.5

Controlled construction emissions were calculated for PM10 and PM2.5 only, using the watering control efficiency of 61 percent for fugitive dust, as noted in **Table 4.2-9**, and using the control efficiencies for construction equipment diesel particulate filters described in Section 4.2.5. Controlled CUP-RP peak daily and annual construction emissions inventories for PM10 and PM2.5 are presented in **Table 4.2-12**. Details of the construction emission input parameters and results are provided in Attachment 1 of the Technical Report (Appendix C). As shown in **Table 4.2-12**, the peak daily controlled emissions of PM10 and PM2.5 would not exceed the SCAQMD construction emission thresholds presented in **Table 4.2-6**, and would therefore not be significant.

The emissions presented in **Table 4.2-12** are based on the assumption that controls currently required by SCAQMD Rule 403, 1156 and 1157 would reduce fugitive dust (PM10 and PM2.5) emissions by approximately 61 percent from uncontrolled levels, and that diesel particulate filters would be used on some portion of the construction equipment as noted in Section 4.2.5. The combination of SCAQMD rule requirements and compliance with CBA Section X.F.1 decreases the construction peak daily emissions of PM10 and PM2.5 by 48 percent and 32 percent and total project emissions by 26 percent and 11 percent, respectively. The calculated emission reductions of PM10 and PM2.5 are with controls less than presented in **Table 4.2-9** due to the varying applicability of diesel particulate filters to each piece of construction equipment.

Table 4.2-12

Controlled Maximum Peak CP-RP Project Daily Construction Emissions of PM10 and PM2.5

Pollutant	**Project Max**	**SCAQMD Significance Threshold**	Emissions Exceed Threshold?
Maximum Daily Emissions, Controlled (lb/day)[1]			
Respirable particulate matter, PM10	120	150	No
Fine particulate matter, PM2.5	52	55	No

[1] "Controlled" includes emission reduction measures required by regulation (e.g., SCAQMD Rule 403), or the LAX Master Plan Community Benefits Agreement (construction equipment diesel particulate filters). These reductions are part of the project design.

Source: CDM, 2009.

Localized Significance

As discussed in Section 4.2.4 (CEQA Thresholds of Significance) above, there are two methods by which to assess a project's impact on localized concentrations of pollutants. The first route relies on dispersion modeling. The second method is more streamlined and conservative and compares the controlled peak daily emission data to the applicable LST, such as those presented in **Table 4.2-8.** Impacts from the construction and operation of the new CUP which occur within the CTA are analyzed using dispersion modeling; results are presented in Section 4.2.6.2, below. Potential impacts from the construction and operation of the recycled/reclaimed water treatment facility were assessed using the SCAQMD's LST methodology. Construction is discussed below.

Construction of a recycled/reclaimed water treatment facility and associated pipelines would involve emissions of particulate matter, CO, and NO_x. Due to the distance between the CTA and the two potential recycled/reclaimed water treatment facility sites, concurrent CUP and off-site recycled/reclaimed water treatment facility construction would not impact the same sensitive receptors, and these emissions were therefore analyzed separately. Emissions were estimated both for pipeline construction and for construction of the treatment facility building.

The proximity to sensitive receptors of the alternative locations for a recycled/reclaimed water treatment facility is presented in **Table 4.2-13**. The closest alternative location to a sensitive receptor is Site 3, which is approximately 200 meters from homes to the north.

The LST analysis assumed that construction of the facility building and the pipeline, combined, would involve simultaneous activity on no more than 1 acre. Impacts from a 1-acre site, at the most conservative distance of 200 meters to a sensitive receptor, were considered. To provide a conservative estimate of maximum impacts, emissions from the phase of facility building construction with maximum emissions were combined with emissions from the phase of pipeline construction with maximum emissions. Findings are summarized in **Table 4.2-14**. No emissions would exceed a corresponding LST, and no significant impact would occur from construction at either of the two potential sites.

Table 4.2-13

Proximity of Alternative Recycled/Reclaimed Water Treatment Facility Sites to Sensitive Receptors

Alternative Site	Approximate Distance to Receptor	Type of Receptor
Site 1	700 m	Residence
Site 2	350 m	Residence

Source: PCR Services, 2009

Table 4.2-14

Maximum Daily Emissions From Recycled/Reclaimed Water Treatment Facility and Pipeline Construction by Construction Phase and Maximum Overlap (lbs/day)

Pollutant	CO	NO_x	PM10	PM2.5
Building – Maximum Impact Phase	14.8	28.1	2.8	1.6
Excavation for Pipeline	7.4	15.7	1.4	1.0
Pipe Laying	4.7	9.5	0.6	0.6
Repaving After Pipe Laying	17.5	32.7	2.3	2.1
Max. Building + Pipe Construction Overlap[1]	32.3	60.8	5.1	3.7
Most stringent LST (1 acre; 200 meters from sensitive receptor)	2,367	139	56	21
Exceed LST?	No	No	No	No

[1] Totals may be affected by rounding.

Source: CDM, 2009; PCR Services, 2009.

Operational Emissions

Based on the currently proposed construction schedule, it is anticipated that the CUP-RP would be completed by 2013. Changes in emissions from the operation of the new CUP facility are due to replacement of the two existing cogeneration turbines, two existing utility boilers and the existing cooling tower with two new cogeneration turbines, one new auxiliary stand-by boiler, two HRSGs and duct burners, and a new cooling tower.

Table 4.2-15 compares the difference in peak daily emissions between the existing CUP and the new CUP in 2013 (after completion of the CUP-RP) to the SCAQMD thresholds of significance for operational impacts presented in **Table 4.2-6**. Peak daily emissions of CO, VOC, NO_x, PM10, and PM2.5 would decrease after the CUP-RP is completed, relative to the existing CUP emissions, and SO_2 emissions would be unchanged. Therefore, the changes in criteria pollutant emissions from the CUP-RP would be less than significant.

Localized Significance

As discussed above, assessment of the project's impacts to ambient concentrations may use emission inventory data or rely on more detailed dispersion modeling. The assessment of impacts from the operation of the CUP utilized dispersion modeling to estimate concentrations and is presented in Section 4.2.6.2, below. Operation of the recycled/reclaimed water treatment facilities is expected to produce negligible emissions in the vicinity. The stationary equipment will rely on electricity produced by power plants located great distances from the sensitive receptors in the vicinity of any of the two sites being considered, and will not produce criteria or toxic air pollutants on-site. Long-term operation of the treatment facility will require periodic visits by employees to perform routine maintenance or deliveries. Vehicles will not need to idle while at the treatment facility. Exhaust is expected to be minimal and intermittent, and to have a negligible impact on ambient concentrations at the nearest sensitive receptors. Therefore, quantification of operational emissions related to the recycled/reclaimed water treatment facility and comparison with LSTs is not required.

Table 4.2-15

CUP-RP Peak Daily Operational Emissions

Pollutant	Existing CUP	New CUP	Incremental Impact	SCAQMD Significance Threshold	Exceed Threshold?
Maximum Daily Emissions, lbs/day					
Carbon monoxide, CO	379	67	-312	550	No
Volatile organic compounds, VOC	12	9	-3	55	No
Nitrogen oxides, NO_x	313	31	-282	55	No
Sulfur dioxide, SO_2	2	2	0	150	No
Respirable particulate matter, PM10	37	24	-13	150	No
Fine particulate matter, PM2.5	37	24	-13	55	No

Source: CDM, 2009.

Toxic Air Contaminants

Construction Emissions

The TACs inventory for CUP-RP construction is presented in **Table 4.2-16** in peak pounds per hour and pounds per year. The pounds per year values represent the annualized total construction period emissions. These emissions are used to assess the project construction impacts on acute, chronic, and cancer health risk. The human health risk assessment in Section 4.3 of this EIR presents the findings of that analysis.

Operational Emissions

The TACs inventory for CUP-RP operations is presented in **Table 4.2-17** in peak pounds per year. The incremental changes in emissions are used to assess the project operational impacts on acute, chronic, and cancer health risk. The human health risk assessment in Section 4.3 of this EIR presents the findings of that analysis.

4.2.6.2 Dispersion Modeling Results

The emissions of criteria air pollutants and TACs from CUP-RP construction and operations were modeled with AERMOD, as described in Section 4.2.2.3 to determine the ground level concentrations of these pollutants from the CUP-RP. The results of the criteria pollutant analyses were compared to the appropriate CAAQS, NAAQS, or SCAQMD significance threshold. The results of the TACs analyses were used to estimate the human health risks discussed in Section 4.3 of this EIR.

Criteria Air Pollutants

Construction Dispersion Modeling Analysis

Air dispersion modeling was used to predict pollutant concentrations in the vicinity of the airport from construction emissions in the peak year of CUP-RP construction (2010). Pollutant concentrations were calculated for pollutants which exceeded the SCAQMD thresholds for peak daily construction emissions.[83] Therefore maximum pollutant concentrations were determined for NO_x, PM10, and PM2.5 using AERMOD.

Table 4.2-16

CUP-RP Construction TAC Inventory

Pollutant	TAC, lbs/hr	TAC, lbs/year
acetaldehyde	0.004	0.155
acrolein	-	-
benzene	0.001	0.042
butadiene, 1,3-	0.000	0.004
ethylbenzene	0.000	0.006
ethylene glycol	0.000	0.001
formaldehyde	0.008	0.310
hexane, n-	0.001	0.016
isopropyl alcohol	0.000	0.001
methyl alcohol	0.000	0.001
methyl ethyl ketone	0.001	0.032
methyl t-butyl ether	-	-
naphthalene	0.000	0.002
phenol	-	-
propylene	0.001	0.055
styrene	0.000	0.001
toluene	0.004	0.070
xylene, m-	0.000	0.013
xylene, o-	0.000	0.007
xylene, p-	0.000	0.002
ammonium ion	0.019	0.751
antimony	0.000	0.013
arsenic	0.000	0.007
bromine	0.000	0.013
cadmium	0.000	0.019
chlorine	0.033	1.193
chromium VI	0.002	0.072
copper	0.001	0.042
lead	0.005	0.194
manganese	0.009	0.312
mercury	0.000	0.012
nickel	0.001	0.024
selenium	0.000	0.003
silicon	1.799	64.853
sulfates	0.136	5.225
vanadium	0.003	0.093
zinc	0.007	0.267
diesel PM	5.335	2,106

Source: CDM, 2009.

83 VOCs are not run through dispersion models for criteria air pollutant impact analysis as there is no NAAQS or CAAQS for VOC.

Uncontrolled

Table 4.2-18 compares the maximum predicted concentrations during the peak construction period including background concentrations with the NAAQS and CAAQS for NO_2. Maximum predicted 24-hour concentrations for PM10 and PM2.5 are compared with the respective SCAQMD thresholds in **Table 4.2-7**. Uncontrolled annual and 24-hour PM10 would exceed the respective annual and 24-hour SCAQMD concentration thresholds. Uncontrolled concentrations of PM2.5 would not exceed SCAQMD concentration thresholds. Uncontrolled 1-hour NO_2 would not exceed the CAAQS for that pollutant. Thus uncontrolled emissions of PM10 would result in significant impacts.

Table 4.2-17

CUP-RP Operational TAC Inventory

Pollutant	Existing CUP lbs/year	New CUP lbs/year	CUP-RP Incremental lbs/year
Ammonia	2,536.2	5,973.5	**3,437.3**
Benzene	9.2	7.5	-1.6
Butadiene, 1,3-	0.3	0.2	-0.1
Formaldehyde	520.4	307.0	-213.5
Polycyclic Aromatic Hydrocarbon (PAHs)	1.6	1.1	-0.5
Acetaldehyde	29.5	18.3	-11.2
Acrolein	4.9	3.9	-1.0
Ethylbenzene	23.9	16.5	-7.4
Hexane (n-)	0.3	2.0	1.6
Propylene oxide	21.2	12.3	-8.9
Toluene	97.4	66.7	-30.7
Xylenes (isomers and mixtures)	48.3	35.6	-12.8

Source: CDM, 2009.

The peak impact location for all modeled pollutants is the CTA receptor located adjacent to the CUP-RP construction site. This receptor is in the publicly accessible area within airport property. No other modeled PM10 concentrations exceed the threshold of 1.0 μg/m^3 annual average or 10.4 μg/m^3 24-hour average at any other receptor, including any of the fenceline receptors. Therefore, the only exceedance of a threshold for any criteria pollutant would occur within airport property (at the CTA receptor). No exceedances of any thresholds would occur at or beyond the airport fenceline.

Table 4.2-18

Uncontrolled Air Pollutant Concentrations for Peak Year of CUP-RP Construction (2010)

Pollutant Concentration	Averaging Period	CAAQS/NAAQS	Project and Background	Exceed AAQS?
NO_2 (μg/m^3)	Annual	57/100	41	No
	1-hr	339/NA	329	No
		SCAQMD Significance Threshold	**Project**	**Exceed Threshold?**
PM10 (μg/m^3)	Annual	1.0	3.3	Yes
PM10 (μg/m^3)	24-hr	10.4	31.7	Yes
PM2.5 (μg/m^3)	24-hr	10.4	9.3	No

Sources: CDM, 2009.

Controlled NOx

Some reduction in NOx emissions and consequent reduction in project NO_2 impacts will be obtained from the use of the diesel engine exhaust control devices required by the CBA. The CBA specifies that "all diesel equipment used for construction be outfitted with the best available emission control devices primarily to reduce diesel emissions of PM, including fine PM, and secondarily, to reduce emissions of NOx." [84] However, the limited availability of CARB verified NOx-reducing technologies may greatly limit the feasibility of installing catalysts on the majority of construction equipment. Although LAWA expects some construction equipment to include NOx emission control devices, which will reduce NOx emissions to some extent, that emission reduction is not easily quantified. Thus, this EIR conservatively considers no change in NOx emissions or NO_2 concentrations due to mitigation.

Controlled PM10 and PM2.5

The maximum predicted concentrations of controlled PM10 and PM2.5 are compared in **Table 4.2-19** to the SCAQMD thresholds presented in **Table 4.2-7**. The PM2.5 24-hour concentration would not exceed the SCAQMD threshold. The PM10 24-hour and annual peak concentration would exceed the SCAQMD threshold. Due to these exceedances, the CUP-RP controlled PM10 construction-related impact would be significant.

Table 4.2-19

Controlled PM10 and PM2.5 Concentrations for Peak Year of CUP-RP Construction (2010)

Pollutant Concentration	Averaging Period	SCAQMD Significance Threshold	Project	Exceed Threshold?
PM10 ($\mu g/m^3$)	Annual	1.0[1]	1.7	Yes
	24-hr	10.4[1]	15.2	Yes
PM2.5 ($\mu g/m^3$)	24-hr	10.4[1]	5.7	No

[1] SCAQMD Air Quality Significance Threshold.

Source: CDM, 2009.

The peak PM10 annual and 24-hour concentration occurs at the CTA receptor in the center of the airport's existing gates and passenger parking area. No other receptors, including fenceline receptors and all of the community sites, had modeled concentrations that exceeded the SCAQMD thresholds of 1.0 or 10.4 $\mu g/m^3$. Therefore, the only exceedance of a SCAQMD threshold for any criteria pollutant would occur within airport property (at the CTA receptor). As noted in the uncontrolled analysis above, no exceedances of the SCAQMD thresholds would occur at or beyond the airport fenceline.

Operational Dispersion Modeling Analysis

Table 4.2-20 presents the 2009 existing CUP and 2013 CUP-RP operational impacts on ambient air concentrations at the CTA receptor from the CUP boilers, electricity generating units, HRSG and duct burners and cooling towers. The incremental gaseous pollutant impacts from the CUP-RP operations were added to the background concentrations, and the results compared to the most stringent of the CAAQS or NAAQS for each averaging period. The incremental PM10 and PM2.5 impacts are compared directly with the SCAQMD operational significance thresholds for these two pollutants. The CO and NO_2 impacts would decrease with the CUP-RP operations. SO_2, PM10, and PM2.5 would slightly increase with CUP-RP operations. The results of these comparisons indicate that none of the criteria pollutants exceed the respective significance threshold, even at the CTA receptor located adjacent to and generally downwind of the new CUP building.

[84] Community Benefits Agreement: LAX Master Plan Program, pp. 19-20. Available at http://www.ourlax.org/-cb_CBA_Exhibits.cfm (accessed July, 2009).

Table 4.2-20

Air Pollutant Concentrations for CUP-RP Operations at the CTA Receptor

Pollutant (Concentration units)	Averaging Period	Existing CUP Contribution in 2009	New CUP Contribution in 2013	CUP-RP Incremental Impact[1]	CUP-RP Conc. + Background	Comparison Criteria[2]	Exceeds Threshold?
CO (mg/m^3)	1-hr	26	6	-20	3,416	23,000	No
	8-hr	22	5	-16	2,881	10,000	No
NO_2 ($\mu g/m^3$)	1-hr	22	3	-19	167	339	No
	Annual	4	1	-3	25	57	No
SO_2 ($\mu g/m^3$)	1-hr	0.1	0.2	0.1	52	655	No
	3-hr	0.2	0.2	0.0	52	1,300	No
	24-hr	0.1	1.1	1.0	27	105	No
	Annual	0.0	0.1	0.1	8	80	No
PM10 ($\mu g/m^3$)	24-hr	1.4	1.4	0.0	0.0[3]	2.5	No
	Annual	0.5	0.7	0.2	0.2[3]	1.0	No
PM2.5 ($\mu g/m^3$)	24-hr	1.4	1.4	0.0	0.0[3]	2.5	No

1 The CUP-RP impact is the change from the existing CUP concentrations. This increment is calculated by subtracting the existing CUP concentrations from the new CUP concentrations. Negative values indicate a beneficial impact on air quality.
2 The comparison criteria are the most stringent of CAAQS or NAAQS for CO, NO_2, and SO_2; and are the SCAQMD Air Quality Operational Significance Thresholds for PM10 and PM2.5.
3 The PM10 and PM2.5 CUP-RP incremental concentrations are compared to the SCAQMD thresholds without adding in background.

Sources: CDM, 2009.

To complete the impact analysis for operations, the incremental criteria pollutant concentrations at each of the 451 receptors around the airport from the CUP-RP operations were determined. This analysis was conducted by subtracting the existing CUP source concentrations from the new CUP source concentrations by receptor. The results of this analysis are summarized in **Table 4.2-21**. Because of the additional distance from the CUP-RP sources to these receptors, the benefits of the NO_2 and CO reductions are not as substantial as for the nearby CTA receptor. However, the resulting ambient concentrations at all receptors for all pollutants would not exceed the significance criteria. Therefore, operational impacts on criteria pollutant concentrations from the CUP-RP would not be significant.

Toxic Air Contaminants

The concentrations of TACs were calculated from concentrations of PM10 and VOC emissions from both construction and operational CUP-RP sources. Peak 1-hour concentrations were calculated for development of acute risks, while period average concentrations (reported as annual averages) were used to develop cancer and chronic non-cancer risks. The concentration results for each TAC and source type or source group is included in Attachment 2 of the Technical Report (Appendix C).

4.2.6.3 Overall Significance of the Central Utility Plant Replacement Project Before Mitigation

The CUP-RP would exceed the thresholds of significance presented in Section 4.2.4 with respect to VOC and NO_x (as ozone precursors), PM10, and PM2.5 even with controls required by SCAQMD rules, the LAX Master Plan MMRP, and the CBA, resulting in the following operations- and construction-related findings:

- Construction emissions would be significant for VOC and NO_x.
- Concentrations from construction-related sources would be significant for PM10.

Table 4.2-21

Maximum Air Pollutant Incremental Concentrations for CUP-RP Operations - All Receptors

Pollutant (Concentration units)	Averaging Period	CUP-RP Incremental Impact[1]	CUP-RP Conc. + Background	Comparison Criteria[2]	Exceeds Threshold?
CO (mg/m^3)	1-hr	-1.14	3,435	23,000	No
	8-hr	-0.27	2,897	10,000	No
NO_2 ($\mu g/m^3$)	1-hr	-1.01	185	339	No
	Annual	-0.01	28	57	No
SO_2 ($\mu g/m^3$)	1-hr	0.0	52	655	No
	3-hr	0.0	52	1,300	No
	24-hr	1.0	27	105	No
	Annual	0.1	8	80	No
PM10 ($\mu g/m^3$)	24-hr	0.1	0.13	2.5	No
	Annual	0.2	0.23	1.0	No
PM2.5 ($\mu g/m^3$)	24-hr	0.1	0.13	2.5	No

1 The CUP-RP impact is the change from the existing CUP concentrations. This increment is calculated by subtracting the existing CUP concentrations from the new CUP concentrations. Negative values indicate a beneficial impact on air quality.
2 The comparison criteria are the most stringent of CAAQS or NAAQS for CO, NO_2, and SO_2; and are the SCAQMD Air Quality Operational Significance Thresholds for PM10 and PM2.5.
3 The PM10 and PM2.5 CUP-RP incremental concentrations are compared to the SCAQMD thresholds without adding in background.

Sources: CDM, 2009.

4.2.7 Cumulative Impacts

4.2.7.1 Construction Emissions

The construction of several on-going and anticipated future projects at LAX would potentially occur simultaneously with the CUP-RP construction. Projects that were considered in the cumulative air quality analysis were taken from the Draft EIR for the Bradley West Project,[85] and include: (1) Crossfield Taxiway Project (CFTP), (2) Airfield Operating Area (AOA) Perimeter Fence Enhancements -- Phase III,[61] (3) Security Program - In-Line Baggage Screening Systems (T6), (4) TBIT Interior Improvements Program, (5) Airfield Intersection Improvements -- Phase 2, (6) Airport Operations Center (AOC)/Emergency Operation Center (EOC), (7) K-9 Training Facility,[86] (8) Bradley West Project, (9) Passenger Boarding Bridge Replacement,[61] (10) Bus Wash Rack Facility,[61] (11) CTA Elevators and Escalators Replacement, (12) CTA Seismic Retrofits,[61] (13) Sewer Line Replacement,[61] (14) CTA Joint Repair, Roadway Improvements, and Security Barriers,[61] (15) Korean Air Cargo Terminal Improvement Project, (16) West Aircraft Maintenance/Aircraft Parking Area, (17) Westchester Golf Course 3-Hole Restoration Project, (18) Westchester Rainwater (Stormwater) Improvement Project, and (19) Metro Bus Maintenance and Operations Facility.

Several additional planned projects (the Terminal Electric Service Capacity Expansion, Terminals 1, 3, and 6 Upgrades and Renovation, Concessions Upgrades Program, and the CTA Americans with Disabilities Act (ADA) Improvements) were considered in this analysis only in terms of construction

85 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for the Bradley West Project, May 2009.
86 Implementation of all of part of this project is currently on hold, pending further evaluation of available funds within LAWA's annual budget for Capital Improvement Program (CIP) projects. Given the relatively small size and nature of the project and the limited likelihood that it could be implemented sometime in the future, it was kept in the cumulative projects list.

worker trips generated because they represent mostly interior work that would not result in ambient air quality impacts from construction equipment.

Construction emissions for the CFTP and Bradley West Project were obtained from the Final EIR and Draft EIR prepared for those projects.[87,88] Emissions for the remaining projects were developed by CDM in consultation with LAWA or obtained from environmental documents prepared for the individual projects, as noted in **Table 4.2-22**. Emissions for the West Aircraft Maintenance/Aircraft Parking Area and K-9 Training Facility were estimated using a calculation of emissions based on project cost and emissions-to-cost ratios for projects with previously estimated emissions and known approximate costs. Calculations for all cumulative projects can be found in Appendix E of the Bradley West Draft EIR. The cumulative impacts from the projects occurring during the peak year of CUP-RP construction are summarized in **Table 4.2-22** and the cumulative impacts from all projects which overlap with the CUP-RP construction are summarized in **Table 4.2-23**. From a cumulative standpoint, CO, NO_x, VOC, PM10 and PM2.5 emissions would be significant due to the combined emissions from all construction projects at LAX.

The fifteen construction projects included in **Table 4.2-22** represent the most relevant planned development projects occurring during the peak year (2010) of CUP-RP construction, for which detailed information regarding construction plans, such as the nature and timing of construction activities and the associated construction equipment, was available. The nineteen construction projects shown in **Table 4.2-23** represent the most relevant planned development projects occurring during the duration of the CUP-RP construction**.**

The cumulative impacts to air quality resulting from projects at LAX with operational emissions, such as from the Airport Operations Center (AOC)/Emergency Operation Center (EOC), have been accounted for as part of the overall long-term improvement of LAX addressed in the LAX Master Plan Final EIR. Other projects identified above, such as the Airfield Intersection Improvements -- Phase 2, the AOA Perimeter Fence Enhancement -- Phase III, and the Westchester Rainwater (Stormwater) Improvement Project, would not have any notable air pollutant emissions associated with operations.

4.2.7.2 Operational Emissions

The cumulative impacts to air quality resulting from projects at LAX with operational emissions, such as from the Airport Operations Center (AOC)/Emergency Operation Center (EOC), have been accounted for as part of the overall long-term improvement of LAX addressed in the LAX Master Plan Final EIR. Other projects identified above, such as the Airfield Intersection Improvements -- Phase 2, the AOA Perimeter Fence Enhancement -- Phase III, and the Westchester Rainwater (Stormwater) Improvement Project, would not have any notable air pollutant emissions associated with operations. As shown in **Table 4.2-22**, operational emissions from the Bradley West Project and related projects including CUP-RP would be cumulatively significant for CO, VOC, NOx and SOx emissions. However, because operation of the new CUP results in a decrease in VOC, CO, NOx, PM10 and PM2.5 and no change to SOx emissions compared to existing conditions; the project would be a net environmental benefit by reducing criteria pollutant emissions. Therefore, operation of the CUP-RP would result in a less than significant cumulative impact to air quality.

---

87 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for the Bradley West Project, May 2009.

88 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for the Crossfield Taxiway Project, January 2009.

Table 4.2-22

Cumulative Construction Projects Peak Daily Emissions Estimates

Projects Occurring During Peak Year of CUP-RP Construction (2010)[1]	Peak Daily Emissions, lbs/day					
	CO	**VOC**	**NO_x**	**SO_x**	**PM10**	**PM2.5**
Crossfield Taxiway Project[2]	502	278	939	1	126	47
AOA Perimeter Fence Enhancements - Phase III[4]	2	1	4	0	1	0
Security Program - In-Line Baggage Screening Systems (T6)[9]	14	2	12	-	0	0[8]
TBIT Interior Improvements Program[10]	55	38	14	-	1	1[8]
Airfield Intersection Improvements -- Phase 2[3]	41	22	71	0	15	7
Airport Operations Center (AOC)/Emergency Operation Center (EOC)[4]	9	8	15	0	7	2
Bradley West Project[7]	1,216	362	1,987	3	559	172
Passenger Boarding Bridge Replacement (T1, T3, T6, Remotes)[4]	12	25	25	0	0	0
Bus Wash Rack Facility[4]	6	1	10	0	1	1
CTA Elevators and Escalators Replacement[4]	7	0	0	0	0	0
Sewer Line Replacement (T1, T6)[4]	5	1	10	0	1	1
CTA Joint Repair, Roadway Improvements, and Security Barriers[4]	14	4	25	0	2	2
Korean Air Terminal Improvement Project[4]	25	25	13	0	5	2
Westchester Golf Course 3-Hole Restoration Project[11]	13	2	8	0	26	6
Westchester Rainwater (Stormwater) Improvement Project[4]	27	6	58	0	20	6
Worker Vehicle Trips[5]	29	3	3	0	3	1
Total from Other Construction Projects, lbs/day[6,12]	**1,977**	**778**	**3,194**	**4**	**767**	**273**
CUP-RP Peak Daily Emissions, lbs/day	442	117	799	1	120	52
Total Cumulative Construction Project Emissions, lbs/day[6,12]	**2,419**	**895**	**3,993**	**5**	**887**	**325**
SCAQMD Construction Emission Significance Thresholds, lbs/day	550	75	100	150	150	55
Emissions Significant?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

1 Fifteen of the nineteen cumulative projects have construction that is expected to occur during 2010. Although some of the projects are currently on-hold, as noted in Section 3.3.3, they are still included in the cumulative impacts analysis to provide a conservative (worst-case) scenario.
2 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Crossfield Taxiway Project, Los Angeles International Airport (LAX), January 2009.
3 City of Los Angeles, Los Angeles World Airports, Airfield Intersections Improvement Project Equipment Inventory - Peak Day Jan 2009-Jan 2010, May 22, 2008.
4 Equipment estimates developed by CDM in consultation with LAWA.
5 Includes worker trips for projects that have no other construction equipment.
6 Numbers may not total exactly due to rounding.
7 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Bradley West Project, May 2009.
8 Pollutant calculated by CDM, not calculated in reference document.
9 City of Los Angeles, Los Angeles World Airports, Final Mitigated Negative Declaration: Security Program - In-Line Baggage Screening System, Terminals 1 - 8, March 2006.
10 City of Los Angeles, Los Angeles World Airports, Final Mitigated Negative Declaration for Tom Bradley International Terminal Improvements, November 2004.
11 City of Los Angeles, Los Angeles World Airports and U.S. Department of Transportation, Federal Aviation Administration, Draft Environmental Assessment for Proposed Westchester Golf Course Three-Hole Expansion Project, May 2009.
12 Sum of peak daily emissions for each individual project; these peaks may not necessarily overlap with the peak daily emissions from the CUP-RP or from the other cumulative projects.

Source: CDM, 2009.

Table 4.2-23

Cumulative ConstructionProjects Total Emissions Estimates

	Total Project Emissions,[6] tons					
Construction Project	**CO**	**VOC**	**NO_x**	**SO_x**	**PM10**	**PM2.5**
Crossfield Taxiway Project[1]	45.93	11.73	82.56	0.10	8.60	3.96
AOA Perimeter Fence Enhancements - Phase III[4]	0.03	0.01	0.04	0.00	0.01	0.00
Security Program - In-Line Baggage Screening Systems (T6)[2]	0.38	0.05	0.35	-	0.01	0.01
TBIT Interior Improvements Program[9]	4.29	2.96	1.09	-	0.08	0.07
Airfield Intersection Improvements -- Phase 2[3]	8.82	4.75	15.24	0.02	3.21	1.40
Airport Operations Center (AOC)/Emergency Operation Center (EOC)[4]	0.86	0.30	1.48	0.00	0.18	0.11
K-9 Training Facility[4]	0.32	0.08	0.45	0.00	0.05	0.03
Bradley West Project[5]	510.25	92.42	649.34	1.09	128.44	47.40
Passenger Boarding Bridge Replacement (T1, T3, T6, Remotes)[4]	0.15	0.04	0.32	0.00	0.02	0.01
Bus Wash Rack Facility[4]	1.03	0.22	1.70	0.00	0.11	0.10
CTA Elevators and Escalators Replacement[4]	3.74	0.48	1.80	0.01	0.48	0.15
CTA Seismic Retrofits[4]	3.73	0.88	5.28	0.01	0.43	0.30
Sewer Line Replacement (T1, T6)[4]	0.11	0.03	0.23	0.00	0.03	0.02
CTA Joint Repair, Roadway Improvements, and Security Barriers[4]	3.11	0.86	4.91	0.01	0.42	0.36
Korean Air Cargo Terminal Improvement Project[4]	1.36	0.57	1.79	0.00	0.16	0.11
West Aircraft Maintenance/Aircraft Parking Area[4]	6.90	3.39	8.65	0.01	2.57	0.92
Westchester Golf Course 3-Hole Restoration Project[10]	2.04	0.47	2.75	0.00	2.38	0.58
Westchester Rainwater (Stormwater) Improvement Project[4]	1.89	0.40	4.05	0.00	3.27	0.82
Metro Bus Maintenance and Operation Facility[4]	11.99	1.28	6.45	0.01	1.65	0.64
Worker Vehicle Trips[8]	4.52	0.50	0.50	0.01	0.49	0.11
Total from Other Construction Projects, tons[7]	**611.45**	**121.42**	**788.98**	**1.27**	**152.59**	**57.10**
Total CUP-RP, tons	89.47	17.97	107.66	0.17	17.00	7.32
Total Cumulative Construction Project Emissions, tons[7]	**700.92**	**139.39**	**896.64**	**1.44**	**169.59**	**64.42**

1 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Crossfield Taxiway Project, Los Angeles International Airport, January 2009.
2 City of Los Angeles, Los Angeles World Airports, Final Mitigated Negative Declaration: Security Program - In-Line Baggage Screening System, Terminals 1 - 8, prepared by PCR Services Corporation, March 2006.
3 City of Los Angeles, Los Angeles World Airports, Airfield Intersections Improvement Project Equipment Inventory - Peak Day Jan 2009-Jan 2010, May 22, 2008.
4 Equipment estimates developed by CDM in consultation with LAWA.
5 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Bradley West Project, May 2009.
6 Emissions presented in this table derived from the Bradley West Project Draft EIR.
7 Numbers may not total due to rounding.
8 Includes worker trips for projects that have no other construction equipment.
9 City of Los Angeles, Los Angeles World Airports, Final Mitigated Negative Declaration for Tom Bradley International Terminal Improvements, November 2004.
10 City of Los Angeles, Los Angeles World Airports and U.S. Department of Transportation, Federal Aviation Administration, Draft Environmental Assessment for Proposed Westchester Golf Course Three-Hole Expansion Project, May 2009.

Source: CDM, 2009.

4.2.7.3 Concentrations

Cumulative construction impacts were modeled using the AERMOD dispersion model for the peak year of CUP-RP construction. This cumulative impact analysis includes concentration impacts from CUP-RP operations, which were addressed separately in Section 4.2.6.2. This analysis conservatively combines the 2010 CUP-RP construction and other construction project concentrations with the 2013 CUP-RP operational concentrations. **Table 4.2-24** compares the resulting cumulative project concentrations to the SCAQMD concentration thresholds shown in **Table 4.2-7**.

Table 4.2-24

Air Pollutant Concentrations for the CUP-RP Construction (2010), 2010 Other Construction Projects, and CUP-RP Operations (2013)

Pollutant Concentration	Averaging Period	Threshold (CAAQS)	Bradley West Project[2], Other Construction Projects, and Background	Exceed AAQS?
CO (mg/m^3)	1-hr	10	4	No
	8-hr	23	3	No
NO_2 ($\mu g/m^3$)	Annual	57	46	No
	1-hr	339	695	Yes
		SCAQMD[1]	**Bradley West Project[2] and Other Construction Projects**	**Exceed Threshold?**
PM10 ($\mu g/m^3$)	Annual	1.0	3.4	Yes
	24-hr	10.4	30.2	Yes
PM2.5 ($\mu g/m^3$)	24-hr	10.4	9.1	No

1 SCAQMD Air Quality Significance Threshold.
2 Includes 2010 Bradley West Project construction and 2013 Bradley West Project operations.

Sources: CDM, 2009.

The one-hour NO_2 CAAQS would be exceeded during the peak year of cumulative project construction. The SCAQMD construction thresholds for annual and 24-hour PM10 would also be exceeded. It should be noted that portions of the Bradley West Project are currently on hold as mentioned in Section 3.3.1, Project Setting. The concentrations shown in **Table 4.2-24** are based on modeling done for the cumulative projects in the Bradley West Project EIR, and are therefore conservative as some of the project are currently on hold above

Although the CUP-RP is being identified as cumulatively significant for NO_2, it should be noted again that an extremely conservative method was used to reach this conclusion. The analysis assumes that all NO_x from the construction equipment is emitted as NO_2, not a combination of nitric oxide (NO) and NO_2. However, most (up to 95 percent)[89] combustion NO_x is initially emitted as NO and is eventually converted to NO_2 through atmospheric reactions. At least eight cumulative projects, in addition to the CUP-RP, are located in the CTA, including the Bradley West Project; CTA Elevators and Escalators Replacement; CTA Seismic Retrofits; CTA Joint Repair, Roadway Improvements, and Security Barriers; Security Program - In-Line Baggage Screening Systems (T6); TBIT Interior Improvements Program; Passenger Boarding Bridge Replacement (T1, T3, T6, Remotes); and Sewer Line Replacement (T1, T6) projects. These projects include emissions that would occur within 500 meters of the CTA receptor. Since the NO_2/NO_x conversion factor is 0.258 at 500 meters downwind,[90] it is possible that actual NO_2 concentrations in the CTA would be less than the CAAQS.

4.2.7.4 Overall Significance of CUP-RP Cumulative Projects

The cumulative projects with CUP-RP would exceed the thresholds of significance presented in Section 4.2.4 with respect to CO, VOC and NO_x (as ozone precursors), PM10, and PM2.5 due to the following findings:

- Construction emissions would be significant for VOC, NO_x, CO, PM10, and PM2.5.

89 South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, June 2003.
90 South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, June 2003.

- Concentrations from construction-related sources would be significant for PM10, and would exceed the CAAQS for NO_2 (1-hour).

4.2.8 Mitigation Measures

LAWA is committed to mitigating temporary construction-related emissions to the extent practicable and has established some of the most aggressive construction emissions reduction measures in southern California, particularly with regard to requiring construction equipment to be equipped with emissions control devices. The specific means for implementing the mitigation measures described in Section 4.2.5 were first approved and implemented as part of the SAIP, and would also be applied to the CUP-RP. Mitigation measures described in Section 4.2.5 also include those required by the CBA. Because these mitigation measures establish a commitment and process for incorporating all technically feasible air quality mitigation measures into each component of the LAX Master Plan, as well as LAX projects that are independent of the Master Plan, no additional project-specific mitigation measures are recommended in connection with the CUP-RP.

4.2.9 Level of Significance After Mitigation

With incorporation of mitigation measures as described above, the maximum peak daily construction-related mass emissions resulting from the CUP-RP would be significant for VOC and NOx, as shown by the emissions inventory. Dispersion modeling estimates show that project construction-related airborne concentrations would remain significant for PM10 on an annual and 24-hour basis even with incorporation of mitigation measures. Cumulative construction-related emissions of CO, VOC, NOx, PM10, and PM2.5 would also be significant. Cumulative construction-related concentrations would be significant for NO_2 and PM10. Operational emissions for all criteria pollutants and precursors are below applicable mass thresholds, resulting in less-than-significant impacts. Dispersion modeling demonstrates that operation of the new CUP will result in ambient levels below applicable standards and project-related impacts are less than significant for all pollutants studied. Potential human health risks from TAC emissions are discussed in Section 4.3 of this EIR.

This page intentionally left blank

4.3 Human Health Risk Assessment

4.3.1 Introduction

This Human Health Risk Assessment (HHRA) addresses potential health impacts for people exposed to toxic air contaminants (TACs)[91] anticipated to be released during construction and operation of the proposed CUP-RP. As with all activities at facilities that accommodate vehicles and equipment that consume fuel, activities at LAX release TACs to the air. These TACs may come from construction activities, motor vehicles, combustion of fossil fuels to produce hot water, steam, and power, and other sources. Potential impacts to human health associated with releases of TACs may include increased cancer risks and increased chronic (long-term) and acute (short-term) non-cancer health hazards from inhalation of TACs by people working, living, recreating, or attending school on or near the airport.

Possible impacts to human health were assessed through an HHRA, as required under State of California statutes and regulations.[92] The HHRA was conducted in four steps as defined in South Coast Air Quality Management District (SCAQMD), California Environmental Protection Agency (CalEPA), and U.S. Environmental Protection Agency (USEPA) guidance[93,94,95] consisting of:

- ♦ Identification of chemicals (in this case, TACs) that may be released in sufficient quantities to present a public health risk (Hazard Identification);
- ♦ Analysis of ways in which people might be exposed to chemicals (TACs) (Exposure Assessment);
- ♦ Evaluation of the toxicity of chemicals (TACs) that may present public health risks (Toxicity Assessment);
- ♦ Characterization of the magnitude and location of potential health risks for the exposed community (Risk Characterization).

The HHRA analyses for the CUP-RP address the following issues, and provide additional information on the potential for human health impacts:

- ♦ Quantitative assessment of potential chronic human health impacts due to release of TACs associated with CUP-RP construction and subsequent operational activities.
- ♦ Quantitative evaluation of possible acute non-cancer hazards due to release of TACs during the approximately 4-year construction period and during subsequent operations associated with the CUP-RP.

---

91 In the LAX Master Plan Final EIR, these were referred to as toxic air pollutants (TAPs). In this EIR, the term "toxic air contaminants," or TACs, is used to reflect California regulatory terminology.

92 California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Information and Assessment Act of 1987, Section 44300; California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.

93 South Coast Air Quality Management District, Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics Hot Spots Information and Assessment Act (AB2588), July 2005.

94 California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines, Part I: Technical Support Document for the Determination of Acute Reference Exposure Levels for Airborne Toxicants, March 1999. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines, Part IV: Technical Support Document for Exposure Assessment and Stochastic Analysis, September 2000. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines, Part III: The Determination of Chronic Reference Exposure Levels for Airborne Toxicants, February 23, 2000. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines. Part II: Technical Support Document for Describing Available Cancer Potency Factors, updated August 2003. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.

95 U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Risk Assessment Guidance for Superfund, Vol. I, Human Health Evaluation Manual (Part A), Interim Final, EPA/540/1-89/002, December, 1989.

Risk assessment is an evolving and uncertain process. Important uncertainties exist in the estimation of emissions of TACs from mobile sources, the dispersion of such TACs in the air, actual human exposure to such TACs, and health effects associated with such exposure. There are also uncertainties associated with evaluation of the combined effects of exposure to multiple chemicals, as well as interactions among pollutants, such as acrolein and criteria pollutants. These uncertainties were discussed in detail in LAX Master Plan Final EIR Technical Report 14a and Technical Report S-9a. This HHRA relied upon the best data and methodologies available; however, the nature and types of uncertainties described in the LAX Master Plan Final EIR Technical Reports also apply to this health risk assessment, as further described below.

To help address uncertainties, conservative methods were used to estimate cancer risks and chronic non-cancer hazards. That is, methods were used that are likely to overestimate rather than underestimate possible health risks. For example, risks associated with CUP-RP construction and CUP-RP-specific operational activities were calculated for individuals where TAC concentrations are predicted to be highest (maximally exposed individual or MEI). Further, these individuals were assumed to be exposed to TACs for almost all days of the year and for many years to maximize estimates of possible exposure.

Resulting risk estimates are therefore based on upper-bound predictions of exposure that may be associated with working or living near, and breathing TACs released during, CUP-RP activities. By protecting hypothetical individuals that receive the highest exposures, the risk assessment is also protective for actual members of the population near LAX that would not be as highly exposed. Additional technical details of the analysis are provided in the Technical Report (Appendix C of this EIR).

The HHRA for the CUP-RP also evaluates the potential for short-term (one-hour) exposures to cause immediate, or acute, non-cancer health impacts. These estimates are also intentionally conservative. Actual exposure concentrations in off-airport areas are, again, overestimated by this approach.

4.3.2 Methodology

The objective of this HHRA is to estimate health risks and hazards, if any, associated with construction and subsequent operation of the CUP-RP. People working at the airport, and people living, recreating, working, or attending school in communities near the airport are target populations addressed in the assessment. The methodologies used in this analysis are summarized below. Details of the methodologies are provided in the Technical Report (Appendix C of this EIR).

The HHRA was conducted based on total TAC emissions associated with CUP-RP construction and CUP-RP-specific operational activities. The environmental baseline for construction was assumed to be zero emissions, because in the absence of CUP-RP, no construction emissions would occur. However, CUP-RP-specific operational changes were evaluated as incremental impacts over a 2008 environmental baseline.

As indicated above, the HHRA also evaluates the potential for short-term (one-hour) exposures to cause immediate, or acute, health impacts. Resulting risk estimates represent upper-bound predictions of exposure, and therefore health risk, which may be associated with living near, and breathing emissions from, LAX during construction and operation of the CUP-RP. By protecting hypothetical individuals that receive the highest exposures, the risk assessment is also protective for actual members of the population near LAX that would not be as highly exposed.

The list of TACs of concern used in this HHRA was selected based on the TACs identified under California Assembly Bill 2588 (AB 2588) of 1987 for which the CalEPA, Office of Environmental Health Hazard Assessment (OEHHA) has developed cancer slope factors, chronic reference levels, or acute reference levels. The method for identifying TACs of concern is described in the Technical Report (Appendix C of this EIR). The final list of TACs of concern for the CUP-RP construction is presented in Section 3.2.1 of the Technical Report, and for CUP-RP operations is presented in Section 3.2.2 of Technical Report. The TACs of concern are also listed with toxicity criteria in **Table 4.3-3,** below.

4.3.2.1 Methods for Estimating Possible Project Impacts to Human Health

Cancer risk and chronic and acute non-cancer hazard assessments for this HHRA consisted of two components: (1) estimation of emissions of TACs associated with CUP-RP construction and project-specific operations, and subsequent modeling of dispersion of those emissions to downwind receptor locations; and (2) estimation of health risks associated with those emissions. Estimated future emission rates were used, along with meteorological and geographic information, as inputs to an air dispersion model. The dispersion model predicted possible future concentrations of TACs within the study area at and around the airport.

Subsequently, human health risks and hazards that might be associated with inhalation of TACs were predicted directly from estimated TAC concentrations in air. Because in the absence of project construction, construction emissions would be zero, all risk and hazard estimates for construction represent the full projected impact of construction activity. However, emissions associated with post-construction operational changes associated with the CUP-RP were evaluated as incremental impacts above 2008 baseline conditions. Health impacts were estimated for both potential cancer risks and non-cancer health hazards.

Results of the analysis were interpreted by comparing cancer risks and non-cancer hazards to regulatory thresholds. These comparisons were made for MEI at locations where maximum concentrations of TACs were predicted by the air dispersion modeling. An impact was considered significant[96] if cancer risks and/or hazards for MEI exceeded regulatory thresholds. Note that the analysis used maximum predicted impacts even if these impacts occurred at locations where no receptors (people) currently work, live, recreate or go to school (i.e., the LAX fence-line). This approach provides an additional level of conservatism in the estimates for health impacts.

The exposure assessment examines inhalation exposures to TACs of concern for several populations, consisting of workers (on-airport and off-airport), off-airport adult residents, off-airport child residents and off-airport school children. Each receptor represents a unique population and set of exposure conditions. As a whole, they cover a range of exposure scenarios for the potentially most affected human receptors near LAX. Receptors for which exposure scenarios are prepared were selected to provide the most conservative, and therefore, protective, values for health impact assessment. By providing estimates for the most exposed individuals, the general population would also be protected.

Exposure scenarios include receptors and the various pathways by which they might be exposed to TACs of concern. A complete exposure pathway consists of four parts:

- A TAC source (e.g., construction equipment fuel combustion);
- A release mechanism (e.g., construction equipment engine exhaust);
- A means of transport from point of release to point of exposure (e.g., local winds);
- A route of exposure (e.g., inhalation).

If any of these elements of an exposure pathway is absent, no exposure can take place and the pathway is considered incomplete and was not evaluated. Numerous potentially complete exposure pathways exist for receptors at or near LAX. For this HHRA, the inhalation pathway accounted for the majority of risk associated with the project, and was therefore quantitatively evaluated for all receptors. No other pathways other than inhalation -- including deposition of TACs onto soils and subsequent exposure via incidental ingestion of this soil, uptake from soil into homegrown vegetables, and other indirect pathways--were found to be important contributors to exposure and risk/hazard, as discussed in Section 6 of the Technical Report (Appendix C). Based on this analysis, pathways other than inhalation were not assessed in the HHRA for the CUP-RP.

96 The term "significant" is used as defined under CEQA regulations and does not imply an independent judgment of the acceptability of risks or hazards.

Modeled concentrations were used to estimate human health risks and hazards, which serve as the basis of the significance determinations for the CUP-RP. To estimate cancer risks and the potential for adverse non-cancer health hazards, TAC intakes via inhalation for each receptor were estimated. For cancer and non-cancer risk assessment, average long-term daily intakes are used to estimate risk and hazards. Averaging time for estimation of cancer risk is 70 years or 25,550 days. Cancer risk is evaluated as the lifetime average daily dose (LADD) according to CalEPA and USEPA guidance. Averaging time for estimation of non-cancer hazards is the duration of exposure, expressed in days. Non-cancer hazards are evaluated as average daily dose (ADD) over the period of exposure, again, following CalEPA and USEPA guidance.

4.3.2.2 Estimating Future Emissions of Toxic Air Contaminants

Both organic and particulate-bound TACs were analyzed in this HHRA. TACs exist in air as either gases or particulate matter. For purposes of this EIR, organic gas emissions are represented by volatile organic compounds (VOCs).[97] Emission rates of organic TACs were developed from VOC emission inventories for the same construction sources analyzed in Section 4.2 of this EIR. TACs associated with small particles, or those particles less than 10 microns in diameter (PM10), are the focus for particulate emissions, because this size fraction can deposit in the lung and is therefore primarily responsible for inhalation exposure. Emission rates of particulate-bound TACs were developed from the PM10 emission inventories also included in Section 4.2. Speciation profiles[98] for VOC and PM10 emissions from individual source types, primarily developed by the California Air Resources Board (CARB), were used to calculate TAC emissions.[99,100] These emissions form the basis for modeling concentrations of TACs in air on and around LAX.

4.3.2.3 Exposure Concentrations (Dispersion)

Air dispersion modeling was used to estimate TAC concentrations for the CUP-RP. Dispersion modeling analysis of TACs was conducted for emissions from construction sources during the construction period and for project-specific operational sources. TAC concentrations were estimated in two steps: first, dispersion modeling was used to estimate total VOC and PM10 concentrations, and then individual organic or particulate TAC concentrations were calculated using emissions profiles to speciate total VOC and PM10. For example, if total VOC at a given location was 0.1 ug/m^3 and a given TAC was expected to make up one percent of this total, the concentration of that TAC at that location would be 0.001 ug/m^3.

TAC concentrations were estimated in the USEPA AERMOD air dispersion model using options for one-hour maximum and annual average concentrations. Short-term maximum concentrations from construction sources were estimated from peak daily emissions over the construction period, and those from operational sources were based on anticipated levels of CUP-RP-specific emissions during operations. Details of the dispersion model analysis for CUP-RP emissions are provided in the Technical Report (Appendix C).

---

97 The emissions of volatile organic compounds (VOC) and reactive organic gases (ROG) are essentially the same for the combustion emission sources that are considered in this EIR. This EIR will typically refer to organic emissions as VOC.

98 Speciation profiles provide estimates of the chemical composition of emissions, and are used in the emission inventory and air quality models. CARB maintains and updates estimates of the chemical composition and size fractions of PM10 and the chemical composition and reactive fractions of ROG for a variety of emission source categories. Speciation profiles are used to provide estimates of TAC emissions.

99 California Air Resources Board, Draft California Emission Inventory Development and Reporting System - Organic Gas Speciation Profiles, 2003, Available: http://www.arb.ca.gov/ei/speciate/ORGPROF_03_19_03.xls.

100 California Air Resources Board, California Emission Inventory and Reporting System - Particulate Matter Speciation Profiles, 2002, Available: http://www.arb.ca.gov/ei/speciate/PMPROF_09_27_02.xls.

4.3.2.4 Overview of Risk Assessment

Selection of TACs of Concern

Not all chemicals released during construction and subsequent operation of the CUP-RP would pose a threat to workers and users of the airport, or to people living, working, recreating, or attending school in communities surrounding LAX. The list of TACs of concern used in this HHRA was selected based on the TACs identified under California Assembly Bill 2588 (AB 2588) of 1987 for which the CalEPA, Office of Environmental Health Hazard Assessment (OEHHA) has developed cancer slope factors, chronic reference levels, or acute reference levels. In addition, HHRA analyses presented in the LAX South Airfield Improvement Project (SAIP) Draft EIR,[101] LAX CFTP Draft EIR,[102] LAX Bradley West Project Draft EIR,[103] and LAX Master Plan Final EIR,[104] were reviewed. These documents represent recent EIRs conducted in California that assessed potential human health risk from airport operations. The method for identifying TACs is described in the Technical Report (Appendix C of this EIR). The final list of TACs of concern for the CUP-RP construction is presented in Section 3.2.1 of the Technical Report, and for CUP-RP operations is presented in Section 3.2.2 of the Technical Report. The TACs of concern are also listed with toxicity criteria in **Table 4.3-3,** below.

Exposure Assessment

Assessment of potential chronic human exposure and health impacts due to release of TACs associated with the CUP-RP assumes that the exposure concentrations of TACs are constant over a 70-year period for residential receptors. Since CUP-RP construction is expected to be completed in approximately four years, chronic health impacts estimated for construction are conservative and will substantially overestimate actual risk and hazards associated with the project. To provide a range of potential impacts, chronic health impacts are also calculated for the period of construction (i.e., approximately four years). This approximately four-year construction period analysis is provided in Section 6 (Uncertainties) of the Technical Report (Appendix C of this EIR). Exposure parameters used to calculate LADD and ADD for all receptors for the inhalation pathway are summarized in **Table 4.3-1**. Exposure parameters are based on the CalEPA Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities,[105] USEPA Exposure Factors Handbook,[106] and CalEPA Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.[107] These exposure parameters were selected to maintain consistency with the health risk analyses conducted for the LAX Master Plan Final EIR,[108] the SAIP EIR,[109] the CFTP EIR[110] and the Bradley West Project EIR.[111] However, the CalEPA Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk

---

101 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for South Airfield Improvement Project, Los Angeles International Airport (LAX), August 2005.

102 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Crossfield Taxiway Project, Los Angeles International Airport (LAX), September 2008.

103 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX), May 2009.

104 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

105 California Environmental Protection Agency, Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities, 1993.

106 U.S. Environmental Protection Agency, Exposure Factors Handbook, USEPA/600/P-95/002Fa, 1997.

107 California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.

108 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

109 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for South Airfield Improvement Project, Los Angeles International Airport (LAX), August 2005.

110 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Crossfield Taxiway Project, Los Angeles International Airport (LAX), September 2008.

111 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX), May 2009.

Assessments recommends a range of exposure durations and inhalation rates be evaluated. Additional analyses, presented in Section 6 of the Technical Report verify that the sensitivity of the analyses to these variations in exposure durations and inhalation rates does not change the conclusions regarding potential impacts of the project.

Table 4.3-1

Parameters Used to Estimate Exposures to TACs of Concern

Exposure Pathway	Off-Airport Receptors			
	Off-Site Resident		Off-Site	Off-Site
Inhalation of Particulates and Gases	Adult	Child	School Child	Worker
Daily Breathing Rate (m^3/day)	20[2]	15[2]	6[2]	10[2]
Exposure Frequency (days/yr)	350[1,3]	350[1,3]	200[4]	245[1]
Exposure Duration (years)	70[1,5]	6[2]	6[4]	40[1]
Body Weight (kg)	70[1,6]	15[2]	40	70[1,6]
Averaging Time - Non-cancer (days)	25,550[1,6]	2,190[6]	2,190[6]	14,600[6]
Averaging Time - Cancer (days)	25,550[1,6]	25,550[1,6]	25,550[1,6]	25,550[1,6]

1 California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.
2 U.S. Environmental Protection Agency, Exposure Factors Handbook, USEPA/600/P-95/002Fa, 1997.
3 U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response, Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors, August, 1991.
4 Site-specific. See Attachment 3 of the Technical Report (Appendix C).
5 70 year exposure duration will be used as basis for determining significance.
6 U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual, Part A, USEPA/540/1-89/002, 1989.

Source: CDM, 2009.

Analyses of cancer risk and non-cancer hazards, both chronic and acute, are included in the exposure assessment for these receptors. Chronic and acute exposure to TACs from CUP-RP construction and CUP-RP-specific operational activities has been estimated by:

- Estimation of construction and operation source emissions, both annual (for chronic exposure) and peak daily (for acute exposure) - results are presented in Section 4.2.6.1.
- Dispersion analysis of the on-airport construction TAC emissions - results are presented in Section 4.2.6.2.

Toxicity Assessment

Risks from exposure to TACs were calculated by combining estimates of potential exposure with toxicity criteria specific to each chemical. A toxicity assessment for TACs of concern was conducted for the LAX Master Plan Final EIR, as described in Technical Report 14a of that EIR. The conclusions of that assessment have not changed materially. As both the CalEPA's OEHHA and USEPA are continually updating toxicity values as new studies are completed, all toxicity information provided in Technical Report 14a was reviewed and updated as appropriate and used in this HHRA. Acute Reference Exposure Levels (RELs) developed by the State of California were used in the characterization of potential acute hazards associated with the CUP-RP.

Cancer slope factors and chronic RELs developed by the State of California were used to characterize cancer risks and chronic non-cancer hazards associated with longer term exposure to construction emissions. Both types of toxicity criteria are based on studies of chronic exposure in animals or, in some cases, to people. Cancer slope factors and chronic RELs are presented in **Table 4.3-2** and **Table 4.3-3**, respectively.

Acute RELs developed by the State of California were used in characterization of potential hazards associated with short-term exposure (usually from exposures on the order of one-hour). RELs are based on the most sensitive, relevant, adverse health effect reported in the medical and toxicological literature. Since margins of safety are incorporated to address data gaps and uncertainties, exceeding the REL does not automatically indicate an adverse health impact. Acute RELs are applicable to all receptors, children and adults, and hazards are simply the ratio of estimated or measured concentrations and the REL. The acute RELs for the TACs of concern are provided in **Table 4.3-4**.

Table 4.3-2

Cancer Slope Factors

TAC of Concern	Cal/EPA[1] Inhalation Cancer Slope Factor $[(mg/kg/day)^{-1}]$[2]	Tumor Site/ Inhalation	Cancer Classification[3]
VOC			
Acetaldehyde	0.01	Nasal, Larynx	B2
Acrolein	NA[4]	NA	C
Benzene	0.1	Blood	A
1,3-Butadiene	0.6	Reproductive System, Blood, Lung, GI	A
Ethylbenzene	0.0087	Kidney	D
Formaldehyde	0.021	Respiratory System	B1
Naphthalene	0.12	Respiratory System	C
Polycyclic Aromatic Hydrocarbon (PAHs) as Benzo(a)pyrene	3.9	Respiratory System	B2
Propylene oxide	0.13	Respiratory System	B2
Diesel Exhaust			
Diesel Particulates	1.1	Lung	D
PM-Metal			
Arsenic	12	Skin	A
Cadmium	15	Lung	B1
Chromium VI	510	Lung	A
Lead	0.042	NA	B2
Nickel	0.91	NA	A
Vanadium pentoxide	29[5]	NA	NA

1 Cal/EPA Office of Environmental Health Hazard Assessment Toxicity Criteria Database, http://www.oehha.ca.gov/risk/ChemicalDB/start.asp, 2009.
2 mg/kg/day - milligram per kilogram per day
3 USEPA, EPA Weight of Evidence (EPA 1986, EPA 1996):
A Human carcinogen
B1 Probable human carcinogen - indicates limited evidence in humans
B2 Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans.
C Possible human carcinogen
D Not classifiable as human carcinogen
4 NA Not available
5 USEPA Regional Screening Level (RSL) table, September 2009.

Source: CDM, 2009.

Table 4.3-3

Toxicity Criteria for Systemic Toxicants

TAC of Concern	USEPA Chronic Oral RfD[1,2] (mg/kg-day)[3]	Cal/EPA Chronic Inhalation RfD[4] (mg/kg-day)	Target Organ		Uncertainty Factor	
			Oral	Inhalation	Oral	Inhalation (Cal/EPA RfD)
VOC[6]						
Acetaldehyde	NA[7]	4.00×10^{-2} [11]	NA	Respiratory System	NA	300
Acrolein	5×10^{-4}	1.00×10^{-4} [11]	Decreased Survival	Respiratory System, Eye	100	200
Benzene	4×10^{-3}	1.71×10^{-2}	Decreased Lymphocyte count	Hematopoietic System, Development, Nervous System, Immune System	300	10
1,3-Butadiene	NA	5.71×10^{-3} [11]	NA	Reproductive System	NA	30
Ethylbenzene	1×10^{-1}	5.71×10^{-1}	Liver, Kidney	Developmental, Liver, Kidney, Endocrine System	1,000	30
Ethylene glycol	2×10^{0}	1.14×10^{-1}	Kidney	Respiratory System, Kidney, Development	100	100
Formaldehyde	2×10^{-1}	2.57×10^{-3} [11]	Body Weight	Respiratory System, Eye	100	10
n-Hexane	NA	2.00×10^{0}	NA	Nervous System	NA	30
Isopropyl alcohol	NA	2.00×10^{0} [11]	NA	Kidney, Development	NA	NA
Methyl alcohol	5×10^{-1}	1.14×10^{0}	Increased SGPT,[8] SAP[9] Decrease Brain Weight	Developmental	1,000	30
Methyl ethyl ketone	6×10^{-1}	1.43×10^{0} [1]	Body Weight	Developmental (skeletal variations)	1,000	300
Naphthalene	2×10^{-2}	2.57×10^{-3}	Body Weight	Respiratory System	3,000	1,000
Polycyclic Aromatic Hydrocarbon (PAHs) as Benzo(a)pyrene	NA	NA	NA	NA	NA	NA
Phenol	3×10^{-1}	5.71×10^{-2}	Decreased maternal weight gain	Alimentary System, Cardiovascular System, Kidney, Nervous System	300	100
Propylene oxide	NA	8.57×10^{-3}	NA	Respiratory System	NA	100
Styrene	2×10^{-1}	2.57×10^{-1}	Red blood cells, Liver	CNS[10]	1,000	3
Toluene	8×10^{-2}	8.57×10^{-2}	Kidney weight	CNS, Respiratory System, Development	3,000	300
Xylene	2×10^{-1}	2.00×10^{-1}	Body Weight	CNS, Respiratory System	1,000	30
Hydrogen chloride	NA	2.57×10^{-3}	NA	Respiratory system	NA	100
Diesel Exhaust						
Diesel Particulates	NA	1.43×10^{-3}	NA	Respiratory System	NA	NA
PM Metal						
Antimony	4×10^{-4}	NA	Blood	NA	1,000	NA
Arsenic	3×10^{-4}	4.29×10^{-6} [11]	Skin	Development, Cardiovascular System, Nervous System	3	30
Cadmium	1×10^{-3}	5.71×10^{-6}	Proteinuria	Respiratory System, Kidney	10	30
Chromium (VI)	3×10^{-3}	5.71×10^{-5} [11]	None reported	Respiratory System	300	300
Copper	4×10^{-2} [5]	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA
Manganese	1.4×10^{-1} (Food)	2.57×10^{-5} [11]	CNS	Nervous System	1	300
Mercury	NA	8.57×10^{-6} [11]	NA	Nervous System	NA	300
Nickel	2×10^{-2}	1.43×10^{-5}	Body, Organ Weight	Respiratory System, Immune System	300	30
Selenium	5×10^{-3}	5.71×10^{-3} [11]	Clinical selenosis	Alimentary System, Cardiovascular System, Nervous System	3	NA
Silicon	NA	NA	NA	NA	NA	00
Vanadium pentoxide	9×10^{-3} [1]	2.00×10^{-6} [12]	Decreased hair cystine	NA	100	NA
Zinc	3×10^{-1}	NA	Blood	NA	3	NA

Table 4.3-3

Toxicity Criteria for Systemic Toxicants

TAC of Concern	USEPA Chronic Oral RfD[1,2] (mg/kg-day)[3]	Cal/EPA Chronic Inhalation RfD[4] (mg/kg-day)	Target Organ		Uncertainty Factor	
			Oral	Inhalation	Oral	Inhalation (Cal/EPA RfD)
PM Inorganics						
Ammonium Ion	NA	5.71×10^{-2}	NA	Respiratory System	NA	10
Bromine	NA	NA	NA	NA	NA	NA
Chlorine	1×10^{-1}	5.71×10^{-5}	None reported	Respiratory System	100	30
Sulfates	NA	NA	NA	NA	NA	NA

1 Values obtained from the USEPA Integrated Risk Information System (IRIS), 2009.
2 RfD = Reference Dose
3 mg/kg/day = milligram per kilogram per day
4 Calculated from RELs obtained from OEHHA online Toxicity Criteria Database, 2009. RELs are concentrations in air that would not result in toxic effects even if exposure continued for a lifetime. RELs can be converted to inhalation RfDs by multiplying by inhalation rate (20 m^3/d) and dividing by body weight (70 kg).
5 Values obtained from the USEPA Region 9 PRG Table, 2008.
6 VOC = volatile organic compounds
7 NA = Not available or not applicable.
8 SGPT = Serum glutamate pyruvate transaminase
9 SAP = Serum alkaline phosphatase
10 CNS = Central Nervous System
11 Values obtained from the CalEPA OEHHA, Air Toxics Hot Spots, Risk Assessment Guidelines, Technical Support Document for the Derivation of Noncancer Reference Exposure Levels, June 2008, Appendix B.
12 USEPA Regional Screening Level (RSL) table, September 2009.

Source: CDM, 2009.

Risk Characterization

Methodology for Evaluating Cancer Risks and Non-Cancer Health Hazards

Cancer risks were estimated by multiplying exposure estimates for carcinogenic chemicals by corresponding cancer slope factors. The result is a risk estimate expressed as the odds of developing cancer. Cancer risks were based on an exposure duration of 70 years.

Non-cancer hazard estimates were calculated by dividing exposure estimates by reference doses. Reference doses are estimates of highest exposure levels that would not cause adverse health effects even if exposures continue over a lifetime. The ratio of exposure to reference dose is termed the hazard quotient (HQ). A HQ greater than one indicates an exposure greater than that considered safe. Risks or odds of adverse effects cannot be estimated using reference doses. However, because reference doses are developed in a conservative fashion, HQs only slightly higher than one are generally accepted as being associated with low risks (or even no risk) of adverse effects, and that potential for adverse effects increases as the HQ gets larger.

Impacts of exposure to multiple chemicals were accounted for by adding cancer risk estimates for exposure to all carcinogenic chemicals, and by adding estimated HQs for non-carcinogenic chemicals that affect the same target organ or tissue in the body. Addition of HQs for TACs that produce effects in similar organs and tissues results in a hazard index (HI) that reflects possible total hazards. Several TACs have effects on the respiratory system including acetaldehyde, acrolein, formaldehyde, xylenes, and diesel particulates. Non-cancer hazards calculated for the CUP-RP were calculated for the respiratory system which accounted for essentially all potential non-cancer hazards.

The methodology used in the HHRA and described above is consistent with the HHRA methodology established in the LAX Master Plan Final EIR and other LAX airport HHRAs completed prior to the issuance by USEPA of Risk Assessment Guidelines for Superfund (RAGS), Volume I: Human Health Evaluation Manual, Part F, Supplemental Guidance for Inhalation Risk Assessment (RAGS F). This document provides information on how inhalation toxicity values should be used in generating inhalation risk estimates using a concentration-based approach. A sensitivity analysis using RAGs F methodology is provided in the Technical Report (Appendix C).

Table 4.3-4

Acute RELs for TACs of Concern

TAC	Acute REL[1] (μg/m^3)
Acetaldehyde	470[2]
Acrolein	2.5[2]
Benzene	1,300
Formaldehyde	55[2]
Hydrogen chloride	2,100
Propylene oxide	3,100
Toluene	37,000
Xylenes Total	22,000
Styrene	21,000
Methyl Alcohol	28,000
Methyl Ethyl Ketone	13,000
Phenol	5,800
Isopropyl Alcohol	3,200
Ammonia	3,200
Arsenic	0.20[2]
Chlorine	210
Copper	100
Mercury	0.6[2]
Nickel	6
Sulfates	120
Vanadium Pentoxide	30

1 Values obtained from OEHHA Online Toxicity Criteria database, 2009 unless otherwise indicated.

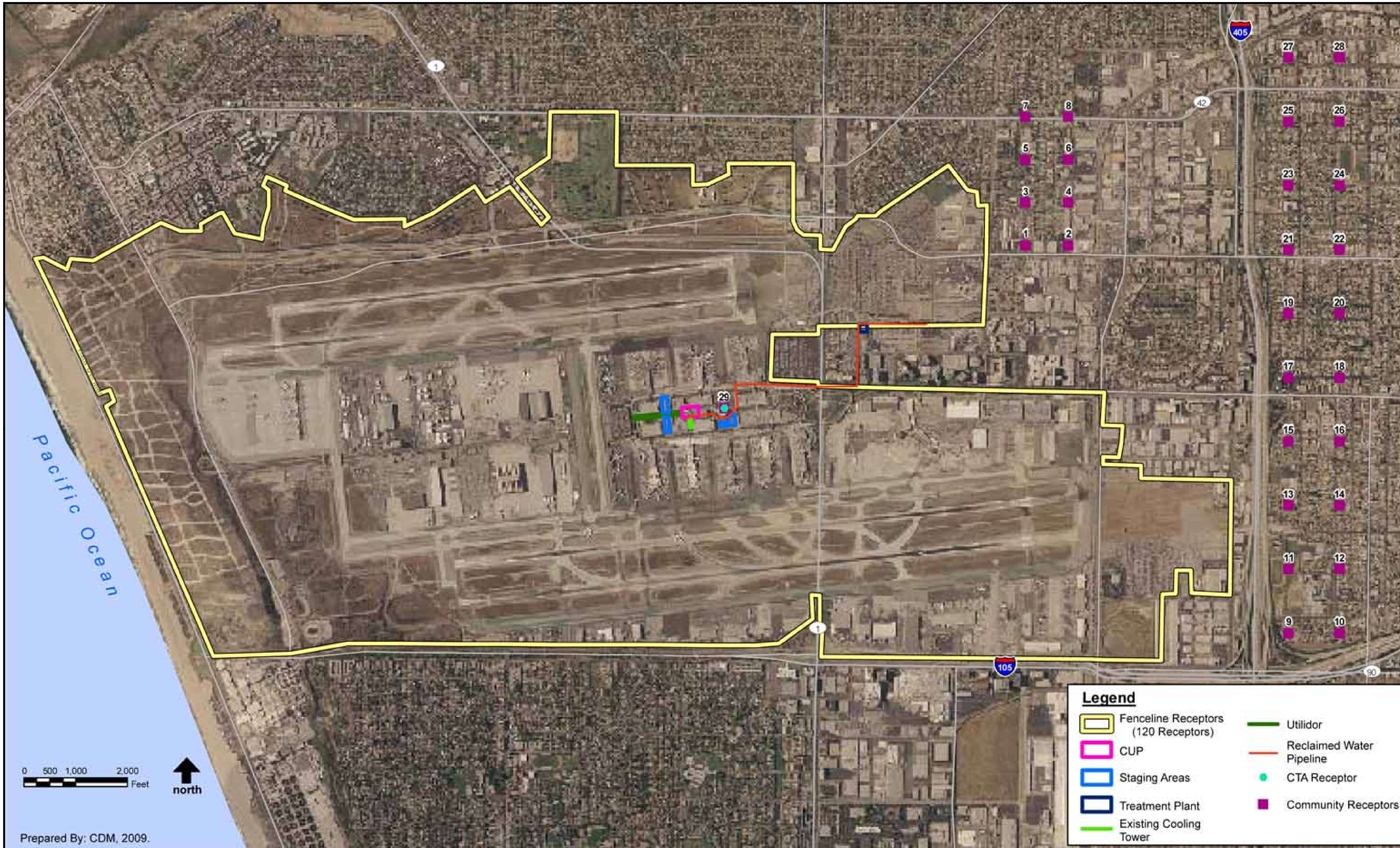
2 Values obtained from CalEPA OEHHA, Air Toxics Hot Spots, Risk Assessment Guidelines, Technical Support Document for the Derivation of Noncancer Reference Exposure Levels, Appendix D, December 2008.

Source: CDM, 2009.

Maximally Exposed Individuals (MEIs)

For the CUP-RP, approximately 451 grid points were analyzed along the airport fence-line and within the study area (see **Figure 4.3-1**). Concentrations of each TAC at these nodes were used in the cancer risk and chronic and acute non-cancer hazard estimates. These calculations were used to identify residential and occupational locations with maximum cancer risks and maximum non-cancer hazards. These locations represent MEIs and were used in significance determinations.

MEI estimates were land use specific. Land use designations (commercial, residential, etc.) were used to identify receptor type at each grid node used in the air dispersion analysis. For off-airport locations, surrounding land use was used to identify appropriate receptors. For fence-line grid points, land use designations in the nearest off-airport areas were used to identify the receptor type. Risk and hazard calculations were based on receptors appropriate for the land use designations. For example, if a grid



LAX Central Utilities Plant
Replacement Project Draft EIR

Modeled Source and Receptor Locations Construction

Figure 4.3-1

node was identified for commercial land use, exposure parameters appropriate for adult commercial workers were used to estimate exposures, risks and hazards at that grid point location.

Fence-line concentrations of TACs represent the highest or near-highest concentrations that could be considered "off-airport." Concentrations in areas where people actually work, live and attend school are predicted to be lower. Thus, potential impacts for residents, workers, and school children are likely to overestimate risks and hazards that may occur under current off-site conditions. The relatively short time of proposed construction activities for the CUP-RP (i.e., approximately 4 years) suggests that these conditions are not likely to change notably during the project and that this evaluation of construction impacts can be considered conservative estimates of off-airport risks and hazards for the duration of construction.

Methodology for Evaluating Acute Impacts

Acute non-cancer risk estimates were calculated by dividing estimated maximum one-hour TAC concentrations in air by acute RELs. An acute REL is a concentration in air below which adverse effects are unlikely for people, including sensitive subgroups, exposed for one hour on an intermittent basis. In most cases, RELs were estimated on the basis of a one-hour exposure duration. USEPA defines intermittent exposure as that lasting less than 24 hours and occurring no more than monthly.[112] RELs are based on the most sensitive, relevant, adverse health effect reported in the medical and toxicological literature. Since margins of safety are incorporated to address data gaps and uncertainties, exceeding the REL does not automatically indicate an adverse health impact. CalEPA's OEHHA has developed acute RELs for several of the TACs of concern identified in emissions from the airport.

Short-term concentrations for TACs associated with implementation of the CUP-RP were estimated using the same air dispersion model (AERMOD) used to estimate annual average concentrations, but with the model option for one-hour maximum concentrations selected. These concentrations represent the highest predicted concentrations of TACs. Acute hazards were then estimated at each grid point by comparison with acute RELs.

Evaluation of Health Effects for On-Airport Construction Workers

Potential impacts to construction workers were evaluated by comparing estimated acute 8-hour air concentrations of TACs during CUP-RP construction to 8-hour standards referred to as Time-Weighted Average Permissible Exposure Levels (PEL-TWAs), established by the California Occupational Safety and Health Administration (CalOSHA).[113] For pollutants with no PELs, Threshold Limit Values (TLVs) established by the American Conference of Governmental Industrial Hygienists (ACGIH)[114] were used.

To address potential acute impacts to construction workers from CUP-RP-specific operations, one-hour concentrations in the CTA were used to represent reasonable estimates of 8-hour concentrations in the CUP-RP construction area.

4.3.3 Baseline Conditions

Evaluation of human health risk impacts associated with the CUP-RP focuses on exposure to air pollutant emissions generated by construction activities and by project-specific operational changes. Existing baseline risk associated with construction sources is zero because construction activities have not yet started and no construction emissions would occur under a no-project scenario. Operational emissions specific to the CUP-RP are addressed in this HHRA as incremental increases over 2008 baseline conditions.

---

112 U.S. Environmental Protection Agency, Draft Methods for Exposure-Response Analysis and Health Assessment for Acute Inhalation Exposure to Chemicals, 1994.

113 California Occupational Safety and Health Administration, Permissible Exposure Limits for Chemical Contaminants, Table AC-1, Available: http://www.dir.ca.gov/title8/5155table_ac1.html.

114 American Conference of Governmental Industrial Hygienists, Documentation of the Threshold Limit Values and Biological Exposure Indices, 8th ed., 1998.

Baseline conditions discussed herein refer to calendar year 2008, the last full calendar year for which air quality data were available from the SCAQMD when the air quality analysis for the CUP-RP was prepared.

4.3.4 CEQA Thresholds of Significance

A significant[115] impact relative to human health risk would occur if direct and indirect changes in the environment that may be caused by the CUP-RP when compared to 2008 baseline conditions could result in one or more of the following future conditions listed below.

- An increased cancer risk greater than, or equal to, 10 in one million (10×10^{-6}) for potentially exposed residents or school children.
- A total chronic hazard index[116] greater than, or equal to, one for any target organ system[117] at any receptor location.
- A total acute hazard index greater than, or equal to, one for any target organ system at any receptor location.
- Exceedance of Permissible Exposure Limits - Time Weighted Average or Threshold Limit Values for workers.

The thresholds listed above are utilized for this HHRA based on SCAQMD guidance, namely SCAQMD's Air Quality Analysis Guidance Handbook[118] that is currently in development. Although not yet fully published, SCAQMD has made certain sections of the Handbook available, including their air quality significance thresholds, which provide thresholds for TACs. Thresholds for workers are based on standards developed by CalOSHA, or, in the absence of CalOSHA standards for specific pollutants, standards developed by the American Conference of Governmental Industrial Hygienists. [119,120]

4.3.5 Incorporation of LAX Master Plan Mitigation Measures and Community Benefits Agreement (CBA) Measures

Although the CUP-RP is not a component of the LAX Master Plan, LAWA is requiring that applicable commitments and mitigation measures identified in the LAX Master Plan MMRP be implemented as part of the CUP-RP. LAX Master Plan commitments and mitigation measures for LAX Master Plan Alternative D are described in the September 2004 document, *Alternative D Mitigation Monitoring & Reporting Program (MMRP)*. Of the three commitments and four mitigation measures that were designed to address air quality impacts related to implementation of the LAX Master Plan, two measures are applicable to construction emissions and hence were considered in the air quality analysis as part of the CUP-RP.

---

115 The term "significant" is used as defined in CEQA regulations and does not imply an independent judgment of the acceptability of risk or hazard.

116 For purposes of this analysis, a health hazard is any non-cancer adverse impact on health. (Cancer-related risks are addressed separately in this analysis.) A chronic health hazard is a hazard caused by repeated exposure to small amounts of a TAC. An acute health hazard is a hazard caused by a single or a few exposures to relatively large amounts of a chemical. A hazard index is the sum of ratios of estimated exposures to TACs and recognized safe exposures developed by regulatory agencies.

117 A target organ or organ system is an organ or tissue in the human body (e.g., liver, skin, lungs) that is harmed by exposure to a chemical at the lowest levels of exposure (chronic exposure), or is the first to be harmed by high levels of exposure (acute exposure).

118 South Coast Air Quality Management District, Air Quality Analysis Guidance Handbook, July 2008, Available: http://www.aqmd.gov/ceqa/hdbk.html.

119 California Occupational Safety and Health Administration, Permissible Exposure Limits for Chemical Contaminants, Table AC-1, Available: http://www.dir.ca.gov/title8/5155table_ac1.html.

120 American Conference of Governmental Industrial Hygienists, Documentation of the Threshold Limit Values and Biological Exposure Indices, 8th ed., 1998.

- **MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality.**[121] This mitigation measure specifies that LAWA will expand and revise existing air quality mitigation programs at the airport through the development of an LAX Master Plan-Mitigation Plan for Air Quality (LAX MP-MPAQ). The goal of the LAX MP-MPAQ is to reduce air pollutant emissions associated with implementation of the LAX Master Plan to levels equal to, or less than, the thresholds of significance identified in the LAX Master Plan Final EIR. A framework for the LAX MP-MPAQ was adopted by the Board of Airport Commissioners in December 2005. This document provides the overall structure for the air quality mitigation program; ultimately, the full LAX MP-MPAQ will define specific measures to be implemented within the context of the three individual components specific to the categories of emissions associated with the Master Plan, namely construction, transportation and operations (i.e., MM-AQ-2, MM-AQ-3 and MM-AQ-4, respectively). The construction component of the LAX MP-MPAQ has been adopted by the Board of Airport Commissioners (see below); LAWA is currently working to complete the other elements of the full LAX MP-MPAQ, specifically the transportation and operations elements.
- **MM-AQ-2. Construction-Related Measure.**[122] This mitigation measure describes numerous specific actions to reduce fugitive dust emissions and exhaust emissions from on-road and off-road mobile and stationary sources. As discussed in the MMRP and Section 4.6.8 of the LAX Master Plan Final EIR, the LAX Master Plan consultants did not quantify potential emission reductions associated with all of the mitigation measures that fall under MM-AQ-2. Emission reduction measures that were quantified and included in the mitigated emissions inventory presented in Section 4.6.8.5 of the LAX Master Plan Final EIR are described in **Table 4.3-5**. For the CUP-RP air quality analysis, it was assumed that these mitigation measures would be in place in 2009. Some components of MM-AQ-2 are not readily quantifiable, but would be implemented as part of the CUP-RP. These mitigation strategies, presented in **Table 4.3-6**, are expected to further reduce construction-related emissions associated with the CUP-RP. Other feasible mitigation measures may be defined in the final LAX MP-MPAQ, which will be complete prior to construction of the CUP-RP.

Table 4.3-5

Construction-Related Mitigation Measures Incorporated into Construction Emissions Inventories

Mitigation Measure	Potential Emissions Reduction by Equipment
Heavy Duty Diesel (Off-road)	
Particulate Traps (where technologically feasible)	85% PM10 and 85% PM2.5, adjusted for compatibility
Fugitive dust caused by on- and off-site vehicle trips	
Watering (per SCAQMD Rule 403)	61% PM10 and 61% PM2.5

Source: CDM, 2009.

These measures would reduce emissions of TACs bound to particulate matter (e.g., diesel particulate matter and metals) during construction of the LAX Master Plan primarily by reducing emissions from construction equipment and mobile sources. The calculation of TAC emissions and dispersion for the CUP-RP assumed the implementation of these measures.

[121] Los Angeles World Airports, LAX Master Plan Mitigation Plan for Air Quality (MPAQ) - MM-AQ-1: Framework, prepared by URS Corporation and KB Environmental Sciences, Inc., October 2005.

[122] Los Angeles World Airports, LAX Master Plan Mitigation Plan for Air Quality (MPAQ) - MM-AQ-2: Construction-Related Mitigation Measures, prepared by URS Corporation and KB Environmental Sciences, Inc., October 2005.

Table 4.3-6

Construction-Related Air Quality Mitigation Measures

Measure	Type of Measure
Post a publicly visible sign with the telephone number and person to contact regarding dust complaints; this person shall respond and take corrective action within 24 hours.	Fugitive Dust
Prior to final occupancy, the applicant demonstrates that all ground surfaces are covered or treated sufficiently to minimize fugitive dust emissions.	Fugitive Dust
All roadways, driveways, sidewalks, etc. being installed as part of the project should be completed as soon as possible; in addition, building pads should be laid as soon as possible after grading.	Fugitive Dust
Pave all construction access roads at least 100 feet on to the site from the main road.	Fugitive Dust
To the extent feasible, have construction employees' work/commute during off-peak hours.	On-Road Mobile
Make available on-site lunch trucks during construction to minimize off-site worker vehicle trips.	On-Road Mobile
Prohibit staging and parking of construction vehicles (including workers' vehicles) on streets adjacent to sensitive receptors such as schools, daycare centers, and hospitals.	Nonroad Mobile
Prohibit construction vehicle idling in excess of ten minutes.	Nonroad Mobile
Specify combination of electricity from power poles and portable diesel- or gasoline-fueled generators using "clean burning diesel" fuel and exhaust emission controls.	Stationary Point Source Controls
Suspend use of all construction equipment during a second-stage smog alert in the immediate vicinity of LAX.	Mobile and Stationary
Utilize construction equipment having the minimum practical engine size (i.e., lowest appropriate horsepower rating for intended job).	Mobile and Stationary
Require that all construction equipment working on-site is properly maintained (including engine tuning) at all times in accordance with manufacturers' specifications and schedules.	Mobile and Stationary
Prohibit tampering with construction equipment to increase horsepower or to defeat emission control devices.	Mobile and Stationary
The contractor or builder shall designate a person or persons to ensure the implementation of all components of the construction-related measure through direct inspections, record reviews, and investigations of complaints.	Administrative

Source: CDM, 2009.

Additionally, the LAX Master Plan Community Benefits Agreement (CBA) includes several measures that will be included as part of the CUP-RP to address potential construction-related air quality impacts. Section X.F of the CBA delineates the measures specific to Construction Equipment, with the majority of such measures being centered on the following requirement:

- **Best Available Emission Control Devices Required**. LAWA shall require that all diesel equipment used for construction related to the LAX Master Plan Program be outfitted with the best available emission control devices primarily to reduce diesel emissions of PM, including fine PM, and secondarily, to reduce emissions of NO_x. This requirement shall apply to diesel-powered off-road equipment (such as construction machinery), on-road equipment (such as trucks) and stationary diesel engines (such as generators). The emission control devices utilized for the equipment at the

LAX Master Plan Program construction shall be: (i) verified for use by EPA for on-road or off-road vehicles or engines. Devices certified or verified for mobile engines may be effective for stationary engines and that technology from EPA/CARB on-road verification lists may be used in the off-road context.

4.3.6 Impact Analysis

This section describes potential environmental impacts of the CUP-RP as they relate to effects to human health caused by inhalation exposure to TACs released during project construction and operation. Environmental consequences considered are: cancer risks, non-cancer chronic (long-term) health hazards, and non-cancer acute (short-term) health hazards. Possible human health effects are discussed as they relate to releases of TACs during construction activities and CUP-RP-specific operations and to associated risks and chronic and acute hazards for on-site airport workers and off-airport residents, school children, and workers.

Cancer risk and non-cancer health hazards are based on emission rates estimated for construction activities and CUP-RP specific operations as described above, and on basic exposure assumptions as used in the HHRA for the LAX Master Plan EIR, as revised to be consistent with recent CalEPA guidance.[123] MEI cancer risks and non-cancer health hazards were calculated for adult residents, child residents 0 to 6 years of age, and elementary-aged school children near or at fence-line locations where air concentrations for TACs were predicted. MEI cancer risks and non-cancer health hazards were calculated for adult workers at the CTA receptor location. The discussion of human health risk emphasizes the results for MEI adult residents for cancer risks and for MEI child residents for chronic non-cancer health hazards because these populations are expected to incur the greatest residential exposures to LAX-related emissions and would hence be subject to the greatest potential risks and hazards. For the acute non-cancer health hazard impact analysis, receptors were assumed to be located at grid points near or at the fence-line. As noted above, this approach overestimates actual project-related risks.

Methods used in the HHRA are conservative. That is, the methods used are more likely to overestimate than underestimate possible health risks. For example, as noted above, risks were calculated for individuals that live or go to school near or at the LAX fence-line where TAC concentrations are predicted to be highest. Further, individuals are assumed to be exposed for almost all days of the year and for many years (e.g., 70 years for adult residents) to maximize estimates of possible exposure. Resulting risk estimates represent upper-bound predictions of exposure, and therefore health risk, which may be associated with living near, and breathing emissions from, LAX during and after implementation of the CUP-RP. By protecting hypothetical individuals that receive the highest exposures, the risk assessment is also protective for actual members of the population near LAX that would not be as highly exposed.

Cumulative risks were based on previous estimates of cumulative risks presented in the LAX Bradley West Project Draft EIR;[124] methods used to evaluate these risks have not changed.

Calculations supporting the results presented in the following sections are provided in the Technical Report (Appendix C of this EIR).

4.3.6.1 Cancer Risks

Air concentrations for TACs for construction and operational sources were developed using emissions estimates, dispersion modeling, and receptor locations as described in Section 4.3.2, above. Concentrations at fence-line receptor locations represent maximum concentrations of TACs predicted by the air dispersion modeling for off-airport receptors. These fence-line concentrations were used to evaluate exposure to a residential MEI, and thus provide a ceiling for risks and hazards for off-airport

---

123 California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.

124 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX), May 2009.

residents and students. In addition, the CTA receptor located within airport property was used to evaluate the MEI exposures for commercial workers. Project-related cancer risks for the MEI locations are summarized in **Table 4.3-7**.

Construction

As indicated in **Table 4.3-7**, if maximum construction emissions of the CUP-RP were continuous and lasted for a lifetime (70 years), this would result in an incremental increase in cancer risk of 1.8 in one million for adult residents at the residential location with the maximum cancer risk (the residential MEI location). This means that if a population of adult residents was exposed to TAC concentrations caused by CUP-RP construction at the residential MEI location for 70 years, an additional two cancer cases per million people exposed might occur. Given lifetime exposure at the residential MEI location to continuous emissions from construction of the CUP-RP, the school child, child resident and young child through adulthood (child+adult) resident would experience an incremental increase in cancer risk of 0.046, 0.54 and 2.2 in one million, respectively. Lifetime exposure to continuous emissions from construction of the CUP-RP would result in an increase of 18 in one million for the adult worker at the off-site MEI location.

Table 4.3-7

Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals for CUP-RP

	Mitigated	
Receptor Type	**Construction**	**Operation (Change From Existing CUP)**
Cancer Risks[1,2] (per million people)		
Child Resident	0.54	-0.00005
School Child	0.046	-0.000004
Adult + Child Resident[3]	2.2	-0.0002
Adult Resident	1.8	-0.0002
Adult Worker	18	0.004
Non-Cancer Chronic Hazards[2,4]		
Child Resident	0.007	0.00003
School Child	0.0006	0.000003
Adult Resident	0.002	0.00001
Adult Worker	0.04	0.0007

1 Values provided are changes in the number of cancer cases per million people exposed as compared to baseline conditions. Cancer estimates are rounded to two significant figures.
2 Note maximum concentrations for each scenario are not at the same location (grid point).
3 Includes exposure to TACs released from LAX from childhood (ages 0-6) through adulthood (ages 7-70).
4 Hazard indices are totals for all TACs that may affect the respiratory system. This hazard index is essentially equal to the total for all TACs.

Source: CDM, 2009.

Exposure to diesel particulate matter released during construction would contribute about 96 percent of these cancer risks. The remaining portion of these risk estimates for construction sources is attributable to hexavalent chromium (two percent) and vanadium (one percent).

For adult residents, an exposure duration of 70 years was used to estimate possible cancer risks associated with CUP-RP construction. It was assumed that construction emissions continue for a lifetime (e.g., 6 years for a child and 70 years for an adult). Note that the construction period of the CUP-RP is actually anticipated to be about four years, however. Only during this time period would exposure to construction emissions actually occur, so cancer risks from construction should actually be much lower than those estimated here. This issue is discussed in more detail in Section 6 (Uncertainties) of the Technical Report (Appendix C of this EIR). Similar overestimation results from the fact that a 40-year (rather than four-year) exposure duration was used for off-site workers (see Section 2.4.2 of the Technical Report).

Operation

Operational emissions of the CUP-RP after construction and with mitigation would result in a reduced cancer risk as compared to existing conditions for the child, adult, and young child through adulthood (child+adult) residents. Cancer risks for child residents and children attending schools within the study area are estimated to be -0.00005 and -0.000004 in one million, respectively, for the mitigated CUP-RP-specific operations scenario. For child+adult residents and adult residents the corresponding estimates are each -0.0002 in one million. Operational emissions would result in slight increase in cancer risk to the maximally exposed adult worker of 0.004 in one million. These estimates show that project operation-related cancer risks for adults and for young children are predicted to be below the threshold of significance of 10 in one million for the CUP-RP. These estimates are likely to greatly overestimate actual exposure because they assume exposure occurs at the LAX fence-line for a lifetime. Concentrations at the fence-line are maximums. Actual exposures would occur at locations removed from the fence-line where lower concentrations are predicted.

Risks below one in one million are typically considered negligible by regulatory agencies in California. The negative numbers shown for incremental cancer risks from operational emissions at the residential MEI location indicate that mitigated operational impacts would be beneficial. In other words, operating the CUP-RP would result in less cancer risk at the MEI location than would continued operation of the existing CUP. Although the maximum estimated cancer risk for adult workers under the operations scenario with mitigation is a positive number (0.004 in one million), it is well below the threshold of significance of 10 in one million. PAHs contributed to the majority of the cancer risk for the operations scenario with the remaining portion of the risk attributable to benzene.

Summary

In summary, with the exception of cancer risk for adult workers under the mitigated scenario for construction impacts, project-related cancer risks from construction and from operation for all adult receptors and for young children are predicted to be below the threshold of significance (10 in one million).

Figure 4.3-2 shows locations of commercial (occupational, or worker) and residential receptors with peak TAC concentrations from construction and from operation of the project. Proximity of the receptors to the project site explains why the estimated risks from the project are much higher at the MEI than at the MEI, even though the exposure duration (40 years) assumed for the MEI is shorter than the exposure duration (70 years) used for the MEI. As shown in **Figure 4.3-3**, all residential receptors are much further from the project site than the MEI location. In addition, it should be noted that only one occupational receptor location has an estimated cancer risk greater than 10 in one million.

Cancer Risks Described Geographically

Total cancer risks for construction of the CUP-RP were calculated for each grid node in the AERMOD modeling domain (see **Figure 4.3-1**, above). Risks were then used to generate estimates of risks on a spatial basis as overlays on a map of the LAX study area. **Figure 4.3-2** shows receptors and peak TAC concentration locations. Cancer risks under mitigated conditions are presented in **Figure 4.3-3** for CUP-RP construction. Cancer risks for CUP-RP operations are not shown because these risks are negative or several orders of magnitude less than 1 in one million and showing these risks would not add to this discussion. **Figure 4.3-3** depicts ranges of cancer risks from less than 1 in one million to greater than 10 in one million as an increase in cancer risk compared to the 2008 baseline. Grid nodes in the figures are represented by shapes reflecting their land use type (residential, commercial, or school), which is also the basis by which the risks at that location were calculated. Cancer risks for the adult + child resident were used to represent residential and school nodes because these values provide a ceiling for risks at these locations. Since all risk estimates for residents are below thresholds of significance, a more refined analysis is not necessary.

Importantly, grid nodes where adult off-airport worker risks exceed the threshold of 10 in one million are limited to a small area near the LAX Theme building. Cancer risk estimates at all other grid nodes, including those along the terminal access loop and the east and southeast fence lines are below 10 in one million. In many cases, risk estimates are below 1 in one million. Risks below this target are often deemed *de minimis*. Thus, the geographic extent of construction related impacts above significance threshold is small.

As shown in **Figure 4.3-3**, commercial grid nodes nearest the LAX Theme building (CTA) have cancer risks higher than commercial grid node locations to the southeast. Residential nodes to the northeast of LAX are generally higher than cancer risks predicted for residential nodes to the northeast suggesting that risks are generally higher along the path of the prevailing wind. This finding is consistent with the LAX Master Plan EIR geographical findings regarding operational cancer risks and adds to confidence in the results of the analyses.

To provide a more focused comparison of spatial differences, cancer risks at fence-line grid nodes were compared to the cancer risks at grid nodes 25 meters further out from this LAX boundary. For the majority of the grid nodes, TAC concentrations and therefore corresponding cancer risks decreased by up to 10 percent between the fence-line and 25 meters into the community. In a few instances, cancer risks increased slightly -- less than 5 percent. These locations are highlighted in **Figure 4.3-4**. Small changes are expected for closely spaced grid nodes and suggest that small local differences in concentrations are not an important uncertainty in the assessment. This conclusion is supported by results from evaluation at grid nodes further into the communities east and northeast of LAX. Prevailing winds are from the west and southwest indicating that chronic impacts in communities to the northeast would be among the highest expected outside of the LAX boundary. Even so, risk estimates at these locations are uniformly low, that is, below the threshold of significance and in many cases below 1 in one million.

Since all non-cancer health effects for the CUP-RP are more than an order of magnitude less than 1, a figure depicting the geographic extent of non-cancer health hazards would not add to the discussion of these results and was not created.

4.3.6.2 Non-Cancer Chronic Health Hazards

Project-related chronic non-cancer hazard indices for construction impacts associated with the CUP-RP are provided in **Table 4.3-7**, above.

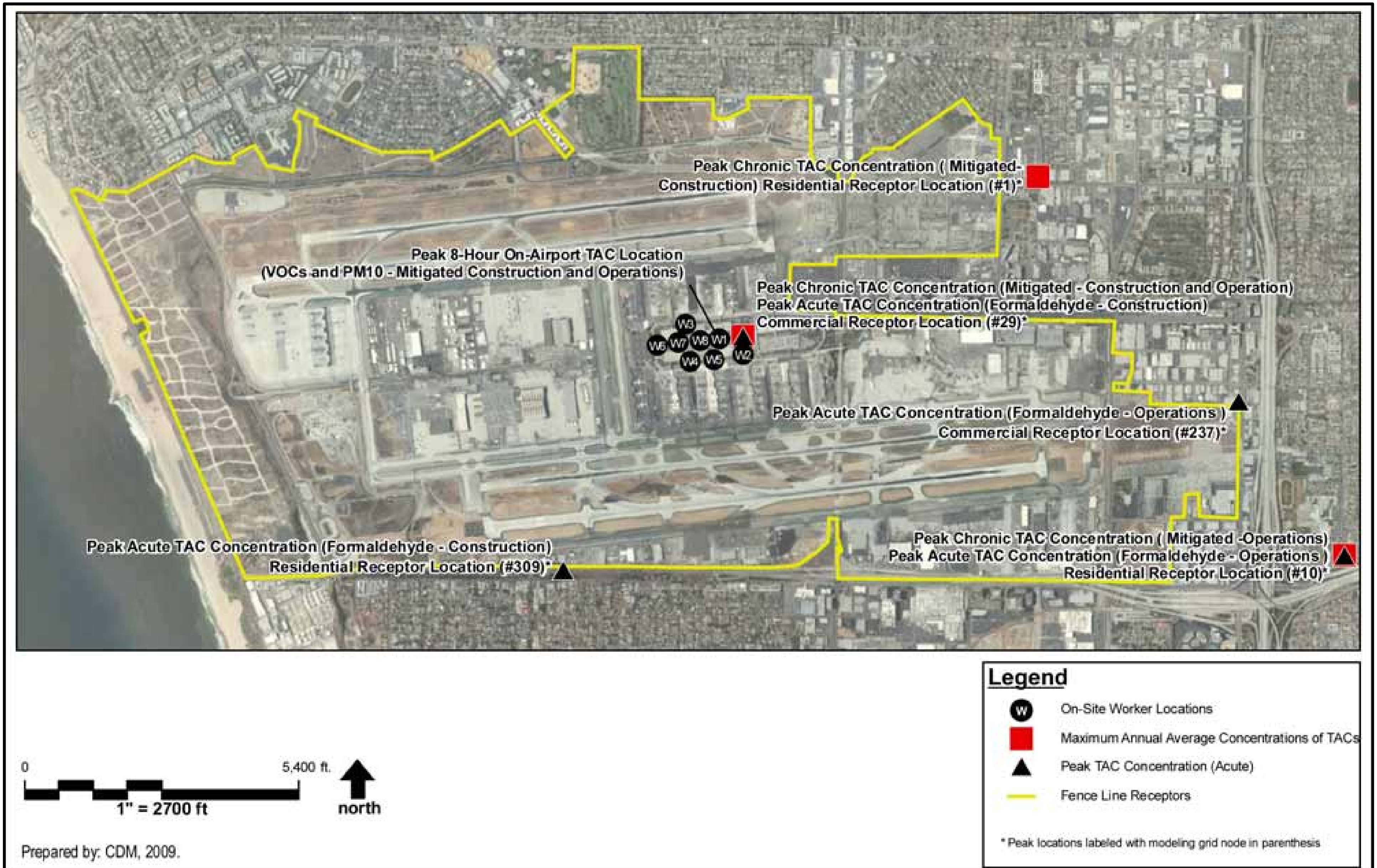
Construction

With the use of emission controls, chronic hazard indices from construction for the child resident, school child, and adult resident would be 0.007, 0.0006, and 0.002, respectively. Exposure to controlled emissions from construction of the CUP-RP would result in a hazard index of 0.04 for the maximally exposed worker. All hazard estimates for the mitigated CUP-RP construction are below the significance threshold of one.

Diesel particulate matter contributes 59 percent or more to the hazard index from construction sources for all residential receptors, but other TACs also make important contributions, including vanadium (18 percent), chlorine (15 percent), and manganese (5 percent). The source of diesel particulate matter is mainly construction equipment. Vanadium emissions are primarily from fugitive dust.

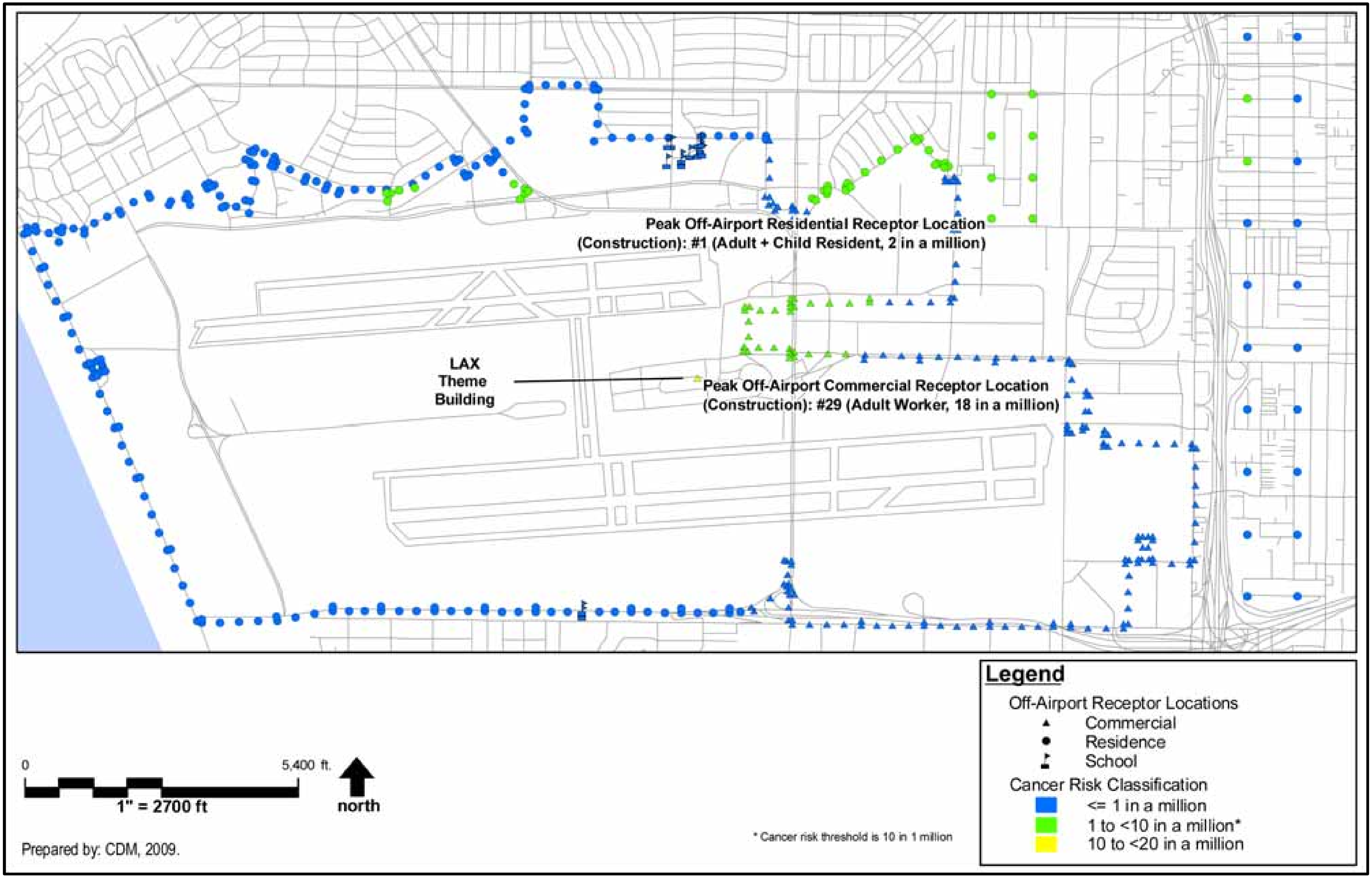
Operation

Hazard indices for adult residents and child residents living at the peak TAC concentration location under the mitigated scenario for CUP-RP-specific operations are estimated to be 0.00001 and 0.00003,



Prepared by: CDM, 2009.

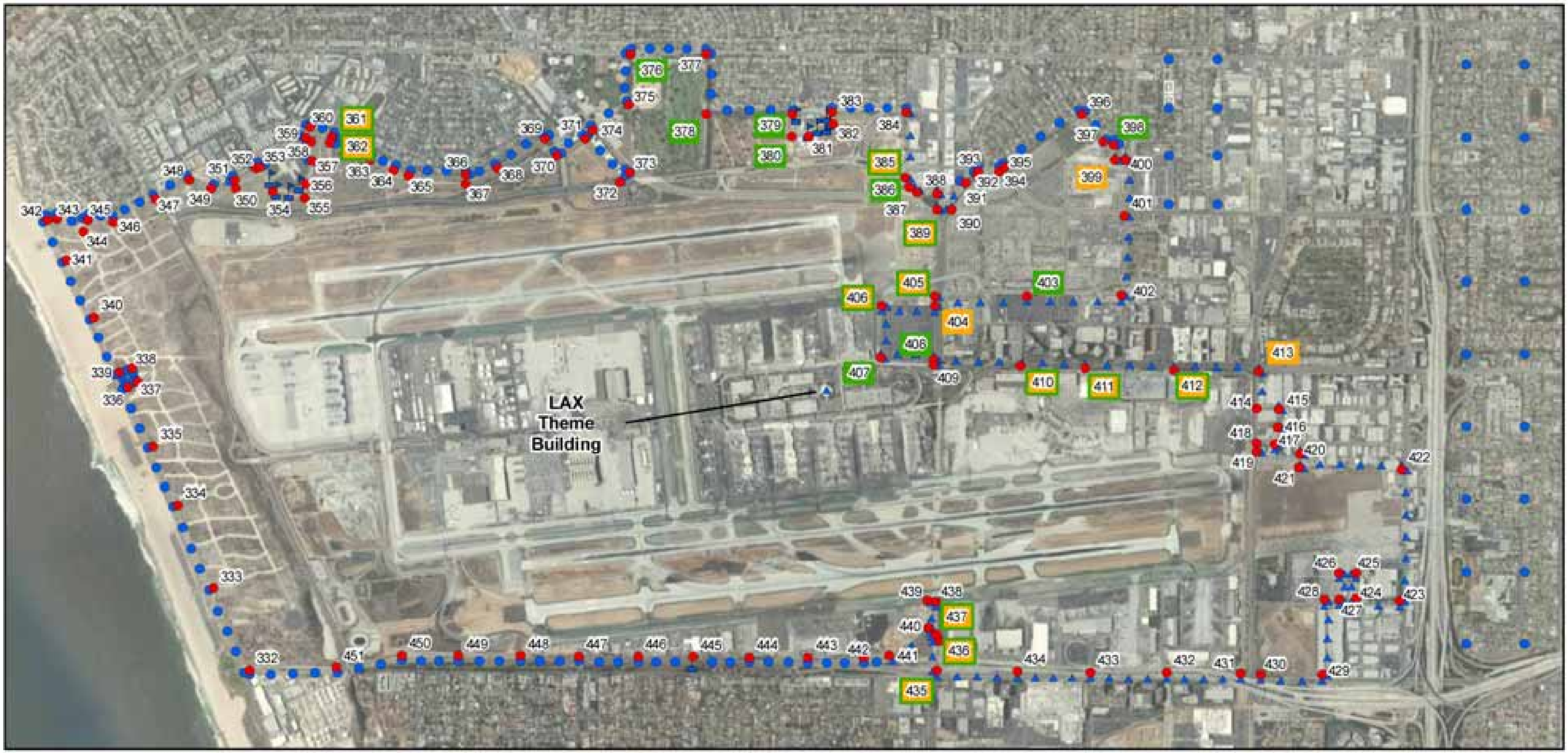
LAX Central Utilities Plant Replacement Project Draft EIR	Human Health Risk Assessment Receptors and Peak Toxic Air Contaminants Concentration Locations	Figure 4.3-2



LAX Central Utilities Plant Replacement Project Draft EIR

Geographic Representation of Cancer Risks by Receptor Type - Construction, Post-Mitigation Conditions

Figure
4.3-3



0 5,400 ft.

1" = 2700 ft

north

Prepared by: CDM, 2009.

Legend

Fence Line Land Use Assumptions

- ▲ Commercial
- ● Residential
- School
- 406 Mitigated Operation Location Where Cancer Risks Increased (< 8 %)
- 376 Mitigated Construction Location Where Cancer Risks Increased (< 8 %)

LAX Central Utilities Plant Replacement Project Draft EIR	Comparison of Cancer Risk for Receptor Grid Nodes at the LAX Fence Line to Grid Nodes 25 Meters from the New CUP	Figure 4.3-4

respectively. The maximum hazard index for school children is 0.000003. For off-site workers, the maximum hazard index is 0.0007. All project operation-related chronic non-cancer health hazard impacts are predicted to be below the threshold of significance (a hazard index of one).

Estimated hazard indices for operations are primarily attributable to ammonium ion and acrolein, with ammonium ion contributing roughly eight times more than acrolein. Project-related chronic non-cancer health hazards for adult workers for construction and operations with mitigation are both predicted to be below the threshold of significance.

As with cancer risk, proximity of the receptors to the project site explains why estimated hazard indices are higher at the MEI (worker) location than at the MEI (resident) location.

4.3.6.3 Non-Cancer Acute Health Hazards

As with cancer risks and chronic non-cancer hazards, acute non-cancer hazards were analyzed at grid points within the study area. Land use distinctions and different exposure scenarios are irrelevant for assessment of acute risks. For example, someone visiting a commercial establishment would potentially be subject to the same acute risks as someone working at the establishment. However, likely receptors (residential, school, and occupational) for each grid point were designated through inspection of aerial photos, since these designations may provide some reflection of populations more likely to be exposed in certain locations. Residential land use was, for example, assumed for grid points that are adjacent to residential areas. Acute risks at these locations may reflect the relative magnitude of acute risks in residential areas nearest to emission sources. Likewise, off-airport workers were assumed at receptor locations that are adjacent to commercial land uses. In addition, commercial workers were also assumed to be located at the CTA receptor location. Fence-line and CTA concentrations of TACs are likely to represent the highest concentrations and thus the greatest potential impacts for residents and workers, respectively. Three schools, St. Bernard High School, Visitation Elementary School, and Imperial Avenue School, were identified as schools in the study area closest to the fence-line; potential acute hazards for school children were estimated at the grid points (seventeen grid points) closest to these locations.

Hazard indices due to acute exposure to TACs are all below one for selected grid nodes within the study area under mitigated conditions. The maximum acute hazards associated with construction and operational activities are shown in **Table 4.3-8** and are based on potential exposure to acrolein, ammonium ion, and formaldehyde. Acute exposures to formaldehyde may result in irritation of the eyes and respiratory system and, possibly, adverse effects on the immune system.[125] Acrolein, if acute effects occurred, would typically irritate eyes and mucous membranes. Acute exposures to ammonium ion may result in mild eye and respiratory irritation.

Acute hazards for TACs other than ammonium ion, formaldehyde and acrolein are orders of magnitude below one and below the acute hazards estimated for short-term exposure to formaldehyde, ammonium ion and acrolein. Acute hazard estimates are applicable to all receptors. Toxicity criteria for acute health hazards are simply air concentrations above which health effects could occur; they do not distinguish between adults and children and are the same for all land uses. Acute RELs are established at levels that are considered protective of sensitive populations. A hazard index equal to or greater than one, the threshold of significance for acute effects, indicates some potential for acute adverse health effects. A hazard index less than one suggests that acute adverse health effects are not expected. Project-related acute health hazards for all receptor types would not exceed the threshold of significance for any one hour interval. Calculations for acute health hazards are provided in Attachment 4 of the Technical Report (Appendix C of this EIR).

125 California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, OEHHA Toxicity Criteria Database. Available: http://www.oehha.ca.gov/risk/ChemicalDB/index.asp, accessed May 1, 2008.

Table 4.3-8

Acute Hazard Indices for the CUP-RP

	Summary of Acute Hazard Indices[1]					
	Formaldehyde		Ammonium Ion		Acrolein	
	Constr.	Operation	Constr.	Operation	Constr.	Operation[5]
Residential Locations						
Maximum HI[2]	0.04	-0.00002	0.000006	0.00001	0.0003	-0.00001
Off-Airport Worker Locations						
Maximum HI	0.4	-0.00002	0.00006	0.0001	0.003	-0.00001
School Child Locations						
Maximum HI	0.03	-0.00003	0.000004	0.00001	0.0002	-0.00002
Overall Off-Airport Maximum HI	0.4	-0.00002	0.00006	0.0001	0.003	-0.00001
On-Airport Construction Worker Locations						
Maximum HI	0.3	NE[3]	0.00006	NE	0.003	NE[3]

1 Maximum concentrations for each scenario were not at the same location
2 HI = Hazard Index
3 NE = Not evaluated separately.

Source: CDM, 2009.

4.3.6.4 Health Effects for On-Airport Workers

Effects on construction workers were evaluated by comparing estimated maximum one-hour air concentrations of TACs for the CUP-RP to the California Occupational Safety and Health Administration (CalOSHA) eight-hour Time-Weighted Average Permissible Exposure Levels (PEL-TWAs).[126] For pollutants with no PELs, Threshold Limit Values (TLVs) established by the American Conference of Governmental Industrial Hygienists (ACGIH)[127] were used. Estimated on-airport air concentrations and PEL-TWAs for TACs of concern for LAX are presented in **Table 4.3-9**.

Estimated maximum one-hour air concentrations at on-airport locations under the CUP-RP for construction with mitigation are a few to several orders of magnitude below PELs or TLVs for all TACs. This result suggests that air concentrations from airport emissions with implementation of the CUP-RP would not exceed those considered acceptable by CalOSHA standards.

4.3.6.5 Discussion of Impacts

Several factors contribute to the cancer risks and non-cancer health hazards associated with the CUP-RP. Construction would result in temporary emissions of various TACs from construction equipment, worker commuting vehicles, truck haul/delivery trips, and demolition and grading activities. Operation of the CUP-RP would result in increased short-term emissions of TACs including acrolein, ammonium ion, and formaldehyde, from combustion of fuel and control of NOx emissions with ammonia.

126 California Occupational Safety and Health Administration, Permissible Exposure Limits for Chemical Contaminants, Table AC-1, Available: http://www.dire.ca.gov/title8/5155.html.

127 American Conference of Governmental Industrial Hygienists, Documentation of the Threshold Limit Values and Biological Exposure Indices, 8th ed., 1998.

Table 4.3-9

Comparison of CalOSHA Permissible Exposures Limits to the CUP-RP Maximum Estimated 8-Hour On-Airport Air Concentrations

	CUP-RP Construction	CUP-RP Operations	
Toxic Air Contaminant[1]	**Mitigated (mg/m^3)**[2]	**Mitigated (mg/m^3)**[3]	**CAL OSHA PEL-TWA (mg/m^3)**[4]
Acetaldehyde	0.01	-0.000002	45
Acrolein	0.000008	-0.0000004	0.25
Benzene	0.0027	-0.0000008	0.32[4]
Butadiene, 1-3-	0.0003	-0.00000002	2.2
Ethylbenzene	0.0005	-0.000002	435
Ethylene Glycol	0.000004	0	100
Formaldehyde	0.02	-0.00003	0.37[5]
Hexane, n-	0.0004	-0.0000002	180
Isopropyl Alcohol	0.000009	NE	980
Methyl Alcohol	0.00007	NE	260
Methyl Ethyl Ketone	0.002	NE	590
Methyl t-Butyl Ether	0.0001	NE	144
Naphthalene	0.0001	NE	50
Phenol	0.0	NE	19
Propylene oxide	0.004	-0.000001	NA[7]
Styrene	0.00008	NE	215
Toluene	0.003	-0.000007	188
Xylene (total)	0.002	-0.000004	435
Antimony	0.000005	0.0	0.5
Arsenic	0.000005	0.0	0.01
Cadmium	0.000009	0.0	0.005
Chromium VI	0.000007	0.0	0.005
Copper	0.00003	0.0	1
Lead	0.0001	0.0	0.05
Manganese	0.0002	0.0	0.2
Mercury	0.000005	0.0	0.025
Nickel	0.00002	0.0	1
Selenium	0.000001	0.0	0.2
Vanadium	0.00006	0.0	0.05[8]
Zinc	0.0001	0.0	NA
Ammonium Ion	0.0002	-0.001	18
Bromine	0.00001	0.0	0.7
Chlorine	0.001	0.0	1.5
Diesel PM	0.05	0.0	NA
Silicon	0.04	0.0	5
Sulfates	0.003	0.0	NA

1 All TACs for which PEL-TWAs are available are listed. PEL-TWAs are not available for diesel exhaust, propylene, zinc, and sulfates.
2 Maximum eight-hour concentrations at on-airport location. (W1 for VOCs and inorganic constituents)
3 Values listed are one-hour concentrations in the CTA which represent reasonable estimates of 8-hour concentrations in the CUP-RP construction area. Negative values indicate decreases in concentrations due to improvements from new operations. Elemental/metal emissions for operations are shown as zero because during operations these constituents are only from diesel exhaust from the one existing diesel engine, which remains the same for existing and future operations, resulting in zero increment.
4 California Occupational Safety and Health Administration. Permissible Exposure Limits for Chemical Contaminants, Table AC-1, 2008, http://www.dir.ca.gov/title8/5155table_ac1.html.
5 CalOSHA does not have a value; value is from American Conference of Governmental Industrial Hygienists (ACGIH), Documentation of the Threshold Limit Values and Biological Exposure Indices, 8th ed., Cincinnati, Ohio, 1998.
6 NE = Not Estimated
7 NA = Not Available
8 Value listed for vanadium is for vanadium pentoxide, the most common form of vanadium

Source: CDM, 2009.

It is anticipated that NOx emissions from the new turbines would be controlled using selective catalytic reduction (SCR), which typically requires a reductant (ammonia) to reduce NOx to molecular nitrogen (N_2) and water. The ammonia needed for SCR can be supplied by using pure anhydrous ammonia, aqeous ammonia, or urea. Due to concerns over the safety of transporting, storing and using anhydrous and aqeous ammonia, LAWA has chosen to incorporate urea as the reductant in the CUP-RP design. Urea is safer to handle and is not considered a regulated substance under the California Accidental Release Prevention Program (CalARP), therefore a risk management program (RMP) is not necessary.

Estimated risks and health hazards are less than significance thresholds for adult and child residents and school children. Given the conservative (protective) approach used to estimate the magnitude of potential impacts to human health, no significant risks or hazards under CEQA are anticipated for those receptors. However, estimated cancer risks for potentially exposed workers within the study area are above the level of significance of 10 in one million due to construction impacts. Discussion of uncertainties associated with risk characterization for these exposure scenarios is provided in Section 6 of the Technical Report (Appendix C of this EIR).

4.3.7 Cumulative Impacts

Unlike air quality, for which standards have been established that determine acceptable levels of pollutant concentrations, no standards exist that establish acceptable levels of human health risks or that identify a threshold of significance for cumulative health risk impacts. Therefore, the discussion below addresses cumulative impacts, and possible project-related contribution to those impacts. No determination is made however regarding the significance of cumulative impacts.

4.3.7.1 Cumulative Cancer Risks and Non-Cancer Chronic Health Hazards

The SCAQMD conducted an urban air toxics monitoring and evaluation study for the South Coast Air Basin from April 2004 through March 2006 called MATES-III. MATES-III is a follow up to MATES-II and provides an updated general evaluation of cancer risks associated with TACs from all sources within the South Coast Air Basin. According to the study, cancer risks in the Basin range from 870 in one million to 1,400 in one million, with an average of 1,200 in one million. These cancer risk estimates are high and indicate that current impacts associated with sources of TACs from past and present projects in the region are substantial. The MATES-III study is an appropriate estimate of present cumulative impacts of TAC emissions in the South Coast Air Basin. It does not, however, have sufficient resolution to determine the fractional contribution of current LAX operations to TACs in the airshed. Only possible incremental contributions to cumulative impacts can be assessed.

The LAX Master Plan Final EIR used the results of the MATES-II study to address cumulative cancer risks associated with the build alternatives and the No Action/No Project Alternative. Overall, the analyses indicated that:

- LAX operations would have a small impact on cumulative human cancer risks associated with living in the South Coast Air Basin; and
- Mitigation would reduce cancer risks below those predicted for pre-mitigation conditions. That is, mitigation would result in a decrease in cumulative risks for many people living closest to the airport.

Predicted concentrations of TACs released from construction and operational activities for the CUP-RP suggest that chronic health hazards would not be expected. The assessment of cumulative chronic hazards follows methods used to evaluate cumulative chronic hazards presented in the LAX Master Plan Final EIR (Section 4.24.1.7 and Technical Report S-9a, Section 6.3) incorporating updated National-Scale Air Toxics Assessment (NATA)[128] Tables from 1999. The methods used may provide only some idea of order of magnitude of impacts. The methods do not allow acceptable estimates of acute hazards on a scale smaller than a large fraction of the air basin.

---

128 U.S. Environmental Protection Agency, Available: hhtp://www/epa.gov/ttn/atw/nata1999/tables.html.

With regard to reasonably foreseeable projects, continued growth and development in the region, as well as other construction projects at LAX, would result in additional sources of TACs. Although future sources and releases of TACs are highly speculative, estimated emissions of other projects at LAX that may be constructed concurrently with the CUP-RP were assessed to see how they compare to estimated CUP-RP emissions after mitigation. Projects at LAX that were included in this evaluation are: Bradley West Project; Crossfield Taxiway Project; Airfield Operating Area (AOA) Perimeter Fence Enhancements - Phase III[129]; Security Program - In-Line Baggage Screening Systems (T6); TBIT Interior Improvements Program; Airfield Intersection Improvements - Phase 2; Airport Operations Center (AOC)/Emergency Operation Center (EOC); K-9 Training Facility;[97] Passenger Boarding Bridge Replacement;[97] Bus Wash Rack Facility;[97] CTA Elevators and Escalators Replacement; CTA Seismic Retrofits;[97] Sewer Line Replacement;[97] CTA Joint Repair, Roadway Improvements, and Security Barriers;[97] Korean Air Cargo Terminal Improvement Project; West Aircraft Maintenance/Aircraft Parking Area; Westchester Golf Course 3-Hole Restoration Project; Westchester Rainwater (Stormwater) Improvement Project; and Metro Bus Maintenance and Operations Facility. Cumulative incremental cancer risks and hazards from the estimated emissions of these projects at LAX are summarized in **Table 4.3-10**. Calculations for cumulative incremental cancer risks and hazards are provided in Attachment 5 of the Technical Report (Appendix C of this EIR).

As shown in **Table 4.3-10**, cancer risks and hazards from CUP-RP construction after mitigation may comprise from 6 to 58 percent of cancer risks and 2 to 44 percent of the hazards from the combined other projects at LAX anticipated to be under construction concurrent with the CUP-RP. Thus, risks and hazards associated with CUP-RP construction after mitigation combined with the risks and hazards of other concurrent projects at LAX would result in an increase in cumulative human cancer risks and health hazards. This increment would still not be measurable against urban background conditions in the South Coast Air Basin. Risks and hazards associated with CUP-RP-specific operations would have an even smaller impact on cumulative human cancer risks and health hazards against urban background conditions in the South Coast Air Basin.

Meaningful quantification of future cumulative health risk exposure in the entire South Coast Air Basin is not possible. Moreover, the threshold of significance used in this HHRA for evaluating CUP-RP construction and operation is meaningful only in the context of individual projects; this threshold is not appropriately applied to conclusions regarding cumulative cancer risk in the Basin. However, based on the relatively high cancer risk level associated with past and present projects in the Basin, as represented by the environmental baseline (i.e., an additional 1,200 cancer cases per million), the CUP-RP would not add incrementally to the already high cumulative impacts in the South Coast Air Basin near LAX.

The above comparisons do not account for possible positive changes in air quality in the South Coast Air Basin in the future. SCAQMD and other agencies are consistently working to reduce air pollution. In particular, reductions in emission of diesel particulates are being considered for the near future. Since diesel particulate matter is the major contributor to estimated cancer risks, substantial reductions in diesel emissions would result in substantial reductions in cumulative cancer risks. These, and other such regulations intended to reduce TAC emissions within the Basin, would reduce cumulative impacts in the airshed. While continued, if not increased, regulation by the SCAQMD of point sources as well as more stringent emission controls on mobile sources would reduce TAC emissions, whether such measures would alter incremental contributions of TAC releases to cumulative impacts under the CUP-RP cannot be ascertained.

---

129 Implementation of all or part of this project is currently on hold, pending further evaluation of available funds within LAWA's annual budget for Capital Improvement Program (CIP) projects. Given the relatively small size and nature of the project and the limited likelihood that it could be implemented sometime in the future, it was kept in the cumulative projects list.

Table 4.3-10

Cumulative Incremental Cancer Risks and Chronic Non-Cancer Health Hazards for Maximally Exposed Individuals for Construction of Other Concurrent Projects at LAX Compared to CUP-RP

Receptor Type	Concurrent Other Projects at LAX Mitigated[2,3]	CUP-RP Mitigated	
		Construction	Operation
Incremental Cancer Risks[1] (per million people)			
Child Resident	9	0.5	-0.00005
School Child	0.8	0.05	-0.000004
Adult + Child Resident[4]	38	2	-0.0002
Adult Resident	31	2	-0.0002
Adult Worker	31	18	0.004
Incremental Non-Cancer Chronic Hazards[5]			
Child Resident	0.3	0.007	0.00003
School Child	0.03	0.0006	0.000003
Adult Resident	0.09	0.002	0.00001
Adult Worker	0.09	0.04	0.0007

1 Values provided are changes in the number of cancer cases per million people exposed as compared to baseline conditions. Cancer and hazard estimates are rounded to one significant figure.

2 Includes Bradley West Project (Taxiway S and ARFF demolition), Crossfield Taxiway Project, Airfield Operating Area (AOA) Perimeter Fence Enhancements - Phase III, Security Program - In-Line Baggage Screening Systems (T6), TBIT Interior Improvements Program, Airfield Intersection Improvements - Phase 2, Airport Operations Center (AOC)/Emergency Operation Center (EOC), K-9 Training Facility, Central Utilities Plant (CUP) Replacement Program, Passenger Boarding Bridge Replacement, Bus Wash Rack Facility, CTA Elevators and Escalators Replacement, CTA Seismic Retrofits, Sewer Line Replacement, CTA Joint Repair, Roadway Improvements, and Security Barriers, Korean Air Cargo Terminal Improvement Project, West Aircraft Maintenance/Aircraft Parking Area, Westchester Golf Course 3-Hole Expansion Project, Westchester Rainwater (Stormwater) Improvement Project, and Metro Bus Maintenance and Operations Facility.

3 Concurrent Other Projects at LAX Mitigated includes both CUP-RP construction and operation even though construction of CUP-RP and operation of CUP-RP would not overlap. The uncertainty arising from combining the risks and hazards from these two phases is further discussed in the uncertainties section (Section 6) of the Technical Report (Appendix C).

4 Includes exposure to TACs released from LAX from childhood (ages 0-6) through adulthood (ages 7-70).

Source: CDM, 2009.

4.3.7.2 Cumulative Non-Cancer Acute Health Hazards

Predicted concentrations of TACs released from construction and operational activities for the CUP-RP suggest that acute health hazards would not be expected. The assessment of cumulative acute hazards follows methods used to evaluate cumulative acute hazards presented in the LAX Master Plan Final EIR (Section 4.24.1.7 and Technical Report S-9a, Section 6.3) incorporating updated National-Scale Air Toxics Assessment (NATA)[130] Tables from 1999. The methods used may provide only some idea of order of magnitude of impacts. The methods do not allow acceptable estimates of acute hazards on a scale smaller than a large fraction of the air basin.

When USEPA annual average estimates are converted to possible one-hour maximum concentrations, acute hazard indices associated with total acrolein concentrations are estimated to range from two to 120, with an average of 23, for locations within the study area. Predicted maximum acute hazards associated with acrolein for CUP-RP construction and operations are 0.003 and -0.00001, respectively. Thus, the CUP-RP would be expected to contribute substantially less than one percent above current levels of acrolein even at locations where maximum concentrations are predicted.

130 U.S. Environmental Protection Agency, Available: hhtp://www/epa.gov/ttn/atw/nata1999/tables.html.

Acute hazard indices associated with total formaldehyde concentrations are estimated from USEPA data to range from 0.07 to 1.7, with an average of 0.55, for locations within the study area. Predicted acute hazards associated with formaldehyde for CUP-RP construction and operations are 0.4 and 0.00002, respectively. Thus, the CUP-RP could contribute 72 percent (0.4/0.55) on average above current levels of formaldehyde at residential locations and at commercial off-airport locations.

Similar to the analysis for cumulative cancer risks, cumulative acute hazards from TACs released from construction activities for projects at LAX that may be constructed concurrently with the CUP-RP were assessed and compared to acute hazards for the CUP-RP construction and CUP-RP-specific operations. Cumulative acute hazards remain small, even considering the impacts from several concurrent construction projects. Although acute acrolein hazards are much lower for the CUP-RP than for the cumulative projects, cumulative acute hazards associated with formaldehyde are in the same range as that for the CUP-RP alone. This finding reflects modeling of TACs released only during construction of other projects at LAX. Operational activities from these projects were not included in estimates of cumulative impacts because either operations are evaluated in the LAX Master Plan Final EIR[131] for those projects that are part of the LAX Master Plan, or the projects do not result in operational changes to emissions.

Cumulative acute hazards from concurrent LAX projects are summarized in **Table 4.3-11**. Calculations are provided in Attachment 5 of Technical Report (Appendix C of this EIR).

4.3.8 Mitigation Measures

LAWA is committed to mitigating temporary construction-related emissions to the extent practicable and has established some of the most aggressive construction emissions reduction measures in southern California, particularly with regard to requiring construction equipment to be equipped with emissions control devices. The specific means for implementing the mitigation measures described in Section 4.3.5 were first approved and implemented as part of the SAIP, and would also be applied to the CUP-RP. Because these mitigation measures establish a commitment and process for incorporating all technically feasible air quality mitigation measures into each component of the LAX Master Plan, no additional project-specific mitigation measures are recommended in connection with the CUP-RP.

4.3.9 Level of Significance After Mitigation

The TAC emissions inventory developed for the CUP-RP air quality Technical Report (Appendix C of this EIR) formed the basis for the health risk characterization. Levels of significance for the CUP-RP are summarized below:

- Project-related cancer risks for CUP-RP construction and CUP replacement-specific incremental operational impacts would be below the level of significance of 10 in one million for potentially exposed residents (adults and young child through adulthood [adult + child]), and school children within the study area.
- Project-related chronic non-cancer hazard indices for CUP-RP construction and CUP replacement-specific incremental operational impacts would be below thresholds of significance for all receptor types (i.e., child resident, school child, adult resident, and adult worker).
- Project-related cancer risks for CUP-RP construction impacts with mitigation would be above the level of significance of 10 in one million for adult workers within the study area. As all feasible mitigation measures would be implemented, impacts would be significant and unavoidable.

131 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.

Table 4.3-11

Cumulative Acute Hazard Indices for Construction of Other Concurrent Projects at LAX Compared to Mitigated CUP-RP

	Summary of Acute Hazard Indices					
	Concurrent Other Projects at LAX Mitigated[2]		CUP-RP Increment[3]			
			Construction		Operation	
	Formaldehyde	Acrolein	Formaldehyde	Acrolein	Formaldehyde	Acrolein
Residential						
Maximum HI[1]	0.1	0.08	0.04	0.0003	-0.00002	-0.00001
Minimum HI	0.02	0.02	0.002	0.00002	-0.00006	-0.00006
Average HI	0.07	0.05	0.02	0.0001	-0.0001	-0.00003
Off-Airport Worker						
Maximum HI	0.2	0.09	0.4	0.003	-0.00002	-0.00001
Minimum HI	0.02	0.04	0.003	0.00002	-0.0006	-0.0002
Average HI	0.06	0.05	0.02	0.0002	-0.00009	-0.00004
School Child						
Maximum HI	0.09	0.07	0.03	0.0002	-0.00003	-0.00002
Minimum HI	0.04	0.05	0.01	0.0001	-0.0001	-0.00005
Average HI	0.05	0.05	0.02	0.0001	-0.0001	-0.00004
Overall Off-Airport Maximum HI	**0.2**	**0.09**	0.4	0.003	-0.00002	-0.00001

1 HI = Hazard Index

2 Includes Bradley West Project (Taxiway S and ARFF demolition), Crossfield Taxiway Project, Airfield Operating Area (AOA) Perimeter Fence Enhancements - Phase III, Security Program -In-Line Baggage Screening Systems (T6), TBIT Interior Improvements Program, Airfield Intersection Improvements - Phase 2, Airport Operations Center (AOC)/Emergency Operation Center (EOC), K-9 Training Facility, Central Utilities Plant (CUP) Replacement Project, Passenger Boarding Bridge Replacement, Bus Wash Rack Facility, CTA Elevators and Escalators Replacement, CTA Seismic Retrofits, Sewer Line Replacement, CTA Joint Repair, Roadway Improvements, and Security Barriers, Korean Air Cargo Terminal Improvement Project, West Aircraft Maintenance/Aircraft Parking Area, Westchester Golf Course 3-Hole Restoration Project, Westchester Rainwater (Stormwater) Improvement Project, and Metro Bus Maintenance and Operations Facility.

3 Since no additional mitigation was assumed for VOC emissions, mitigated and unmitigated concentrations of acrolein and formaldehyde are the same.

Source: CDM, 2009.

- ♦ Project-related acute non-cancer hazard indices would not exceed the threshold of significance of one for any target organ system at any modeled receptor location.
- ♦ Estimated maximum air concentrations for all TACs at on-airport locations would not exceed PEL-TWA or TLVs for workers.
- ♦ Estimated cumulative risks and hazards from emissions for concurrent construction projects at LAX would not be measurable against urban background conditions in the South Coast Air Basin.

4.4 Global Climate Change

This section addresses the potential impacts of the CUP-RP related to global climate change, particularly with regard to the generation of "greenhouse gases." While the subject matter has been widely researched, discussed, and debated worldwide for many years, it is only recently that the issue has advanced to the point of warranting detailed consideration in CEQA documents. As a relatively new issue within the CEQA context, very limited interim guidelines and protocols have been developed[132,133] on how to address the issue in a CEQA document. Additionally, there are no commonly accepted thresholds, such as those often derived from Appendix G of the CEQA Guidelines, applicable to mobile source infrastructure projects which can be used in defining significant impacts related to global climate change. As such, the analysis presented in this section represents LAWA's independent judgment at this time as to how the issue of global climate change relates specifically to the CUP-RP, with the objective of providing the public and decision-makers with a basic understanding of the issue, a quantitative and qualitative estimate of the impacts of the CUP-RP, and an analysis of how those impacts may be considered in different contexts.

4.4.1 Introduction

During the last five years, worldwide concerns about greenhouse gases and global climate change have increased substantially. In particular, the State of California has passed the California Global Warming Solutions Act of 2006 (California Assembly Bill 32, or AB 32) requiring, among other objectives, facilities and organizations to begin reporting greenhouse gas (GHG) emissions. A number of GHG reporting exchanges have gained prominence including the California Climate Action Registry (CCAR) and The Climate Registry (TCR).

4.4.1.1 Global Climate Change

Briefly stated, global climate change (GCC) is a change in the average climatic conditions of the earth, as characterized by changes in wind patterns, storms, precipitation, and temperature. The baseline by which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. Many of the recent concerns over GCC use this data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission projections of GHGs needed to stabilize global temperatures and climate change impacts. The IPCC predicted that the range of global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.4 to 5.8º Celsius (C).[134] Regardless of analytical methodology, global average temperature and mean sea level are expected to rise under all scenarios.

Climate models applied to California's conditions project that, under different scenarios, temperatures in California are expected to increase by 3 to 10.5 degrees F.[135] Almost all climate scenarios include a continuing trend of warming through the end of the century given the substantial amounts of greenhouse gases already released, and the difficulties associated with reducing emissions to a level that would

---

132 State of California, Governor's Office of Planning and Research, Preliminary Draft CEQA Guideline Amendments for Greenhouse Gas Emissions, and Public Workshop Announcement, January 8, 2009.

133 California Air Resources Board, Preliminary Staff Report -- Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act, October 24, 2008.

134 Intergovernmental Panel on Climate Change, Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change, 2001. Although the IPCC has published a fourth assessment report (IPCC Fourth Assessment Report, Climate Change 2007: Impacts, Adaptation, and Vulnerability, Working Group II Report, 2007), subsequent to the 2001 report, the updated assessment still predicts a 1 to 5º C global temperature increase.

135 California Climate Change Center, Our Changing Climate: Assessing the Risks to California, 2006.

stabilize the climate. According to the 2006 California Climate Action Team Report, the following climate change effects are predicted in California over the course of the next century:[136]

- A diminishing Sierra snowpack declining by 70 to 90 percent, threatening the State's water supply.
- Increasing temperatures, as noted above, of up to approximately ten degrees F under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution levels are exceeded in most urban areas.
- Coastal erosion along the length of California and seawater intrusion into the Delta from a 4- to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions.
- Increased vulnerability of forests due to pest infestation and increased temperatures.
- Increased challenges for the State's important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta.
- Increased electricity demand, particularly in the hot summer months.

As such, temperature increases would lead to adverse environmental impacts in a wide variety of areas, including: sea level rise, reduced snowpack resulting in changes to existing water resources, increased risk of wildfires, and public health hazards associated with higher peak temperatures, heat waves, and decreased air quality.

4.4.1.2 Greenhouse Gases

Parts of the earth's atmosphere act as an insulating blanket, trapping sufficient solar energy to keep the global average temperature in a suitable range. The blanket is a collection of atmospheric gases called GHGs. These gases - water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) - all act as effective global insulators, reflecting back to earth visible light and infrared radiation. Human activities such as producing electricity and driving vehicles have elevated the concentration of these gases in the atmosphere. Many scientists believe that these elevated levels, in turn, are causing the earth's temperature to rise. A warmer earth may lead to changes in rainfall patterns, much smaller polar ice caps, a rise in sea level, and a wide range of impacts on plants, wildlife, and humans.

Climate change is driven by "forcings" and "feedbacks." A feedback is "an internal climate process that amplifies or dampens the climate response to a specific forcing." Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. The global warming potential (GWP) is the potential of a gas or aerosol to trap heat in the atmosphere; it is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." Individual GHG species have varying GWP and atmospheric lifetimes. The carbon dioxide equivalent (CO_2e) -- the mass emissions of an individual GHG multiplied by its GWP -- is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent metric. The reference gas for GWP is carbon dioxide; carbon dioxide has a GWP of one. Compared to methane's GWP of 21, methane has a greater global warming effect than carbon dioxide on a molecule-per-molecule basis. **Table 4.4-1** identifies the GWP of several select GHGs.

According to a white paper on GHG emissions and GCC prepared by the Association of Environmental Professionals (AEP), total worldwide GHG emissions in 2004 were estimated to be 20,135 teragrams (Tg)[137] CO_2e, excluding emissions/removals from land use, land use change, and forestry.[138] In 2004, GHG emissions in the U.S. were 7,074.4 Tg CO_2e. California is a substantial contributor of GHG, as it is the second largest contributor in the U.S. and the sixteenth largest in the world (as compared to other

---

136 California Environmental Protection Agency, Climate Action Team, Report to Governor Schwarzenegger and the California Legislature, March 2006.

137 One teragram (Tg) is equal to one million metric tons or approximately 2,204,600,000 pounds (lbs).

138 Association of Environmental Professionals, Final Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, June 29, 2007.

nations). In 2004, California produced 494 Tg CO_2e,[139] which is approximately seven percent of U.S. emissions. The major source of GHG in California is transportation, contributing 41 percent of the State's total GHG emissions. Electricity generation is the second largest source, contributing 22 percent of the State's GHG emissions.

Table 4.4-1

Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100 Year Time Horizon)
Carbon Dioxide	50 - 200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.4	1,300
HFC-152a	1.5	140
PFC: Tetrafluromethane (CF_4)	50,000	6,500
PFC: Hexafluoroethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: EPA, 2006.

In estimating the GHG emissions of an individual business or facility, the GHG Protocol Corporate Accounting and Reporting Standard, developed by the World Business Council for Sustainable Development and World Resources Institute, provides standards and guidance for companies and other organizations preparing a GHG emissions inventory. The standard is written primarily from the perspective of a business developing a GHG inventory. The GHG Protocol provides the accounting framework for nearly every GHG standard and program in the world from the International Standards Organization to the EU Emissions Trading Scheme to the CCAR, as well as hundreds of GHG inventories prepared by individual companies.

The GHG Protocol divides GHG emissions into three source types or "scopes," ranging from GHGs produced directly by the business to more indirect sources of GHG emissions, such as employee travel and commuting. Direct and indirect emissions can be generally separated into three broad scopes as follows:

- Scope 1. All direct GHG emissions.
- Scope 2. Indirect GHG emissions from consumption of purchased electricity, heat, or steam (i.e., GHG emissions generated at the power plant that provides electricity at the demand of the site/facility). For the purposes of this EIR, Scope 2 also includes the indirect GHG emissions that are embodied in the provision of water to the project site, which, for much of southern California, is largely imported from other regions, requiring the use of large electric pumps.
- Scope 3. Other indirect (optional) GHG emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g., transmission and distribution losses) not covered in Scope 2, outsourced activities, waste disposal, and construction.

[139] California's estimated Gross Greenhouse Gas emissions without forestry or land use (emissions or sinks) as reported by the California Energy Commission on January 23, 2007 in Revisions to the 1990 to 2004 Greenhouse Gas Emissions Inventory Report, (CEC-600-2006-013), December 2006.

4.4.1.3 CEQA Evaluation of Climate Change and Greenhouse Gases

There are currently no established CEQA thresholds of significance or regulatory thresholds for GHG emissions on a local, state, or national basis for infrastructure projects. That being said, with the issuance of AB 32, which will move toward the establishment of GHG reporting requirements and GHG reduction mechanisms as further described in Section 4.4.3.1 below, the GHG emissions and relative increases or decreases in operational GHG emissions following implementation of this proposed project, have been included here for informational purposes.

In the context of CEQA, the Governor's Office of Planning and Research (OPR) is working towards the establishment of regulatory guidance for CEQA documents to analyze and recommend mitigation measures related to the potential effects of greenhouse gas emissions. OPR released a Technical Advisory in June, 2008[140] to provide interim advice to lead agencies regarding the analysis of greenhouse gas emissions in environmental documents. The Technical Advisory encourages lead agencies to follow three basic steps: (1) identify and quantify the greenhouse gas emissions that could result from a proposed project; (2) analyze the effects of those emissions and determine whether the effect is significant; and (3) if the impact is significant, identify feasible mitigation measures or alternatives that will reduce the impact below a level of significance.

While the Technical Advisory provided examples of mitigation measures that could be employed by lead agencies to reduce those emissions, it recognized that mitigating greenhouse gas emissions at a project level may not be as effective as implementing a programmatic approach to mitigation. This approach requires public agencies to adopt a program of mitigation measures that apply broadly within the agency's jurisdiction and which are implemented at the project level when CEQA review is required.

On January 8, 2009, OPR released for public review and comment preliminary draft State CEQA Guidelines amendments that include provisions related to greenhouse gas emissions. In accordance with California Senate Bill 97, such revisions to the Guidelines must be finalized and adopted by January 1, 2010. The draft amendments were forwarded to the Natural Resources Agency on April 13, 2009. The draft Guideline amendments are intended and designed by OPR to be consistent with the existing CEQA framework for environmental analysis, including but not limited to the determination of baseline conditions, determination of significance, and evaluation of mitigation measures. For those reasons, OPR did not identify a threshold of significance for greenhouse gas emissions, nor did OPR prescribe assessment methodologies or specific mitigation measures. The draft amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The preliminary draft amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

4.4.2 Methodology

For this project, the GHG of concern is primarily CO_2. Emissions of CO_2 from construction and operational sources are estimated to represent 98 percent or more of the project-related GHG emissions, as CO_2 is the predominant GHG emission (with only negligible amounts of N_2O and CH_4 also being emitted) associated with combustion sources such as internal combustion engines, on-site boilers for hot water/steam, and off-site power plants for electricity. The analysis presented herein provides estimates of the amount of CO_2 from existing uses within the project site and the amount of CO_2 associated with the construction and long-term operation of the proposed CUP-RP. The estimate of CO_2 emissions associated with long-term operation of the project not only identifies new emissions from the new CUP that is proposed, but also accounts for the elimination of emissions from existing uses and activities that would be removed or reduced as part of the project. As such, the analysis includes a "baseline" that

---

140 State of California, Governor's Office of Planning and Research, Technical Advisory - CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, June 19, 2008.

characterizes and estimates the amount of GHG emissions from existing uses at the site, and an estimate of GHG emissions associated with the proposed project improvements.

4.4.2.1 Construction Sources

The parameters used to develop construction GHG emissions are the same as those presented in Section 4.2, *Air Quality*, for construction criteria air pollutant emissions. Essentially, CO_2 is emitted from the combustion of fuels used in on-site construction equipment, material delivery trucks, and worker vehicles. Details regarding the specific types of equipment and operating assumptions are included in Appendix C.

The emissions from off-road construction equipment are based on CO_2 emission rates developed by SCAQMD[141] for the South Coast Air Basin using the California Air Resources Board (CARB) OFFROAD2007 model.[142] The emissions from on-road vehicles (including vehicles with on-road-equivalent engines) were calculated from CO_2 emission factors (grams/mile) developed by SCAQMD[143] for the South Coast Air Basin using the CARB EMFAC2007 model.[144]

The analysis context considered in the evaluation of GHG emissions from construction sources generally includes the on-airport areas where construction equipment would operate and the off-airport environment relative to construction-related vehicle trips.

4.4.2.2 Operational Sources

Overview of Operational Sources at LAX

Aircraft are the largest source of GHG emissions at LAX. LAWA does not operate the aircraft and is prohibited under federal law from regulating the types of, and schedules for, aircraft that use LAX, and therefore has no direct control related to aircraft emissions. However, LAWA provides the infrastructure (airfield and terminals) and services that support the aircraft operations, and can thereby affect emissions of GHGs related to providing hot water, heating, and cooling to areas used by employees, passengers, and visitors. The following describes the methodology used in estimating the CO_2 emissions associated with the operational sources within the CUP.

Central Utility Plant

The existing CUP is a co-generation facility that provides electricity, heating, and cooling to the LAX CTA, the East Administration Building, and Theme Building. In addition, the CUP provides electrical co-generated power back to the City's LADWP grid. Equipment in the existing CUP that would be replaced or modified includes two 4 megawatt (MW) cogeneration turbine generator sets (both continuously operating), two 27.5 million British thermal units per hour (MMBtu/hr) boilers (one operating and one standby), and one four-bay cooler tower. New equipment in the CUP after completion of the CUP-RP would include two 4.5 MW cogeneration turbine generator sets (both continuously operating), two heat recovery steam generators (HRSG) and duct burners, one stand-by auxiliary boiler, and one four-bay cooling tower.

Recycled/Reclaimed Water Treatment Facility

As part of the CUP-RP, LAWA is investigating the potential construction of a recycled-reclaimed water pipeline and off-site treatment system. A recycled-reclaimed water pipeline would allow water from an existing, recycled/reclaimed water pipeline to be used in the new CUP. Operation of the recycled/reclaimed water treatment facilities is expected to result in negligible GHG emissions. Details of

---

141 South Coast Air Quality Management District, Available: http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls, accessed April 11, 2008.

142 California Air Resources Board, Available: http://www.arb.ca.gov/msei/offroad/offroad.htm, accessed April 11, 2008.

143 South Coast Air Quality Management District, Available: http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html, accessed April 11, 2008.

144 California Air Resources Board, Available: http://www.arb.ca.gov/msei/onroad/latest_version.htm, accessed April 11, 2008.

the systems to be installed have not yet been developed. On-site stationary equipment (pumps, etc.) would rely on electricity but are not expected to result in the direct emission of GHGs on-site. Long-term operation of the treatment facility would require periodic visits by employees to perform routine maintenance or deliveries. Vehicles would not need to idle while at the treatment facility. Exhaust is expected to be minimal and intermittent, and to contribute a negligible amount of GHGs. Therefore, quantification of operational GHG emissions related to the recycled/reclaimed water treatment facility was not performed.

Cooling Tower

The CUP utilizes one four-bay cooler tower to transfer waste heat from the equipment to the atmosphere. Water from the cooling tower evaporates, causing water vapor, a GHG, to be evaporated. Water vapor emissions, however, are not typically evaluated in GHG analyses, because anthropogenic water vapor generation does not impact global concentrations of water vapor.

4.4.3 Baseline Conditions

4.4.3.1 Regulatory Setting

International and Federal Regulations and Directives

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess "the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation."

On March 21, 1994, the United States joined other countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The Kyoto Protocol is a treaty made under the UNFCCC. Countries can sign the treaty to demonstrate their commitment to reduce their emissions of GHGs or engage in emissions trading. More than 160 countries, accounting for 55 percent of global emissions, are under the protocol. Former United States Vice President Al Gore symbolically signed the Protocol in 1998. However, in order for the Protocol to be formally ratified, it must be adopted by the U.S. Senate, which has not been done to date.

The United States Environmental Protection Agency (USEPA) currently does not regulate GHG emissions; however, Massachusetts v. USEPA (549 U.S. 497 [2007]) was argued before the U.S. Supreme Court on November 29, 2006, in which it was petitioned that USEPA regulate four GHGs, including carbon dioxide, under §202(a)(1) of the Clean Air Act. The Court issued an opinion on April 2, 2007, in which it held that petitioners have standing to challenge the USEPA and that the USEPA has statutory authority to regulate emissions of GHGs from motor vehicles.

In November 2007 and August 2008, the Ninth Circuit U.S. Court of Appeals ruled that a NEPA document must contain a detailed GHG analysis. (*Center for Biological Diversity v. National Highway Safety Administration* 508 F. 3d 508 [2007] was vacated and replaced by *Center for Biological Diversity v. National Highway Safety Administration* 2008 DJDAR 12954 [August 18, 2008]). Despite the Supreme Court and circuit court rulings, to date there are no promulgated federal regulations limiting GHG emissions.

State Regulations and Directives

Title 24 Energy Standards: Although not originally intended to reduce GHG emissions, California's Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. The latest amendments, which include updated building energy efficiency standards, become effective August 1, 2009. The premise for the standards is that energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions. Therefore, increased energy efficiency in buildings results in fewer GHG emissions on a building-by-building basis.

<u>California Assembly Bill No. 1493 (AB 1493)</u>: Enacted on July 22, 2002, this bill required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Regulations adopted by CARB will apply to 2009 and later model year vehicles. CARB estimates that the regulation will reduce GHG emissions from the light-duty/passenger vehicle fleet by an estimated 18 percent in 2020 and by 27 percent in 2030, compared to recent years.

<u>Executive Order S-3-05</u>: California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, GHG emission reduction targets for all of California are as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels.

<u>California Assembly Bill 32 (AB 32)</u>: CARB has jurisdiction over several air pollutant emission sources that operate in the State. Specifically, CARB has the authority to develop emission standards for on-road motor vehicles, as well as for stationary sources and some off-road mobile sources. In turn, CARB has granted authority to the regional air pollution control and air quality management districts to develop stationary source emission standards, issue air quality permits, and enforce permit conditions.

AB 32, titled The California Global Warming Solutions Act of 2006, signed by Governor Schwarzenegger in September 2006, requires CARB to adopt regulations to require the reporting and verification of statewide GHG emissions and to monitor and enforce compliance with the program. In general, the bill requires CARB to reduce statewide GHG emissions to the equivalent of those in 1990 by 2020. CARB adopted regulations in December 2007 for mandatory GHG emissions reporting and adopted a scoping plan in December 2008 indicating how emission reductions will be achieved. Major rulemakings for reducing GHGs must be developed by January 1, 2011, while the rules and market mechanisms adopted by CARB do not take effect until January 1, 2012. Since CARB is still in the rulemaking process for AB 32, information about project compliance at the state-level is currently not available.

CARB approved the Climate Change Scoping Plan Document on December 11, 2008. The Scoping Plan reiterates the goal of AB32 to reduce GHG emissions to 1990 levels by 2020 and characterizes the business as usual (BAU) case in the context of AB32 as a representation of California’s economy in the year 2020, assuming that none of the recommended actions outlined in the Scoping Plan are implemented. The Scoping Plan also outlines ways in which various sectors, such as electricity generation, goods movement, refineries, landfills, etc., can utilize various measures to reduce GHG emissions, and quantifies the impact of these measures.

<u>Executive Order S-01-07</u>: This Order was set forth by the Governor on January 18, 2007. The Order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least ten percent by 2020. It also requires that a Low Carbon Fuel Standard for transportation fuels be established for California.

In general terms, California's goals and overall strategies for the systematic statewide reduction of GHG emissions are embodied in the combination of Executive Order S-3-05 and AB 32, which call for the following reductions of GHG emissions:

- 2000 levels by 2010 (11 percent below BAU);
- 1990 levels by 2020 (25 percent below BAU); and
- 80 percent below 1990 levels by 2050.

<u>California Senate Bill 97:</u> Senate Bill 97 (SB 97) requires OPR to prepare guidelines to submit to the California Resources Agency regarding feasible mitigation of GHG emissions or the effects of GHG emissions as required by CEQA. The California Resources Agency is required to certify and adopt these

revisions to the State CEQA Guidelines by January 1, 2010. The Guidelines will apply retroactively to any incomplete environmental impact report, negative declaration, mitigated negative declaration, or other related document.

Executive Order (EO) S-13-08: Given the serious threat of sea level rise to California's water supply and coastal resources and the impact it would have on our state's economy, population and natural resources, Governor Arnold Schwarzenegger issued Executive Order (EO) S-13-08 to enhance the state's management of climate impacts from sea level rise, increased temperatures, shifting precipitation and extreme weather events.

There are four key actions in the EO including: (1) initiate California's first statewide climate change adaptation strategy that will assess the state's expected climate change impacts, identify where California is most vulnerable and recommend climate adaptation policies by early 2009; (2) request the National Academy of Science establish an expert panel to report on sea level rise impacts in California to inform state planning and development efforts; (3) issue interim guidance to state agencies for how to plan for sea level rise in designated coastal and floodplain areas for new projects; and (4) initiate a report on critical existing and planned infrastructure projects vulnerable to sea level rise.

Local Regulations and Directives

Green LA: In May 2007, the City of Los Angeles introduced Green LA - An Action Plan to Lead the Nation in Fighting Global Warming.[145] Green LA presents a framework targeted to reduce the City's GHG emissions by 35 percent below 1990 levels by 2030. The plan calls for an increase in the City's use of renewable energy to 35 percent by 2020 in combination with promoting water conservation, improving the transportation system, reducing waste generation, greening the ports and airports, creating more parks and open space, and greening the economic sector. Green LA identifies objectives and actions in various focus areas, including airports. The goal for airports is to "green the airports," and the following actions are identified: (1) fully implement the Sustainability Performance Improvement Management System (SPIMS) (discussed below); (2) development and implementation of policies to meet the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) green building rating standards in future construction; (3) improve recycling, increase use of alternative fuel sources, increase use of recycled water, increase water conservation, reduce energy needs, and reduce GHG emissions; and (4) evaluate options to reduce aircraft-related GHG emissions.

Executive Directive No. 10: In July, 2007, Mayor Villaraigosa issued an executive directive regarding environmental stewardship practices. The executive directive requires that LA City departments, including LAWA create and adopt a "Statement of Sustainable Building Policies," which should encompass sustainable design, energy and atmosphere, materials and resources, water efficiency, landscaping and transportation resources. In addition, City departments and offices must create and adopt sustainability plans that include all the policies, procedures, programs, and policies that are designed to improve internal environmental efficiency. Finally, City departments are required to submit annual sustainability reports to the Mayor for review.

Climate LA: In 2008, the City of Los Angeles followed up Green LA with an implementation plan called Climate LA - Municipal Program Implementing the Green LA Climate Action Plan.[146] A Departmental Action Plan for LAWA is included in Climate LA, which identifies goals to reduce CO_2 emissions 35 percent below 1990 levels by 2030 at LAX and the other three LAWA airports, implement sustainability practices, and develop programs to reduce the generation of waste and pollutants. Actions are specified in the areas of aircraft operations, ground vehicles, electrical consumption, building, and other actions.

Sustainability Vision and Principles Policy: In 2007, the Los Angeles Board of Airport Commissioners adopted a Sustainability Vision and Principles Policy that includes a commitment to integrating sustainable practices into operations and administration processes under a set of six principles related to

[145] City of Los Angeles, Green LA -- An Action Plan to Lead the Nation in Fighting Global Warming, 2007.

[146] City of Los Angeles, Climate LA -- Municipal Program Implementing the Green LA Climate Action Plan, 2008.

environmental stewardship, economic growth, and social responsibility.[147] LAWA has since adopted several plans and policies aimed at implementing the Sustainability Vision and Principles Policy.

Sustainability Performance Improvement Management System (SPIMS): LAWA adopted SPIMS in August 2007 as a tool for identifying sustainability objectives, implementing actions to achieve the objectives, establishing targets and continual monitoring of progress. As part of the SPIMS process, the following fundamental objectives were identified to help LAWA achieve its goal of being the global leader in airport sustainability.

- Increase water conservation in all airport facilities and for all operations.
- Increase use of environmentally and socially responsible products.
- Increase recycling and source reduction efforts at all facilities and for all operations.
- Reduce energy usage and increase usage of green power at all airport facilities and in all operations.
- Reduce emissions from all operations including stationary and mobile sources.
- Reduce single occupancy trips to, from, and within LAWA airports.
- Incorporate sustainable planning, design, and construction practices into all airport projects.
- Promote sustainability awareness to airport employees and the greater community.
- Integrate sustainable practices into internal policies, business processes, and written agreements.

Los Angeles World Airports Sustainability Plan: LAWA's Sustainability Plan[148] developed in April 2008 describes LAWA's current sustainability practices and sets goals and actions that LAWA will undertake to implement the initiatives described above (Green LA, Climate LA, Sustainability Visions and Principles Policy, and SPIMS). The Sustainability Plan presents initiatives for the fiscal year 2008-2009 and long-term objectives and targets to meet the fundamental objectives identified above.

Sustainable Airport Planning, Design and Construction Guidelines: LAWA has developed Sustainable Airport Planning, Design and Construction Guidelines for Implementation on All Airport Projects.[149] The Guidelines were developed to provide a comprehensive set of performance standards focusing on sustainability specifically for airport projects on a project-level basis. A portion of the Guidelines is based on the LEED rating systems for buildings. The Guidelines incorporate a "LAWA-Sustainable Rating System" based on the number of planning and design points and construction points a project achieves, as based on the criteria and performance standards defined in the Guidelines.

Based on the above, LAWA has taken steps to increase its sustainability practices related to daily airport operations, many of which directly or indirectly contribute to a reduction in GHG emissions. Actions that LAWA has been undertaking include promoting and expanding the FlyAway non-stop shuttle service to the airport in an effort to reduce the number of vehicle trips to the airport, establishment of an employee Rideshare Program, use of alternative fuel vehicles,[150] purchasing renewably generated Green Power from LADWP, and reducing electricity consumption by installing energy efficient lighting, variable demand motors on terminal escalators, and variable frequency drive on fan units at terminals and LAWA buildings.[151]

LAWA is currently conducting a comprehensive GHG emission inventory that will be used to quantify emissions, identify areas for improvement, and assess the effectiveness of reduction measures, Additionally, LAWA is currently in the process of conducting an Air Quality Apportionment Study (AQAS)

---

147 Los Angeles World Airports, Sustainability Vision and Principles, 2007.

148 Los Angeles World Airports, Final Sustainability Plan, April 2008.

149 Los Angeles World Airports, Sustainable Airport Planning, Design and Construction Guidelines for Implementation on All Airport Projects, Version 3.1, January 2008.

150 Over 60 percent of LAWA owned fleet vehicles use alternative fuel (compressed natural gas (CNG), liquid natural gas (LNG), propane, hydrogen, solar, hybrid electric and pure electric.

151 City of Los Angeles, Climate LA - Municipal Program Implementing the Green LA Climate Action Plan, LAWA Departmental Action Plan, 2008.

that seeks to quantify contribution by LAX to the total emissions and concentrations of air pollutants in the surrounding communities. The AQAS will provide an updated baseline to be used for measuring the effectiveness of LAWA's efforts to reduce adverse air emissions.

4.4.3.2 Existing GHG Emissions

For purposes of this analysis, the greenhouse gas emissions associated with operation of the proposed replacement CUP facility were compared to those of the existing CUP facility, based on the annual potential of each facility to emit carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Under existing conditions and with-project conditions, each primary piece of equipment was assumed to operate continuously. While the actual operational characteristics of the existing facility are known, based on historical records, the actual operational characteristics of the replacement facility would not be known until several months or years after commissioning. Estimating the greenhouse gas emissions for each scenario (existing conditions and with-project conditions) based on an annual potential to emit provides a common basis of comparison.

Emissions estimates for GHGs were developed for the following equipment: two 4 megawatt (MW) cogeneration turbine generator sets (both continuously operating), two 27.5 million British thermal units per hour (MMBtu/hr) boilers (one operating and one standby), and one four-bay cooler tower. Appendix G provides a technical memorandum delineating the assumptions, approach, and factors used in estimating GHG generation. Based on the information provided therein, it is estimated that the existing CUP generates a potential of 72,108 metric tons of CO_2e annually.

Combustion Turbines

The GHG emissions from the turbines were calculated using emission factors for natural gas and global warming potentials GWPs for CO_2, CH_4, and N_2O from the CARB regulation for the mandatory reporting of GHGs.[152] The existing combustion turbine emissions were based on emissions reported in the 2006-2007 Annual Emissions Report (AER) submitted by LAWA to SCAQMD.[153] The 2006-2007 AER is assumed to be representative of the calendar year 2009 baseline. The annual quantity of fuel (natural gas) combusted was multiplied by the high heating value (HHV) of the natural gas and the GHG emission factor to obtain GHG emissions and the total quantity of carbon dioxide equivalent (CO_2e) emissions in metric tons.

Utility Boilers

The GHG emissions from the boilers were calculated using emission factors for natural gas and GWPs for CO_2, CH_4, and N_2O from the CARB regulation for the mandatory reporting of GHGs.[154] The existing boiler emissions were based on emissions reported in the 2006-2007 AER submitted by LAWA to SCAQMD.[155] The 2006-2007 AER is assumed to be representative of the calendar year 2009 baseline. The annual quantity of fuel combusted was multiplied by the HHV of the natural gas and the GHG emission factor to obtain GHG emissions and the total quantity of CO_2e emissions in metric tons.

4.4.4 CEQA Thresholds of Significance

As previously indicated in Section 4.4.1.3, there are no widely-established or readily accepted thresholds of significance for GHG. The preliminary draft amendments to the CEQA Guidelines that were published by OPR in January 2009 do not identify a threshold of significance for greenhouse gas emissions, but, instead, allow lead agencies to exercise discretion and make their own determinations of significance.

OPR has asked CARB technical staff to recommend a method for setting thresholds of significance that encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. If

152 California Code of Regulations, Subchapter 10, Article 2, sections 95100 to 95133, Title 17.
153 City of Los Angeles - Department of Airports, AQMD 2006-2007 AER, September 28, 2007.
154 California Code of Regulations, Subchapter 10, Article 2, sections 95100 to 95133, Title 17.
155 City of Los Angeles - Department of Airports, AQMD 2006-2007 AER, September 28, 2007.

CARB makes recommendations for setting a threshold that is supported by substantial evidence, lead agencies may take the CARB recommendations into consideration as part of their independent processes in adopting thresholds of significance for GHG emissions. In the meantime, however, each lead agency must make its own determination as to an appropriate threshold of significance related to GCC and GHG emissions, and may undertake a project-by-project analysis in so doing.

For the purpose of this EIR, LAWA has taken into consideration OPR's proposed amendments to Appendix G of the CEQA Guidelines, which presents an environmental checklist form that is often used by lead agencies in identifying and evaluating potentially significant impacts of a project. The April 2009 draft CEQA Guidelines amendments propose to add the following questions for evaluating a project's potential impacts related to greenhouse gases.

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

As noted above, there are currently no widely-established or readily accepted thresholds of significance for GHG. Therefore, LAWA has modified the first question above to establish the following threshold of significance for evaluating the GHG emissions associated with the CUP-RP:

- A significant impact relative to GCC and GHG is considered to occur if the project would: (a) result in a substantial increase in GHG emissions compared to current emission levels; and (b) conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

4.4.5 Incorporation of LAX Master Plan Commitments and Mitigation Measures

Although the CUP-RP is not a component of the LAX Master Plan, LAWA is proposing that applicable commitments and mitigation measures identified in the LAX Master Plan MMRP be implemented as part of the CUP-RP. LAX Master Plan commitments and mitigation measures for LAX Master Plan Alternative D are described in the September 2004 document, *Alternative D Mitigation Monitoring & Reporting Program (MMRP)*. Of the three commitments and four mitigation measures that were designed to address air quality impacts related to implementation of the LAX Master Plan, two are applicable to construction of the CUP-RP and hence were considered in the GHG analysis as part of the CUP-RP.

- **MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality**. This mitigation measure specifies that LAWA will expand and revise existing air quality mitigation programs at the airport through the development of an LAX Master Plan-Mitigation Plan for Air Quality (LAX MP-MPAQ). The goal of the LAX MP-MPAQ is to reduce air pollutant emissions associated with implementation of the LAX Master Plan to levels equal to, or less than, the thresholds of significance identified in the LAX Master Plan Final EIR. A framework for the LAX MP-MPAQ was adopted by the Board of Airport Commissioners in December 2005. This document provides the overall structure for the air quality mitigation program; ultimately, the full LAX MP-MPAQ will define specific measures to be implemented within the context of the three individual components specific to the categories of emissions associated with the Master Plan, namely construction, transportation and operations (i.e., MM-AQ-2, MM-AQ-3 and MM-AQ-4, respectively). The construction component of the LAX MP-MPAQ has been adopted by the Board of Airport Commissioners (see below); LAWA is currently working to complete the other elements of the full LAX MP-MPAQ, specifically the transportation and operations elements.
- **MM-AQ-2. Construction-Related Measure.** This mitigation measure describes numerous specific actions to reduce fugitive dust emissions and exhaust emissions from on-road and off-road construction-related mobile and stationary sources. As discussed in the MMRP and Section 4.4.8 of

the LAX Master Plan Final EIR, the LAX Master Plan consultants did not quantify potential emission reductions associated with all of the mitigation measures that fall under MM-AQ-2. Emission reduction measures that were quantified and included in the mitigated emissions inventory presented in Section 4.4.8.5 of the LAX Master Plan Final EIR included one that could also reduce CO_2 emissions: Specify combination of electricity from power poles and portable diesel- or gasoline-fueled generators using "cleaner burning diesel" fuel and exhaust emission controls. In the subsequent completion of the more detailed implementation plan for MM-AQ-2, the specification was set forth that a minimum of 33 percent of electricity required for construction activities be provided by electric line power (i.e., power drops/poles). Some components of MM-AQ-2 are not readily quantifiable, but will be implemented as part of the CUP-RP. Several of these mitigation strategies, presented in **Table 4.4-2**, are expected to further reduce construction-related CO_2 emissions associated with the CUP-RP.

Additionally, the LAX Master Plan Community Benefits Agreement (CBA) includes several measures that are potentially applicable to the CUP-RP to address construction-related air quality impacts. Section X.F of the CBA delineates the measures specific to Construction Equipment, with the majority of such measures being centered on the following requirement:

- **Best Available Emission Control Devices Required**. LAWA shall require that all diesel equipment used for construction related to the LAX Master Plan Program be outfitted with the best available emission control devices primarily to reduce diesel emissions of PM, including fine PM, and secondarily, to reduce emissions of NO_x. However, it is unlikely that the strategies which meet the intent of the CBA requirement, primarily exhaust train treatment devices such as filters and catalysts, will reduce emissions of GHGs. Thus, calculations of GHG emissions did not include reductions due to implementation of CBA requirements.

4.4.6 Impact Analysis

4.4.6.1 Construction Emissions

The construction source CO_2 emissions, by calendar year, are presented in **Table 4.4-3**. Over the duration of the project, the on-site construction equipment would generate 54 percent of the project construction CO_2 emissions, and deliveries of construction materials would generate 12 percent of the project construction CO_2 emissions. Trucks that transfer materials from the staging area to the CUP-RP site and worker trips would generate 3 percent and 31 percent of the project construction CO_2 emissions respectively.

Given that under 2009 baseline conditions, there are no construction activities within the project area, implementation of the project would result in the generation of between approximately 400 and 6,000 metric tons of new construction-related CO_2 per year and a total of approximately 15,000 metric tons of CO_2 over the total course of project construction. Those emissions are considered to represent a substantial increase in GHG emissions compared to baseline conditions.

4.4.6.2 Operational Emissions

Emission inventories were developed for operational sources associated with operation of two new cogeneration turbines, two HRSGs and duct burners, one new stand-by auxiliary boiler, and a new cooling tower system. These new units replace the existing two cogeneration turbines, two utility boilers, and cooling tower system.

Table 4.4-2

Construction-Related GHG Mitigation Measures

Measure	Type of Measure
To the extent feasible, have construction employees work/commute during off-peak hours.	On-Road Mobile
Make available on-site lunch trucks during construction to minimize off-site worker vehicle trips.	On-Road Mobile
Prohibit construction vehicle idling in excess of ten minutes.	Non-road Mobile
Specify combination of electricity from power poles and portable diesel- or gasoline-fueled generators using "clean burning diesel" fuel and exhaust emission controls.	Stationary Point Source Controls
Utilize construction equipment having the minimum practical engine size (i.e., lowest appropriate horsepower rating for intended job).	Mobile and Stationary
Require that all construction equipment working on-site is properly maintained (including engine tuning) at all times in accordance with manufacturers' specifications and schedules.	Mobile and Stationary
Prohibit tampering with construction equipment to increase horsepower or to defeat emission control devices.	Mobile and Stationary
The contractor or builder shall designate a person or persons to ensure the implementation of all components of the construction-related measure through direct inspections, record review, and investigations of complaints.	Administrative

Source: CDM, 2008.

Table 4.4-3

CUP-RP Annual Construction Emissions by Equipment Type (Metric Tons CO_2)

Pollutant	2009	2010	2011	2012	2013	Project Total
Annual emissions, metric tons						
Off-road, On-site Equipment	94	4,406	1,803	753	1,130	8,185
On-road, On-site Trucks	20	118	123	118	108	487
On-road, Off-site Deliveries	67	449	493	403	380	1,793
On-road, Off-site Workers	192	1,149	1,177	1,149	1,054	4,721
Total[1]	372	6,122	3,596	2,424	2,671	15,186

[1] Numbers may not add to exact totals due to rounding.

Source: CDM, 2009.

Table 4.4-4 shows the CO_2 emissions estimate associated with the existing CUP and the proposed new CUP to be completed in 2013. As stated in Section 4.4.3.2 above, the baseline and project-related operational emissions shown on **Table 4.4-4** represent the potential annual emissions based on continuous operation at maximum capacity. Historic actual emissions have been less than those values shown and future project-related emissions will also likely be less. Based on the comparison of potential emissions, greenhouse gas emissions from operation of the CUP-RP would be reduced by over 6 percent relative to existing emissions.

Table 4.4-4

Potential Annual Operations-Related Emissions (Metric Tons/year)

Pollutant	Existing CUP	New CUP	Change in Emissions
Annual emissions, metric tons			
Carbon dioxide, CO_2	72,040	67,597	-4,443
Methane, CH_4	1.22	1.15	-0.08
Nitrous oxides, NO_2	0.14	0.13	-0.01
Carbon dioxide equivalent, CO_2e	72,108	67,660	-4,447
Percent Reduction in GHG Emissions	**6.17%**		

Source: CDM, 2009.

4.4.6.3 Impacts to Climate Change

Based on the information presented above in Section 4.4.6.1, implementation of the proposed CUP-RP Project would result in the generation of approximately 15,000 metric tons of construction-related GHG, primarily in the form of CO_2 (emissions of construction-related CH_4 and N_2O would be negligible), over the approximately 4-year construction period. Project construction would occur in accordance with the Sustainable Airport Planning Design and Construction Guidelines, to meet a minimum rating of LAWA-Sustainable: Level 1. "Construction points" needed to achieve a Level 1 rating include various required and optional performance standards. The list of performance standards that would be implemented has not yet been finalized; however, performance standards that may be incorporated to directly or indirectly reduce GHG emissions include, but are not limited to, the following: (1) provide alternative transportation options during construction to reduce personal vehicle emissions (optional); (2) reduce construction vehicle emissions, including GHG emissions, by use of technologically feasible and fuel-efficient options (optional); (3) implement refrigerant management and ozone protection by reducing use of chemicals that contribute to ozone depletion during construction (required); and (4) recycle and reuse construction materials to the greatest degree possible to avoid use of landfills and eliminate waste to reduce demand for raw materials and reduce need for off-site travel of materials. Also required is a GHG inventory of all construction emissions from combustion emission sources and estimate of electricity consumption expected during construction, followed by an assessment of the feasibility of including GHG reduction measures in the construction phase to achieve a targeted 25 percent reduction in actual construction GHG emissions, as compared to the GHG inventory.

The approximately 15,000 metric tons of construction-related GHG emissions represent an increase in GHG emissions compared to baseline emission levels, even though construction activities would comply with LAWA's current program for sustainability and reducing GHG emissions in project design and construction. As such, construction-related impacts related to climate change are considered to be significant.

On the other hand, the operations-related CO_2 emissions of the CUP-RP starting in 2013 are a decrease below 2009 baseline levels. With implementation of the CUP-RP, new, more efficient equipment would be installed, thus decreasing the CUP's energy demand. The CUP's reduction in energy demand would have a corresponding decrease in GHG emissions. These types of reductions are consistent with the intent of the City's Green LA and Climate LA plans for reducing CO_2 emissions, and with LAWA's plans related to sustainability and associated CO_2 emission reductions. Implementation of the proposed project supports LAWA's sustainability policies, increasing the effectiveness of LAWA's overall program for LAX and increasing the visibility of the program and LAWA's goal to be a leader in airport sustainability. Because operation of the replacement CUP results in a beneficial reduction in GHG emissions and is consistent with LAWA's Sustainability Plan, the CUP-RP is considered to result in no impact to global climate change at the project level.

4.4.6.4 Impacts from Climate Change

As indicated above in Section 4.4.1.1, temperature increases anticipated to occur in conjunction with climate change would lead to environmental impacts in a wide variety of areas, including: sea level rise, reduced snow pack resulting in changes to existing water resources, increased risk of wildfires, and public health hazards associated with higher peak temperatures, heat waves, and decreased air quality. Of these potential climate change-related impacts, sea level rise is most relevant to the CUP-RP.

The CUP site has a surface elevation of approximately 110 feet above sea level and is located within approximately one mile of the coast. It is not anticipated that the project site would be subject to a 100+ foot (30+ meter) increase in sea level rise in the foreseeable future. Additionally, it is not feasible to design and construct the project at a higher elevation (i.e., adaptive management for long-term GCC impacts such as sea level rise), due to the need for the project to maintain elevations comparable to those of the existing taxiway/runway system at LAX.

Additionally, changes in local weather patterns resulting from Global Climate Change may alter the demand for heating and cooling at LAX, resulting in potential seasonal increases or decreases in consumption of fossil fuels to provide these services as compared to current operational conditions. However, any changes in demand are at this time too speculative to quantify. Furthermore, because the analysis of the CUP-RP compared the maximum potential emission rates of the existing and proposed CUP, any predicted change in actual annual demand would not alter the conclusions contained herein.

4.4.7 Cumulative Impacts

The construction of several on-going and anticipated future projects at LAX would potentially occur simultaneously with the CUP-RP construction. The construction source CO_2 emissions from cumulative projects are presented in **Table 4.4-5**. Projects that were considered in the cumulative GCC analysis include: (1) Crossfield Taxiway Project (CFTP); (2) Airfield Operating Area (AOA) Perimeter Fence Enhancements -- Phase III;[156] (3) Security Program - In-Line Baggage Screening Systems; (4) TBIT Interior Improvements Program; (5) Airfield Intersection Improvements - Phase 2; (6) Airport Operations Center (AOC)/Emergency Operation Center (EOC), (7) Bradley West Project; (8) Passenger Boarding Bridge Replacement;[125] (9) Bus Wash Rack Facility;[125] (10) CTA Elevators/Escalators Replacement; (11) CTA Seismic Retrofits;[125] (12) Sewer Line Replacement;[125] (13) CTA Joint Repair, Roadway Improvements, and Security Barriers;[125] (14) Korean Air Cargo Terminal Improvement Project; (15) West Aircraft Maintenance/Aircraft Parking Area; (16) Westchester Golf Course 3-Hole Restoration Project; (17) Westchester Rainwater (Stormwater) Improvement Project; (18) Metro Bus Maintenance and Operations Facility; and (19) K-9 Training Facility.[125] Calculation sheets for these emissions are included in Appendix E, Attachment 3. As indicated in **Table 4.4-5**, CO_2 emissions associated with the CUP-RP would represent approximately 10 percent of the cumulative emissions. Notwithstanding that the project's compliance with LAWA's Sustainable Airport Planning, Design and Construction Guidelines would serve to reduce potential greenhouse gas emissions, compared to existing conditions, the project would not fully support consistency with applicable City and LAWA GHG reduction goals of 35 percent. Thus, the project's contribution to cumulative global climate change impacts during construction and operation is cumulatively considerable and is considered a cumulatively significant impact.

---

[156] Implementation of all or part of this project is currently on hold, pending further evaluation of available funds within LAWA's annual budget for Capital Improvement Program (CIP) projects. Given the relatively small size and nature of the project and the limited likelihood that it could be implemented sometime in the future, it was kept in the cumulative projects list.

Table 4.4-5

Cumulative Construction Projects Total Emissions Estimates

Construction Project[1]	CO_2 (metric tons)
Crossfield Taxiway Project[3]	8,633
AOA Perimeter Fence Replacement (World Way West) - Phase III[6]	5
Security Program - In-Line Baggage Screening Systems (T6)[4]	73
TBIT Interior Improvements Program[6]	815
Airfield Intersection Improvements - Phase 2[5]	2,048
Airport Operations Center (AOC) Emergency Operation Center (EOC)[6]	136
K-9 Training Facilty[6]	47
Bradley West Project	66,631
Passenger Boarding Bridge Replacement (T1, T3, T6, Remotes)[6]	30
Bus Wash Rack Facility[6]	170
CTA Elevators and Escalators Replacement[6]	528
CTA Seismic Retrofits[6]	555
Sewer Line Replacement (T1, T6)[6]	21
CTA Joint Repair, Roadway Improvements, and Security Barriers[6]	428
Korean Air Cargo Terminal Improvement Project[6]	207
West Aircraft Maintenance/Aircraft Parking Area[6]	1,448
Westchester Golf Course 3-Hole Restoration Project	387
Westchester Rainwater (Stormwater) Improvement Project[6]	389
Metro Bus Maintenance and Operation Facility[6]	1,568
Other Construction Worker Vehicle Trips[7]	543
Total from Other Construction Projects, metric tons	84,660
Total CUP-RP Emissions, metric tons	15,186
Total Cumulative Construction Project Emissions, metric tons	**99,846**

1 Emissions presented in this table represent total estimated emissions for each construction project over the duration which the project overlaps with CUP RP construction.
2 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Bradley West Project, May 2009
3 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report for Crossfield Taxiway Project, Los Angeles International Airport, January 2009.
4 City of Los Angeles, Los Angeles World Airports, Final Mitigated Negative Declaration: Security Program - In-Line Baggage Screening System, Terminals 1 - 8, prepared by PCR Services Corporation, March 2006.
5 City of Los Angeles, Los Angeles World Airports, Airfield Intersections Improvement Project Equipment Inventory - Peak Day Jan 2009-Jan 2010, May 22, 2008.
6 Equipment estimates developed by CDM in consultation with LAWA.
7 Includes worker trips for projects that have no other construction equipment.
8 City of Los Angeles, Los Angeles World Airports and U.S. Department of Transportation, Federal Aviation Administration, Draft Environmental Assessment for Proposed Westchester Golf Course Three-Hole Expansion Project, May 2009.
9 Numbers may not total exactly due to rounding.

Source: CDM, 2009.

4.4.8 Mitigation Measures

The project includes mitigation measures to reduce construction equipment operations/duration, as described above. Additionally, the proposed project would implement various performance standards from LAWA's Sustainable Airport Planning, Design and Construction Guidelines, some of which would directly or indirectly reduce GHG emissions. There are no other feasible mitigation measures to reduce construction-related GHG emissions other than those already identified above and in Section 4.2, *Air Quality*, of this EIR.

For operational impacts, the proposed project would comply with LAWA policies related to sustainability and reducing GHG emissions, which are being implemented on project-specific and on an airport-wide basis. As noted in OPR's Technical Advisory on CEQA and Climate Change, LAWA's programmatic efforts to address GHG emissions can be a more effective approach than mitigating GHG emissions at a project level.[157] **Tables 4.4-6** and **4.4.7** present a comprehensive list of suggested mitigation measures for new development projects throughout the state of California. The list presented in **Table 4.4-6** is prepared by the California Office of the Attorney General relative to addressing GHG emissions and climate change impacts within an EIR.[158] The list presented in **Table 4.4-7** is prepared by the OPR and presents examples of measures that have been used by some public agencies to reduce greenhouse gas emissions.[159] The tables below describe how the proposed project, as well as LAWA's overall sustainability actions and objectives, relates to each of the applicable mitigation measures. As indicated in **Tables 4.4-6** and **4.4-7**, the proposed project responds to those measures that are within the scope/control of the project.

Table 4.4-6

Evaluation of Potential GHG Mitigation Measures from the California Office of the Attorney General

Measure	Discussion
Transportation	
Limit idling time for commercial vehicles, including delivery and construction vehicles.	Included in project - see **Table 4.4-2**.
Use low or zero-emission vehicles, including construction vehicles.	LAWA is in the process of converting its entire vehicle fleet to run on alternative power, with a goal of having 100 percent of the fleet vehicle operating on alternative power or have similar emissions by 2015. As part of compliance with LAWA's Sustainable Airport, Planning, Design and Construction Guidelines, use of low emission construction vehicles is one performance standard that is currently being considered.
Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a website or message board for coordinating rides.	Such ridesharing programs are already in-place for employees at LAX and would not be affected by, or be applicable to, the CUP-RP.
Create local "light vehicle" networks, such as neighborhood electrical vehicle (NEV) systems.	NA - Beyond the scope/control of the project.
Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations).	LAWA is in the process of converting a portion of the existing parking spaces within LAX parking structures to priority parking for zero emission vehicles; this process would not be affected by the CUP-RP.
Increase the cost of driving and parking private vehicles by e.g., imposing tolls and parking fees.	NA - Beyond the scope/control of the project.
Institute a low-carbon fuel vehicle incentive program.	NA - Beyond the scope/control of the project.

157 State of California, Governor's Office of Planning and Research, Technical Advisory - CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, June 19, 2008.

158 State of California Department of Justice, Office of the California Attorney General, The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level, December 9, 2008, Available: http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf, accessed March 4, 2009.

159 State of California, Governor's Office of Planning and Research, Technical Advisory - CEQA and Climate Change Addressing Climate Change Through California Environmental Quality Act (CEQA) Review, Attachment 3, June 19, 2008.

Table 4.4-6

Evaluation of Potential GHG Mitigation Measures from the California Office of the Attorney General

Measure	Discussion
Build or fund a transportation center where various public transportation modes intersect.	NA - Beyond the scope/control of the project.
Provide shuttle service to public transit.	The LAX CTA, where the CUP-RP would occur, is currently served by shuttle buses that connect with a nearby public transit center.
Provide public transit incentives such as free or low-cost monthly transit passes.	NA - Beyond the scope/control of the project.
Promote "least polluting" ways to connect people and goods to their destinations.	NA - Beyond the scope/control of the project.
Incorporate bicycle lanes and routes into street systems, new subdivisions, and large developments.	NA - Beyond the scope/control of the project.
Incorporate bicycle-friendly intersections into street design.	NA - Beyond the scope/control of the project.
For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including e.g., locked bicycle storage or covered or indoor bicycle parking.	Such facilities are already available at the airport.
Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.	NA - Beyond the scope/control of the project.
Work with the school district to restore and/or expand school bus services.	NA - Beyond the scope/control of the project.
Provide information on all options for individuals and businesses to reduce transportation-related emissions. Provide education and information about public transportation services.	NA - Beyond the scope/control of the project.
Institute a telecommute and/or work hours program. Provide information, training, and incentives to encourage participation. Provide incentives for equipment purchases to allow high-quality teleconferences.	NA - Basic nature of project requires physical presence of workers.
Energy Efficiency	
Design buildings to be energy efficient.	The CUP-RP would improve the efficiency by which energy produces heating, cooling, hot water, and electricity to LAX.
Install efficient lighting and lighting control systems. Site and design building to take advantage of daylight.	NA - Beyond the scope/control of the project.
Use trees, landscaping and sun screens on west and south exterior building walls to reduce energy use.	NA - Beyond the scope/control of the project.
Install light colored "cool" roofs and cool pavements.	NA - Beyond the scope/control of the project.
Provide information on energy management services for large energy users.	NA - No such uses proposed as part of the project.
Install energy efficient heating and cooling systems, appliances and office equipment, and control systems.	The CUP-RP would improve the efficiency by which energy produces heating, cooling, hot water, and electricity to LAX.

Table 4.4-6

Evaluation of Potential GHG Mitigation Measures from the California Office of the Attorney General

Measure	Discussion
Install Light Emitting Diode (LED) for traffic, street, and other outdoor lighting.	NA - Beyond the scope/control of the project.
Provide education on energy efficiency.	LAX is involved in outreach efforts and education with respect to energy efficiency.
Renewable Energy	
Install solar, wind, and geothermic power systems and solar hot water heaters. Educate consumers about existing incentives.	Based on land constraints and airfield safety considerations, it is generally infeasible to install alternative energy systems at the airport.
Install solar panels on carports and over parking areas.	See above.
Use on-site generated biogas, including methane, in appropriate applications.	NA – No biogas is generated on-site.
Use combined heat and power in appropriate applications.	The existing and replacement CUP are combined heat and power generation facilities.
Land Use Measures	
Include mixed-use, infill, and higher density in development project to support the reduction of vehicle trips, promote alternatives to individual vehicle travel and promote efficient delivery of services and goods.	NA - Project does not involve land use planning and development.
Educate the public about the benefits of well-designed, higher density development.	See above.
Incorporate public transit into project design.	Provisions for public transit already exist at LAX and would not be affected by CUP-RP.
Preserve and create open space and parks. Preserve existing trees and plant replacement trees at a set ratio.	NA - The nature of the project does not involve open space or parks.
Develop "brownfields" and other underused or defunct properties located near existing public transportation and jobs.	NA - The project site is not a "brownfield."
Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure destinations may be reached conveniently by public transportation, walking, or bicycling.	NA - Project does not involve land use planning and development.
Water Conservation and Efficiency	
Create water efficient landscapes.	NA - The CUP-RP involves infrastructure improvements. Minimal ornamental landscaping is anticipated to occur in light of potential bird strike hazards. Any new landscaping projects would incorporate native or drought resistant vegetation in accordance with LAWA's Sustainability Plan.
Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.	LAX has water efficient computer controlled irrigation systems.
Encourage the use of reclaimed water for landscape irrigation in new developments and on public property. Install the necessary infrastructure to deliver and use reclaimed water.	See above. Thirty-five percent of landscaping at LAX is currently irrigated with reclaimed water and a target has been established to increase use to 50 percent in 2012.
Design buildings to be water efficient. Install water-efficient fixtures and appliances.	NA - Beyond the scope/control of the project.
Use graywater. (Graywater is untreated household waste water from	The project would comply with LAWA's Sustainable

Table 4.4-6

Evaluation of Potential GHG Mitigation Measures from the California Office of the Attorney General

Measure	Discussion
bathtubs, showers, bathroom wash basins, and water from clothes washing machines.) For example, install dual plumbing in all new development allowing graywater to be used for landscape irrigation.	Airport Planning, Design, and Construction Guidelines, which include the provision for using stormwater and graywater for non-potable uses such as landscaping and irrigation. Additionally, LAWA has established targets for increasing the use of reclaimed water.
Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and controls on runoff.	Minimal landscaping anticipated. However, if landscaping is installed it would include drought resistant vegetation and computerized irrigation.
Restrict the use of water for cleaning outdoor surfaces and vehicles.	As part of compliance with LAWA's Sustainable Airport Planning, Design, and Construction Guidelines, only non-potable water can be used to rinse vehicles during construction. LAWA's fleet vehicle car wash uses recycled water; fresh water is added as needed to make up for evaporation.
Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. (Retaining storm water runoff on-site can drastically reduce the need for energy-intensive imported water at the site).	LAWA's Sustainable Airport Planning, Design, and Construction Guidelines also contain provisions for reducing stormwater run-off and retaining on-site for non-potable uses.
Provide education about water conservation and available programs and incentives.	LAX is involved in outreach efforts and education with respect to energy efficiency.
Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items above, plus other innovative measures that are appropriate to the specific project.	NA - Beyond the scope/control of the project.
Solid Waste Measures	
Reuse and recycle construction and demolition waste (including but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).	To the maximum extent feasible, contractors are expected to comply with LAWA's commitment to diverting 70 percent of its waste from landfills by 2015.
Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.	LAX provides recycling containers and storage areas throughout the airport.
Recover by-product methane to generate electricity.	The project may potentially utilize biogas from digesters at the Hyperion Treatment Plant (HTP) to augment the existing natural gas system.
Provide education and publicity about reducing waste and available recycling services.	NA - Beyond the scope/control of the project. However LAWA has committed to diverting 70 percent of its waste from the landfill by 2015, and developing new programs to collect recyclables, expand airline recycling programs, and educate employees about reducing waste.
Off-Site Mitigation	
In, after analyzing and requiring all reasonable and feasible on-site mitigation measures for avoiding or reducing greenhouse gas-related impacts, the lead agency determines that additional mitigation is required, the agency may consider additional off-site mitigation. The project proponent could, for example, fund off-site projects (e.g., alternative energy projects, or energy or water audits for existing projects) that will reduce carbon emissions, conduct an audit of its other existing operations and agree to retrofit, or purchase carbon "credits" from another entity that will undertake mitigation.	As indicated above and discussed throughout this section, the project includes the implementation of LAWA's Sustainability Principles and Policies. See also other measures described above.

Table 4.4-6

Evaluation of Potential GHG Mitigation Measures from the California Office of the Attorney General

Measure	Discussion
The topic of offsets can be complicated, and a full discussion is outside the scope of this summary document. Issues that the lead agency should consider include: ♦ The location of the off-site mitigation. (If the off-site mitigation is far from the project, any additional, non-climate related benefits of the mitigation will be lost to the local community.) ♦ Whether the emissions reductions from off-site mitigation can be quantified and verified. ♦ Whether the mitigation ratio should be greater than 1:1 to reflect any uncertainty about the effectiveness of the offset.	

Source: CDM, 2009.

Table 4.4-7

Evaluation of Potential GHG Reduction Measures from the Governor's Office of Planning and Research

Measure	Discussion
Land Use and Transportation	
Implement land use strategies to encourage jobs/housing proximity, promote transit-oriented development, and encourage high density development along transit corridors. Encourage compact, mixed-use projects, forming urban villages designed to maximize affordable housing and encourage walking, bicycling and use of public transit systems.	NA - Project does not involve land use planning and development.
Encourage infill, redevelopment, and higher density development, whether in incorporated or unincorporated settings.	NA - Project does not involve land use planning and development.
Encourage new developments to integrate housing, civic and retail amenities (jobs, schools, parks, and shopping opportunities) to help reduce VMT resulting from discretionary automobile trips.	NA - Project does not involve land use planning and development.
Apply advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.	LAWA's Sustainability Plan includes an objective to reduce single occupancy vehicle trips to, from, and within LAX by measures such as an employee Rideshare program.
Incorporate features into project design that would accommodate the supply of frequent, reliable and convenient public transit.	NA - Beyond the scope/control of the project.
Implement street improvements that are designed to relieve pressure on a region's most congested roadways and intersections.	NA - Beyond the scope/control of the project.
Limit idling time for commercial vehicles, including delivery and construction vehicles.	The LAX Master Plan Mitigation Monitoring & Reporting Program (MMRP) commits to prohibiting construction vehicle

Table 4.4-7

Evaluation of Potential GHG Reduction Measures from the Governor's Office of Planning and Research

	idling in excess of ten minutes (see Table 4.2).
Urban Forestry	
Plant trees and vegetation near structures to shade buildings and reduce energy requirements for heating/cooling.	NA - Minimal ornamental landscaping is anticipated to be installed in light of potential bird strike hazards.
Preserve or replace on-site trees (that are removed due to development) as a means of providing carbon storage.	NA – Minimal trees exist on the CUP site.
Green Buildings	
Encourage public and private construction of LEED (Leadership in Energy and Environmental Design) certified (or equivalent) buildings.	NA - Beyond the scope/control of the project.
Energy Conservation Policies and Actions	
Recognize and promote energy saving measures beyond Title 24 requirements for residential and commercial projects.	The CUP-RP would replace the current boilers and combustion equipment with newer, more efficient equipment, thereby improving energy efficiency.
Where feasible, include in new buildings facilities to support the use of low/zero carbon fueled vehicles, such as charging of electric vehicles from green electricity sources.	The promotion of the use of alternative fuel vehicles[2] at LAX is part of LAWA's Sustainable Airport Planning, Design and Construction Guidelines.
Educate the public, schools, other jurisdictions, professional associations, business and industry about reducing GHG emissions.	LAX is involved in outreach efforts and education with respect to energy efficiency.
Replace traffic lights, street lights, and other electrical uses to energy efficient bulbs and appliances.	As part of LAWA's Sustainable Airport Planning, Design and Construction Guidelines [3] LAWA is reducing electricity consumption by installing energy efficient lighting, variable demand motors on terminal escalators and variable frequency drive on fan units at terminals and LAWA buildings.
Purchase Energy Star equipment and appliances for public agency use.	NA - Beyond the scope/control of the project.
Incorporate on-site renewable energy production, including installation of photovoltaic cells or other options.	NA - Based on land constraints and airfield safety considerations, it is generally infeasible to install alternative energy systems at the airport.
Execute an Energy Savings Performance Contract with a private entity to retrofit public buildings. This type of contract allows the private entity to fund all energy improvements in exchange for a share of the energy savings over a period of time.	NA - Beyond the scope/control of the project.
Design, build, and operate schools that meet the Collaborative for High Performance Schools (CHPS) best practices.	NA - Beyond the scope/control of the project.
Retrofit municipal water and wastewater systems with energy efficient motors, pumps and other equipment, and recover wastewater treatment methane for energy production.	LAX has water efficient computer controlled irrigation systems.
Convert landfill gas into energy sources for use in fueling vehicles, operating equipment, and heating buildings.	NA - Beyond the scope/control of the project.

Table 4.4-7

Evaluation of Potential GHG Reduction Measures from the Governor's Office of Planning and Research

Purchase government vehicles and buses that use alternatives fuels or technology, such as electric hybrids, biodiesel, and ethanol. Where feasible, require fleet vehicles to be low emission vehicles. Promote the use of these vehicles in the general community.	LAWA is in the process of converting its entire vehicle fleet to run on alternative power, with a goal of having 100 percent of the fleet vehicle operating on alternative power or have similar emissions by 2015. As part of compliance with LAWA's Sustainable Airport Planning, Design, and Construction Guidelines, use of low emission construction vehicles is one performance standard that is currently being considered.
Offer government incentives to private businesses for developing buildings with energy and water efficient features and recycled materials. The incentives can include expedited plan checks and reduced permit fees.	NA - Beyond the scope/control of the project.
Offer rebates and low-interest loans to residents that make energy-saving improvements on their homes.	NA - Beyond the scope/control of the project.
Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.	NA - Beyond the scope/control of the project.
Programs to Reduce Vehicle Miles Traveled	
Offer government employees financial incentives to carpool, use public transportation, or use other modes of travel for daily commutes.	LAWA's Rideshare program offers financial incentives and discounts to participating employees.
Encourage large businesses to develop commute trip reduction plans that encourage employees who commute alone to consider alternative transportation modes.	LAWA's Sustainability Plan includes an objective to reduce single occupancy vehicle trips to, from, and within LAX by measures such as an employee Rideshare program that encourages employees to carpool and provides extensive resources for ride-sharing.
Develop shuttle systems around business district parking garages to reduce congestion and create shorter commutes.	The LAX CTA, where the CUP-RP would occur, is currently served by shuttle buses that connect with a nearby public transit center.
Create an online ridesharing program that matches potential carpoolers immediately through email.	LAWA's Rideshare Program uses RideMatch.info which provides one-stop ride-matching services to employees.
Develop a Safe Routes to School program that allows and promotes bicycling and walking to school.	NA - Beyond the scope/control of the project.
Programs to Reduce Solid Waste	
Create incentives to increase recycling and reduce generation of solid waste by residential users.	NA - Beyond the scope/control of the project.
Implement a Construction and Demolition Waste Recycling Ordinance to reduce the solid waste created by new development.	NA - Beyond the scope/control of the project.
Add residential/commercial food waste collection to existing greenwaste collection programs.	NA - Beyond the scope/control of the project.

[1] Los Angeles World Airports, Sustainable Airport Planning, Design and Construction Guidelines for Implementation on All Airport Projects, Version 3.1, January 2008.

Table 4.4-7

Evaluation of Potential GHG Reduction Measures from the Governor's Office of Planning and Research

2 Over 60 percent of LAWA owned fleet vehicles use alternative fuel (compressed natural gas (CNG), liquefied natural gas (LNG), propane, hydrogen, solar, hybrid electric and pure electric.
3 Los Angeles World Airports, Sustainable Airport Planning, Design and Construction Guidelines for Implementation on All Airport Projects, Version 3.1, January 2008.

Source: CDM, 2009.

Similar to **Tables 4.4-6** and **4.4-7** above, **Table 4.4-8** below presents a list of GHG reduction strategies recommended by the Climate Action Team (CAT)[160] regarding activities that should be undertaken in the state agencies to ensure the Governor's and AB 32 GHG emission reduction targets are met.[161] The table below describes how the proposed project, as well as LAWA's overall sustainability actions and objectives, relates to each of the applicable strategies.[162] As indicated in **Table 4.4-8**, the proposed project responds to those strategies that are within the scope/control of the project.

Table 4.4-8

Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Strategy	Discussion
California Air Resources Board	
Vehicle Climate Change Standards. AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by CARB in September 2004.	**Consistent**. Any vehicles to which this rule applies that access the project and/or are used on-site are required to comply with the applicable standards.
Diesel Anti-Idling. In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling.	**Consistent**. The LAX Master Plan MMRP commits to prohibiting construction vehicle idling in excess of ten minutes. Additionally, LAWA's Sustainable Airport Planning, Design, and Construction Guidelines commit to reducing idling time and complying with the CARB heavy-duty vehicle idling emissions reduction program.
Other New Light Duty Vehicle Technology Improvements. In September 2004, CARB adopted a measure to reduce climate change emissions from new motor vehicles. The regulations apply to new passenger vehicles and light duty trucks starting with the 2009 model year.	**Consistent**. Any vehicles to which this rule applies that access the project and/or are used on-site are required to comply with the applicable standards.
Hydrofluorocarbon Reduction Strategies. 1) Ban retail sale of HFC in small cans. 2) Require that only low GWP refrigerants be used in new vehicular systems. 3) Adopt specifications for new commercial refrigeration. 4) Add refrigerant leak-tightness to the pass criteria for	**Consistent**. Products used would comply with applicable standards.

160 The Climate Action Team (CAT) is led by the Secretary of the California Environmental Project Agency (CalEPA) and includes members of various other state agencies to implement global warming emission reduction programs and report on the progress made toward meeting the statewide greenhouse gas targets that were established in the executive order.

161 California Environmental Protection Agency, Climate Action Team, Report to Governor Schwarzenegger and the Legislature, March 2006.

162 Strategies that are not remotely related to the CUP-RP are not included in Table 4.4-8.

Table 4.4-8

Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

vehicular inspection and maintenance programs. 5) Enforce federal ban on releasing HFCs.	
Off-road Electrification. Off-road electrification would likely be achieved using a combination of regulatory and incentive approaches. ARB could conduct outreach to encourage replacement of diesel engines with electric motors to take advantage of the incentive rate structure and Moyer funding, and to comply with District and pending ARB regulations.	**Consistent**. LAWA is committed to efforts towards the conversion of gasoline and diesel powered GSE to eGSE. Efficient conversion of natural gas to electricity on-site in the replacement CUP would support off-road electrification efforts.
Alternative Fuels: Biodiesel Blends. CARB would develop regulations to require the use of 1 to 4 percent biodiesel displacement of California diesel fuel.	**Consistent**. Any vehicles to which this rule apply that access the project and/or are used on-site are required to comply with the applicable standards.
Alternative Fuels: Ethanol. Increase the use of E-85 fuel.	**Consistent**. LAWA plans on increasing the number of LAX fleet vehicles using alternative fuel, which may include the use of ethanol based gasoline.
Heavy-Duty Diesel Emission Reduction Measures. Reduce emissions from the heavy duty vehicle sector through a variety of means such as vehicle weight reduction and improved aerodynamics.	**Consistent**. The LAX Master Plan MMRP prohibits construction vehicle idling in excess of ten minutes. Additionally, LAWA's Sustainable Airport Planning, Design, and Construction Guidelines commit to reducing idling time and complying with the CARB heavy-duty vehicle idling emissions reduction program.
Hydrogen Highway. The California Hydrogen Highway Network (CA H2 Net) is a State initiative to promote the use of hydrogen to diversify transportation energy sources.	**Consistent**. LAWA plans on increasing the number of LAX fleet vehicles using alternative fuel, which may include the use of hydrogen vehicles.
Integrated Waste Management Board	
Achieve 50 percent Statewide Recycling Goal. Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989 (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emissions from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	**Consistent**. LAWA has committed to diverting 70 percent of its waste from the landfill by 2015, and developing new programs to collect recyclables, expand airline recycling programs, and educate employees about reducing waste.
Zero Waste - High Recycling. Efforts to exceed the 50 percent goal would allow for additional reductions in climate change emissions.	**Consistent**. See above.
Department of Forestry	
Urban Forestry. A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	**Consistent**. The removal of existing trees is not planned as part of the CUP-RP. However, if any mature trees are removed, they will be replaced at a ratio of 2:1.
Department of Water Resources	
Water Use Efficiency. Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute, and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	**Consistent**. LAWA has water efficient computer controlled irrigation systems, irrigates with reclaimed water, and has committed to using non-potable water to rinse vehicles during construction. LAWA's Sustainable Airport Planning, Design, and Construction Guidelines also contain provisions for reducing stormwater run-off and retaining on-site for non-potable uses.

Table 4.4-8

Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

Energy Commission (CEC)	
Building Energy Efficiency Standards in Place and in Progress. Public Resources Code Section 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards that apply to newly constructed buildings and additions to and alterations to existing buildings.	**Consistent.** The CUP-RP would replace the current boilers and turbine equipment with newer, more efficient equipment, thereby improving energy efficiency.
Appliance Energy Efficiency Standards in Place and in Progress. Public Resources Code Section 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards that apply to devices and equipment using energy that are sold or offered for sale in California.	**Consistent**. Appliances installed as part of the project would be consistent with CEC energy efficiency standards in place at the time of purchase.
Fuel-Efficient Replacement Tires & Inflation Programs. State legislation established a statewide program to encourage the production and use of more efficient tires.	**Consistent**. The LAX Master Plan MMRP (see Table 4.4-2) requires that all construction equipment working on-site is properly maintained at all times in accordance with manufacturers' specifications and schedules.
Municipal Utility Renewable Portfolio Standard. California's Renewable Portfolio Standard (RPS), established in 2002, requires that all load serving entities achieve a goal of 20 percent of retail electricity sales from renewable energy sources by 2017, within certain cost constraints	**Consistent**. LAWA participates in the Los Angeles Department of Water and Power's (DWP) "Green Power for LA" program to purchase electricity from renewable resources. Through this program, LAWA currently purchases 13 percent of its power from renewable energy sources and has committed to expanding this to 25 percent.
Municipal Utility Combined Heat and Power. Support the application of on-site power production to meet heat and electricity loads through use of various policy instruments including regulatory incentives to encourage utilities to promote customer and utility-owned combined heat and power facilities.	**Consistent**. LAWA has operated a cogeneration facility for steam and electricity on-site at the existing LAX CUP for over 20 years. The cogeneration facility reduces fuel usage by 10 to 30 percent compared to separate electricity and heat processes.[1]
Alternative Fuels: Non-Petroleum Fuels. Increasing the use of non-petroleum fuels in California's transportation sector, as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.	**Consistent**. LAWA is in the process of converting its entire vehicle fleet to run on alternative power, with a goal of having 100 percent of the fleet vehicle operating on alternative power or have similar emissions by 2015.
Business, Transportation, and Housing	
Measures to Improve Transportation Energy Efficiency. Builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools, and information that advance cleaner transportation and reduce climate change emissions such as measures to diversity transportation energy infrastructure and reduce excessive use of petroleum and reduce vehicle miles travels.	**Consistent**. See above regarding LAWA's use of alternative vehicle power. Additionally, LAWA's Sustainability Plan includes an objective to reduce single occupancy vehicle trips to, from, and within LAX by measures such as an employee Rideshare program, the LAX FlyAway shuttles, hotel shuttle consolidation, plans for a consolidated rental car facility, and traffic mitigation program.
Smart Land Use and Intelligent Transportation Systems (ITS). Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.	**Consistent**. While the project does not involve land use planning and development, as discussed above, LAWA does have objectives to improve the transportation efficiency and movement

Table 4.4-8

Project Consistency with 2006 CAT Report Greenhouse Gas Emission Reduction Strategies

State and Consumer Services Agency	
Green Buildings Initiative. Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels.	**Consistent**. Energy use within the CUP building is minimal, and the CUP facility will be built to the applicable energy efficiency requirements in place at the time of construction. The CUP-RP would improve the overall energy efficiency of LAX.
Public Utilities Commission	
Accelerated Renewable Portfolio Standard to 33% by 2020. The Governor has set a goal of achieving 33 percent renewables in the State's resource mix by 2020.	**Consistent**. LAWA supports the use of renewable energy sources through participation in DWP's "Green Power for LA" program to purchase electricity from renewable resources. Through this program, LAWA currently purchases 13 percent of its power from renewable energy sources and has committed to expanding this to 25 percent.
California Solar Initiative. The solar initiative includes installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses, increased use of solar thermal systems to offset the increasing demand for natural gas, use of advanced metering in solar applications, and creating a funding source that can provide rebates over 10 years through a declining incentive schedule.	**Consistent**. Based on land constraints and airfield safety considerations, it is generally infeasible to install alternative energy systems at the airport. The project does, however, include a commitment to increase the amount of energy purchased from off-site green power sources.

[1] Los Angeles World Airports, Final Sustainability Plan, April 2008, page 16.

Source: CDM, 2009.

4.4.9 Level of Significance After Mitigation

Based on the discussion above, the amount of greenhouse gas emissions associated with construction of the proposed project would be substantial. Although construction of the project would comply with LAWA's Sustainable Airport Planning, Design and Construction Guidelines that serve to reduce greenhouse gas emissions, the project would result in a cumulatively considerable increase in potential impacts related to global climate change. This cumulative impact associated with greenhouse gas emissions during construction of the project is considered significant and unavoidable. However, operation of the proposed new CUP would result in a net environmental benefit by reducing potential emissions of GHGs by approximately six percent, while supporting LAWA’s goals related to sustainability and reduction of airport-wide GHG emissions. Although a six percent decrease in the potential to emit GHGs from the CUP-RP is an improvement compared to existing conditions, it falls short of the 35 percent goal set forth in the LAWA's Sustainability Plan. Therefore, operation of the replacement CUP is considered to have a cumulatively significant and unavoidable impact on global climate change.

This page intentionally left blank

5. OTHER ENVIRONMENTAL CONSIDERATIONS

5.1 Significant Unavoidable Impacts

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe significant environmental impacts that cannot be avoided and impacts that can be mitigated but not reduced to a less than significant level. Chapter 4 of this EIR provides detailed analyses of the environmental topics identified in the Initial Study, prepared in April 2009, as having the potential to result in significant impacts with implementation of the CUP-RP. Based on analyses contained in this EIR, the project would have significant and unavoidable impacts associated with construction activities, including air pollutant emissions and concentrations that would exceed threshold levels, toxic air contaminants emissions that would result in human health risks for adult workers above the level of significance, and significant global climate change impacts. Environmental impacts associated with air emissions, human health risk, and global climate change during project operation would not be significant.

- **Air Quality:** Air pollutant emissions occurring during construction of the CUP-RP would exceed the CEQA daily thresholds of significance established by the SCAQMD for VOC and NO_x. Concentrations from construction-related sources would be significant for PM10. These impacts are significant and unavoidable, since no feasible mitigation measures are available that would reduce these impacts to a less than significant level beyond the controls already assumed as part of the project. In addition, cumulative construction-related emissions of CO, VOC, NO_x, PM10, and PM2.5 would be significant and unavoidable as would cumulative concentrations of NO_2 and PM10.
- **Human Health Risk:** Construction activities would increase cancer risks above the level of significance of 10 in one million for potentially exposed adult workers within the study area. As no feasible mitigation measures are available that would reduce this impact to a level less-than-significant, this impact would be significant and unavoidable.
- **Global Climate Change:** The level of greenhouse gas emissions associated with construction of the CUP-RP would be substantial. Although construction of the project would comply with LAWA's Sustainable Airport Planning, Design and Construction Guidelines, which serve to reduce greenhouse gas emissions, the project impacts related to global climate change are considered significant during construction, both cumulatively and at the project level. As no feasible mitigation measures are available to reduce GHG emissions to a less than significant level, this impact is significant and unavoidable. Operation of the proposed new CUP would result in a net environmental benefit by reducing emissions of GHGs by approximately 6 percent. However, the efforts to reduce GHG emissions would not meet the 35 percent reduction goal set forth in the LAWA's Sustainability Plan. Although the proposed project would not have a significant project-level impact during operation, the shortfall in meeting the 35 percent reduction goal could be significant if other LAWA projects also fall short of such reductions. Therefore, operational impacts on global climate change are considered cumulatively significant and unavoidable.

As discussed in Chapter 2, under Site Background and Existing Conditions, the existing CUP is decades old, technologically obsolete, and is facing capacity constraints. More specifically, facilities and equipment no longer meet energy and safety codes. As the equipment ages, the associated costs to repair and maintain the CUP, control air pollution emissions, and comply with environmental rules and regulations increase. Replacement of the existing CUP is needed to accommodate both existing demand, and anticipated demand associated with approved projects, for heating and cooling within the CTA. Although the proposed CUP-RP would result in significant construction impacts associated with air quality, human health risk, and global climate change, not replacing the CUP would result in greater air quality and global climate change impacts in the long-term. The new CUP would result in a six percent decrease in operational emissions, from the existing system (see Sections 6.4.3.1 and 4.4). Without the proposed CUP-RP, the CTA would have an inefficient and inadequate heating and cooling system.

Therefore, the CUP-RP is being proposed, notwithstanding significant, unavoidable construction impacts with respect to air emissions and global climate change.

5.2 Irreversible Environmental Changes

According to Section 15126.2(c) of the CEQA Guidelines, an EIR is required to evaluate significant irreversible environmental changes that would be caused by implementation of the proposed project. As stated in CEQA Guidelines Section 15126.2(c):

"[u]ses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely." Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The project would necessarily consume slowly renewable and non-renewable resources. Construction of the replacement CUP would require a commitment of resources that would include: (1) building materials, (2) fuel for construction equipment and machinery, and (3) fuel for the transportation of construction workers to and from the project site. Construction would require the use and consumption of non-replenishable or non-renewable resources, such as: raw materials in steel, metals such as copper and lead, aggregate materials such as sand and stone used in concrete and asphalt, and petrochemical construction materials such as plastics.

Project operation would continue to expend similar non-renewable resources that are currently consumed within the City of Los Angeles. These include energy resources such as natural gas, fossil fuels, and water. Natural gas, which is the primary energy source for project operation, may be supplemented by biogas originating from the adjacent Hyperion Treatment Plant ("HTP"). However, with or without this component of the project, supplies of natural gas, a finite energy source, would be incrementally reduced. Under Title 24, Part 6 of the California Code of Regulations, conservation practices limiting the amount of energy consumed by the project is required during operation. The new CUP would comprise a new Leadership in Energy and Environmental Design (LEED®)-certified building constructed with state-of-the-art equipment to provide an economic, energy efficient heating and cooling supply to the terminals and other facilities. The project would help implement LAWA's Sustainability Plan (April 2008) and Sustainability Report (June 2008). The primary objectives of these plans are to increase water conservation; reduce energy use and increase use of green power; reduce emissions from all operations; support sustainable planning, design, and construction practices; and integrate sustainable practices into internal policies, business processes, and written agreements. In addition to these features, LAWA is also pursuing use of biogas from the adjacent HTP and the potential use of recycled/reclaimed water from the existing West Basin Municipal Water Recycling Center in the City of El Segundo (see Draft EIR sections 2.2.2 and 2.4.1). In the event that LAWA uses recycled/reclaimed water in place of potable water, there would be a reduction in GHG and other air pollutant emissions associated with electricity generation needed to power the pumps used to transport water long distances as most of LADWP's water is imported from outside the service area.

However, despite conservation practices and guidelines in energy conservation, commitment to the use of the non-renewable resources would be long-term. Project construction and operation would result in the irretrievable commitment of slowly renewable and non-renewable resources. However, as the project would implement conservation measures to the extent feasible and would improve energy efficiency, the use of non-renewable resources would not result in significant irreversible changes to the environment.

5.3 Growth Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires an EIR to discuss the ways the proposed project could foster economic or population growth, directly or indirectly, in the surrounding environment. Growth-inducing impacts include the removal of obstacles to population growth and the development and construction of new service facilities that could significantly affect the environment individually or cumulatively. In addition, growth must not be assumed as beneficial, detrimental, or of little significance to the environment.

5.3.1 Project Characteristics

This project would replace the existing, aging CUP with new state-of-the-art systems to meet existing and projected demand in accordance with approved plans, to provide heat/steam and chilled water for space conditioning in terminal and concourse areas at the airport. The project would also include a new cogeneration system that would use heat/steam from the CUP to generate electricity. The project includes a new cooling tower system and a new underground thermal energy storage tank, LADWP electrical vault, a new Facility Management System (FMS) and Fire Life Safety System (FLSS) to provide master controls for the terminals and other facilities in the CTA, and demolition of the existing CUP facilities. In conjunction with replacement of the CUP, the proposed project includes the construction of a utility tunnel between the new CUP building and the existing tunnel sections at each terminal, as well as the replacement of both chilled and hot water piping including isolation valves, maintenance access structures, and insulated piping, among others. The project includes replacement of fans, coils, duct cleaning, enclosures, condensate pans, dampers, motors, UV lighting within fan enclosures, and mechanical equipment including all pumps, motors, compressors, piping and valves within mechanical rooms in the terminal buildings. The project may also use treated recycled/reclaimed water in the cooling tower system and, as such, another component of the project would be an off-site, automated water treatment system designed to remove ammonia and chlorine from recycled water prior to use.

5.3.2 Economic Growth

An important function of LAX is to sustain and support economic growth in the region. Although the proposed CUP-RP would not directly generate economic growth, in meeting the existing and future energy needs of the CTA, the project would generate construction jobs and contribute to the role of the airport in supporting the economic viability of the community and region. The proposed CUP-RP would allow the airport to accommodate potential growth anticipated at the CTA.

5.3.3 Removal of an Impediment to Growth

The proposed CUP-RP would remove the existing out-dated CUP facilities and, as such remove an impediment to the ability of the CTA to accommodate anticipated demand. However, in terms of physical environmental consequences, the project would not result in the removal of an impediment to growth into a new, undeveloped area. The proposed project would not cause LAX to grow beyond what has been evaluated and anticipated under the LAX Master Plan. In addition, the proposed project would not provide new access to an area that is undeveloped since the site is located within the airport in an urban area.

5.3.4 Development or Encroachment in an Isolated Open Space

Development can be considered growth inducing when it is not contiguous to existing urban development and introduces development into open space areas. The proposed project site is situated in the airport's existing CTA. The potential off-site water treatment system, which consists of an automated facility on an approximately 14,000-square-foot site (less than 1/3 acre), would be located on LAX property on one of two sites currently being considered. These sites are located within or adjacent to an existing surface parking area. Development of the replacement CUP within the existing CUP site and location of the potential water treatment system in an existing urban area would not introduce new development into an undeveloped or open space area.

5.3.5 Precedent Setting Action

The proposed CUP-RP would be a continuation and upgrade of the airport's existing heating and cooling system for the CTA. This project would not encourage or facilitate new activities that do not already occur at the airport, or that have not been anticipated and accounted for under the LAX Master Plan, which would significantly affect the environment. The CUP would accommodate the anticipated growth of the CTA, but would not set a precedent that could result in significant, unanticipated environmental impacts.

5.3.6 Conclusion

Implementation of the project would support the anticipated growth of the CTA and indirectly contribute to the growth of the region. Because the proposed project is growth accommodating, it is considered growth-inducing. However, the proposed project would not directly generate economic growth, remove an impediment to growth, encroach into an isolated, rural or undeveloped open space, or establish a precedent for unanticipated growth.

5.4 Potential Secondary Effects

Potential secondary effects are changes in the physical environment not immediately related to the project but caused indirectly by the project (CEQA Guidelines Section 15064 (d)(2)). They may, for example, result from physical impacts on the environment that occur as a secondary result of mitigation measures or other physical changes not addressed as direct impacts in the Draft EIR. Direct impacts associated with air pollutant emissions, human health risk, and global climate change would be significant and unavoidable, as discussed above. However, secondary effects, or other physical impacts resulting from the direct impacts addressed in the EIR, including impacts determined to be less than significant, are not anticipated. Mitigation measures that would be implemented to reduce the environmental effects in each of these issue areas would not result in any secondary effects that are not already identified in the EIR. The EIR also makes the determination that the project would have a significant impact with respect to air pollutant emissions during construction, even with the implementation of all feasible mitigation measures. Construction emissions have the potential to result in secondary effects with respect to human health risk and global climate change. The potential impacts of the project on human health and global climate change are analyzed as direct impacts in the EIR. Mitigation measures to reduce construction emissions are would not result in any secondary, physical changes to the environment. Therefore, the proposed project would not generate any secondary effects.

5.5 Environmental Effects Determined not to be Significant

This Draft EIR concludes that construction impacts on surface transportation and operational impacts on air quality and human health risk would be less than significant (see Draft EIR section 4.2 and 4.3). In addition, the NOP for the CUP-RP, through an Initial Study based on Appendix G of the CEQA Guidelines, determined that the proposed project would result in “not significant” or “less than significant” environmental impacts in the following subject areas:

- Aesthetics;
- Agricultural Resources;
- Biological Resources;
- Cultural Resources;[163]
- Geology and Soils;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;

---

[163] The Initial Study concluded that the CUO-RP would result in a potentially significant impact on cultural resources and noise, however, these potential impacts would be reduced to a less than significant level with the incorporation of the mitigation measures that are described in the NOP (see NOP, Attachment A).

- Noise;
- Population and Housing;
- Public Services;
- Recreation;
- Traffic and Circulation (during operation); and
- Utilities.

Since the impacts of the project with respect to these subject areas were determined to be either "not significant" or "less than significant," these subject areas were not evaluated in this Draft EIR. This methodology is consistent with CEQA Guidelines Section 15063(c)(3)(A). Pursuant to CEQA Guidelines Section 15128, proposed project effects found not to be significant are discussed in greater detail in the Initial Study, attached to this Draft EIR as Appendix A. No additional potentially significant impacts or subject areas that were not identified by the Initial Study were identified during the circulation of the NOP for public and agency comments.

This page intentionally left blank.

6. ALTERNATIVES

6.1 Purpose and Scope

CEQA requires that an EIR include a discussion of a reasonable range of project alternatives that would "feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines Section 15126.6). Within that context, this chapter discusses alternatives to the proposed CUP-RP.

Key provisions of the CEQA Guidelines on alternatives (Section 15126.6(b) through (f)) are excerpted below to explain the foundation and legal requirements for the alternatives analysis in the EIR.

- "…the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the proposed objectives, or would be more costly (15126.6(b)).
- "The specific alternative of 'no project' shall also be evaluated along with its impact" (15126.6(e)(1)). "The 'no project' analysis 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 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. If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives" (15126.6(e)(2)).
- "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth 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 project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making" (15126.6(f)).
- "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)" (15126.6(f)(1)).
- For alternative locations, "only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR" (15126.6(f)(2)(A)).
- "If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal plant or mining project which must be in close proximity to natural resources at a given location" (15126.6(f)(2)(B)).
- "An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative" (15126.6(f)(3)).

6.2 Significant Impacts of the Project

The formulation and evaluation of alternatives should seek to avoid or substantially lessen the significant impacts identified in Chapter 4 of this EIR. As described in Chapter 4, temporary construction activities associated with the CUP-RP would result in a potentially significant and unavoidable impact with respect to air quality, human health risk, and global climate change. Air pollutant emissions occurring during construction of the CUP-RP would exceed the CEQA daily thresholds of significance established by the SCAQMD for VOC and NO_x. Dispersion modeling estimates show that project construction-related airborne concentrations would be significant for PM10 on an annual and 24-hour basis. Cumulative construction-related emissions of CO, VOC, NO_x, PM10, and PM2.5 would also be significant. In addition, although construction of the project would comply with LAWA's Sustainable Airport Planning, Design and Construction Guidelines that serve to reduce greenhouse gas emissions, it still does not meet the 35 percent goal for reducing GHGs set forth in the LAWA's Sustainability Plan. Thus, cumulative impacts related to global climate change are considered to be significant and unavoidable during both construction and operation of the project. Lastly, project-related cancer risks for the CUP-RP construction impacts with mitigation would be above the level of significance of 10 in one million for adult workers within the study area. As all feasible mitigation measures are proposed for implementation, impacts are considered to be significant and unavoidable.

6.3 Project Objectives

The objectives of the CUP-RP which need to be considered in the formulation and evaluation of alternatives, include the following

- Reduce operating costs and improve energy efficiency at LAX.
- Replace the existing, obsolete CUP and cogeneration facilities which no longer meet energy and safety codes with state-of-the-art facilities.
- Replace existing equipment in order to avoid increasingly high repair and maintenance costs.
- Replace aged infrastructure that cannot handle current demands of the CTA and other LAWA infrastructure.
- Increase heating and cooling capacity to accommodate current demand and demand associated with approved projects at LAX.
- Replace the existing cogeneration system in order to help reduce emissions of regulated pollutants and costs associated with long-term operations and emission controls.

The proposed project would be consistent with and help implement the following sustainability objectives set forth in LAWA's Sustainability Plan:[164]

- Increase water conservation in all airport facilities and for all operations.[165]
- Replace the existing, obsolete CUP and cogeneration facilities which no longer meet energy and safety codes with state-of-the-art facilities.
- Increase use of green power at all airport facilities and in all operations.[166]
- Incorporate sustainable planning, design, and construction practices into all airport projects.
- Integrate sustainable practices into internal policies, business processes, and written agreements.

The project would also be consistent with and help implement the following City of Los Angeles goals to implement the *Green LA Plan*:[167]

- Increase the efficiency of natural gas-fired power plants.
- Increase biogas co-firing of natural gas-fired power plants.[168]

---

164 Los Angeles World Airports, Sustainability Plan, April, 2008.
165 Conformance with this objective assumes future availability and use of reclaimed water.
166 Conformance with this objective assumes future use of biogas.
167 City of Los Angeles, Green LA - An Action Plan to Lead the Nation in Fighting Global Warming (2007).
168 Assumes future use of biogas.

6.4 Alternatives

The alternatives to the proposed CUP-RP were formulated to address the significant impacts associated with the project. Significant impacts associated with the proposed CP-RP, which cannot be mitigated to a level that is less than significant, are criteria air pollutant emissions, human health risk to adult workers, and greenhouse gas emissions. Alternatives presented in this section include: (1) potential alternatives that were initially considered but were screened-out from further consideration due to their infeasibility or readily apparent inability to avoid or substantially reduce the significant impacts of the project; and (2) an alternative pipeline design that was fully evaluated. Also, as required by CEQA, the "no project" alternative is addressed in this section.

6.4.1 Potential Alternatives Screened Out From Further Consideration

6.4.1.1 Alternative Site

The location of the proposed CUP-RP within its existing location within the CTA is considered desirable since it has the greatest proximity to the CTA, which the replacement CUP, as well as the existing CUP, is intended to serve. Although relocating the project to another site within LAX property could avoid construction impacts within the CTA, even if plausible, it would increase energy demand due to a greater distance between the CUP (the CTA heat and cooling source) and the CTA. Increased pipeline distances between the source and the receiver would require greater energy for pumping and would diminish overall efficiency through heat transfer. In addition, the construction of a longer utility pipeline corridor would increase the scale of construction, including excavation quantities and duration; thus, increasing construction-related emissions. An alternative site also has the potential to move construction activities closer to existing sensitive uses, such as residential neighborhoods in proximity to LAX, which would result in greater impacts with respect to pollutant emissions and human health risk. In addition, an alternative location may require the use of a site that is not master-planned for the proposed use, and that may not have appropriate zoning to allow such use. Therefore, the location of the CUP-RP to an alternative site has the potential to result in a significant land use impact, since it would potentially not conform with existing land use designations and would preclude the future use of land as intended. The location of the CUP-RP within the CTA is the superior site for the project to fulfill its intended function. In addition, the “alternative site” alternative would result in additional potentially significant impacts, would not reduce the proposed project’s significant and unavoidable air emissions, human health risk, or global climate change impacts, and would not meet the project objective to “reduce operating costs and improve energy efficiency at LAX.” Therefore, this alternative was screened out from further consideration.

6.4.1.2 Alternative Construction Approach

Under this alternative, consideration was given to modifying the overall construction approach in an effort to avoid or substantially lessen the significant construction-related air quality, human health risk, and global climate change impacts identified in Chapter 4. It should be noted that the construction approach currently proposed for the CUP-RP already includes a number of features that reduce potential impacts to those resources. An alternative construction approach that could be considered for the avoidance or substantial reduction of air pollutant emissions would be to substantially shorten the hours of continual construction during a 24-hour period. In order to reduce emissions, daily activities would need to be reduced to a very brief period within a 24-hour day. Based on such limitations, construction of the proposed CUP-RP would be substantially delayed and would not be completed in a reasonable period of time that would adequately serve the CTA. Due to a prolonged construction schedule, the existing CUP would continue in operation. The CUP-RP would generate lower emissions during operation than the existing CUP. Therefore, the Alternative Construction alternative would increase operational emissions compared to the proposed project. As the prolonged construction approach is infeasible and would result in an increase in operational emissions, it has been screened out from further consideration.

6.4.2 Alternatives Carried Forward for Full Evaluation

6.4.2.1 No Project Alternative

Under the No Project Alternative, LAWA would continue to operate the existing CUP system. Under this alternative, the replacement CUP, new chilled and hot water lines, new cooling towers, underground TES tank, new electrical substation and existing LADWP substation retrofit, new maintenance shop, potential construction of a recycled/reclaimed water pipeline and treatment system, and potential utilization of biogas would not occur. Since no construction would occur, this alternative would address the project's impacts associated with construction dust and equipment emissions.

6.4.2.2 Direct Burial Alternative

The Direct Burial Alternative would change the construction technique (Utilidor) for the development of the new chilled water and hot water utility corridor, extending west from the proposed replacement CUP, that would serve the CTA. Under this alternative, pipelines extending west from the CUP would be installed in a buried conduit along similar paths as those defined for the proposed Utilidor. However, the concrete, box-like tunnel required for the Utilidor would not be constructed and, as such, the Direct Burial Alternative would have greater flexibility of design and require less excavation than the proposed Utilidor. This alternative has the potential to reduce impacts associated with dust, equipment emissions, and other impacts associated with construction activities.

6.4.3 Evaluation of Project Alternatives

6.4.3.1 No Project Alternative

In accordance with the CEQA Guidelines, the No Project Alternative is the circumstance under which the project does not proceed. Section 15126.6(e)(3)(B) of the Guidelines states that, "in certain instances, the No Project Alternative means 'no build' wherein the existing environmental setting is maintained." For purpose of this analysis, the No Project Alternative assumes that the project would not be approved and the redevelopment of the CUP would not occur. Thus, the physical conditions associated with the existing CUP would remain the same. The No Project Alternative would not result in the development of the replacement CUP, new chilled water and hot water lines, the new underground TES tank, upgraded and relocated cooling tower or LADWP power facilities, recycled/reclaimed water treatment site, or treated water pipes. However, as the existing CUP system is aging and becoming increasingly inefficient, existing equipment, such as the turbine, boilers and other systems, would continue to break down with resultant costs and environmental implications. In the event new or expanded terminal space is constructed in conformance with approved plans, decentralized facilities on the airport would likely be needed to augment the existing CUP.

Construction Ground Transportation

The No Project Alternative would not involve any of the construction activities associated with the development of the CUP-RP. Construction traffic associated with excavation, demolition, construction of new facilities, delivery of materials and hauling, and employee trips that would be required for the construction of the CUP-RP would not occur. As discussed in Section 4.1, the proposed project would have a less than significant impact with respect to project-specific and cumulative traffic in the study area during the project's construction phase. As the proposed project would not have a significant impact with respect to construction ground transportation, the No Project Alternative would not serve to reduce any significant traffic impacts to a less than significant level. However, as the No Project Alternative entirely avoids the project's construction traffic impacts, it would have less impact than the CUP-RP on existing traffic conditions in the area.

Air Quality

The No Project Alternative would avoid the air quality impacts detailed in Section 4.2. The CUP-RP's significant adverse, but short-term, impacts on air quality from construction would not occur.

Furthermore, failure to upgrade as proposed would result in operational impacts greater than the proposed project, as the reduced operational emissions of criteria pollutants would not occur.

Human Health Risk

Under the No Project Alternative, human health risk impacts would be less than significant, but slightly reduced as compared to the proposed project, as the net increase in emissions of certain toxic air contaminants due to the CUP-RP would not occur. The Human Health Risk Assessment showed one significant project-related human health risk: cancer risks for CUP-RP construction impacts with mitigation would be above the level of significance of 10 in one million for adult workers in the study area. Thus, the No Project Alternative would avoid the one significant increase in risk and hazard to human health.

Global Climate Change

The No Project Alternative would avoid the significant and unavoidable construction impact predicted under the CUP-RP. However, the existing equipment within the CUP and individual package units needed for future buildings are less efficient than the equipment proposed for the CUP-RP. Continuing to operate the existing CUP would result in greater operational GHG emissions compared to the proposed replacement CUP-RP. The environmental benefit of 6 percent reduction in GHG emissions and implementation of sustainability goals would not occur under the No Project alternative. Furthermore, operational GHG emissions associated with the No Project Alternative would be significant and unavoidable as the alternative would not reduce operational GHG emissions by 35 percent set as a LAWA Sustainability goal, or to any degree.

Relationship of the No Project Alternative to the Project Objectives

The No Project Alternative would not meet any of the objectives of the proposed CUP-RP. The No Project alternative would not reduce operating costs or improve energy efficiency at LAX; it would not allow the replacement of the existing, obsolete CUP and cogeneration facilities which no longer meet energy and safety codes with state-of-the-art facilities; and it would not replace existing equipment in order to avoid increasingly high repair and maintenance costs. In addition, the No Project alternative would not replace aged infrastructure that cannot handle current demands of the CTA and other LAWA infrastructure. The No Project Alternative would not increase heating and cooling capacity to accommodate the current and anticipated demand. In addition, the No Project Alternative would not replace the existing cogeneration system in order to reduce emissions of regulated pollutants and costs associated with long-term operations and emission controls.

6.4.3.2 Direct Burial Alternative

The Direct Burial Alternative would change the construction technique used in the development of the underground alignment for the chilled water and hot water pipelines extending west from the replacement CUP. Under the Direct Burial Alternative, lines for chilled water and hot water lines extending west from the CUP would be placed directly in trenches. This technique is an alternative to the construction of the proposed Utilidor, described in Section 2.4.5 of the Project Description. The Utilidor is a concrete tunnel that would contain the chilled water and hot water pipelines and in which concrete panels must be placed or poured. The Direct Burial Alternative would require less clear space in the excavation of the trench than under the Utilidor and would have greater flexibility than the Utilidor. Under the Direct Burial Alternative, the proposed utility corridor path would be modified to include the construction of direct bury utility conduits from the CUP to the LAWA Switching Station to the east, and would use existing tunnels south of Center Way along World Way to connect with the Tom Bradley International Terminal (TBIT) and Terminal 4. The Direct Burial Alternative would also differ slightly from the proposed Utilidor path in that no new connection to Terminal 3 would be made along World Way North. In addition, the Direct Burial Alternative would create a closed loop encompassing Parking Structure 3 with conduit running along Center Way, World Way, World Way North and through the surface lot east of Parking Structure 3. Under this new alignment, the direct burial alternative would cross World Way North at two locations, both located between TBIT and Terminal 3. Under the proposed Utilidor construction process, connections from the main trunk line of the Utilidor to the terminal buildings would require trenches to be excavated across the entire width of World Way at three separate locations: the middle of West Way; at the intersection of West Way and World Way North; and at the intersection of West Way and World Way South. The Direct Burial Alternative would require trenching across West Way in two locations: across the middle of West Way and at the intersection of West Way/World Way North. The Direct Burial Alternative would not require trenching across the intersection of West Way/World Way South. Additionally, the Direct Burial Alternative would use a boring construction method beneath World Way that would limit impacts on CTA traffic, since it would require no trenching across the width of World Way.

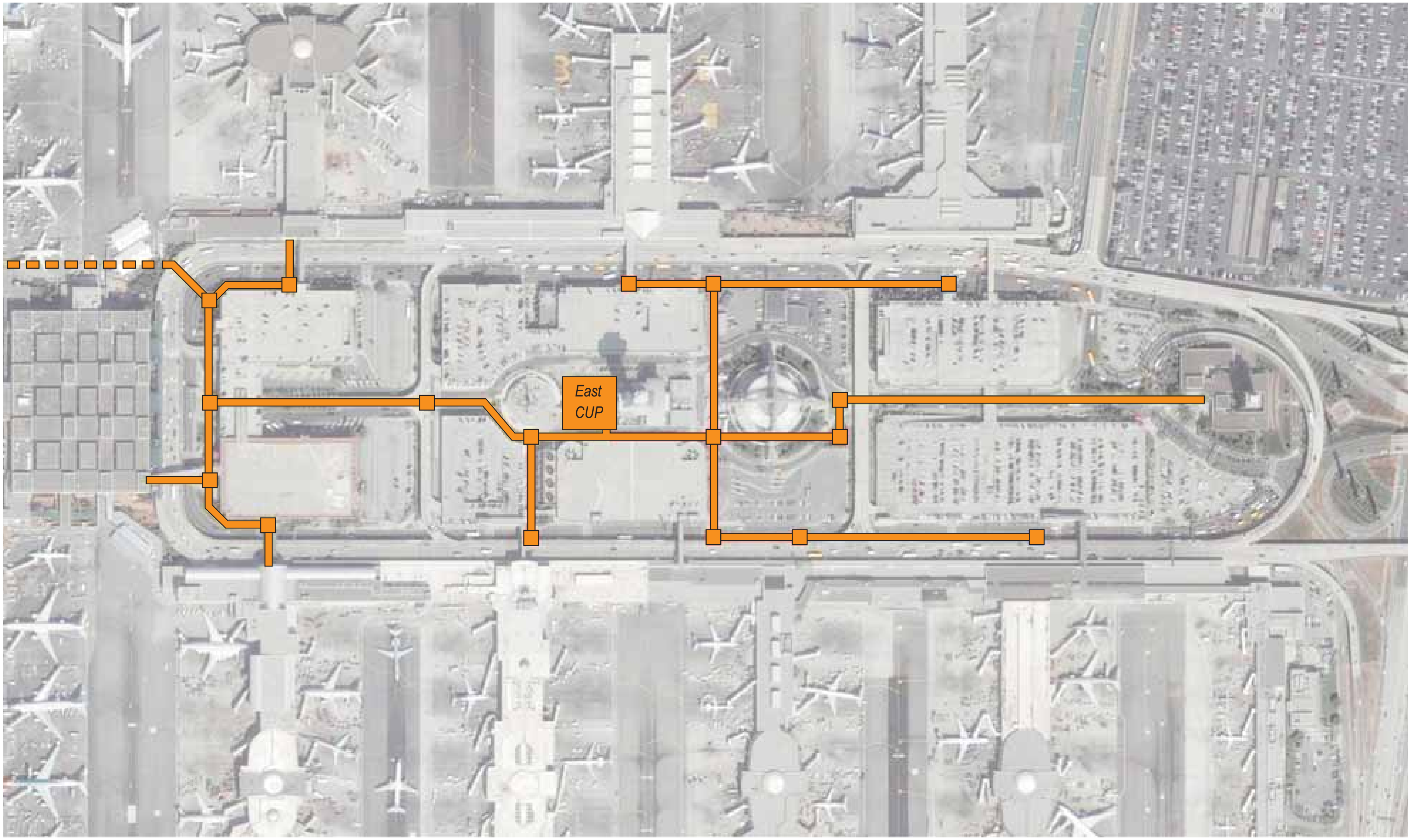
Under the Direct Burial Alternative, connecting the chilled water and hot water lines with TBIT and Terminal 4 would be made using existing tunnels. Under the Utilidor method, the accommodation of forms for poured concrete or the placement of concrete panels would require a larger trench (approximately 22 feet wide) than under the Direct Burial Alternative. The Direct Burial Alternative assumes the excavation for utility conduits would range from between two and nineteen feet in width, at varying depths. Excavation (cut and fill) for pipelines extending west from the replacement CUP with the Direct Burial Alternative would be approximately 23,500 cubic yards (cy), a substantial reduction when compared to the approximately 143,500 cy required for the proposed Utilidor.

The CTA has hundreds of existing subsurface utility pipes and systems that crisscross the area. The Direct Burial Alternative would accommodate custom-made pipes that angle around many of the existing utility lines and, therefore, would have greater flexibility than the proposed Utilidor, which would require relatively long straight runs. As such, the Direct Burial Alternative would reduce grading and additional construction for the relocation of exiting underground facilities that could occur under the proposed Utilidor method. The Direct Burial Alternative would require less excavation, have shorter construction duration, and would have less potential impact on existing underground facilities. An evaluation of the impact of the Direct Burial Alternative with respect to construction ground traffic, air quality, human health risk, and global climate change is presented below. The approximate alignments for the Direct Burial Alternative are presented in **Figure 6-1**.

Construction Ground Transportation

Construction plans for the proposed Direct Burial Alternative would limit impacts on CTA traffic by keeping the utilities out of the roadways to the extent possible. The Direct Burial Alternative assumes the excavation for utility conduits would range from between two and nineteen feet in width, at varying depths. Depending on the location, some or all of the Direct Burial Alternative excavation would be located outside of the CTA roadway right-of-way. The construction along World Way North in front of Terminal 3 and along World Way adjacent to TBIT (North of Center Way) would be expected to generate the greatest impact on the Arrivals level traffic operations. This construction activity may require the temporary closure of up to twelve feet of roadway width adjacent to the TBIT. Due to the existing width of the travel lanes in front of TBIT, the loss of 12 feet of roadway for construction may be accommodated without the loss of a travel lane, by temporarily restriping the roadway with narrower travel lanes. While this would maintain the same number of lanes, narrower travel lanes typically result in reduced throughput capacity and would likely result in lower vehicle speeds and potentially longer vehicle queues for this section of the roadway. Restriping lanes in front of Terminal 3 to avoid the closure of a lane may also be possible but, as with construction in front of TBIT, a final determination regarding the feasibility of restriping the roadway cannot be made without further defining construction methods for the Direct Burial Alternative. If adequate width is not available to allow for the restriping of the roadway, then it would be necessary to temporarily lose one travel lane during overnight and early morning hours to accommodate construction. However, during the peak daytime hours it is anticipated that the lane would be covered with steel decking which would make the lane available for use. By comparison, the Utilidor would require the closure of at least one lane of traffic during overnight and early morning hours as noted in Section 4.1.8.3, although the use of steel decking would be employed to maintain the availability of traffic lanes during peak periods.

In areas where the new Direct Burial Alternative would cross a roadway (i.e., on World Way between TBIT and Terminal 3,) it is anticipated that the use of direct boring beneath World Way may be used to minimize impacts on CTA traffic by not requiring the open excavation of World Way. The use of decking



north

Source: CDM, 2009.
Prepared by: PCR, June 2009.

LAX Central Utilities Plant Replacement Project Draft EIR	Utility Alignments - Direct Burial Alternative	Figure 6-1

or steel plates for crossings of West Way and the driveways serving the Public Parking structures would be installed to avoid roadway/driveway closures during the Airport's peak operating hours. Individual roadway/driveway closures would likely be permitted during the overnight and early morning non-peak period, as noted in Section 4.1.8.3, when CTA traffic volumes are low. The new Direct Burial Alternative would include conduits aligned on both the north and south roadways of Center Way between West Way and East Way. These two conduit runs would be constructed during separate phases to permit one of the two roadways to remain open to the public at all times. The construction of the Direct Burial Alternative adjacent to the north roadway of Center Way, located to the west of the exit plaza for Parking Structure 3, would necessitate the temporary relocation of the existing crew pick-up area along Center Way.

In areas where the new Direct Burial Alternative crosses World Way, between TBIT and Terminal 3, certain commercial vehicle curbsides would need to be closed temporarily. Passengers would need to be directed to adjacent terminals to pick up their shuttles.

The Direct Burial Alternative construction methods would provide the Airport with the necessary opportunity to install the utility conduits required while limiting impacts on Arrivals level traffic to the extent possible. As with the proposed Utilidor construction plan, the Direct Burial Alternative construction staging would be located in the surface parking lot immediately east of Parking Structure 3. Due to the reduced scale of construction activities under the Direct Burial Alternative (less excavation and need for concrete pouring or placement of concrete panels), construction traffic (deliveries, etc.) for the Direct Burial Alternative would be lower than for the Utilidor construction technique.

Impacts on the Arrivals level roadway impacts would be limited to the extent feasible using direct boring to construct utility conduits beneath World Way and by limiting lane closure to overnight and early morning non-peak period as noted in Section 4.1.8.3. As with the construction of the proposed Utilidor, some additional congestion during construction would be expected adjacent to Terminal 3 and TBIT with either the loss of a roadway travel lane or the restriping of the roadway lanes, as discussed above. Delays may also be increased for vehicles attempting to enter and/or exit Parking Structures 3 and 4 if access driveways from World Way are temporarily closed to accommodate trenching activities. Closures along Center Way would result in some inconvenience but it is anticipated that construction phasing and traffic maintenance plans would ensure that traffic would be able to continue to use this roadway. To the extent feasible and necessary, roadway/driveway closures for construction purposes would be limited to one roadway/driveway at a time and to overnight non-peak periods.

The construction of the Direct Burial Alternative would likely result in temporary lane closures that would result in congestion and delays within the CTA during both peak and non-peak activity periods. However, the construction would employ less intrusive trenching and tunneling techniques that would result in fewer lane closures compared with the Utilidor construction. Furthermore, the congestion would be temporary in nature and impacts, while adverse, are expected to be less than significant given that roadway lanes would remain open to CTA traffic except for localized lane closures that would generally be limited to overnight and early morning periods. Furthermore, as with the proposed project, the Direct Burial Alternative would be required to implement a Construction Traffic Management Plan.

The anticipated schedule for the Direct Burial Alternative estimates that 83 peak day employees would be necessary to perform the required construction. The peak construction period would occur in the first quarter of 2011, approximately 17 months into the construction program. The 83 peak day employees are projected to generate 72 two-way peak hour vehicle trips (i.e., 72 inbound trips and 72 outbound trips).[169] In comparison, the schedule for the proposed Utilidor construction technique estimates that 168 peak day employees would be required to perform installation of the utility corridor. The 168 peak day employees are projected to generate 146 two-way peak hour trips.[170] The peak construction period would to occur in the third quarter of 2010, approximately 11 months into the construction program. The distribution of estimated monthly employee hours over the period of project construction indicates that the

169 U.S. Cost, LAX Central Utility Plant (CUP) Phase 1 and 2 (Direct Burial Piping / Electrical Ductbanks) Resource Loaded Schedule, June 26, 2009.

170 U.S. Cost, LAX Central Utility Plant (CUP) Phase 1 and 2 Resource Loaded Schedule, June 24, 2009.

differences in the schedules associated with the construction of the Utilidor or Direct Burial Alternative would occur during the first 18 months of construction, after which time the traffic activity associated with the construction would be the same under both the proposed project and Direct Burial Alternative. Throughout the initial 18-month period of construction, the traffic associated with the Direct Burial Alternative would be lower than the traffic associated with the proposed Utilidor construction. Furthermore, based on the traffic volumes describe above, the peak hour construction employee traffic volume associated with the Direct Burial Alternative would be 49 percent of the peak traffic activity associated with the proposed Utilidor construction (i.e., 72 peak hour employee trips for direct burial / 146 peak hour employee trips for the Utilidor).

As described previously in Section 4.1.8.3, the peak shift-changes for construction employees is expected to occur in the early morning (5:00 to 6:00 a.m.) and during the early afternoon (3:30 to 4:30 p.m.). As shown previously in Table 4.1-6, the CTA lower level peak hour would occur in the late evening, from 9:00 p.m. to 11:00 p.m. The proposed CUP-RP is not anticipated to produce any traffic activity during the CTA lower level peak hour. Roadway traffic activity on the lower level is also anticipated to be very low during the early morning period that would coincide with the a.m. construction peak hour (approximately 77 percent lower than the overall peak hour of 2,937 vehicles per hour). Similarly, the lower level traffic activity is also low during the period that would coincide with the p.m. construction peak hour (approximately 33 percent lower than the overall peak hour). Since peak construction hours have been scheduled to coincide with the lowest level of traffic activity on the CTA lower level roadway, CTA traffic conditions during the a.m. and p.m. construction periods would not exceed the level of traffic experienced on the CTA lower level roadway during peak traffic hours on a daily basis. Therefore, construction traffic within the CTA is not expected to result in significant congestion and would have a less than significant impact on traffic. In addition, the anticipated peak hour traffic volume associated with the Direct Burial Alternative would be substantially lower than that under the proposed Utilidor construction technique. As such, the Direct Burial Alternative would reduce the impact associated with construction ground transportation as compared to the proposed Utilidor technique.

Air Quality

Under the Direct Burial Alternative, the equipment installed and operated at the replacement CUP would remain unchanged. However, the intensity of construction activities and mix of equipment would change, as compared to construction of the proposed project. The LAX Development Program Team developed a separate resource loaded schedule for construction of the CUP-RP with direct buried pipe, and the results discussed below are based on those data.

Emissions from the CUP-RP with the Direct Burial Alternative are shown below in **Table 6-1**.

Under this alternative, the intensity of activity and resultant emissions for the peak construction day would be less than the peak day activity for the proposed project. Controlled emissions from the construction of the Direct Burial Alternative are projected to exceed the SCAQMD significance threshold for NOx. All other criteria and precursor pollutants studied would not exceed their respective thresholds. Impacts resulting from emissions of CO, SO_2, PM_{10}, and $PM_{2.5}$ during construction of this alternative are expected to be less than significant, similar to impacts predicted from construction of the proposed project. Impacts from VOC emissions during construction of this alternative would be reduced and are predicted to be less than significant; under the proposed project, these emissions would be significant. Although NO_x emissions are reduced for this alternative as compared to the proposed project, similar to the proposed project, NO_x impacts would be significant and unavoidable.

Dispersion modeling was performed to assess NO_2 and PM10 impacts from construction, and results are shown on **Table 6-2**. With this alternative, concentrations at the maximally exposed public receptor would be less than the most stringent applicable AAQSs for annual and 1-hour NO_2, and less than the SCAQMD significance threshold for annual and 24-hour PM10. NO_2 and PM10 concentration impacts would be reduced as compared to the proposed project, and would be less than significant. Thus, the Direct Burial Alternative would avoid the significant PM10 concentration impact associated with construction of the proposed project.

Table 6-1

**Direct Burial Alternative:
Maximum Controlled Peak CUP-RP Daily Construction Emissions**

Pollutant	Project Max	SCAQMD Significance Threshold	Emissions Exceed Threshold?
Maximum Daily Emissions, Controlled (lb/day)[1]			
Carbon monoxide, CO	208	550	No
Volatile organic compounds, VOC	55	75	No
Nitrogen oxides, NO_x	363	100	Yes
Sulfur dioxide, SO_2	0	150	No
Respirable particulate matter, PM10	47	150	No
Fine particulate matter, PM2.5	22	55	No

1 "Controlled" includes emission reduction measures required by regulation (e.g., SCAQMD Rule 403), or the LAX Master Plan Community Benefits Agreement (construction equipment diesel particulate filters). These reductions are part of the project design.

Source: CDM, 2009.

Table 6-2

Controlled Air Pollutant Concentrations for Peak Year of CUP-RP Construction (2010) for Direct Burial Alternative

Pollutant Concentration	Averaging Period	CAAQS/NAAQS	Project and Background	Exceed AAQS?
NO_2 ($\mu g/m^3$)	Annual	57/100	33	No
	1-hr	339/NA	239	No
		SCAQMD Significance Threshold	**Project**	**Exceed Threshold?**
PM10 ($\mu g/m^3$)	Annual	1.0	0.5	No
PM10 ($\mu g/m^3$)	24-hr	10.4	5.3	No

Sources: CDM, 2009.

Cumulative impacts from construction of the Direct Burial Alternative in conjunction with related projects would be significant, as would impacts from the proposed project. Specifically, from a cumulative standpoint, with the Direct Burial Alternative , CO, NOx, VOC, PM10 and PM2.5 emissions would be significant due to the combined emissions from all construction projects at LAX. With regard to operations, as discussed in Section 4.2.7.2, the on-airport emissions from the Bradley West Project operational sources (in 2013) and the projects considered cumulative with that project in its EIR. However, operation of the CUP replacement would result in no change to SOx emissions and a decrease in VOC, CO, NOx, PM10 and PM2.5 emissions compared to existing conditions which would result in a less than significant cumulative impact to air quality.

Human Health Risk

Table 6-3 provides the decrease in emissions of pollutants associated with health risk for the Direct Burial Alternative as compared to emissions estimated in the CUP-RP impact assessment described in Section 4.2. Annual emissions, from which cancer and chronic non-cancer health risks are assessed, are

23 percent to 99 percent less than those under the proposed project. Maximum peak hourly emissions for the Direct Burial Alternative from the various source categories (on-road, off-road, dust) are 22 percent to 71 percent lower than the emissions from the proposed project . The resultant chronic and acute health risks are discussed below.

Cancer risk and non-cancer hazards presented in **Table 6-3** were estimated for the CUP–RP Direct Burial Alternative using the same methods described in Section 4.3.2. Only construction emissions are evaluated for this alternative, as there would be no change in operational emissions with this alternative.

Table 6-3

Comparison of Emission Rates from CUP-RP and Direct Burial Alternative

Pollutants Associated with Health Risk	Off-road Diesel	On-road Diesel	Construction Dust	Road Dust
Chronic PM10	-34%	-23%	-99%	-23%
Acute PM10	-63%	-23%	-71%	-23%
Chronic VOC	-30%	-22%	NA	NA
Acute VOC	-62%	-22%	NA	NA
Criteria Pollutants				
All pollutant average	-62%	-23%	-81%*	-23%*

**PM10 and PM2.5 only*

Source: CDM, 2009.

For this alternative, project-related cancer risks for residents and school children are predicted to be lower than risks predicted for the proposed project. Estimated cancer risks for adult residents and child residents for the CUP-RP alternative construction with mitigation are 1.3 in one million and 0.4 in one million, respectively. Estimated cancer risk from Direct Burial Alternative construction sources for a young child through adulthood (adult + child) at the modeled location with maximum construction cancer risks is 1.6 in one million. Exposure to diesel particulate matter released during construction would contribute about 97 percent of cancer risks for adults and children. Estimated cancer risk for school children are estimated to be 0.04 in one million. Impacts are below the thresholds of significance for residents and school children.

Cancer risks for adult workers under the Direct Burial Alternative are estimated to be approximately 13 in one million from exposure to TACs resulting from construction. Diesel particulate matter would contribute the majority (97 percent) of the cancer risk. Although impacts are reduced as compared to the proposed project, the risk remains above the threshold of significance of 10 in one million.

Project-related chronic non-cancer hazard indices for construction impacts associated with the Direct Burial Alternative are also provided in **Table 6-4**. All hazard estimates for all receptors studied or this alternative are below the significance threshold of 1. Hazard indices for child residents, school children, adult residents and workers are 0.005, 0.0004, 0.001 and 0.02, respectively.

Cancer risks for the child resident, adult resident, child+adult resident, and school child would be less than significant. Adult worker cancer risks would remain significant and unavoidable. All chronic non-cancer health risks are predicted to be less than significant. Although cancer risk and non-cancer hazards for this alternative are below those estimated for the proposed project, this alternative would result in similar impacts in comparison to the proposed project.

Because this alternative would result in similar construction period cancer and non-cancer human health hazard impacts compared to those of the proposed project, cumulative risk and hazard impacts with this alternative would be similar to those with the proposed project.

Table 6-4

Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals for CUP-RP Direct Burial Alternative

	Construction	
Receptor Type	**Uncontrolled**	**Controlled**
Cancer Risks[1,2] (per million people)		
Child Resident	0.43	0.4
School Child	0.037	0.035
Adult + Child Resident[3]	1.7	1.6.
Adult Resident	1.4	1.3
Adult Worker	13.7	12.7
Non-Cancer Chronic Hazards[2,4]		
Child Resident	0.006	0.0045
School Child	0.0005	0.00039
Adult Resident	0.0018	0.0013
Adult Worker	0.031	0.023

1 Values provided are changes in the number of cancer cases per million people exposed as compared to baseline conditions. Cancer estimates are rounded to two significant figures.
2 Note maximum concentrations for each scenario are not at the same location (grid point).
3 Includes exposure to TACs released from LAX from childhood (ages 0-6) through adulthood (ages 7-70).
4 Hazard indices are totals for all TACs that may affect the respiratory system. This hazard index is essentially equal to the total for all TACs.

Source: CDM, 2009.

Global Climate Change

Under the Direct Burial Alternative, the equipment installed and operated at the CUP would remain unchanged. However, the intensity of construction activities and mix of equipment would change, compared to construction of the proposed project.

Under this alternative, the intensity of activity and resultant emissions for each year of construction would be less than the activity for the proposed project, due to the greater grading and construction complexity associated with the Utilidor. GHG emissions from the construction of the Direct Burial Alternative are presented in **Table 6-5.**

Table 6-5

Direct Burial Alternative Annual Construction Emissions (Metric Tons CO_2)

Pollutant	**2009**	**2010**	**2011**	**2012**	**2013**	**Project Total**
Annual emissions, metric tons	254	2,633	2,534	1,839	2,200	9,460

Source: CDM, 2009.

The approximately 9,500 metric tons of construction-related GHG emissions under the Direct Burial Alternative would incrementally increase GHG emissions compared to baseline emission levels. GHG emissions would be incrementally less than under the proposed project, which would produce a total of 15,186 metric tons of construction emissions, therefore the impact on global climate change, with respect to project construction GHG, would be less than significant. The Direct Burial Alternative would generate the same operational emissions as the proposed project and would, therefore also have a less than significant impact on global climate change. Although it would reduce GHG emissions by 6 percent during operation, the Direct Burial Alternative would not meet the goal of the LAX Sustainability Plan to reduce emissions by 35 percent. Therefore, as with the proposed project, the Direct Burial Alternative would have significant and unavoidable cumulative impacts with respect to global climate change.

Relationship of the Direct Burial Alternative to the Project Objectives

The Direct Burial Alternative would meet all the objectives of the CUP-RP, including reducing operating costs and improving energy efficiency, replacing the existing, obsolete CUP and cogeneration facilities, replacing aged infrastructure that cannot handle current demands of the CTA and other LAWA infrastructure, increasing heating and cooling capacity to accommodate current demand and demand associated with approved projects at LAX, reducing emissions of regulated pollutants and costs associated with long-term operations and emissions controls, and implementing LAWA's Sustainability Plan. In addition, the Direct Burial Alternative would incrementally reduce the overall scale of construction and, therefore, reduce construction traffic and air pollutant emissions associated with construction activities such as excavation and construction equipment.

As with the proposed project, the Direct Burial Alternative would have significant and unavoidable air quality and human health risk impacts during construction and, similar to the proposed project, the Direct Burial Alternative's contribution to global climate change impacts during construction and operation would be cumulatively considerable and considered a cumulatively significant impact.

6.4.3.3 Environmentally Superior Alternative

Section 15126.6(e)(2) of the CEQA Guidelines indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. The Guidelines also state that should it be determined that the No Project Alternative is the environmentally superior alternative, the EIR shall identify another environmentally superior alternative among the remaining alternatives.

Of the two alternatives analyzed in the Draft EIR, the No Project Alternative is considered the overall environmentally superior alternative as it would eliminate the potentially significant impacts associated with construction, including air pollutant emissions, human health risk, and global climate change. However, as the No Project Alternative would continue to implement the existing CUP, it would result in a 6 percent increase in air pollutant emissions, relative to the replacement CUP, during long-term operation. As such, the No Project Alternative would result in an overall increase in operational air pollutant and greenhouse gas emissions compared to the proposed project and the Direct Burial Alternative. (The Direct Burial Alternative would result in the same replacement CUP facility as under the proposed project.)

In accordance with the CEQA Guidelines requirement to identify an environmentally superior alternative other than the No Project Alternative, the Direct Burial Alternative is considered the Environmentally Superior Alternative. The Direct Burial Alternative would result in 51 percent fewer construction peak hour trips than under the proposed project (72 peak hour trips with the Direct Burial Alternative versus 146 peak hour trips with the Utilidor). The Direct Burial Alternative would also require less excavation for the CUP-RP's western utility corridor component (approximately 23,500 cy compared to approximately 143,500 cy). The Direct Burial Alternative would reduce the project's significant VOC emissions impact and PM10 concentrations impact to a less than significant level, eliminating these significant and unavoidable impacts of the proposed project. Although this alternative would incrementally reduce the project's significant and unavoidable NOx emissions, this impact would not be reduced to a less than significant level. Annual emissions, from which cancer and chronic non-cancer health risks are assessed, would be 23 percent to 99 percent less than those under the proposed project. Although emissions would be incrementally less compared to the proposed project, the health risk impact on workers would remain above the threshold of significance of 10 in one million. GHG emissions associated with construction activities would be 37.7 percent less under the Direct Burial Alternative than under the proposed project. However, the impact with respect to cumulative construction- and operation-related GHG would remain significant and unavoidable.

This page intentionally blank

7. LIST OF PREPARERS, PARTIES TO WHOM COPIES WERE SENT, REFERENCES, NOP COMMENTS, AND LIST OF ACROYNYMS

To aid the reader, Chapter 7 contains the following sections:

- List of Preparers;
- List of Parties to Whom Copies Were Sent;
- List of References;
- NOP Comments; and
- List of Acronyms.

7.1 List of Preparers

LAWA

Roger Johnson, LAWA Deputy Executive Director of Airports Development Group: B.S., Engineering. 25 years of experience in aviation and environmental planning. He is responsible for planning and environmental compliance at LAWA's four airports. He is also responsible for all LAX Development projects, including the CUP-RP.

Mike Doucette, LAWA Administration Group, Chief of Airport Planning: B.S., Architecture. 20 years experience. Daily responsibility of overseeing LAX Development including the CUP-RP.

Jake Adams, P.E., LAWA Major Projects Division Program Manager: B.S., Civil Engineering. 19 years experience. Provided expertise and coordination regarding construction aspects of the CUP-RP.

Rob Freeman, Environmental Services Division, Airport Environmental Manager: B.A, Applied Ecology. 18 years experience. Responsible for coordination and review of the EIR. Manages and directs the environmental compliance, noise management, and sustainability programs at LAWA airports

Lisa Dugas, LAWA Environmental Services Division, Environmental Specialist II: M.P.A., Public Administration. B.A. Geography. 17 years experience. Responsible for coordination and review of the EIR.

Intissar Durham, P.E., Airports Development Division, Deputy Program Manager: M.B.A., Business Administration, B.S., Civil Engineering, 25 years experience in various engineering and program management fields. Currently responsible for the planning, design and construction of LAWA facilities and infrastructure at all four airports.

Pat Tomcheck, Transportation Engineer: B.S., Civil Engineering. 22 years experience, Responsible for coordination and review of traffic analysis.

Herb Glasgow, Senior City Planner: B.A., Geography. 30 years experience in urban and community planning. Responsible for the coordination of staff, government agencies, and consultant work relating to the EIR, and the City entitlements process.

CDM

Anthony J. Skidmore, AICP, Vice President: B.A., Sociology; M.P.A., Public Administration. 28 years experience. Responsible for technical and strategic issues regarding CEQA analysis and oversight of key issues.

Robin E. Ijams, Associate: B.A., Environmental Studies. 23 years experience. Responsible for management oversight of the air quality technical analysis and human health risk assessment.

John Pehrson, P.E., Associate: B.S. Chemical Engineering: M.B.A. 27 years experience. Task Manager for air quality-related technical analyses, including construction air quality, toxic air pollutant modeling and analysis, and global climate change assessment and related documentation.

Kassandra Tzou, P.E., Environmental Engineer: B.S., Civil and Environmental Engineering; M.S., Environmental Engineering. 15 years experience. Task Manager for quantitative health risk assessment and related documentation.

Teren Correnti, Design Manager: B.A., Liberal Studies. 29 years experience. Responsible for document graphics.

Emily Glassburn, Project Coordinator: B.S., Rehabilitation Psychology. 4 years experience. Provided support for document preparation.

Wei Guo, P.E., Air Quality Engineer: B.S., Mechanical Engineering; M.S., Applied Science. 16 years experience. Responsible for modeling criteria and toxic air pollutants, emission calculations, and emission inventory.

James Lavelle, Ph.D.: B.A., Biological Services; M.A., Biology; M.S., Industrial and Environmental Toxicology; Ph.D., Biology. 30 years experience. Provided technical oversight of the quantitative health risk assessment.

Teddy Marcum, Environmental Scientist: B.S. Environmental Science; M.A., Liberal Arts. 26 years experience. Conducted risk modeling for the quantitative health risk assessment.

Katie Travis, Air Quality Scientist: B.S., Engineering Science. 1 year experience. Assisted in the calculations of criteria pollutant emissions from construction equipment, modeling of construction equipment air quality impacts, and preparation of related documentation.

PCR Services Corporation

Jay Ziff, Principal/Director of Environmental Planning and Documentation: B.A., Environmental Studies; M.S., Landscape Architecture. 18 years experience. Project Manager responsible for day-to-day management of document preparation, technical coordination, and technical review of the EIR.

Lorena Christman, Principal: M.A., Geography; B.S., Geology. 33 years experience. Responsible for document production.

Ailene Batoon, Planner: B.A., Geography/Environmental Studies. 4 years experience. Responsible for assisting in document production.

Heidi Rous, CPP, Principal/Director of Air Quality Services: B.S. Physics. 19 years experience. Responsible for preparation of air quality section, global climate change and health risk assessment analyses.

David Holtzman, M.P.H., J.D., Principal Scientist: J.D., Program in Public Interest Law and Policy, M.P.H. Environmental and Industrial Health, A.B., Program in Science in Human Affairs. 10 years experience. Responsible for preparation of air quality section and health risk assessment analyses.

Everest Yan, Senior Engineer: B.S., Chemical Engineering (Environmental Emphasis). 7 years of experience. Responsible for preparation of air quality section and health risk assessment analyses.

Amy Kidd, Associate Air Quality Scientist: M.E.S.M., Corporate Environmental Management Specialization, B.A., Environmental Studies. 8 years of experience. Responsible for assisting in preparation of air quality section, global climate change and health risk assessment analyses.

Terrence Keelan, Publications Manager: J.D., B.A, History/Fine Arts. 18 years experience. Responsible for coordinating document preparation and publication.

Joanne Hanrahan, Publications Specialist: Responsible for document preparation and publication.

Henry Mateo, Graphics Specialist: Responsible for graphics support and technical document preparation.

AECOM

Daniel McKelvie, Executive Vice President: M.B.A, Strategic Business Planning, BSE Engineering, 35 years experience. Daily responsibility of overseeing LAX Development including the CUP-RP.

Scott Hand, P.E., Utilities and Infrastructure Construction Manger: B.S., Civil Engineering. 14 years of Airport Planning and Construction Management experience. Responsible for CTA Utilities Distribution project management and for the construction management of all Utilities and Infrastructure Element construction activities.

Andrew Reed, P.E., Project Manager: B.S., Mechanical Engineering. 22 years experience. Project Manager responsible for design and construction coordination of the CTA Central Utility Plant (CUP)-Replacement Program.

Ricondo & Associates, Inc.

Joseph A. Huy, Vice President: B.S., Aviation Flight Operations; M.P.A., Aviation Administration. 16 years experience. Project Manager with overall responsibility for the construction surface transportation analysis.

M. Allen Hoffman, Vice President: B.S., Civil Engineering M.S., Engineering (Transportation). 20 years experience. Task Manager responsible for construction surface transportation analysis and related documentation.

Darrin P. McKenna, P.E., Director: B.S., Civil Engineering. 12 years experience. Responsible for documentation pertaining to on-airport traffic handling during construction.

Taras M. Sanow, Senior Consultant: B.S., Civil and Environmental Engineering; M.E., Civil Engineering. 8 years experience. Responsible for construction surface transportation trip generation and distribution modeling, and assistance with related document preparation.

James D. Ducar, Senior Consultant: B.S., Civil Engineering. 5 years experience. Responsible for construction surface transportation level of service analysis and assistance with related document preparation.

7.2 List of Parties to Whom Copies Were Sent

Following is a list of the parties to whom copies of this Draft EIR were sent for review or to whom notice of the availability of this Draft EIR was sent.

Federal Agencies/Officials

Federal Aviation Administration
Ruben Cabalbag
15000 Aviation Boulevard, Suite 3024
Lawndale, CA 90261

Transportation Security Administration (TSA)
One World Way, Administration Bldg
Los Angeles, CA 90045

State Agencies/Officials

Air Resources Board
Jim Lerner, Airport Projects
1001 I Street PTSDAQTPB
Sacramento, CA 95814

Ca. Department of Conservation
Sharon Howell
801 K. Street
Sacramento, CA 95814

California Energy Commission
Media and Public Communications Office
1516 Ninth Street
MS-29
Sacramento, CA 95814-5512

Ca. Integrated Waste Management Board
Sue O'Leary
1001 I Street
Sacramento, CA 95812

California Highway Patrol
Office of Special Projects
Shirley Kelly
2555 1st Avenue
Sacramento, CA 95818

Caltrans - District 7
Vin Kumar
100 S. Main Street
Los Angeles, CA 90012

Caltrans - Div. of Aeronautics
Sandy Hesnard
1120 N. Street, Room 3300
Sacramento, CA 94274

Gov. Office of Planning & Research
Scott Morgan
1400 10th Street/P.O. Box 3044
Sacramento, CA 95814

Native American Heritage Comm.
Debbie Treadway
915 Capitol Mall
Room 364
Sacramento, CA 95814

State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

Regional Agencies

Los Angeles Metropolitan Transportation Authority
Roderick B. Diaz, Transportation Planning Manager
One Gateway Plaza
Los Angeles, CA 90012

South Coast Air Quality Management District
Barry R. Wallerstein, Executive Officer
21865 Copley Drive
Diamond Bar, CA 91765

Southern California Association of Governments
Michael Armstrong
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

County Agencies

County of Los Angeles - County Clerk
County Clerk
12400 Imperial Highway
Norwalk, CA 90650

County of Los Angeles
Principal Deputy County Counsel
Thomas Faughnan
648 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012-2713

County of Los Angeles
County Counsel
Raymond Fortner Jr.
648 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012-2713

County of Los Angeles
Assistant County Counsel
Richard Weiss
648 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012-2713

County of Los Angeles
Chief Executive Officer
William Fujioka
648 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012-2713

County of Los Angeles
Director of Regional Planning
Bruce W. McClendon
320 W. Temple Street
Los Angeles, CA 90012

Mayor of City of Los Angeles

City of Los Angeles
Mayor Antonio Villaraigosa
200 N. Spring Street, Suite 303
Los Angeles CA 90012

City of Los Angeles City Council

City of Los Angeles
Council Member, 1st District
Ed Reyes
200 N. Spring Street, Room 410
Los Angeles, CA 90012

City of Los Angeles
Council Member, 2nd District
200 N. Spring Street, Room 475
Los Angeles, CA 90012

City of Los Angeles
Council Member, 3rd District
Dennis Zine
200 N. Spring Street, Room 450
Los Angeles, CA 90012

City of Los Angeles
Council Member, 4th District
Tom LaBonge
200 N. Spring Street, Room 480
Los Angeles, CA 90012

City Of Los Angeles
Council Member, 5th District
Paul Koretz
200 N. Spring Street, Room 440
Los Angeles, CA 90012

City of Los Angeles

Council Member, 6th District
Tony Cardenas
200 N. Spring Street,
Room 465
Los Angeles, CA 90012

City of Los Angles
Council Member, 7th District
Richard Alarcon
200 N. Spring Street, Room 425
Los Angeles, CA 90012

City of Los Angeles
Council Member, 8th District
Bernard Parks
200 N. Spring Street, Room 460
Los Angeles, CA 90012

City of Los Angeles
Council Member, 9th District
Jan Perry
200 N. Spring Street, Room 420
Los Angeles, CA 90012

City of Los Angeles
Council Member, 10th District
Herb Wesson
200 N. Spring Street, Room 430
Los Angeles, CA 90012

City of Los Angeles
Councilmember, 11th District
Bill Rosendahl
200 N. Spring Street, Room 415
Los Angeles, CA 90012

City of Los Angeles
Council Member, 12th District
Greig Smith
200 N. Spring Street, Room 407
Los Angeles, CA 90012

City of Los Angeles
Council Member, 13th District
Eric Garcetti, 200 N. Spring Street, Room 470
Los Angeles, CA 90012

City of Los Angeles
Council Member, 14th District
Jose Huizar
200 N. Spring Street, Room 465
Los Angeles, CA 90012

City of Los Angeles
Council Member, 15th District
Janice Hahn
200 N. Spring Street, Room 435
Los Angeles, CA 90012

LAX Community Liaison - Council District 11
Chad Molnar, LAX Liaison
7166 W. Manchester Boulevard
Westchester, CA 90045

City of Los Angeles Departments

City of Los Angeles - City Clerk Department
City Clerk
200 N. Spring Street, Room 360
Los Angeles, CA 90012

Los Angeles Department of Public Works,
Bureau of Engineering
Gary Moore, City Engineer
1149 S. Broadway, Suite 700
Los Angeles, CA 90015

Los Angeles Bureau of Sanitation
Enrique Zaldivar, Director
1149 S. Broadway 9th Floor
Los Angeles, CA 90015

Los Angeles Department of Water and Power
Chief Executive Officer & General Manager
H. David Nahai
Attention: James H. Caldwell, Asst. General Manager
111 N. Hope Street, # 1021
Los Angeles, CA 90011

Los Angeles Department of Transportation
Jay Kim
100 S. Main Street, 10th Floor
Los Angeles, CA 90011

Los Angeles Department of Transportation
General Manager
Rita L. Robinson
100 S. Main Street, 10th Floor
Los Angeles, CA 90012

Los Angeles Environmental Affairs Division
Dee Allen, General Manager
Attention: Gretchen Hardison
200 N. Spring Street, Suite 2005
Los Angeles, CA 90011

Los Angeles Fire Department
Douglas Barry, Chief of LA Fire Department
200 N. Main Street
Room 1800
Los Angeles, CA 90012

Los Angeles Planning Department
Gail Goldberg
200 N. Spring Street, 5th Floor
Los Angeles, CA 90012

Los Angeles Police Department
William Bratton, Chief Of Police
150 N. Los Angeles Street
Los Angeles, CA 90012

LAX/LAWA Departments

Police Bureau
Los Angeles World Airports
6320 W. 96th Street
Los Angeles, CA 90045

Surrounding Cities (and their representatives)

City of Culver City
David McCarthy, Deputy City Attorney
9770 Culver Boulevard
Culver City, CA 90232

City of Culver City
Carol Schwab, City Attorney
9770 Culver Boulevard
Culver City, CA 90232

City of Culver City
Jerry Fulwood, City Manager
9770 Culver Boulevard
Culver City, CA 90232

City of El Segundo
Kelly McDowell, Mayor
350 Main Street
El Segundo, CA 90245

City of El Segundo
Jack Wayt, City Manager
350 Main Street
El Segundo, CA 90245

City of Inglewood
Roosevelt Dorn, Mayor
1 Manchester Boulevard, 9th Floor
Inglewood, CA 90301

City of Inglewood
Cal Saunders, City Attorney
1 Manchester Boulevard, Suite 860
City of Inglewood, CA 90231

Chatten-Brown & Carstens
Jan Chatten-Brown
3250 Ocean Park Boulevard
Suite 300
Santa Monica, CA 90405

Chevalier, Allen & Lichman, LLP
Berne Hart
695 Town Center Drive
Suite 700
Costa Mesa, CA 92626

Chevalier, Allen & Lichman, LLP
Barbara Lichman, Ph.D.
695 Town Center Drive
Suite 700
Costa Mesa, CA 92626

Shute, Mihaly & Winberger LLP
E. Clement Shute, Jr.
396 Hayes Street
San Francisco, CA 94102

Shute, Mihaly & Wineberger, LLP
Representing the City of El Segundo
Osa Wolff
396 Hayes Street
San Francisco, CA 94102

Surrounding Counties

County of Orange
County Executive Officer
Thomas Mauk
Attention: Alisa Drakodaidis
333 W. Santa Ana Boulevard
Santa Ana, CA 92701

County of Riverside
Ron Goldman, Planning Director
Attention: Carolyn Syms Luna
4080 Lemon Street, 12th Floor
Riverside, CA 92501

County of San Bernardino
Director of Land Use Services Department
Julie Tynerson Rock
385 N. Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415

County of Ventura
John Johnston, County Executive Officer
Attention: Kim Rodriguez - Planning Director
800 S. Victoria Avenue
Ventura, CA 93009

Organizations

Alliance for a Regional Solution
to Airport Congestion (ARSAC)
Denny Schneider, President
7929 Breen Avenue
Los Angeles, CA 90045

LAX Advisory Committee
Gabriela Pacheco
6151 Century Boulevard, 10th Floor
Los Angeles, CA 90045

LAX Coalition
Director of LAX CBA & Construction Program
Flor Barajas-Tena
464 Lucas Avenue, Suite 202
Los Angeles, CA 90710

Airlines and Other Lease Holders at LAX

United Air Lines
Robert Schlingman
P.O. Box 92245
Los Angeles, CA 90009

7.3 List of References

American Conference of Governmental Industrial Hygienists, Documentation of the Threshold Limit Values and Biological Exposure Indices, 8th ed., 1998.

Association of Environmental Professionals, Final Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, June 29, 2007.

Cal EPA OEHHA Online Toxicity Criteria Database, available online at: http://www.oehha.org/cal_ecotox/DEFAULT.HTM

CalEPA Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines, Technical Support Document for the Derivation of Noncancer Reference Exposure Levels, Appendix D, December 2008

California Air Resources Board, Available: http://www.arb.ca.gov/msei/offroad/offroad.htm, accessed April 11, 2008.

California Air Resources Board, Available: http://www.arb.ca.gov/msei/onroad/latest_version.htm, accessed April 11, 2008.

California Air Resources Board, California Emission Inventory and Reporting System - Particulate Matter Speciation Profiles, 2002, Available: http://www.arb.ca.gov/ei/speciate/PMPROF_09_27_02.xls.

California Air Resources Board, California Emission Inventory Development and Reporting System - Organic Gas Speciation Profiles, 2005, Available: http://www.arb.ca.gov/ei/speciate/orgprof_10_03_05.xls.

California Air Resources Board, Draft California Emission Inventory Development and Reporting System - Organic Gas Speciation Profiles, 2003, Available: http://www.arb.ca.gov/ei/speciate/ORGPROF_03_19_03.xls.

California Air Resources Board, California Emission Inventory Development and Reporting System - Particulate Matter Speciation Profiles, 2007, Available: http://www.arb.ca.gov/ei/speciate/pmprof_07_19_07.xls.

California Air Resources Board, Preliminary Staff Report -- Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act, October 24, 2008.

California Air Resources Board, Research Division, EMFAC 2007 On-Road Emissions Inventory Estimation Model, Version 2.3 User's Guide

California Air Resources Board, Research Division, EMFAC 2007 On-Road Emissions Inventory Estimation Model, Version 2.3.

California Climate Change Center, Our Changing Climate: Assessing the Risks to California, 2006.

California Code of Regulations, Subchapter 10, Article 2, sections 95100 to 95133, Title 17.

California Occupational Safety and Health Administration. Permissible Exposure Limits for Chemical Contaminants, Table AC-1, 2008, http://www.dir.ca.gov/title8/5155table_ac1.html

Cal EPA OEHHA Online Toxicity Criteria Database, Available: http://oehha.ca.gov/risk/ChemicalDB/index.asp

CalEPA Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines, Technical Support Document for the Derivation of Noncancer Reference Exposure Levels, Appendix D, December 2008

California Code of Regulations, Subchapter 10, Article 2, sections 95100 to 95133, Title 17.

California Environmental Protection Agency, Climate Action Team, Report to Governor Schwarzenegger and the California Legislature, March 2006.

California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines, Part IV: Technical Support Document for Exposure Assessment and Stochastic Analysis, September 2000.

California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Information and Assessment Act of 1987, Section 44300.

California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003.

California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines, Part I: Technical Support Document for the Determination of Acute Reference Exposure Levels for Airborne Toxicants, March 1999.

California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines. Part II: Technical Support Document for Describing Available Cancer Potency Factors, updated August 2003.

California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines, Part III: The Determination of Chronic Reference Exposure Levels for Airborne Toxicants, February 23, 2000.

California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Air Toxic Hot Spots Program Risk Assessment Guidelines, Part IV: Technical Support Document for Exposure Assessment and Stochastic Analysis, September 2000.

California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, OEHHA Toxicity Criteria Database. Available: http://www.oehha.ca.gov/risk/ChemicalDB/index.asp, accessed May 1, 2008.

California Environmental Protection Agency, Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities, 1993.

California Environmental Quality Act, CEQA Guidelines (2009), Appendix G.

California Occupational Safety and Health Administration. Permissible Exposure Limits for Chemical Contaminants, Table AC-1, 2008, http://www.dir.ca.gov/title8/5155table_ac1.html.

California's estimated Gross Greenhouse Gas emissions without forestry or land use (emissions or sinks) as reported by the California Energy Commission on January 23, 2007 in Revisions to the 1990 to 2004 Greenhouse Gas Emissions Inventory Report, (CEC-600-2006-013), December 2006.

City of Long Beach, Long Beach Airport Terminal Area Improvement Project Draft EIR, September 2005.

City of Los Angeles - Department of Airports, AQMD 2006-2007 AER for LAX, September 28, 2007.

City of Los Angeles, Climate LA -- Municipal Program Implementing the Green LA Climate Action Plan, 2008.

City of Los Angeles, Climate LA - Municipal Program Implementing the Green LA Climate Action Plan, LAWA Departmental Action Plan, 2008.

City of Los Angeles, Department of City Planning, L.A. CEQA Thresholds Guide, Your Resource for Preparing CEQA Analysis in Los Angeles, 2006.

City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.3.

City of Los Angeles, Green LA -- An Action Plan to Lead the Nation in Fighting Global Warming, 2007.

City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Bradley West Project, Los Angeles International Airport (LAX), May 2009.

City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for Crossfield Taxiway Project, Los Angeles International Airport (LAX), September 2008.

City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for South Airfield Improvement Project, Los Angeles International Airport (LAX), August 2005.

Clay, Don R., U.S. Environmental Protection Agency, Memorandum to OSWER, Subject: Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions, April 22, 1991

Clean Fuel Connection, Inc., Assessment of Compatibility of Verified Diesel Emission Control Systems with Diesel Equipment Identified for Use on the LAX Taxiway C13 and D Project, April 30, 2008.

County of Orange, Draft Environmental Impact Report No. 573 for the Civilian Reuse of MCAS El Toro and the Airport System Master Plan for John Wayne Airport and Proposed Orange County International Airport, Draft Supplemental Analysis, April 2001.

Dowling Associates, TRAFFIX Version 7.7.

Federal Register Vol. 73, No. 13, pp. 3464-3467, January 18, 2008.

Intergovernmental Panel on Climate Change, Climate Change 2001: The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change, 2001.

Intergovernmental Panel on Climate Change, Fourth Assessment Report, Climate Change 2007: Impacts, Adaptation, and Vulnerability, Working Group II Report, 2007.

Jones and Stokes, Associates, Software User's Guide: URBEMIS2007 for Windows Version 9.2 - Emissions Estimation for Land Use Development Projects, November 2007.

LAX Central Utility Plant Replacement Project Draft EIR: Air Quality Analysis and Human Health Risk Assessment, CDM, June 2009.

Los Angeles Department of Transportation, Traffic Study Policies and Procedures, Revised March 2002, Available: http://www.lacity.org/LADOT/TrafficStudyGuidelines.pdf.

Los Angeles World Airports, Final Sustainability Plan, April 2008.

Los Angeles World Airports, LAX Master Plan Mitigation Plan for Air Quality (MPAQ) - MM-AQ-1: Framework, prepared by URS Corporation and KB Environmental Sciences, Inc., October 2005.

Los Angeles World Airports, LAX Master Plan Mitigation Plan for Air Quality (MPAQ) - MM-AQ-2: Construction-Related Mitigation Measures, prepared by URS Corporation and KB Environmental Sciences, Inc., October 2005.

Njoya, David, Construction Engineer/Senior Resident Engineer, Caltrans, Personal Communication, August 18, 2008.

Port of Oakland, Draft Oakland International Airport - Airport Development Program (ADP) Supplemental Environmental Impact Report, September 2003.

SGI Group Inc, LAX Air Quality and Source Apportionment Study, July 30, 2008.

South Coast Air Quality Management District, Air Quality Analysis Guidance Handbook, July 2008, Available: http://www.aqmd.gov/ceqa/hdbk.html.

South Coast Air Quality Management District, Available: http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls, accessed April 11, 2008.

South Coast Air Quality Management District, Available: http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html, accessed April 11, 2008.

South Coast Air Quality Management District, Available: http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html, accessed January, 2009.

South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, by T. Chico and J. Koizumi, June 2003.

South Coast Air Quality Management District, Improvement of Specific Emission Factors (BACM Project No. 1) Final Report, prepared by Midwest Research Institute, March 29, 1996.

South Coast Air Quality Management District, Localized Significance Thresholds, (http://aqmd.gov/ceqa/handbook/LST/LST.html, accessed June 2009) and Appendix C - Mass Rate LST Look-up Table; Available: http://aqmd.gov/ceqa/handbook/LST/appC.pdf, accessed June 2009.

South Coast Air Quality Management District, Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics Hot Spots Information and Assessment Act (AB2588), July 2005.

Southern California Association of Governments, Regional High-Occupancy Vehicle Lane System Performance Study, November 4, 2004.

State of California Department of Justice, Office of the California Attorney General, The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level, December 9, 2008, Available: http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf, accessed March 4, 2009.

State of California, Governor's Office of Planning and Research, Preliminary Draft CEQA Guideline Amendments for Greenhouse Gas Emissions, and Public Workshop Announcement, January 8, 2009.

State of California, Governor's Office of Planning and Research, Technical Advisory - CEQA and Climate Change Addressing Climate Change Through California Environmental Quality Act (CEQA) Review, Attachment 3, June 19, 2008.

Transportation Research Board, Transportation Research Circular No. 212, Interim Materials on Highway Capacity, January 1980.

U.S. Cost, Bradley West Resource Loaded Schedule, November 19, 2008; U.S. Cost, Central Utility Plant (CUP) Phase 1 Resource Loaded Schedule, March 24, 2009.

U.S. Cost, Central Utility Plant (CUP) Phase 1 Resource Loaded Schedule, March 24, 2009.

U.S. Department of Transportation, Federal Aviation Administration, and United States Air Force, Air Quality Procedures for Civilian Airports and Air Force Bases, FAA-AEE-97-03 and AL/EQ-TR-1996-0017, April 1997 and Addendum FAA-AEE-04-03, September 2004.

U.S. Department of Transportation, Federal Aviation Administration, Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, April 28, 2006.

U.S. Departments of Transportation, Federal Aviation Administration, Environmental Desk Reference for Airport Actions, October 2007.

U.S. Environmental Protection Agency, 1999 National-Scale Air Toxics Assessment: 1999 Data Tables, Available: http://www.epa.gov/ttn/atw/nata1999/tables.html.

U.S. Environmental Protection Agency, Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition (AP-42), Available: http://www.epa.gov/ttn/chief/ap42/index.html, accessed January 2009.

U.S. Environmental Protection Agency, Draft Methods for Exposure-Response Analysis and Health Assessment for Acute Inhalation Exposure to Chemicals, 1994.

U.S. Environmental Protection Agency, Exposure Factors Handbook, USEPA/600/P-95/002Fa, 1997.

U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Risk Assessment Guidance for Superfund Vol. I, Human Health Evaluation Manual (Part A) Interim Final, EPA/540/1-89/002, December 1989.

U.S. Environmental Protection Agency, Particle Pollution and Your Health, September 2003.

U.S. Environmental Protection Agency, User's Guide for the AMS/EPA Regulatory Model-AERMOD, EPA-454/B-03-001, September 2004; and Addendum, December 2006.

7.4 NOP Comments

A Notice of Preparation (NOP) for the LAX CUP Replacement Project Draft EIR was published on April 1, 2009. The public comment period concluded on May 11, 2009. Comment letters received from public review of the April 1, 2009 NOP are listed below. Copies of the April 1, 2009 NOP and the comment letters received are included in Appendix A.

Agency/Contact	**Date of Correspondence**
U.S. Department of Homeland Security/FEMA Region IX Gregory Blackburn, Floodplain and Insurance Branch	May 4, 2009
State of California -- State Clearinghouse	March 30, 2009
Department of Transportation-- District 7, Office of Public Transportation and Regional Planning/ Elmer Alvarez	April 27, 2009
Department of Conservation, Division of Oil, Gas and Geothermal Resources/ Paul Frost	May 5, 2009
South Coast Air Quality Management District/ Steve Smith, Ph.D.	April 16, 2009
Metropolitan Transportation Authority/ Susan Chapman	April 21, 2009
City of Los Angeles -- Bureau of Sanitation, Wastewater Engineering Services Division	April 23, 2009
Transition Los Angeles City Hub/ Joanne Poyourow, Rev. Peter H. Rood, Jr.	May 8, 2009

7.5 List of Acronyms

A	ampere
AAM	Annual arithmetic mean
AC	Asphalt Concrete
ACGIH	American Conference of Governmental Industrial Hygienists
ADA	Americans with Disabilities Act
ADD	average daily dose
ADP	Airport Development Program
ADT	average daily trip
AER	Annual Emissions Report
AMP	amperes
AOA	Airfield Operating Area
AOC	Airport Operations Center
APM	Automated People Mover
AQ	Air Quality
AQAS	Air Quality Apportionment Study
ARFF	aircraft rescue and fire fighting
ATCT	Air Traffic Control Tower
CAA	federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CALEPA	California Environmental Protection Agency
CalOSHA	California Occupational Safety and Health Administration
CARB	California Air Resources Board
CBA	LAX Master Plan Community Benefits Agreement
CBP	Customs and Border Protection
CDI	chronic daily intake
CEIDARS	California Emission Inventory Development and Reporting System
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CFTP	Crossfield Taxiway Project
CH_4	methane
CNS	central nervous system
CO	carbon monoxide
CO_2e	carbon dioxide equivalent
CTA	Central Terminal Area
CTP	Central Terminal Processor
CUP	Central Utilities Plant
CUP-RP	Central Utilities Plant Replacement Project
cy	cubic yards
Draft EIR	Draft Environmental Impact Report
eGSE	electric ground service equipment
EOC	Emergency Operations Center
FLSS	Fire Life Safety System
FMS	Facility Management System
GHGs	greenhouse gases
gpm	gallons per minute
GRE	ground run-up enclosure
GSE	Ground Support Equipment
GTC	Ground Transportation Center
GWP	global warming potential
HFCs	hydrofluorocarbons

HHRA	Human Health Risk Assessment
HHV	high heating value
HI	hazard index
HQ	hazard quotient
hr/yr	hours per year
HRSG	heat recovery steam generators
HTP	Hyperion Treatment Plant
Hz	hertz
IPCC	Intergovernmental Panel on Climate Change
kV	kilovolt
KVA	kilovolt-ampere
KW	kilowatt
LADD	lifetime average daily dose
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAPD	Los Angeles Police Department
LAWA	Los Angeles World Airports
LAX	Los Angeles International Airport
LAX-MP-MPAQ	LAX Master Plan Mitigation Plan for Air Quality
lb/hp-hr	pounds per horsepower-hour
lb/hr	pound per hour
lbs/gal	pounds per gallon
LMU	Loyola Marymount University
LST	localized significance threshold
LTOs	landing and takeoff operations
m/s	meters per second
MEI	maximally exposed individual
mg/kg/day	milligram per kilogram per day
mg/m	milligrams per cubic meter
MM	Mitigation Measure
MMBTU/hr	million British Thermal Units per hour
MMRP	Mitigation Monitoring and Reporting Program
mph	miles per hour
MPO	metropolitan planning organization
MRI	Midwest Research Institute
MW	megawatts
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NATA	National Scale Air Toxics Assessment
NLA	new large aircraft
NO_2	nitrogen dioxide
No_x	nitrogen oxides
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
PAHs	Polycyclic Aromatic Hydrocarbon
Pb	Lead
PCC	Portland Cement Concrete
PCE	passenger car equivalent
PEL-TWAs	Time Weighted-Average Permissible Exposure Levels
PFCs	perfluorocarbons
PM 10	Particulate Matter
$PM_{2.5}$	Fine Particulate Matter
ppm	parts per million

RAC	Consolidated Rental Car
RELs	Reference exposure level
RfD	Reference dose
RON	remain overnight
RP	Replacement Project
RWQCB	Regional Water Quality Control Board
SAIP	South Airfield Improvement Project
SAP	serum alkaline phosphates
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF	square feet
SF_6	sulfur hexafluoride
SGPT	serum glutamate pyruvate transaminase
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_3	sulfur trioxide
SO_x	sulfur oxides
SPAS	Specific Plan Amendment Study
TACs	toxic air contaminants
TBIT	Tom Bradley International Terminal
TCR	The Climate Registry
TES	Thermal Energy Storage
Tg^6	teragrams
TLVs	threshold limit values
TSA	Transportation Security Administration
um or µm	micrometers/microns
UNFCCC	United Nations Framework Convention on Climate Change
USEPA	US Environmental Protection Agency
utilidor	Utility Tunnel
VOC	volatile organic compounds

APPENDIX A - IS, NOP, NOP COMMENTS

California Environmental Quality Act

NOTICE OF PREPARATION

To: Responsible or Trustee Agency
Interested Parties

From: City of Los Angeles
Los Angeles World Airports
7301 World Way West, 3rd floor
Los Angeles, CA 90045

Subject: **Notice of Preparation of a Draft Environmental Impact Report**

Project Title: Los Angeles International Airport Central Utility Plant (CUP) Replacement Project (City Clerk #EIR-09-009-AD)

Project Location: Los Angeles International Airport in the City of Los Angeles, County of Los Angeles

The City of Los Angeles - Los Angeles World Airports (LAWA) as Lead Agency will prepare an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA) for the proposed CUP Replacement Project ("Project") at Los Angeles International Airport (LAX). This Notice of Preparation (NOP) is being circulated to afford agencies and interested parties the opportunity to provide comments on the proposed scope of the EIR analysis.

LAWA is requesting input from interested government and quasi-government agencies, organizations, and private citizens regarding the scope and content of environmental information to be included in the LAX CUP Replacement Project Draft EIR. In the future, public agencies receiving this notice may need to use the LAX CUP Replacement Project EIR prepared by LAWA when considering their permits or other approvals for the proposed Project.

Any public agencies that respond to this Notice are requested, at a minimum, to:

1. Describe significant environmental issues, reasonable alternatives and mitigation measures which they would like to have addressed in the LAX CUP Replacement Project EIR.
2. State whether they are a responsible or trustee agency for the Project, explain why and note the specific Project elements that are subject to their regulatory authority.
3. Provide the name, address and phone number of the person who will serve as their point of contact throughout the environmental review process for this Project.

LAX CUP Replacement Project EIR Notice of Preparation

Due to the time limits mandated by State law, your response should be sent at the earliest possible date but *not later than May 11, 2009.*

Please send your response to Dennis Quilliam, City Planner, at the address shown above.

Signature: Dennis Quilliam
Dennis Quilliam

Title: City Planner

Date: April 1, 2009

Telephone: (310) 646-7614

1. PROJECT LOCATION

The Project is located at Los Angeles International Airport (LAX), situated within the City of Los Angeles and Los Angeles County. As depicted on Figure 1, LAX is bordered by the community of Westchester (part of the City of Los Angeles), the City of El Segundo, the City of Inglewood, the unincorporated community of Lennox, and the Pacific Ocean. The airport is located approximately 12 miles southwest of downtown Los Angeles. Figure 2 provides an aerial view of the existing airport. With the possible exception of gas and water pipelines that may be constructed in conjunction with the Project, as further explained below, the proposed improvements that comprise the LAX CUP Replacement Project would occur in the Central Terminal Area (CTA) of the airport between the Air Traffic Control Tower (ATCT) and parking structures P-2, P-2A, P-5 and P-6, as further described below. Figure 3 provides an enlarged view of the western portion of CTA and existing CUP facilities.

2. PROJECT DESCRIPTION

The CUP was built in 1961 and includes a network of 18 miles of piping serving the CTA including terminals and concourses, the East Administration Building and Theme Building. In addition to providing high temperature/high pressure hot water and chilled water to the closed-loop piping systems, a co-generation plant (brought into service in 1985) provides electrical co-generated power back to the City's Los Angeles Department of Water and Power (LADWP) grid.

The current CUP and cogeneration facilities are several decades old. Considering the technological advances over that period, both facilities are considered to be obsolete. Additionally, the existing facilities exhibit the following characteristics:

- The equipment in the CUP no longer meets energy and safety codes, have a high rate of failure, and are costly and difficult to maintain.
- The infrastructure that serves these systems is aged and cannot handle current demands.
- The systems have insufficient capacity to accommodate the current and anticipated demand of the CTA facilities.
- The existing cogeneration system is costly to operate and exceeds the emission limits set forth by SCAQMD, consequently requiring the purchase of pollution offset credits.

The proposed project provides for the replacement of the existing CUP and potentially associated cogeneration facilities. Included as part of the LAX CUP Replacement Project are the following components:

- New central utility plant and maintenance shop building, including potentially , a new co-generation system;
- Replacement of existing cooling towers;
- Site electrical upgrades to include a new electrical substation and existing LADWP substation retrofit;

- Potential construction of a thermal energy storage (TES) tank;
- Replacement of a portion of the existing direct-buried chilled water and high temperature hot water service lines in the CTA;
- Demolition of the existing CUP, along with demolition of an associated existing electrical substation (LADWP Substation #686) located at the footprint of the new CUP; and
- Potential installation of pipelines connecting existing and recycled/reclaimed water pipeline to the CUP and a recycled/reclaimed water treatment system.

Additional information regarding each of these project components is provided below.

2.1 New Central Utility Plant and Maintenance Shop Building (Including Electrical Co-Generation)

This component consists of the construction of a new CUP. The proposed plant, to be constructed adjacent to the current plant (See Figure 4 for preliminary site layout), will require the construction of a new 2-story building with basement that will house the cooling, heating and co-generation equipment. The gross square footage of the building will be approximately 52,000 square feet (SF) and will contain;

Cooling technology, including:

- 15,300 tons of electric driven chillers; and,
- 4,000 tons of co-generated steam driven chillers

Heating technology, including:

- Potentially 80 million British Thermal Units (MMBTU) of natural-gas (or biogas) fired boilers; and/or a combination of,
- 30 MMBTU from co-generated recovered heat

The potential cogeneration equipment included in the building will provide 8 megawatt (MW) of self generated power to offset the electrical load required for plant operation. The transformers would be reconfigured by LADWP to supply power to the new CUP and may also export power back to the grid

The equipment included in the building would consist of:

Cogeneration System:

- Two new 4MW natural gas powered combustion turbine driven generators, producing 4160V, 3-phase, 60 hertz (Hz) power (both active)
- Turbine generator control panels to permit paralleling the two generators together to a common electrical bus
- Two 20,000 pound per hour (lb/hr) heat recovery steam generators (HRSG), (both active)
- Two 2,000 ton steam-driven chillers (both active)

Conventional Heating and Cooling Systems:

- 5 kilovolt (kV) distribution switchgear to provide power to the electrical loads within the new CUP
- Seven 2,550 to 3,000 ton electric-driven chillers (estimate 6 active, 1 standby)
- Two 40 MMBTU gas-fired boilers (1 active, 1 standby)
- Boiler feedwater pumps (estimate 3 active, 1 standby)
- Two 15,000 lb/hr heat recovery boilers (both active)
- Condensate transfer pumps (estimate 3 active, 1 standby)
- Primary chilled water pumps (estimate 6 active, 1 standby)
- Secondary chilled water pumps (estimate 6 active, 1 standby)
- Primary heating water pumps (estimate 6 active, 1 standby)
- Cooling tower/condenser water pumps (all active)
- Four-cell cooling tower (all cells active)
- Two plant-air compressors (both active, alternating operation)
- Deaerating feed water heater
- Water treatment equipment
- Building ventilation systems
- Administration area HVAC systems
- Miscellaneous shop equipment
- One 10-ton bridge crane

It is anticipated that the CUP building construction will be a heavily reinforced, pile-supported, concrete structure below-grade and a steel structure above-grade, utilizing a curtain-wall system of panels and glass to provide the walls of the building. A durable wall surface will be utilized along the bottom portion of the exterior walls, extending from the ground-floor and finished floor level to approximately 8 feet above grade. The building will be architecturally consistent with the CTA; constructed in accordance with LAWA's Sustainable Airport Planning, Design and Construction Guidelines.[1]

The heating systems for the existing CUP are fueled by natural gas. For the new (replacement) CUP, LAWA is currently evaluating the potential for utilizing biogas from digesters at the Hyperion Treatment Plant located across from the southwest corner of LAX. Should it be determined that the use of biogas is feasible to fuel the replacement CUP, the Hyperion Treatment Plant would treat the biogas and blend it with natural gas.

1 Los Angeles World Airports, Sustainable Airport Planning, Design, and Construction Guidelines, January 2008.

An existing Southern California Gas Company pipeline would be used to convey the biogas from the Hyperion Treatment Plant to the replacement CUP. No new construction or other modification to the existing pipelines would be required to convey the biogas to the replacement CUP.

Similarly, LAWA is evaluating the potential for utilizing recycled/reclaimed water from LADWP as process/make-up water within the proposed system (i.e., within the cooling towers). Discussions are currently underway between LAWA and LADWP to establish a pipeline to convey recycled/reclaimed water from an existing line to the north and east of LAX to the replacement CUP. A treatment system would be required to remove chlorine and ammonia from the recycled/reclaimed water. The pipeline alignment and location of a treatment system have not yet been determined. However, the pipeline would likely extend through the CTA and along existing street rights-of-way to the north and east. The treatment system could be installed along the pipeline alignment or at the CUP. Three locations currently under preliminary consideration are a portion of the LAWA Residential Soundproofing Division's construction staging/storage area near the corner of Sepulveda Westway and Westchester Parkway, a portion of a rental car storage lot near the corner of 96th Street and Jenny Avenue, and a vacant lot at the southeast corner of 96th Street and Vicksburg Avenue. A building would be constructed to house the treatment equipment from 3,000 to 6,000 square feet and 15 to 20 feet in height depending on the treatment method that is used. A treated water storage tank would be located outside of the building, as well as a separate small building (12 foot by 12 foot) that houses a chlorination system. Installation on a corner lot with truck access from two streets would require an approximate area of 14,000 square feet.

Figure 5 shows the existing 24-inch recycled/reclaimed water line, the three potential locations for a treatment system, `and a potential alignment for a new 6- to 8-inch pipeline to convey water from the treatment plant to the site of the proposed replacement CUP. The installation of the pipeline and treatment system would be the responsibility of LAWA or LADWP individually, or in combination.

2.2 Replacement of Existing Cooling Towers

This component of the project consists of constructing a new cooling tower contiguous with the north wall of the new CUP. The new cooling tower will consist of four tower cells that will be constructed of reinforced concrete. Each of the cooling tower cells will be 44 feet square (outside dimensions) and will extend approximately 65 feet above grade and extend approximately 20 feet below grade. The overall footprint dimension of the cooling tower will be 175 feet long in the east-west direction and 49 feet wide in the north-south direction including the foundation. The cooling tower will provide heat rejection for two, 2,000 ton steam-driven chillers and six 2,550 ton electric-chillers processing a total of 57,900 gallons per minute (gpm) of condenser water and providing 24,125 tons of heat rejection. Chillers have water-cooled condensers that need to reject the heat produced within the chillers refrigeration circuit. The refrigerant is compressed and expanded to chill water in the evaporator which is then pumped around the airport. The amount of heat that is rejected in the condensers is approximately 3gpm/ton of cooling. This amount of water is then pumped out to the cooling towers and through the process of evaporation this "warm" condenser water is cooled and sent back to the chillers for another cycle.

The existing cooling tower located south of the existing CUP, adjacent to Parking Area 6, will remain operational until two of the four new cooling tower cells are fully installed and commissioned. The existing CUP will need to be demolished, and the TES tank installed, prior to full installation of the remaining two cells of the cooling tower. Once the new tower is fully operational; the existing tower will be demolished. The existing tower is a four cell, concrete structure that is approximately 60 feet wide by 155 feet long and extends approximately 40 feet above grade and 10 feet below grade.

2.3 Site Electrical Upgrades (Including a New Electrical Substation)

To support the new CUP and associated facilities, it will be necessary to increase the current capacity of the existing LADWP substations. Currently the LADWP substations providing power to the existing CUP have a total capacity of 10 MVA. The current projected full build-out load for the new CUP is nearly 20 MVA. In addition to this capacity shortfall, the existing LADWP substations that currently provide power to the CUP are located within the footprint of the new CUP building, requiring the removal of the existing equipment.

The new CUP substations will consist of a combination of converting the existing Industrial Station (IS) #2299 co-generation equipment to supply power to the CUP and the installation of a new 7.5 MVA substation. As shown on Figure 6, the existing substation IS #2299 is located to the north of the CUP and north of Parking Area P2. The new substation would be located adjacent to the existing station between the existing station and Parking Area P2 in an area that is currently occupied by sidewalk and landscaping. The total area required for the existing and new substation is 1,250 square feet. The existing IS #2299 equipment is currently arranged to deliver power from the existing CUP co-generation system to the LADWP utility grid. There are two 6.25 MVA transformers that boost the incoming 4.16 kV co-generation power to 34.5 kV. The transformers would be reconfigured by LADWP to supply power to the new CUP and may also export power back to the grid. However, the possibility of exporting power has not yet been finalized by the design electrical engineers.

In addition to converting the existing transformers at IS #2299, a new 7.5 MVA, outdoor substation will be installed adjacent, on the west side, to the existing IS #2299 building. The new 7.5 MVA substation will require LAWA metering and distribution equipment to be installed adjacent to the substation. The area required for the LADWP substation is 35 feet by 25 feet and the area required for the LAWA equipment is 25 feet by 15 feet. The construction of the new substation and LAWA equipment will require an excavation of the entire 50-foot by 25-foot area down to 2 feet below existing grade. Elevated concrete support pads will be installed for the new equipment and the area surrounding the support pads will be asphalt pavement. The three transformers at the new and converted substations will fulfill the total load of 20 MVA needed by the new CUP.

Additional electrical infrastructure required to support the new CUP will include:

- Electrical manholes located to the north of the CUP;
- Ductbank between the new substation, existing substation, existing CUP, manholes and the new CUP; and
- Relocation of the existing 250 kilowatt (KW) standby generator.

2.4 Construction of Thermal Energy Storage Tank

A naturally stratified chilled water TES is being considered for installation, underground, within the footprint of the existing CUP. The purpose of TES is to make chilled water or ice during the daily period when electric demands and charges are low. Subsequently, during the peak energy rate and usage time of day, the stored energy within the chilled water would be released from the tank and pumped into the chilled water system, thereby reducing the number of water chillers that would have been required to operate to meet the cooling demands during the peak of the day. The TES tank is planned to include a monolithically poured (i.e., all poured at one time) concrete floor slab on excavated fill with supporting foundation, precast side wall panels and a vehicle-load-rated, cast-in-place flat roof. Concrete columns will be installed on the floor slab to support the roof. The approximate tank volume is 2,666,000 gallons. Tank dimensions are currently anticipated to include an approximately 40-foot side wall depth by 106-foot interior diameter or a 27-foot depth by 130-foot diameter. Excavation depth is assumed to be no greater than 45 feet below grade.

2.5 Replacement of Existing Direct-buried Chilled Water and High Pressure Hot Water Service Lines

The existing direct-buried chilled water and high temperature hot water service lines in the CTA loop will be removed and replaced. Existing chilled and hot water lines that are "exposed" during excavation will be removed. The balance of "out of service" chilled and hot water lines will be surveyed, filled with concrete slurry and abandoned in place. The new chilled water and high pressure water service lines will be routed into a new utility tunnel and distributed to the terminals. These tunnels will be approximately 15 feet high by 15 feet wide to accommodate the anticipated piping needs. Figure 7 shows the conceptual alignments of the anticipated pipeline replacements/improvements.

2.6 Demolition of Existing CUP and Associated Existing Electrical Substation

The maintenance buildings east of the existing CUP would be demolished to make way for the new CUP. The existing cooling tower would remain operational until all four cells of the new cooling tower are fully installed and commissioned. The existing CUP would then be demolished and the proposed thermal energy tank would then be installed, prior to full installation of the new cooling tower. Once the new cooling tower is operational, the existing cooling tower would be demolished.

2.7 Construction Staging/Worker Parking

Staging for construction equipment and parking for construction employees would be located at existing surface parking lots within the CTA.

2.8 Construction Schedule

The construction period for the proposed Project is anticipated to last for approximately four years. Construction will commence with the relocation of known existing utilities in the footprint of the new CUP thus allowing follow-on construction activities. Simultaneously, construction of the utility tunnel and the replacement of existing direct-buried chilled water and high pressure hot water services lines would begin prior to construction of the CUP. The construction of the CUP is anticipated to take approximately three and a half years.

2.9 Permits and Approvals

In addition to the City of Los Angeles, implementation of the proposed Project may require various federal, state, and local approvals, for which the approving agencies may use the EIR in their respective decision-making and approval processes, including the following.

State Water Resources Control Board (SWRCB)/Regional Water Quality Control Board (RWQCB)

The California SWRCB and nine RWQCBs administer regulations regarding water quality in the State. Permits or approvals required from the SWRCB and/or RWQCB may include but not be limited to:

- General Construction Storm Water Permit
- Standard Urban Stormwater Mitigation Plan

South Coast Air Quality Management District (SCAQMD)

The SCAQMD is the regional agency granted the authority to regulate air pollutant emissions from stationary sources in the air basin. Permits of approvals required for the SCAQMD may include but not be limited to:

- Revisions to the existing Title V Operating Permit (a national operating permit program for air pollution sources) for operation of the CUP.

Local Actions

Local actions and approvals that may be required for the proposed Project include, but may not be limited to the following:

- LAX Plan Compliance Review in accordance with Section 7 of the Los Angeles International Airport Specific Plan.
- Certification of the Final EIR for the CUP Replacement Project.
- Submittal of a Recycled Water Report to the RWQCB for the use of recycled water as a dust control measure for construction.
- Preparation of a Project-Specific Storm Water Management Plan or Standard Urban Storm Water Mitigation Plan for approval by the Bureau of Sanitation - Watershed Protection Division. (The Plan should be consistent with the overall Storm Water Pollution Prevention Plan and associated permits.)

- Preparation of a Report of Construction Air Quality Emissions for submittal to SCAQMD.

Miscellaneous Actions and Permits

A number of other actions and permits may be required for the implementation of the proposed Project. The list of actions and permits is expected to include, but not be limited to:

- Los Angeles Department of Building and Safety Electrical Permit
- Los Angeles Department of Building and Safety Building Permit for removal, construction, repair, etc., of any structure(s)
- Board of Public Works Sewer/Storm Drain Permit
- Los Angeles Fire Department Plan Check

3. PROBABLE ENVIRONMENTAL EFFECTS OF THE PROJECT

In accordance with Section 15063 of the CEQA Guidelines, an Initial Study was completed by LAWA to determine if the Project will have a significant effect on the environment. A copy of the Initial Study is provided herewith as Attachment A. As indicated in the Initial Study, potentially significant impacts that may result from construction of the LAX CUP Replacement Project were identified for the following environmental topics:

Traffic and Parking - Construction of the Project would generate traffic associated with construction workers traveling directly to and from the Project site. Construction staging/parking areas is proposed to be located within existing surface parking lots within the CTA and therefore no shuttle service from the construction work area is anticipated to be necessary. These vehicle trips could result in traffic impacts on the local roadway system during the construction period. Additionally, construction of the Project may require lane closures/modifications and detours within the CTA, which could affect on-airport traffic flows. The EIR to be completed for the Project will address such impacts and recommend mitigation measures as appropriate. Similarly, construction of the Project may affect parking within the CTA, which will be addressed in the EIR.

Air Quality - Construction of the Project would result in temporary emissions of various air pollutants from demolition activities, construction equipment, worker commutes, and truck haul/delivery trips. Such air pollutants include criteria pollutants such as carbon monoxide (CO), oxides of nitrogen and sulfur (NO_x and SO_x), reactive organic gases (ROG), and particulate matter (PM). Additionally, construction of the Project will result in the generation of Greenhouse Gases (GHGs), primarily associated with construction equipment fuel consumption and engine exhaust. Long-term operation of the new facilities proposed in the LAX CUP Replacement Project will also result in the emission of criteria pollutants and GHGs, although such emissions are anticipated to be largely, if not fully, offset by the removal of existing equipment that is not as clean and efficient as the new equipment. The EIR will quantitatively delineate existing and future operations-related emissions, as well the construction-related emissions, and recommend mitigation measures as appropriate.

Human Health Risk - In addition to criteria air pollutants and GHG's, the EIR will address potential impacts associated with emissions of toxic air contaminants associated with construction activities (i.e., PM emissions within diesel engine exhaust) and operations (i.e., emissions from the large boilers).

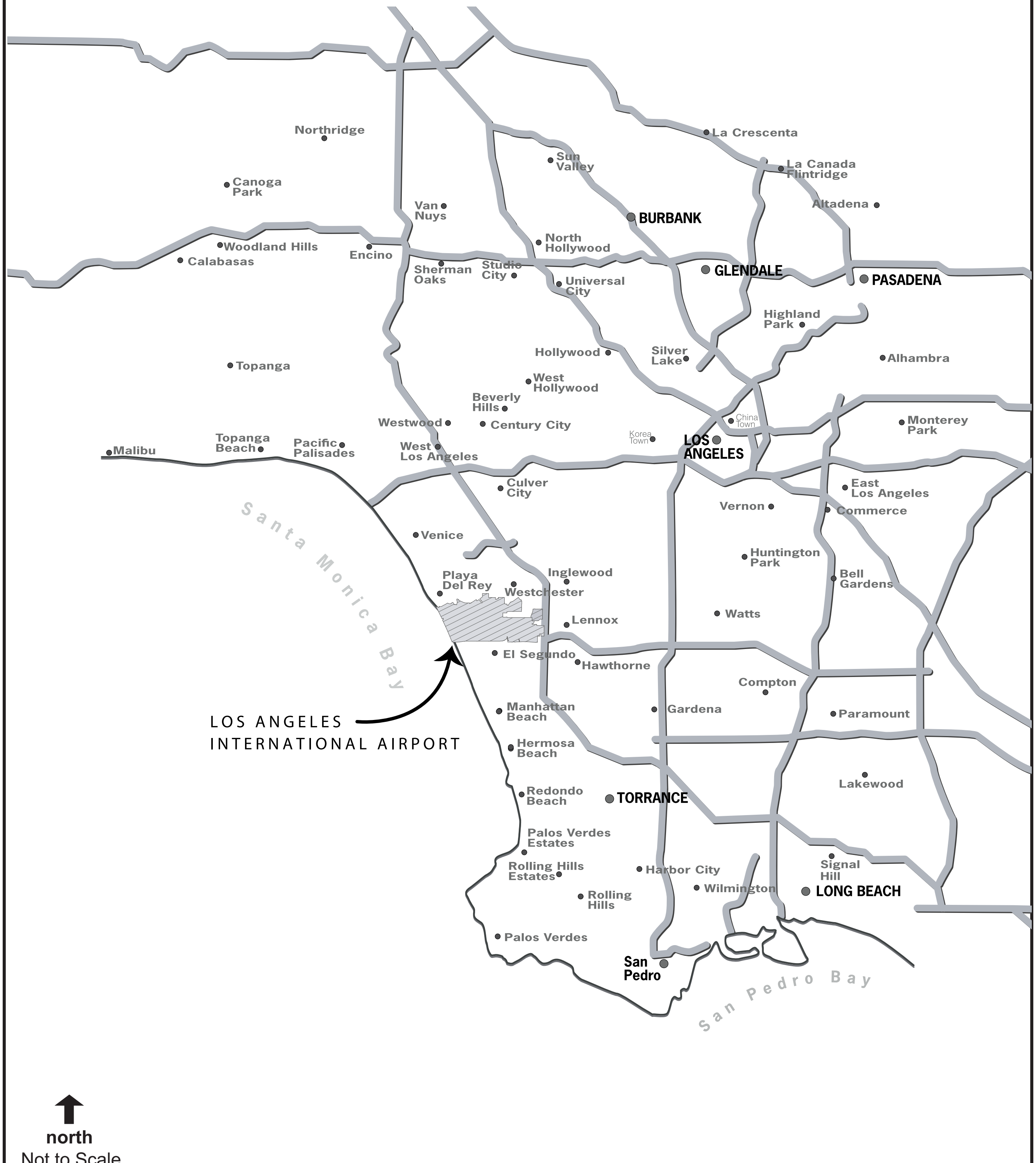
Cumulative Construction Impacts - Construction of the LAX CUP Replacement Project is proposed to commence towards the end of 2009 and continue for an approximately 4 year period. Several other projects in the LAX area are also proposed for construction during that period, posing the potential for significant cumulative impacts, particularly as related to traffic and air quality. The LAX CUP Replacement Project EIR will address the potential for such cumulative construction impacts to be significant.

Based on the information and analysis provided in the attached Initial Study, implementation of the proposed Project is not expected to result in potentially significant impacts relative to other environmental topics. As such, the scope of environmental topics to be addressed in the EIR analysis for the LAX CUP Replacement Project is proposed to focus on those topics delineated above.

Comments regarding the scope and content of the LAX CUP Replacement Project Draft EIR will be accepted for 30 days from receipt of this notice. The subject Draft EIR is anticipated to be completed in summer 2009, at which time a Notice of Completion will be filed with the Los Angeles County Clerk and the Governor's Office of Planning and Research - State Clearinghouse to initiate a 45-day public review period.

The City will prepare responses to comments received during the public review period regarding the adequacy of the LAX CUP Replacement Project Draft EIR. The comments and responses, together with the LAX CUP Replacement Project Draft EIR and its appendices, will comprise the Final EIR for the LAX CUP Replacement Project. In arriving at a decision on whether to proceed with the proposed Project, the Los Angeles City Council will consider, among other things, the information in the Final EIR and will determine the adequacy of the environmental documentation under the California Environmental Quality Act.

This page intentionally left blank.



Prepared by: CDM, 2008.

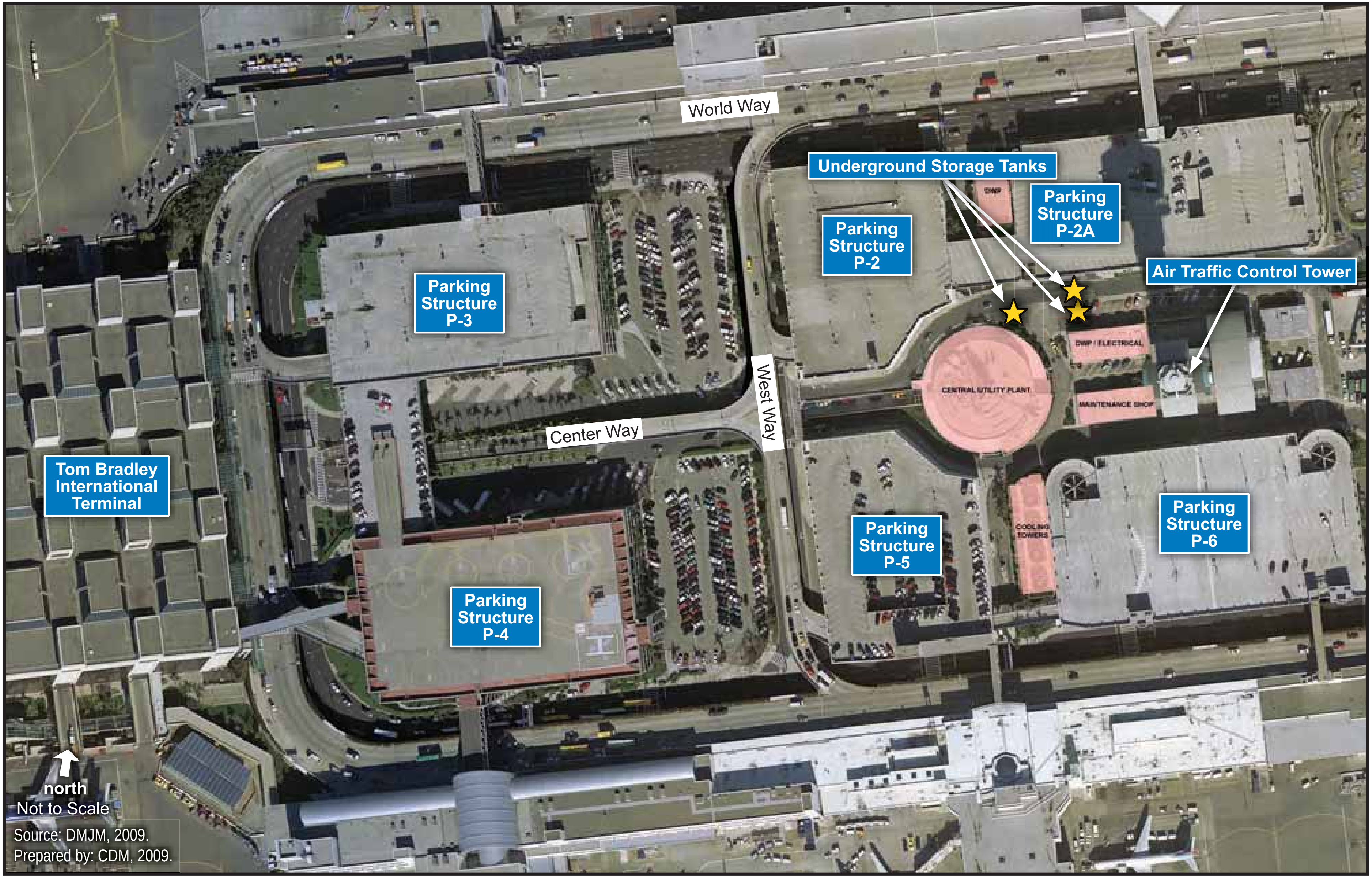
LAX CUP Replacement Project EIR NOP	Regional Location Map	Figure 1

north

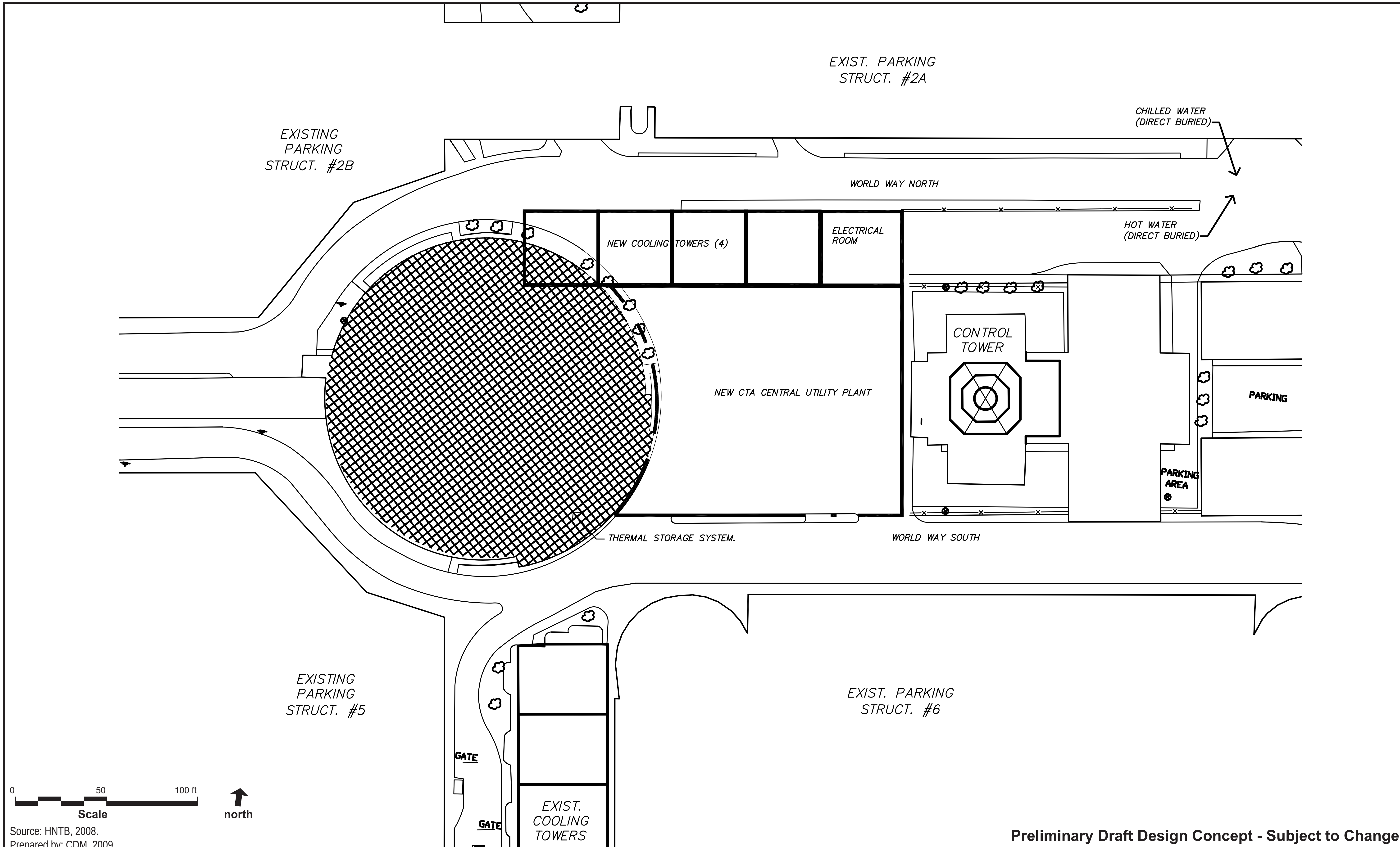
Not to Scale

Prepared by: CDM, 2009.

LAX CUP Replacement Project EIR NOP	Existing Airport	Figure 2



LAX CUP Replacement Project EIR NOP	Existing CUP Facilities	Figure 3



Source: HNTB, 2008.
Prepared by: CDM, 2009.

Preliminary Draft Design Concept - Subject to Change

LAX CUP Replacement Project EIR NOP

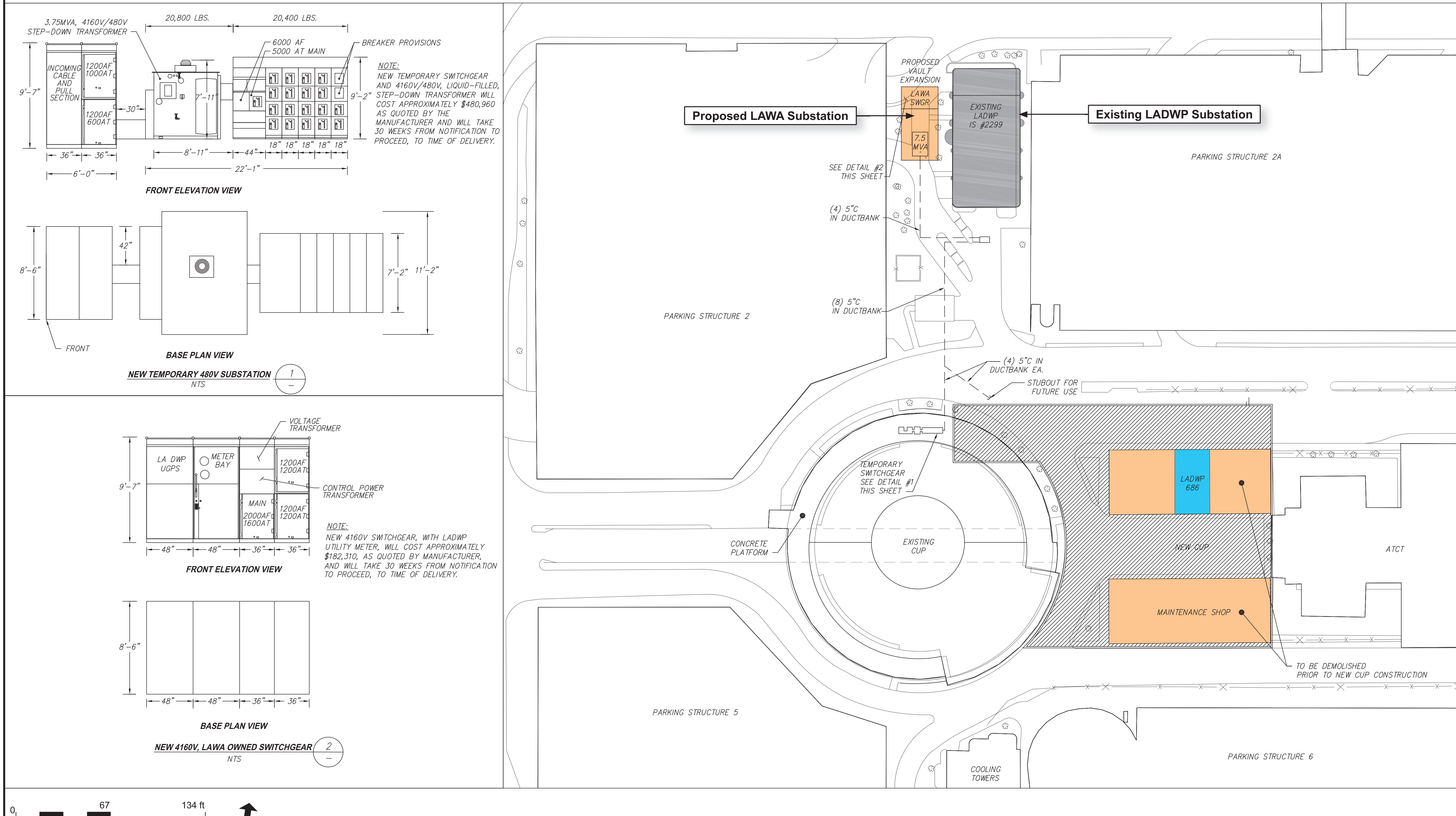
Preliminary Site Layout

Figure
4

LAX CUP Replacement Project EIR NOP

Potential Reclaimed Water Pipeline and Treatment System Locations

Figure 5

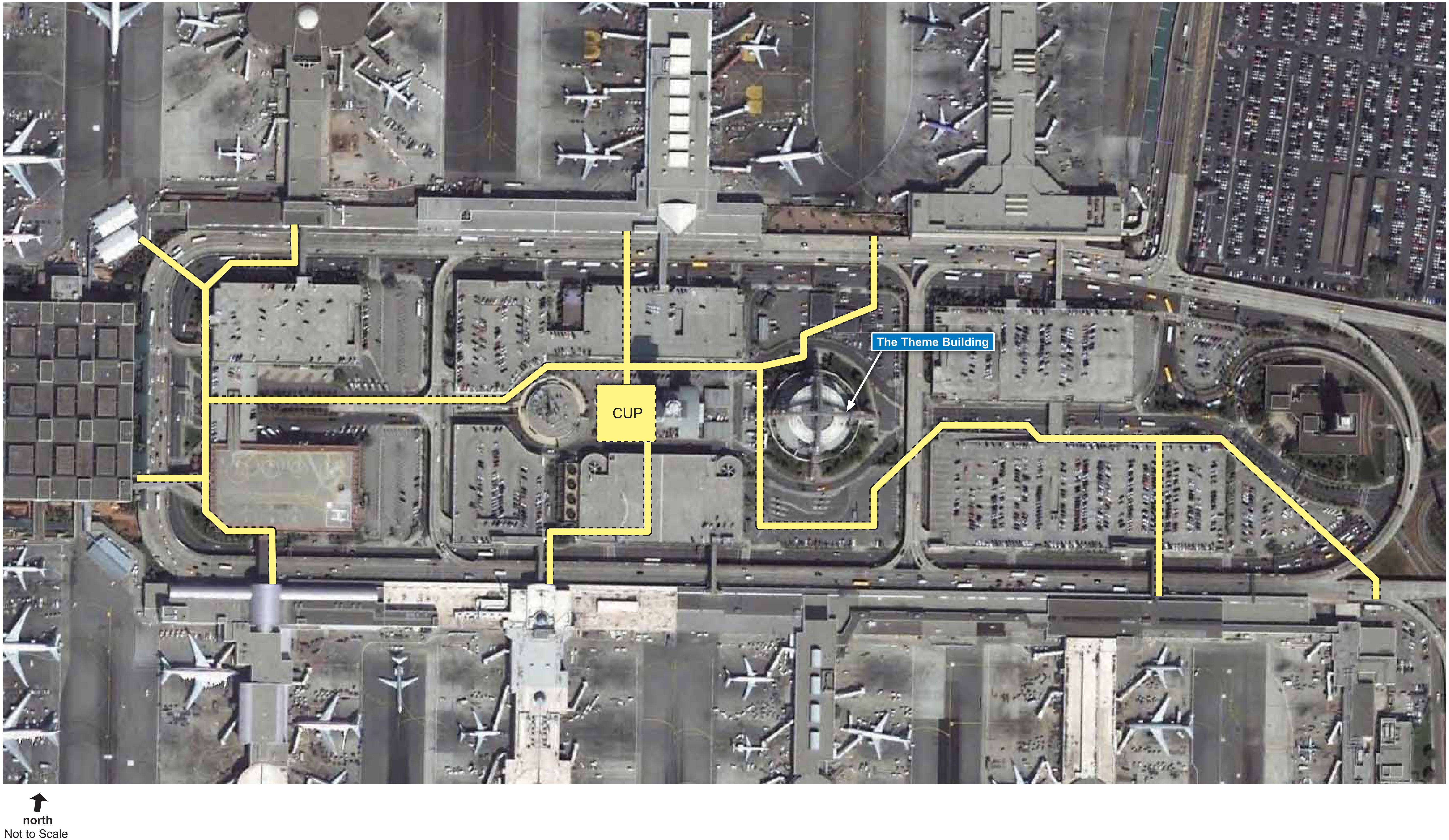


Source: HNTB, 2008.
Prepared by: CDM, 2009.

LAX CUP Replacement Project EIR NOP

CUP Substations

Figure 6



Source: HNTB, CDM, 2009.
Prepared by: CDM, 2009.

LAX CUP Replacement Project EIR NOP	Conceptual Alignment of Chilled Water and High Pressure Hot Water Service Lines	Figure 7

CITY OF LOS ANGELES

OFFICE OF THE CITY CLERK
ROOM 615, CITY HALL
LOS ANGELES, CALIFORNIA 90012

CALIFORNIA ENVIRONMENTAL QUALITY ACT

INITIAL STUDY AND CHECKLIST

(Article IV City CEQA Guidelines)

LEAD CITY AGENCY	COUNCIL DISTRICT	DATE
Los Angeles World Airports	Council District 11	April 1, 2009

RESPONSIBLE AGENCIES

PROJECT TITLE/NO.	CASE NO.
CUP Replacement Project	EIR-09-009-AD

PREVIOUS ACTIONS CASE NO.	
	☐ DOES have significant changes from previous actions. ☐ DOES NOT have significant changes from previous actions.

PROJECT DESCRIPTION:

The proposed Project provides for the replacement of the existing Central Utility Plant (CUP) and cogeneration facilities at Los Angeles International Airport (LAX). Included as part of the CUP Replacement Project are the following project components: replacement of the existing CUP and maintenance shop building, including a new electrical co-generation facility; replacement of existing cooling towers; construction of an underground thermal energy storage tank at the site of the existing CUP; electrical upgrades to include a new electrical substation and LADWP substation retrofit; replacement of the existing direct-buried chilled water and high pressure hot water service lines in the LAX Central Terminal Area (CTA); demolition of the existing CUP and associated ancillary facilities; and potential installation of a recycled/reclaimed water pipeline and treatment system. Staging for construction vehicles and equipment, as well as construction worker parking would be located within a surface parking lot within the CTA. The construction period would be approximately four years. *Please see the accompanying Notice of Preparation for additional information regarding the Project Description.*

ENVIRONMENTAL SETTING:

The Project site is situated at the core of the CTA within LAX. The immediate environmental setting is, therefore, characterized by a highly-built environment with vehicle and passenger movement activity nearby throughout most of the day and much of the night. In terms of the airport's overall environmental setting, LAX is located within a highly-developed, urbanized area consisting of airport, commercial, transportation (i.e., interstate highways) and residential uses. West of the LAX airfield area are the Los Angeles/El Segundo Dunes, a designated Ecologically Sensitive Habitat Area, and beyond the Dunes is the Pacific Ocean.

PROJECT LOCATION

As noted above, the Project site is at the core of the CTA within LAX. LAX is situated within the City of Los Angeles, an incorporated city within Los Angeles County. LAX is bordered on the north by the community of Westchester (part of the City of Los Angeles), south by the City of El Segundo, east by the City of Inglewood and the unincorporated community of Lennox, and the west by the Pacific Ocean. The airport is located approximately 12 miles southwest of downtown Los Angeles. The majority of the proposed improvements that comprise the CUP Replacement Project would occur in the CTA between the Air Traffic Control Tower (ATCT) and parking structures P-2, P-2A, P-5 and P-6.

PLANNING DISTRICT		STATUS:
Los Angeles International Airport Specific Plan		☐ PRELIMINARY ☐ PROPOSED ________ ☒ ADOPTED December 14, 2004
EXISTING ZONING LAX - L Zone M2: Airport Airside sub-area, LAX-A Zone C2: Airport Landside Subarea, LAX – N Zone: LAX Northside Subarea	**MAX. DENSITY ZONING**	☒ DOES CONFORM TO PLAN
PLANNED LAND USE & ZONE Airport-related facilities	**MAX. DENSITY PLAN**	☐ DOES NOT CONFORM TO PLAN
SURROUNDING LAND USES North - Airport (parking structure) East - Airport (control tower) South - Airport (parking structure) West - Airport (parking structure)	**PROJECT DENSITY**	☐ NO DISTRICT PLAN

☞ ☐ **DETERMINATION (To be completed by Lead Agency)**

On the basis of this initial evaluation:

☐ 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 on the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared

☒ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find 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 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, nothing further is required.

Dennis Gruilliam	City Planner
SIGNATURE	**TITLE**

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less that significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of a mitigation measure has reduced an effect from "Potentially Significant Impact" to "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analysis," cross referenced).

5) Earlier analysis must be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR, or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:

    1) Earlier Analysis Used. Identify and state where they are available for review.
    2) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    3) Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A sources list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whichever format is selected.

9) The explanation of each issue should identify:
    1) The significance criteria or threshold, if any, used to evaluate each question; and
    2) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Hazards & Hazardous Materials	☐ Public Services
☐ Agricultural Resources	☐ Hydrology/Water Quality	☐ Recreation
☒ Air Quality	☐ Land Use/Planning	☒ Transportation/Traffic
☐ Biological Resources	☐ Mineral Resources	☐ Utilities/Service Systems
☐ Cultural Resources	☐ Noise	☒ Mandatory Findings of Significance
☐ Geology/Soils	☐ Population/Housing	

INITIAL STUDY CHECKLIST (To be completed by the Lead City Agency)

☞ **BACKGROUND**

PROPONENT NAME	PHONE NUMBER*
Los Angeles World Airports	(310) 646-7690
PROPONENT ADDRESS	
1 World Way, Room 218, Los Angeles, CA 90045	
AGENCY REQUIRING CHECKLIST	**DATE SUBMITTED**
Los Angeles World Airports	February 19, 2009
PROPOSAL NAME (If Applicable)*	
Central Utility Plant (CUP) Replacement Project	

☞ ENVIRONMENTAL IMPACTS (Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?				X
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a city-designated scenic highway?				X
c. Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			X	
II. AGRICULTURAL 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. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				X
c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X
III. AIR QUALITY. The significance criteria established by the South Coast Air Quality Management District (SCAQMD) may be relied upon to make the following determinations. Would the project result in:				
a. Conflict with or obstruct implementation of the South Coast Air Quality Management Plan?	X			
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	X			
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment (ozone, carbon monoxide, PM_{10}, and $PM_{2.5}$) under an applicable federal or state ambient air quality standard?	X			
d. Expose sensitive receptors to substantial pollutant concentrations?	X			
e. Create objectionable odors affecting a substantial number of people?			X	
f. Result in a substantial increase in greenhouse gas emissions?	X			

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations 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 the City or regional plans, policies, regulations 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 tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?	☐	☐	☐	☒
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?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a. Cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5?	☐	☐	☐	☒
b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §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?	☐	☒	☐	☐
VI. GEOLOGY AND SOILS. Would the project:				
a. Exposure of 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?	☐	☐	☒	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
iv. Landslides?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c. 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- 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 (2007), 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?	☐	☐	☐	☒
VII. 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 the people residing or working in the 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?	☐	☐	☐	☒
VIII. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b. Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in	☐	☐	☒	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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 land uses for which permits have been granted)?				
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which 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 plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h. Place within a 100-year flood plain structures which would impede or redirect flood flows?	☐	☐	☐	☒
i. Expose people or structures to a significant risk of loss, inquiry or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
IX. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	☐	☐	☐	☒
b. Conflict with 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, 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?	☐	☐	☐	☒
X. 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
XI. NOISE. Would the project result in:				
a. Exposure of persons to or generation of noise in level in	☐	☒	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				
b. Exposure of people to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d. 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 or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XII. 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 necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c. Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIII. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services:				
a. Fire protection?	☐	☐	☐	☒
b. Police protection?	☐	☐	☐	☒
c. Schools?	☐	☐	☐	☒
d. Parks?	☐	☐	☐	☒
e. Other governmental services (including roads)?	☐	☐	☐	☒
XIV. RECREATION.				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. TRANSPORTATION/CIRCULATION. Would the project:				
a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to ratio capacity on roads, or congestion at intersections)?	☒	☐	☐	☐
b. Exceed, either individually or cumulatively, a level of service standard 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 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. Result in inadequate parking capacity?	☒	☐	☐	☐
g. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☒	☐
XVI. UTILITIES. Would the project:				
a. Exceed 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 stormwater 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 resource, or are new or expanded entitlements needed?	☐	☐	☐	☒
e. Result in a determination by the wastewater treatment provider which serves or may 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?	☐	☐	☒	☐
XVII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or	☒	☐	☐	☐

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
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. Does the project have impacts which are individually limited, but cumulatively considerable?("Cumulatively considerable" means that the incremental effects of an individual 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. Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

☞ **DISCUSSION OF THE ENVIRONMENTAL EVALUATION** **(Attach additional sheets if necessary)**
(See Attachment A)

This page intentionally left blank.

ATTACHMENT A
EXPLANATION OF CHECKLIST DETERMINATIONS

As described in detail within the Project Description above and the Notice of Preparation, the CUP Replacement Project includes the following project components: replacement of the existing CUP and maintenance shop building; replacement of existing cooling towers; construction of an underground thermal energy storage tank; installation of a new electrical substation and an LADWP substation retrofit north of the CUP site; replacement of the existing chilled water and high pressure hot water service lines within the LAX Central Terminal Area (CTA); potential use of an existing pipeline biogas, and potential installation of a recycled/reclaimed water pipeline and treatment system. Construction staging for vehicles and equipment and construction worker parking for work within the CTA would be located at a surface parking lot in the CTA. No off-site shuttling is anticipated to be necessary. LAWA is currently coordinating with the City of Los Angeles Department of Water and Power to pursue the provision of recycled/reclaimed water to the CUP. Should that occur, it is anticipated that the recycled/reclaimed water pipeline would be located underground within existing street rights-of-way, and the water treatment system (to reduce chlorine and ammonia levels in the recycled/reclaimed water, which are deleterious to cooling towers) would consist of two small buildings and outdoor tanks/equipment that would be located on either an existing LAWA construction materials storage/staging lot, a vacant paved lot, or a small portion of an existing paved lot used for rental car storage overflow. Construction staging and worker parking for the recycled/reclaimed water pipeline and treatment system would be located at the treatment system site. The overall construction period would last approximately four years, with the replacement of the chilled water and hot water lines to the west of the CUP beginning prior to construction of the replacement CUP. Within the four year period, construction of the CUP would take approximately three and a half years, and construction of the recycled/reclaimed water treatment system would last approximately nine months. The majority of construction would occur primarily during day time hours, six days a week; however, the installation of the new pipelines to convey hot and cold water from the replacement CUP to terminals would include construction activities within the CTA during nighttime hours when vehicle traffic levels are low and closing roadway lanes during construction would have minimal impact on traffic flow. Nighttime construction activity within the CTA may also occur in conjunction with the relocation of existing utility lines and with construction of the replacement CUP, in order to reduce the overall level and duration of construction-related disruption within the CTA during daytime hours. If biogas is used, it is anticipated that an existing pipeline would be used for conveyance from the Hyperion Treatment Plan to the replacement CUP and no physical modification of the existing pipeline would be required. Impacts from the project, with and without the usage of biogas, are addressed below.

I. AESTHETICS. *Would the project:*

a. Have a substantial adverse effect on a scenic vista?

No Impact. The Project site is within the Central Terminal Area (CTA) which is developed with uses that include the existing CUP and maintenance shop, multi-story parking structures, restaurant (the Theme Building), and Air Traffic Control Tower (ATCT) surrounded by a two level loop road and Terminals 1 through 8, which are in a U-shaped configuration. The replacement CUP and associated facilities would be located at the core of the CTA, at or adjacent to the site of the existing CUP. Construction staging areas would be located at a surface parking lot within the CTA. While the proposed CUP would be a highly visible feature for pedestrians and motorists traveling within the CTA, the proposed replacement CUP would not be visible from, or affect views of, areas outside of the CTA. Views of the replacement CUP and associated facilities from beyond the CTA would be generally limited due to intervening structures and topography. To the extent that there are scenic vistas to the north and northwest of the City and the coastline from vantage points at higher elevations to the south of the airport, the CTA (including the replacement CUP and associated facilities) and other airport development are well below this line-of-sight and do not enter into or contribute to scenic vistas. The three potential locations for the treatment system are within a highly urbanized area and not within or near any scenic vistas. As such, no impacts on scenic vistas would occur, and no mitigation measures or further evaluation are required.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a city-designated scenic highway?

No Impact. As discussed further under Response No. V.a. below, the existing CUP and ancillary facilities that would be demolished as part of the proposed Project are not historic buildings. The Project site does not contain any unique or officially recognized natural, urban, or historic features. The main structures of the proposed Project are located at the core of the CTA, adjacent to the site of the existing CUP. Associated pipelines to be replaced or improved as part of the proposed Project are located underground. The thermal energy storage tank would be located at the site of the existing CUP and would also be underground. The Project site is not located adjacent to or within the view of a designated scenic highway or vista. The Project site is immediately to the west of the ATCT and approximately 400 feet west of the LAX Theme Building, both of which are notable architectural features, and the Theme Building is a City of Los Angeles designated Historic-Cultural Monument. Sub-grade water lines from the replacement CUP would be installed adjacent to the ATCT and Theme Building, however, the construction activities would be temporary and would not physically alter either structure, or damage views of the structures. The Theme Building is an elevated structure that appears suspended with parabolic arches and the ATCT extends approximately 280 feet above ground, and therefore, views would not be blocked by the temporary construction occurring at- and below-grade. Implementation of the proposed Project would not damage scenic resources, including historic resources or other locally recognized desirable aesthetic natural features within a City-designated scenic highway or from other non-designated locales. As such, no impacts on scenic resources would occur, and no mitigation measures or further evaluation are required.

c. Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. The Project site is located within the CTA which is developed with uses that include the existing CUP and maintenance shop, multi-story parking structures, restaurant (the Theme Building), and ATCT surrounded by a two-level loop road and Terminals 1 through 8, which are in a U-shaped configuration. The architectural character of the CTA varies. The Theme Building and ATCT are notable architectural features, while the terminal buildings consist of concrete slab construction, primarily designed for function and access. The proposed Project site is located immediately to the west of the ATCT and approximately 400 feet west of the Theme Building. The ATCT, constructed in 1996, is visible from all directions and contributes to the airport's sense of destination and regional airport theme. The Theme Building, constructed in 1961, is a City of Los Angeles designated Historic-Cultural Monument that symbolizes a "Jet Age Theme." The replacement CUP is proposed to be located adjacent to the site of the existing CUP, which would place the replacement CUP approximately 100 feet closer to the ATCT than is currently the case. Placement of the 35-foot-high CUP building adjacent to the ATCT would limit views from the CTA loop road of the lower portion of the western façade of the ATCT; however, the most notable visual features of the tower which extends well above the replacement CUP elevation would not be affected. The new cooling tower located on the west side of the proposed CUP building would be approximately 65 feet in height, and 176 feet by 49 feet in width (8,624 square feet). The existing cooling tower (which would be demolished once the new tower is fully installed and commissioned) is 44 feet tall, and 60 feet by 155 feet in width (9,300 square feet). The ATCT is approximately 280 feet in height, and the tower view and existing character of the ATCT would not be affected by the new cooling tower. Other proposed facilities (water lines and thermal energy storage storage tank) would be constructed underground, and therefore would not be visible and no impact on views of the ATCT and the Theme Building would occur. The three potential locations for the treatment system are within a highly urbanized areas, within or adjacent to uses that include parking lots and/or construction staging. As such, no impact to the existing visual character or quality of the replacement CUP site and surrounding area would occur, and no mitigation measures or further evaluation are required.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Currently, there are no sources of light or glare from the existing CUP and associated facilities that adversely affect day or nighttime views in the area. Lighting of the new CUP and associated facilities would be similar to current lighting levels and would not meaningfully increase exterior light sources or change light or glare effects in the area. Furthermore, the distance from the site to the nearest off-site light sensitive receptors (residential uses) in the surrounding communities is more than one-half mile; therefore, any increase in light or glare is expected to be imperceptible. Any new exterior light sources would be selected and installed in compliance with applicable Federal Aviation Administration (FAA) standards and in conformance with relevant LAWA guidelines. Minimal security lighting would be installed at the treatment system buildings. The potential treatment system sites are located in urbanized areas and associated lighting would not substantially add to existing lighting in the vicinity, including street lighting and security lighting. Given limited changes in exterior light sources, compliance with relevant standards, and the distance to sensitive receptors, adverse effects from lighting are considered less than significant. Therefore, no mitigation measures or further evaluation are required.

II. AGRICULTURAL RESOURCES. *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural and 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. Would the Project:*

a. **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, 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 the existing zoning for agricultural use, or a Williamson Act Contract?**

c. **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?**

a-c. No Impact. The Project is located within a developed airport and is surrounded by airport uses, urbanized areas, and the Los Angeles/El Segundo Dunes. There are no agricultural resources or operations within the vicinity of LAX, including prime or unique farmlands or farmlands of statewide of local importance. Further, there are no Williamson Act contracts in effect within the LAX vicinity.[1] The proposed Project would represent a continuation of the current airport-related and urban uses and would not convert farmland to non-agricultural use nor would it result in any conflicts with existing zoning for agricultural use or a Williamson Act contract. Therefore, no impacts to agricultural resources would occur with implementation of the proposed Project. As such, this issue does not require any further analysis.

III. AIR QUALITY. *The significance criteria established by the South Coast Air Quality Management District (SCAQMD) may be relied upon to make the following determinations. Would the project result in:*

1 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.16, April 2004.

a. Conflict with or obstruct implementation of the South Coast Air Quality Management 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 air basin is non-attainment (ozone, PM_{10}, and $PM_{2.5}$) under an applicable federal or state ambient air quality standard?

d. Expose sensitive receptors to substantial pollutant concentrations?

e. Create objectionable odors affecting a substantial number of people?

f. Result in a substantial increase in greenhouse gas (GHG) emissions?

a-d, and f. Potentially Significant Impact. The proposed Project site is located within the South Coast Air Basin (SCAB), and air emissions in the Basin are regulated by the SCAQMD. Construction of the CUP Replacement Project would involve the use of heavy-duty construction equipment that emit air pollutants at levels that could conflict with or obstruct implementation of the South Coast Air Quality Management Plan; violate air quality standards or contribute to an existing or projected air quality violation; result in a cumulatively considerable adverse net increase in air pollutants; result in a cumulative increase in GHGs; or, expose sensitive receptors to substantial pollutant concentrations. Additionally, operation of the replacement CUP would result in air pollutant emissions, particularly from the heating system boilers, that could result in the types of impacts described above. Those operational emissions would, however, be offset by the elimination of emissions from the older and less efficient existing CUP equipment to be removed as part of the proposed Project. Regardless, the CUP Replacement Project Draft EIR will evaluate whether the construction and operation of the proposed CUP and associated facilities have potentially significant air quality impacts. The Draft EIR analysis of such air quality impacts would include criteria pollutants as well as greenhouse gas emissions.

e. Less Than Significant Impact. There is currently a natural gas odor at the CUP site. This odor would remain similar with implementation of the proposed Project, and no new objectionable odors would be created. In the event that biogas is used as a fuel source for the proposed CUP, there is the potential for odor impacts to occur from the combustion of hydrogen sulfide contained within the gas. This biogas odor would only occur at the Hyperion Treatment Plant, where biogas pretreatment would take place. This odor would not be a substantial increase to, or otherwise change, existing odors at the Hyperion Treatment Plant. Therefore, no new objectionable odors would be generated and odor impacts associated with the proposed Project are anticipated to be less than significant.

IV. BIOLOGICAL RESOURCES. *Would the project:*

a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. The vast majority of the CUP Replacement Project would be developed within the core of the CTA, which is highly developed and devoid of biological resources. The construction staging areas and construction worker parking would also be located within the CTA. The precise location for the potential recycled/reclaimed water infrastructure (pipeline and treatment system), has not been determined; however, the pipelines are anticipated to be installed within existing street right of ways and the potential treatment system locations currently being considered include urbanized areas such as a small area within a rental car parking lot, vacant lot adjacent to a parking lot, or a small area within a construction staging/storage lot used by the LAWA soundproofing division. No impacts to sensitive or special status species or habitats are expected to occur and no mitigation measures or further evaluation is required.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. As discussed in Response No. IV.a. above, the Project site is in a highly developed area. There is no riparian habitat or other sensitive natural community at the Project site or near the vicinity of the potential recycled/reclaimed water pipeline and treatment system. Therefore, there are no potential impacts to any riparian or other sensitive natural community and no mitigation measures or further evaluation is required.

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?

No Impact. See Responses No. IV.a. and b. above.

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?

No Impact. See Responses No. IV.a. and b. above.

e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?

No Impact. See Responses No. IV.a. and b. above.

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?

No Impact. As indicated above, the Project site is in a highly developed area. There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan that includes the project site or immediate vicinity. The Dunes Specific Plan Area, a designated Los Angeles County Significant Ecological Area, is located at the far western portion of the boundaries of LAX, well removed from the CUP Replacement Project site, staging area, and potential recycled/reclaimed water pipeline and treatment system. Therefore, there are no potential impacts to any adopted habitat conservation plan and no mitigation measures or further evaluation is required.

V. CULTURAL RESOURCES. *Would the project:*

a. Cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5?

No Impact. Section 15064.5(a)(3) of the CEQA Guidelines generally defines historical significance as any object, building, structure, site, area, place, record, or manuscript determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Historical resources are further defined as being associated with significant events, important persons, or distinctive characteristics of a type, period or method of construction; representing the work of an important creative individual; or possessing high artistic values.

The proposed project involves improvements to the CUP and cogeneration facilities, which were constructed in 1961 and 1985, respectively. Historic and architectural resources surveys were conducted of LAWA owned properties and other areas in 1995, 1998 and 2000, in association with the preparation of a Final Environmental Impact Report/Environmental Impact Statement (Final EIR/EIS) for the LAX Master Plan. The findings of the surveys indicate that four buildings within LAX are considered potentially significant historic/architectural resources. These buildings are as follows:[2]

- Hangar One (listed on the National Register of Historic Places) on the southeastern portion of LAX near the northwest corner of Aviation Boulevard and Imperial Highway;

2 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.9.1, April 2004.

- Theme Building (eligible for the National Register of Historic Places) in the center of the LAX terminals;
- WWII Munitions Storage Bunker (eligible for the National Register of Historic Places) near the western boundary of LAX; and
- Intermediate Terminal Complex (eligible for the California Register of Historical Resources) on the south side of Century Boulevard between Sepulveda Boulevard and Airport Boulevard.

As mentioned above the existing CUP and cogeneration facilities were constructed in 1961 and 1985 respectively. Considering the technological advances over that period, both facilities are considered obsolete and are not designated historic resources nor are they considered historically significant. Temporary construction activities involved in implementation of the sub-grade direct-buried chilled water and high temperature hot water service lines would occur adjacent to the Theme Building, which, as noted above is eligible for the National Register of Historic Places. These activities would not physically alter the Theme Building. The specific location of the alignment for the potential recycled/reclaimed water pipeline and treatment system has not yet been selected; however, the infrastructure would be located along existing street rights-of-way (pipeline) and vacant land or parking lot (treatment system) and would not impact any historical structures. As such, no adverse impacts to significant historical resources would occur, and no further analysis is required.

b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §15064.5?

Potentially Significant Unless Mitigation Incorporated. The Project site, much of which is on artificial fill, is developed and has been subjected to extensive disruption over the years. Thus, any surficial archaeological resources, which may have existed at one time, are considered likely to have been removed. The proposed Project would involve excavation of approximately 39,622 cubic yards (cy) of materials to accommodate the required footings to support the proposed CUP, cooling tower, and thermal energy storage tank and associated facilities. Excavation of approximately 232,530 cy of soil may be required for construction of the utilidor. No prehistoric or historic archaeological sites have been encountered within the immediate Project vicinity, such as in conjunction with excavations for the Tom Bradley International Terminal Interior Improvements Project and the In-Line Bagage Screening Systems Project, both located immediately west of the CUP Replacement Project site. Notwithstanding, grading required for the proposed Project may include soils that were previously undisturbed. The potential destruction of archeological resources during construction could result in a significant impact to an archeological resource; however, with implementation of the following mitigation measure, which would be included in the construction requirements for the Project, the impact would be reduced to less than significant.[3]

[3] While the CUP Replacement Project is not considered to be an LAX Master Plan Project, the basic framework and requirements of several of the Master Plan commitments and mitigation measures identified in the LAX Master Plan

Mitigation Measure HA1. Conformance with LAX Master Plan Archaeological Treatment Plan: Prior to initiation of grading and construction activities, LAWA will retain an on-site Cultural Resource Monitor (CRM), as defined in the LAX Master Plan MMRP Archaeological Treatment Plan (ATP),[4] who will determine if the proposed project area is subject to archaeological monitoring. As defined in the ATP, areas are not subject to archaeological monitoring if they contain redeposited fill or have previously been disturbed. The CRM will compare the known depth of redeposited fill or disturbance to the depth of planned grading activities, based on a review of construction plans. If the CRM determines that the proposed project site is subject to archaeological monitoring, a qualified archaeologist (an archaeologist who satisfies the Secretary of the Interior's Professional Qualifications Standards [36 CFR 61]) shall be retained by LAWA to inspect excavation and grading activities that occur within native material. The extent and frequency of inspection shall be defined based on consultation with the archaeologist. Following initial inspection of excavation materials, the archaeologist may adjust inspection protocols as work proceeds.

As indicated above, implementation of this mitigation measure would reduce potential impacts associated with archaeological resources to a level that is less than significant. As such, no further analysis of potential impacts to archaeological resources is required.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Potentially Significant Unless Mitigation Incorporated. As indicated in the LAX Master Plan EIR, the LAX property lies in the northwestern portion of the Los Angeles Basin, a broad structural syncline with a basement of older igneous and metamorphic rocks overlain by thick younger marine and terrestrial deposits. Any surficial paleontological resources, which may have existed at one time, have likely been previously disturbed by past development activities. Therefore, the topmost layers of soil in the Project area are not likely to contain substantive fossils. The records search conducted for the LAX Master Plan EIR identified the presence of two vertebrate fossil occurrences within the study area, three more in the immediate vicinity of the study area, and one beyond the study area within two miles from the center of LAX property. These fossils were found at depths ranging from 13 to 70 feet. The deposits within which these resources occur were found to underlie the entire LAX area and surrounding vicinity.[5] The abundance of fossils within the LAX Master Plan study area at depths generally greater than six feet strongly suggests that grading and excavations for a variety of construction activities, including those associated with the CUP Replacement Project, have the potential to expose and damage potentially important fossils. The proposed Project would involve

Final EIR would effectively mitigate the potential environmental impacts of the CUP Replacement Project if and as those commitments and measures are included as requirements of the proposed CUP Replacement Project.

4 City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Archaeological Treatment Plan, June 2005.

5 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.9.2, April 2004.

excavation of approximately 39,622 cy of materials to accommodate the required footings to support the proposed CUP, cooling towers, thermal energy storage tank, and associated facilities. Excavation of approximately 232,530 cy of soil may be required for construction of the utilidor and associated pipelines. Therefore, the proposed Project may directly or indirectly destroy a unique paleontological resource or site or geologic feature. This would be a significant impact on the region's paleontological resources. Furthermore, the exposure of the fossil sites, and the accompanying potential for making the site accessible for unauthorized fossil collection, could result in the loss of additional fossil remains, associated scientific data, and fossil sites.

Because the proposed Project is located within an area identified as having a high potential for yielding unique paleontological deposits, the potential destruction of paleontological resources during excavation activities could result in a significant impact to such resources; however, with implementation of the following mitigation measures, which would be included in the construction requirements for the Project, the impact would be reduced to less than significant.

Mitigation Measure CR1. Conformance with LAX Master Plan Paleontological Management Treatment Plan: Prior to the initiation of grading and construction activities, LAWA will retain a professional paleontologist, as defined in the LAX Master Plan MMRP Paleontological Management Treatment Plan (PMTP),[6] who will determine if the project site exhibits a high or low potential for subsurface resources. If the project site is determined to exhibit a high potential for subsurface resources, paleontological monitoring will be conducted in accordance with the procedures stipulated in the PMTP. If the project site is determined to exhibit a low potential for subsurface deposits, excavation need not be monitored as per the PMTP. In the event that paleontological resources are discovered, the procedures outlined in the PMTP for the identification of resources will be followed.

Mitigation Measure CR2. Construction Personnel Briefing: In accordance with the PMTP, construction personnel will be briefed by the consulting paleontologist in the identification of fossils or fossilferous deposits and in the correct procedures for notifying the relevant individuals should such a discovery occur.

As indicated above, implementation of these mitigation measures would reduce potential impacts associated with paleontological resources to a level that is less than significant. As such, no further analysis of potential impacts to paleontological resources is required.

---

6 City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Paleontological Management Treatment Plan, June 2005 (Revised December 2005).

d. Disturb any human remains, including those interred outside of formal cemeteries?

Potentially Significant Unless Mitigation Incorporated. The Project site is developed with aviation-related uses, and the airport is located within a highly urbanized area. Within the Project area, traditional burial resources would likely be associated with the Native American group known as the Gabrielino. Based on previous surveys conducted at LAX and the results of the record searches completed in 1995, 1997, and 2000 for the LAX Master Plan EIR, no traditional burial sites have been identified within the LAX boundaries or in the vicinity. In the unlikely event that human remains are encountered, implementation of the following mitigation measure, which would be included in the construction requirements for the Project, would reduce the potential impact to a level that is less than significant.

Mitigation Measure CR3. Archaeological Notification: If human remains are found, all grading and excavation activities in the vicinity shall cease immediately and the appropriate LAWA authority shall be notified. Compliance with those procedures outlined in Section 7050.5(b) and (c) of the State Health and Safety Code, Section 5097.94(k) and (i) and Section 5097.98(a) and (b) of the Public Resources Code shall be required. In addition, those steps outlined in Section 15064.5(e) of the CEQA Guidelines shall also be implemented.

Implementation of this mitigation measure would ensure that potential impacts associated with encountering human remains would be less than significant. As such, this issue does not require any further analysis.

VI. GEOLOGY AND SOILS. *Would the project:*

a. Exposure of 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.

Less Than Significant Impact. Fault rupture is the surface displacement that occurs along the surface of a fault during an earthquake. LAX is located within the seismically active southern California region, but it is not located within an Alquist-Priolo Special Study Zone.[7] Geotechnical literature indicates that the Charnock Fault, a potentially active fault, may be located near or through eastern portions of LAX property. However, evaluation indicates that the Charnock Fault is considered to have low potential for surface rupture independently or in conjunction with movement

---

7 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

on the Newport-Inglewood Fault Zone, which is located approximately three miles east of LAX.[8] Therefore, impacts to people or structures resulting from rupture of a known earthquake fault are considered less than significant, and no mitigation measures or further evaluation are required.

ii. Strong seismic ground shaking?

Less Than Significant Impact. LAX is located in the seismically active southern California region; however, there is no evidence of faulting on the site, and it is not located within an Alquist-Priolo Special Study Zone.[9] As part of the proposed Project, all construction would be designed in accordance with the provisions of the Uniform Building Code (UBC) and the City of Los Angeles Building Code (LABC). Since the proposed Project would comply with UBC and LABC requirements, potential impacts associated with strong seismic ground shaking would be less than significant, and no mitigation measures or further evaluation are required.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction is a seismic hazard that occurs when strong ground shaking causes saturated granular soil (such as sand) to liquefy and lose strength. The susceptibility of soil to liquefy tends to decrease as the density of the soil increases and the intensity of ground shaking decreases. The depth to groundwater at LAX is generally greater than 90 feet, which would indicate that the site has a very low susceptibility to liquefaction.[10] However, perched groundwater[11] conditions have been noted in the upper 20 to 60 feet at some locations at LAX, including immediately to the west of the CTA where average groundwater was detected 24 feet below ground surface,[12] and the density of sand deposits in the upper 30 feet is generally considered to be low to medium dense. Liquefaction could, therefore, potentially occur in very localized areas; however, the overall potential for liquefaction at LAX is considered low.[13]

Strong ground shaking will also tend to densify loose to medium dense deposits of partially saturated granular soils and could result in seismic settlement of foundations and the ground surface at LAX. Due to variations in material type, seismic settlements would tend to vary considerably across

8 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

9 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

10 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

11 Groundwater, generally shallow, that is isolated and not connected to an aquifer.

12 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Technical Report 12, Figure 7 April 2004.

13 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

LAX, but are generally estimated to be between negligible and 0.5 inch; the overall potential for damaging seismically-induced settlement is considered to be low.[14]

Seismically-induced ground shaking can also cause slope-related hazards through various processes including slope failure, lateral spreading,[15] flow liquefaction, and ground lurching.[16] Because existing slopes in the LAX vicinity are relatively small in area and of low angle and height (less than 15 feet) the overall potential for such failures is considered to be low.[17]

The California Department of Conservation (CDC) is mandated by the Seismic Hazards Act of 1990[18] to identify and map the state's most prominent earthquake hazards in order to help avoid damage resulting from earthquakes. The CDC's Seismic Hazard Zone Mapping Program charts areas prone to liquefaction and earthquake-induced landslides throughout California's principal urban and major growth areas. According to the Seismic Hazard Map for the Inglewood Quadrangle, no potential liquefaction zones are located within the LAX area. Isolated zones of potential seismic slope instability are identified near the western edge of the airport, within the dune area.[19]

The proposed Project would be designed according to requirements of the State of California, UBC, and LABC. Those requirements call for the potential for seismic settlement and liquefaction to be investigated for a project during the preliminary design phase, and for any established remediation measures to be implemented in areas prone to seismically-induced settlement and liquefaction.

As the potential for liquefaction and seismic settlement at LAX is low, and the proposed Project would comply with UBC and LABC requirements, the potential impacts associated with seismic-related ground failure and liquefaction would be less than significant, and no mitigation measures or further evaluation are required.

iv. Landslides?

No Impact. The Project site and vicinity are relatively flat and are primarily surrounded by existing airport and urban development. Furthermore, the City of Los Angeles Landslide Inventory

[14] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[15] Lateral Spreading: Deformation of very gently sloping ground (or virtually flat ground adjacent to an open body of water) that occurs when cyclic shear stresses caused by an earthquake induce liquefaction, reducing the shear strength of the soil and causing failure and "spreading" of the slope.

[16] Ground Lurching: Ground-lurching (and related lateral extension) is the horizontal movement of soil, sediments, or fill located on relatively steep embankments or scarps as a result of earthquake-induced ground shaking. Damage includes lateral movement of the slope in the direction of the slope face, ground cracks, slope bulging, and other deformations.

[17] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[18] Public Resources Code 2690-2699.6.

[19] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

and Hillside Areas map does not identify any areas in the vicinity of the Project site that contain unstable slopes which may be prone to seismically-produced landslides.[20] Implementation of the proposed Project would not result in the exposure of people or structures to the risk of landslides during a seismic event. Therefore, no impacts resulting from landslides would occur, and no mitigation measures or further evaluation are required.

b. Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The potential for soil erosion within LAX is low due to the generally level topography of LAX. In addition, the majority of LAX is developed with buildings and covered with impervious surfaces. The proposed Project would result in substantial grading, excavation and use of fill during construction of the replacement CUP and associated facilities. Conformance with LABC Sections 91.7000 through 91.7016, which include construction requirements for grading, excavation, and use of fill, would reduce the potential for wind or waterborne erosion. In addition, the LABC requires an erosion control plan that is reviewed by the Department of Building and Safety prior to construction if grading exceeds 200 cubic yards and occurs during the rainy season (between November 1 and April 15). The Project applicant, LAWA, would be required to prepare an erosion control plan to reduce soil erosion. Therefore, the proposed Project impacts related to soil erosion are anticipated to be less than significant, and no mitigation measures or further evaluation are required.

c. 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- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact. Settlement of foundation soils beneath engineered structures or fills typically results from the consolidation and/or compaction of the foundation soils in response to the increased load induced by the structure or fill. The presence of undocumented and typically weak artificial fill at LAX in some locations, including the CTA, creates the potential for settlement. The Lakewood Formation initial layers are composed of upper Pleistocene older alluvium, and consist of primarily unconsolidated discontinuous gravel and sand layers, interbedded with silt or clay layers that are prone to settlement. However, foundation design features, such as interconnecting the interior spread footings with concrete grade beams and designing the perimeter basement walls as deep grade beams, and construction methods such as use of oscillating methods of drilling would reduce the potential for excessive settlement at LAX, and the overall potential for damaging settlement is considered low. Projects are required to comply with the UBC and LABC, which include the requirement for site-specific investigations of geotechnical conditions and implementation of remediation measures to address soft or loose soils to limit settlement if needed. Soil borings drilled at the replacement CUP site as part of the site assessment investigation revealed a generally sandy-clay

[20] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit C, Landslide Inventory & Hillside Areas In the City of Los Angeles, November 1996.

lithology from a depth of 5 feet to approximately 15 feet. This was typically underlain by fine-grained sand to the maximum investigation depth of 40 feet. This material is expected to consist of native soil. In the immediate vicinity of the underground storage tanks (USTs), fine-grained sand with a small amount of gravel was present that is expected to consist of engineered fill material.[21]

Existing structures subject to settlement induced by construction of adjacent fills or structures or construction de-watering would be monitored for movement and methods to protect them from excessive settlement would be implemented if deemed necessary, and no further analysis is required.[22] As the proposed Project would comply with UBC and LABC requirements, the potential impacts associated with being located on a geologic unit or soil that is unstable, would be less than significant, and no mitigation measures or further evaluation are required. See also Response Nos. VI.a.iii and VI.a.iv above.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (2007), creating substantial risks to life or property?

Less Than Significant Impact. Expansive soils are typically composed of certain types of silts and clays that have the capacity to shrink or swell in response to changes in soil moisture content. Shrinking or swelling of foundation soils can lead to damage to foundations and engineered structures including tilting and cracking. As indicated in the LAX Master Plan EIR, fill materials located in some portions of the LAX area could be prone to expansion, and some portions of the Lakewood Formation found beneath the eastern portion of LAX may also be susceptible, due to their higher content of clay and silt.[23]

New structures under the CUP Replacement Project could be subject to the effects of expansive soils. As Project construction would occur in accordance with the LABC Sections 91.7000 through 91.7016, which include construction requirements for grading, excavation, and foundation work, the potential for hazards to occur as a result of expansive soils would be minimized. Therefore, proposed Project implementation would not result in significant impacts associated with expansive soils, and no substantial risks to life or property would occur. No mitigation measures or further evaluation are required.

21 LAWA Site Assessment Report Underground Storage Tanks 161,162, 163. Los Angeles International Airport, Central Utility Plant. 275 Center Way, Lost Angeles, California. July 21, 2006.

22 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

23 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

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?

No Impact. The Project site is located in an urbanized area where wastewater infrastructure is currently in place. The proposed Project would not use septic tanks or alternative wastewater disposal systems. Therefore, the ability of on-site soils to support septic tanks or alternative wastewater systems would not be relevant to the proposed Project, and no mitigation measures or further evaluation are required.

Conclusion: Based on the above discussion of Items VI.a. through VI.e., relative to potential impacts associated with geology and soils, no significant impacts are anticipated to occur and no mitigation measures or further evaluation are required.

VII. HAZARDS AND HAZARDOUS MATERIALS. *Would the project:*

a-b. 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 reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. Construction and operation of the proposed Project would not create a significant hazard to the public or environment through the transport, use, or disposal of hazardous materials. Construction activities would involve the limited transport, storage, use, or disposal of hazardous materials for uses such as the fueling and servicing of construction vehicles on-site. This would be short-term in nature and all storage, handling, and disposal of these materials are regulated by local, state, and federal laws.

The electrical equipment currently being used would be disposed of and replaced with new equipment. According to the Los Angeles Department of Water and Power (LADWP), all of the electrical equipment operated by the LADWP is non-PCB-containing equipment per U.S. Environmental Protection Agency (EPA) standards (less than 50 parts per million (ppm)). However, there may still be trace amounts of PCBs (<50 ppm) in the equipment. Under state regulations, waste must have a concentration below 5 ppm PCB to be defined as a non-PCB waste. If the electrical equipment is determined to be PCB waste, it would be disposed of in compliance with relevant state and federal regulations governing disposal of hazardous materials, and therefore, impacts would be less than significant.

The Hazardous Materials Survey[24] performed for the Project site identified the potential for the site to have contaminated on-site materials (lead-based paint, asbestos, and PCBs). The handling and

24 CTL Environmental Services, Hazardous Materials Survey, LAX Central Utilities Plant, Los Angeles, California, March 19, 2008.

disposal of hazardous building materials, including asbestos and asbestos-containing materials (ACM), and PCBs, is strictly regulated by federal, state, and local laws.

The Phase I Environmental Site Assessment (ESA)[25] identified the potential for contaminated soils to be located on-site based on sampling adjacent to abandoned underground storage tanks. Three of the USTs, shown on Figure 3 of the NOP, scheduled for abandonment were previously evaluated for total petroleum hydrocarbons (TPH), total recoverable petroleum hydrocarbons (TRPH), and volatile organic compounds (VOC). Petroleum hydrocarbons detected near the vicinity of USTs 161 and 162, located approximately 80 feet northeast of the existing CUP, were very limited in concentrations and extent, and do not exceed Los Angeles Regional Water Quality Control Board (LARWQCB) screening criteria**.** UST 163 is located beneath Center Way, north of the existing CUP. Maximum TRPH and TPH-diesel concentrations of 13,000 milligram per kilogram (mg/kg) and 9,100 mg/kg, respectively, were found in shallow samples from two locations near UST 163, exceeding LARWQCB screening criteria.[26] The petroleum hydrocarbons were allowed to remain in the soil due to the presence of a 5-foot thick clay zone that serves as a barrier controlling the vertical movement of the contamination. The vertical and lateral extent of the release has not been fully defined.[27] Further evaluation and the development and implementation of a remediation plan, if needed, will occur in conformance with the LAWA "Procedure for the Management of Contaminated Materials Encountered During Construction" adopted in 2006.[28]

The clean-up and disposal of contaminated on-site materials and contaminated soils would be conducted with oversight from the California Department of Toxic Substances Control (DTSC). DTSC requirements include specific hazardous materials handling methods, routes, and schedules to minimize potential exposure during DTSC removal actions. With adherence to health and safety regulations, the impact would be less than significant.

Project operations would involve the use of hazardous materials and chemicals, including phosphate, sodium hydroxide, phosphoric/sulfuric acid and biocide. Sulfuric acid, an acutely hazardous material (AHM), is used at the CUP to adjust the acidity (pH) of the cooling tower water. Sulfuric acid is stored at the CUP in quantities of no more than 700 gallons. This acid is the only AHM used and stored above reporting threshold quantities at LAX. The types of chemicals and quantities handled at the replacement CUP would be similar to the existing operations and, as such, would not represent a substantial change from the existing operations. Operations at the CUP are

---

25 CTL Environmental Services, Phase I Environmental Site Assessment of the Los Angeles International Airport Central Utility Plant, Los Angeles, California. November 2007.

26 CTL Environmental Services, Phase I Environmental Site Assessment of the Los Angeles International Airport Central Utility Plant, Los Angeles, California. November 2007.

27 CTL Environmental Services, Phase I Environmental Site Assessment of the Los Angeles International Airport Central Utility Plant, Los Angeles, California. November 2007.

28 City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Procedure for the Management of Contaminated Materials Encountered During Construction, 2005.

highly regulated to prevent incidents and accidents and the CUP complies with all relevant federal, state, and local safety regulations to minimize the risk of an upset. Preventive measures currently incorporated into the CUP operations include specific procedures addressing the safety and design features, engineered failsafe and back-up systems, handling practices, equipment start-up and shut-down procedures, sulfuric acid detection and monitoring, maintenance and employee training programs, emergency response procedures, and auditing and inspection programs.[29] Adherence to applicable health and safety regulations would reduce the potential for hazardous materials impacts associated with operation of the proposed Project to less than significant levels, and no mitigation measures or further evaluation are required.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. As discussed in greater detail under Response No. VII.a-b above, construction and operation of the new CUP and associated facilities would result in the handling of hazardous or acutely hazardous materials. However, there are no schools located or proposed within one-quarter mile of the Project site. Furthermore, the proposed Project involves improvements to the existing CUP and associated facilities and would not change the nature of or meaningfully increase hazardous emissions or the handling of hazardous materials. As such, no mitigation measures or further evaluation are required.

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?

Less Than Significant Impact. An Environmental Data Resources (EDR) regulatory database review was performed of the site as part of the Phase 1 Environmental Site Assessment.[30] The Project site was listed on the several databases searched by EDR as a facility with underground storage tanks (USTs) and a facility with emissions of carbon monoxide, organic hydrocarbon gases, nitrogen oxides, sulfur oxides, and particulate matter. There were no reports of identified contamination on-site. As discussed in greater detail in Response No. VII.a-b above, contaminated soils have been detected in the vicinity of the abandoned USTs, however, the contaminants were allowed to remain in the soil due to the presence of a 5-foot thick clay zone that serves as a barrier controlling the vertical movement of the contamination.[31] When soil contamination is detected during construction activities, LAWA will notify the agency(ies) with jurisdiction and take immediate and effective measures to ensure the health and safety of the public and workers and to protect the environment, including, as necessary and

[29] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, April 2004.

[30] CTL Environmental Services. Phase I Environmental Site Assessment of the Los Angeles International Airport Central Utility Plant Los Angeles, California. November 2007.

[31] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, April 2004.

appropriate, stopping work in the affected area until the appropriate agency has been notified. The clean-up and disposal of these hazardous materials, if needed, would be conducted with oversight from the DTSC. DTSC requirements include specific hazardous materials handling methods, routes, and schedules to minimize potential exposure during DTSC removal actions. Adherence to health and safety regulations would reduce the potential for creating a significant hazard to the public or the environmental to less than significant, and no mitigation measures or further evaluation are required.

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?

Less Than Significant Impact. The Project site is located within a public airport. Numerous safeguards are required by law to minimize the potential for and the effects from an accident if one were to occur. FAA's Airport Design Standards establish, among other things, land use related guidelines to protect people and property on the ground, including establishment of safety zones that keep areas near runways free of objects that could interfere with aviation activities. City of Los Angeles Ordinance No. 132,319 regulates building height limits and land uses within the Hazard Area established by the Planning and Zoning Code to protect aircraft approaching and departing from LAX from obstacles. In addition to the many safeguards required by law, LAWA and tenants of LAX maintain Emergency Response and Evacuation Plans that also serve to minimize the potential for and the effects of an accident.

The proposed Project involves improvements to the CUP and associated facilities that would meet all applicable safety related design standards. Though there would be a temporary increase in construction jobs, none of the proposed improvements would increase the existing long-term employment or passenger capacity at LAX. Therefore, the proposed Project would not result in a significant impact with regard to safety for people working in the Project area, and, as such, no mitigation measures or further evaluation are required.

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for the people residing or working in the area?

No Impact. The Project site is not located within the vicinity of a private airstrip but rather within a public airport. See Response No. VII.e. above.

g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. LAWA and tenants of LAX maintain Emergency Response Evacuation Plans to minimize the potential for and the effects of an accident, should one occur. Construction of the proposed Project may result in closures to local roads at LAX. As discussed in Response No. XV.f., the road closures may temporarily impact intersection and emergency access routes at specific locations at the Project site. This potential impact will be further analyzed in the EIR. However, this possible obstruction would be temporary and occur only at limited access point at any one time. Other areas of the CTA would be kept clear and unobstructed at all times during construction in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations. Therefore, the proposed Project would not significantly impair implementation or physically interfere with an adopted emergency response plans or emergency evacuation plans. Impacts associated with the construction of the replacement CUP and associated facilities would be less than significant and no mitigation measures or further evaluation are required.

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?

No Impact. The Project site and vicinity are predominantly paved and/or developed. There are no fire hazard areas containing flammable brush, grass, or trees on the Project site. Furthermore, the Project site is not within a City of Los Angeles Wildfire Hazard Area, as delineated in the Safety Element of the General Plan.[32] Therefore, implementation of the proposed Project would not result in the exposure of people or structures to hazards associated with wildland fires, and no mitigation measures or further evaluation are required.

VIII. HYDROLOGY AND WATER QUALITY. *Would the project:*

a. Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. The agency with jurisdiction over water quality at LAX is the Los Angeles Regional Water Quality Control Board (LARWQCB). The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. In accordance with the CWA, LAX is within the region covered by NPDES Permit No. CAS004001 issued by the LARWQCB.[33] Construction of the proposed Project would occur on a site that is currently developed and predominantly paved, with the only exception being pockets of ornamental landscaping. The improvements to the existing CUP and associated facilities would not materially alter existing drainage patterns or surface water runoff quantities on the Project site.

Construction of the proposed Project could result in the potential for short-term impacts to surface water (i.e., stormwater runoff) quality, due to grading and other temporary surface disturbance. The Storm Water Pollution and Prevention Plan (SWPPP) for the Project would address construction-related surface water quality impacts and delineate the water quality control measures (i.e., Best

[32] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit D, Selected Wildfire Hazard Areas In the City of Los Angeles, November 1996.

[33] Los Angeles County Municipal Storm Water National Pollutant Discharge Elimination System (NPDES) Permit (Order No. 01-182; NPDES No. CAS0041 as Amended by Regional Order R4-2007-0042 on August 9, 2007).

Management Practices - "BMPs") that are proposed to address those impacts. As such, Project construction would not result in adverse impacts on surface water quality, and no mitigation measures or further evaluation are required.

As part of the proposed Project, implementation of the Standard Urban Storm Water Mitigation Plan (SUSMP) would occur. Although the Project would not change the quantity or pattern of stormwater runoff to any notable degree, it would be required to incorporate source control and treatment control measures in the form of Best Management Practices (BMPs) to improve surface water quality discharge compared to existing conditions.[34] SUSMP requirements include, but are not limited to, the following: minimizing stormwater pollutants of concern; providing storm drain system stenciling and signage; containing properly designed outdoor material storage areas; containing properly designed trash storage areas; and providing proof of ongoing BMP maintenance. Since the Project would not change the volume or direction of stormwater runoff to any notable degree and would implement SUSMP requirements to address, and improve, surface water quality compared to existing conditions, Project operation would not result in adverse water quality impacts, and no mitigation measures or further evaluation are required.

b. Substantially deplete groundwater supplies or interfere 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 land uses for which permits have been granted)?

Less Than Significant Impact. As indicated in the LAX Master Plan EIR, LAX is located within the West Coast Groundwater Basin. Groundwater beneath LAX is not used for municipal or agricultural purposes.[35] Construction and operation of the proposed Project would not require the use of groundwater and, thus, would not deplete groundwater supplies. In addition, since the Project site is paved/improved it would not result in a notable adverse change in the amount of permeable areas at the site. Implementation of the proposed Project would not substantially deplete groundwater supplies or interfere with groundwater recharge, and, as such, no mitigation measures or further evaluation are required.

[34] SUSMP requirements apply to redevelopment activities, such as the CUP Replacement Project, that involve the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already development site.

[35] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.7, April 2004.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. Please see Response No. VIII.a. above.

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off site?

Less Than Significant Impact. Please see Response No. VIII.a. above.

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?

Less Than Significant Impact. Please see Response No. VIII.a. above.

f. Otherwise substantially degrade water quality?

Less Than Significant Impact. Please see Response No. VIII.a. above.

g. Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h. Place within a 100-year flood plain structures which would impede or redirect flood flows?

g-h. No Impact. The CUP Replacement Project is located within the boundaries of the LAX Master Plan study area, and as indicated in the LAX Master Plan EIR, no 100-year floodplain areas are located within the LAX Master Plan boundaries.[36] Further, the CUP Replacement Project does not involve the construction of housing. Therefore, no impacts resulting from the placement of housing or other structures within a 100-year floodplain would occur, and no mitigation measures are required. As a result, this issue does not require any further analysis.

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?

No Impact. Please see Response No. VIII.g-h above. In addition, as delineated on the City of Los Angeles Inundation and Tsunami Hazard Areas map,[37] the Project site is not within a boundary of

[36] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.13, April 2004.

[37] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit G, Inundation & Tsunami Hazard Areas In the City of Los Angeles, November 1996.

an inundation area from a flood control basin. Further, the Project site is not located within the downstream influence of any levee or dam. Therefore, no impacts due to the exposure of people or structures to a risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam would occur, and no mitigation measures are required. As such, this issue does not require any further analysis.

j. Inundation by seiche, tsunami, or mudflow?

No Impact. The Project site is located approximately 2 miles east of the Pacific Ocean and is not delineated as a potential inundation or tsunami impacted area in the City of Los Angeles Inundation and Tsunami Hazard Areas map.[38] Mudflows are not a risk as the Project site is located on, and is surrounded by, relatively level terrain and urban development. Therefore, no impacts resulting from inundation by seiche, tsunami, or mudflow are anticipated to occur, and no mitigation measures are required. As such, this issue does not require any further analysis.

IX. LAND USE AND PLANNING. *Would the project:*

a. Physically divide an established community?

No Impact. The Project site is located within the boundaries of a developed airport in an urbanized area. The improvements contemplated in the proposed CUP Replacement Project would occur primarily on airport property and would not divide an established community. While the precise location of the recycled/reclaimed water pipeline and treatment system has not been determined, the pipeline would be located underground along existing street rights-of-way and the treatment system would be located on an isolated site along the pipeline on property owned by LAWA (e.g., vacant lot or parking lot). Neither the pipeline or treatment system would physically divide an established community. Therefore, the proposed Project would not disrupt or divide the physical arrangement of an established community. No impacts resulting from disruption or division of the physical arrangement of an established community would occur, and, as such, no mitigation measures or further evaluation are required.

b. Conflict with 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, coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Project involves the replacement of existing facilities at essentially the same location where they currently exist. This would not conflict with the LAX Plan or the LAX Specific Plan, which are the operative land use plans applicable to the Project site. Construction of a CUP is a permissible use under the LAX Plan "Airport Landside" designation and the LAX Specific Plan

[38] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit G, Inundation & Tsunami Hazard Areas In the City of Los Angeles, November 1996.

"LAX-L Zone."[39] As discussed above, the possible recycled/reclaimed water pipeline and treatment system would be located underground (pipeline) or at a site such as a vacant lot or parking lot (treatment system). The three preliminary locations for the treatment system currently under consideration are within the LAX Plan and Specific Plan boundaries. The site at Westchester Parkway and Sepulveda Westway is in the LAX Specific Plan "LAX-N Zone," which states that this area (Area 11), should be used for principle and accessory uses such as hotel, office, restaurant, service and retail uses, and a movie theater complex.[40] Other requirements for Area 11 include requiring the project design plan and developmental guidelines to treat Area 11 as a single comprehensive planned unit, with a compatible interface with existing and planned uses to the east between La Tijera Boulevard and Westchester Parkway. The Specific Plan states that the design should plan for visual continuity and access with the use opposite Sepulveda Westway. That opposite use currently consists of two multi-level parking structure and the block wall of a Ralphs Supermarket. A water treatment system developed within Area 11 would be limited to the southeast corner of the site, occupying less than one-third acre of the 11.7 acre site and being an automated/unmanned facility contained within new structures designed to not conflict with the visual setting of the area. As such, this would not hinder the development of single comprehensive design plan for commercial uses within the majority of Site 11. Further, with implementation of a landscape buffer and compliance with the LAX Specific Plan development guidelines, a treatment system at this location would not be incompatible with future commercial uses within the remainder of the site or opposite the site on Sepulveda Westway.

The potential treatment sites at Jenny Avenue and 96th Street, and Vicksburg Avenue and 96th Street are within the "Airport Landside" of the LAX Plan and the "LAX-L Zone" as shown on the LAX Specific Plan. LAX-L Zone permits uses allowed in the C2 Commercial Zone and M2 Light Industrial Zone as well as other uses, including, but not limited to, including but not limited to: airline maintenance and support, parking lots, CUP or other fueling and energy sources, accessory buildings or uses, and uses and operations determined to be of a similar nature or deemed necessary for safe and efficient operation of the airport by the Executive Director.[41] The new infrastructure would not conflict with any applicable land use plan, policy, or regulation. As such, no impact would occur and no further analysis is required.

[39] City of Los Angeles, LAX Plan, Sections 3.2.2 and 4.1, September 29, 2004 (Land Use Element of the City's General Plan); and City of Los Angeles, Los Angeles International Airport Specific Plan, Ordinance No. 176, 345, Section 10(B)(3)(b), January 20, 2005.

[40] City of Los Angeles, Los Angeles International Airport Specific Plan, Ordinance No. 176, 345,,Appendix A, January 20, 2005.

[41] City of Los Angeles, Los Angeles International Airport Specific Plan, Ordinance No. 176, 345, Section 10(B), January 20, 2005.

c. Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The Dunes Specific Plan Area, a designated Los Angeles County Significant Ecological Area, is located at the far western portion of the boundaries of LAX, well removed from the CUP Replacement Project site. There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan or other natural community conservation plan that includes the Project site or immediate vicinity. The Dunes Specific Plan Area, a designated Los Angeles County Significant Ecological Area, is located at the far western portion of the boundaries of LAX, well removed from the CUP Replacement Project site and potential recycled/reclaimed water pipeline and treatment system. Therefore, the proposed Project would not conflict with any such plans, and, as such, no mitigation measures or further evaluation are required.

X. 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?

No Impact. The State Mining and Geology Board classifies mineral resource zones throughout the State. As indicated in the LAX Master Plan EIR, the Master Plan study area, which includes the propose Project site, is contained within a MRZ-3 zone, which represents areas with mineral deposits whose significance cannot be evaluated from available data.[42] The Project site is developed with airport-related uses that are mostly paved with limited landscaping. There are no actively-mined mineral or timber resources on the Project site. Therefore, the proposed CUP Replacement Project would not affect access to or the availability of valued mineral resources, and no mitigation measures or further evaluation are required.

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?

No Impact. The Project site is not within an area delineated on the City of Los Angeles Oil Field & Oil Drilling Areas map in the City of Los Angeles General Plan Safety Element.[43] Furthermore, the Project site is developed or disturbed, and the proposed Project would not affect the availability of a locally-important mineral resource recovery site. As such, no mitigation measures or further evaluation are required.

---

[42] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.17, April 2004.

[43] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit E, Oil Field & Oil Drilling Areas in the City of Los Angeles, November 1996.

XI. NOISE. *Would the project result in:*

a. Exposure of persons to or generation of noise in level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Unless Mitigation Incorporated. The City of Los Angeles CEQA Thresholds Guide provides a recommended analysis method for project impacts and thresholds of significance which take into consideration standards established in the local general plan and municipal code.[44] Similarly, the LAX Master Plan Final EIR provides a noise analysis approach for projects at LAX, based on the City's CEQA Thresholds Guide. As such, the methodology and significance thresholds provided in Chapter I, Noise, of the Thresholds Guide has been used to evaluate potential noise impacts related to the Project.

A significant construction equipment noise impact would occur if the direct and indirect changes in the environment that may be caused by the Project, evaluated in terms of the construction noise level (without ambient noise) estimated at a specific location measured against the existing ambient/baseline noise level at that location, would potentially result in one or more of the following future conditions:

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive use;
- Construction activities lasting more than 10 days in a three month period would exceed existing ambient exterior noise levels by 5 dBA or more at a noise-sensitive use; or,
- Construction activities would exceed the ambient exterior 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 at anytime on Sunday. The CUP Replacement Project site is located at the core of the CTA, which is currently subject to noise from vehicles traveling within the CTA as well as from aircraft operating on the airfield complexes adjacent to the CTA. Existing noise levels in and around the CTA from aircraft alone are between 70 dBA and 75 dBA Community Noise Equivalent Level (CNEL).[45,46] Existing uses immediately adjacent to the CUP Replacement Project site consist primarily of multi-level parking structures. The nearest noise-sensitive uses are residential areas within the City of El Segundo to the south and the community o[f] Westchester to the north,

[44] City of Los Angeles, L.A. CEQA Thresholds Guide, 2006.

[45] LAX Airport Impact Area: CNEL 65, 70, and 75 dB Contours, 3Q07, http://www.lawa.org/welcome_LAX.aspx?id=1090, website accessed on February 16, 2009.

[46] CNEL is used to describe annual average day noise levels. CNEL, an average sound level expressed in terms of average day A-weighted decibels (dBA) such as "65 dBA CNEL," or simply "65 CNEL," considers both the loudness and duration of exposure, with a weighting "penalty" for noise event occurring during evening and nighttime hours.

each being over 4,500 feet from the Project site in the Central Terminal Area. The existing ambient noise level at those areas is approximately 70 dBA CNEL.[47]

Further, with regard to operational noise, the new equipment associated with replacement of the existing CUP is generally quieter than the existing equipment, some of which is several decades old, and all of the noise-generating equipment, such as the chillers, compressors, motors, etc., would be housed within new buildings that provide noise baffling/attenuation as appropriate. Noise generated at the combustion turbine enclosure is 80 decibels (dBA), and the proposed CUP building would reduce noise to 60 dBA at the exterior wall. In general, it is anticipated that the exterior noise levels around the replacement CUP would be comparable to, if not less than, the exterior noise levels around the existing CUP. Such exterior noise levels would be substantially less at the nearest noise sensitive uses located approximately 4,500 feet from the CUP, due to natural sound attenuation over distance (i.e., approximately 6 dB reduction per doubling of distance for a point source such as the CUP). As such, no impact from operational noise is expected to result from the Project and no mitigation measures or further evaluation is required for this issue.

Construction of the proposed Project would result in noise generated by on-site equipment, including noise from mobile equipment such as tractors, excavators, dump trucks, etc. The range of typical noise levels associated with basic construction equipment types is listed below, recognizing that the actual noise level would vary, depending upon the equipment model and the type of work activity being performed.

[47] LAX Airport Impact Area: CNEL 65, 70, and 75 dB Contours, 3Q07, http://www.lawa.org/welcome_LAX.aspx?id=1090, website accessed on February 16, 2009

Typical Construction Equipment Noise Levels

Equipment	Noise Level (dBA) at 50 feet
Compactor (Rollers)	72 - 74
Front Loaders	72 - 84
Backhoes	72 - 93
Tractors	72 - 95
Scrapers, Graders	80 - 93
Pavers	85 - 87
Trucks	81 - 95
Concrete Mixers	74 - 87
Concrete Pumps	81 - 84
Cranes (Moveable)	74 - 88
Cranes (Derrick)	86 - 88
Pumps	69 - 71
Generators	72 - 82
Compressors	74 - 88
Pneumatic Wrenches	82 - 88
Jack Hammers and Rock Drills	81 - 95
Pile Driver (Peaks)	93 - 108
Vibrator	69 - 81
Saws	72 - 81

Source: U.S. Environmental Protection Agency, Noise from Construction Equipment & Operations. December 31, 1971.

Noise levels from outdoor construction activities indicate that the noisiest phases of construction are typically during excavation and grading, and that noise levels from equipment with mufflers are typically 86 dBA Leq at 50 feet from the noise source. Based on the fact that sound (under average atmospheric conditions over an open grassy field) dissipates at the rate of 4.5 dBA for each doubling of distance, the construction noise level at a distance of 4,500 feet (i.e., the distance to the nearest noise sensitive use) would be approximately 56.7 dBA (not including baseline ambient noise levels), which would be well below the existing ambient noise levels at the nearest noise sensitive uses. This does not take into account the fact that the Project construction site is surrounded by structures within the CTA, which would act as a noise barrier between the construction noise source and the noise receptors in the nearby communities. As such, the on-site construction noise would not result in a significant impact to noise sensitive uses.

Noise levels associated with development of the recycled/reclaimed water pipeline and treatment system would be comparable to, if not less than, those identified above for general outdoor construction (i.e., 86 dBA Leq at 50 feet), but would be shorter-term and transient in nature compared with those associated with construction of the replacement CUP. Installation of a 6- to 8-inch diameter water line would likely involve a sequence of cutting and removing a strip of concrete or asphalt, excavating a trench, placement of base material (gravel), placement of pipe, backfilling the trench, and repaving the work area. It is anticipated that completion of these activities would occur on a daily basis, proceeding at a rate of several hundred linear feet of pipe being installed per day.

Construction of the small structures to house the treatment system would be located in an urbanized setting with existing sources of noise such as traffic and aircraft. Based on the location of the existing recycled/reclaimed water pipeline, from which the proposed recycled/reclaimed water pipeline and treatment system would extend, being immediately north and northeast of LAX, the ambient noise levels are estimated to be between 70 and 75 dBA CNEL.[48] The existing land uses in the areas being considered for the subject improvements are primarily airport-related light industrial and business uses and parking lots. Noise sensitive uses are located to the north in the community of Westchester, generally well removed from the areas being considered for the recycled/reclaimed water system improvements. The only notable exception is the residential development located northeast of where Kittyhawk Avenue and Will Rogers Street intersect Westchester Parkway. Based on the trapezoidal configuration of the residential development located between these three streets, there are only two residences near Westchester Parkway; one that is directly adjacent to the road and the other that is set back by approximately 100 feet. It is anticipated that pipeline construction in proximity to these two homes would occur in less than a day and would not occur 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 at anytime on Sunday. Based on the above, construction noise associated with installation of the recycled/reclaimed water pipeline and treatment system would not exceed the thresholds of significance related to noise sensitive uses; hence, no significant noise impact is expected to occur.

Project construction would involve truck haul/delivery trips to and from the construction site. If traffic conditions on a road are good (LOS A or B), sound levels increase at a rate of 3 dBA per doubling of traffic volume. However, when traffic conditions are already at LOS C, D, E, or F, increased traffic volumes (including construction traffic) result in decreasing speeds, and traffic noise gets progressively quieter based on reduced engine operations levels, reduce driver-train and tire rotations, and reduced wind shear. On roads with good traffic conditions, roadway traffic volumes would have to increase at more than a 3-fold rate to reach a 5 dBA increase. Other than during the initial phase of construction when demolition and site excavation occur, requiring numerous truck haul trips to remove the materials, and during the pouring of concrete for the facility foundation and structural elements when trucks bring concrete to the site, it is not expected that Project construction would involve a substantial number of daily truck trips on a regular basis and would not result in a 3-fold increase in traffic volumes.

Nevertheless, the following mitigation measure, which would be included in the construction requirements for the Project (i.e., would be incorporated into the Project), is proposed to ensure there would be no significant noise impacts associated with construction-related truck trips.

Mitigation Measure ST1. Designated Truck Routes: For dirt and aggregate and all other materials and equipment, truck deliveries will be on designated routes only (freeways and non-residential streets). Every effort will be made for routes to avoid residential frontages. The designated

[48] LAX Airport Impact Area: CNEL 65, 70, and 75 dB Contours, 3Q07, http://www.lawa.org/welcome_LAX.aspx?id=1090, website accessed on February 16, 2009.

routes on City of Los Angeles streets are subject to approval by LADOT's Bureau of Traffic Management and may include, but will not necessarily be limited to: Pershing Drive (Westchester Parkway to Imperial Highway); Florence Avenue (Aviation Boulevard to I-405); Manchester Boulevard (Aviation Boulevard to I-405); Aviation Boulevard (Manchester Avenue to Imperial Highway); Westchester Parkway/Arbor Vitae Street (Pershing Drive to I-405); Century Boulevard (Sepulveda Boulevard to I-405); Imperial Highway (Pershing Drive to I-405); La Cienega Boulevard (north of Imperial Highway); Airport Boulevard (Arbor Vitae Street to Century Boulevard); Sepulveda Boulevard (Westchester Parkway to Imperial Highway); I-405; and I-105.

Implementation of this mitigation measure would ensure potential impacts associated with construction-related truck trips would be less than significant. As such, no further analysis of construction noise impacts is required.

b. Exposure of people to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. Major construction within 60 to 200 feet and pile driving within 600 feet may result in potentially disruptive vibration to sensitive receptors.[49] Vibration sensitive receptors are similar to noise sensitive receptors and include residences, schools, hospitals, libraries, recreational areas, fragile or historic buildings, and buildings such as computer chip manufacturers, radio and TV stations, and recording studios. The proposed Project would be constructed using typical construction techniques and is not located within 200 feet of any sensitive receptors. A segment of the chilled and hot water line is located in within 200 feet of the Theme Building, which is eligible for the historical register. However, the Theme Building was constructed in 1961 and is not considered a fragile building at risk from vibration. Furthermore, the project would not use pile driving, and instead would use drilled shafts or sheet piling as part of the utilidor construction in order to protect against undermining the parking garage foundations. Drilled caissons or auger cast piles might be other alternatives used in the areas near parking garage P2. An "Oscillating" method for installing shafts would be used, which involves use of an Oscillating Machine that rotates each shaft into place while removing the earth spoils simultaneously. This fully encased method uses a large top-drive drill rig that has the capacity to case the drill hole in advance of excavation. This method virtually has no vibration and completely eliminates the possibility of loss of earth settlement. As such, it is anticipated that the construction equipment to be used during proposed Project construction would not cause excessive groundborne noise or vibration that could cause damage to surrounding buildings and no further evaluation is required.

[49] California Department of Transportation, Transportation and Construction Induced Vibration Guidance Manual. June 2004.

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. As described above in Response No. XI.a., the Project site is located at the core of the CTA, which is characterized by high ambient noise levels from vehicles within the CTA and aircraft operating adjacent to the CTA. Additionally, as discussed above, it is anticipated that the installation of new equipment to replace the older equipment in the existing CUP have comparatively lower operational noise levels and such equipment would be housed within new buildings that include noise baffling/attenuation features. Also, as discussed in Response No. XI.a., the existing land uses in the vicinity of the recycled/reclaimed water pipeline and treatment system are primarily airport-related light industrial and business uses and parking lots, however, there are sensitive uses located to the north. The pipelines would be located underground and would not be a source of noise. The operation of the treatment system is anticipated to generate only minimal noise from the pump would not create a substantial increase in noise levels in the project vicinity. Therefore, the proposed Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the proposed Project. There would be no impacts and no mitigation measures or further evaluation are required.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Unless Mitigation Incorporated. See discussion above in Response No. XI.a.

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 expose people residing or working in the project area to excessive noise levels?

No Impact. The proposed Project would entail replacement and improvements to the existing CUP and associated facilities. No changes would be made to runway locations or configurations as part of the proposed Project. As such, no impacts are anticipated and no mitigation measures or further evaluation are required.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Project site is not located within the vicinity of a private airstrip, but rather within a public airport. Those residing or working in the Project area may be exposed to noise levels normally expected from an airport terminal operation, as indicated in Response No. XI.a-e above.

XII. 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)?

No Impact. The proposed Project involves improvements to the CUP and associated facilities and does not include residential development. The proposed improvements would not increase existing employment, passenger capacity or aircraft parking capacity at LAX. With no increase in employment or passenger capacity, and no new homes proposed, the proposed Project would not induce substantial population growth. Furthermore, the Project site is located within a developed airport, and no new roads or extensions of existing roads or other growth-accommodating infrastructure are proposed. Therefore, the proposed Project would not directly or indirectly induce substantial population growth through extension of roads or other infrastructure. No impacts would occur, and as such, no mitigation measures or further evaluation are required.

b. Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere?

No Impact. There are no existing residential properties on the Project site or within the boundaries of LAX. Implementation of the proposed Project would not displace housing. Therefore, no impacts on housing would occur, and as such, no mitigation measures or further evaluation are required.

c. Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?

No Impact. The Project would not affect housing or displace people, thereby necessitating construction of replacement housing. Therefore, no impacts on housing would occur, and, as such, no mitigation measures or further evaluation are required.

XIII. PUBLIC SERVICES. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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 public services?*

a. Fire protection?

No Impact. The City of Los Angeles Fire Department provides fire protection services throughout LAX, including the Project site. Three LAFD fire stations are located on LAX (Fire Station Nos. 80, 51, and 95). Fire Station No. 80 is located approximately one-quarter mile west of the existing CUP facility, Fire Station No. 51, located at 10435 South Sepulveda Boulevard, is approximately half a mile southeast of the Project site, and Fire Station No. 95, located at 10010

International Road, is approximately one and one-quarter miles east of the Project site.[50] Construction of the proposed Project may result in temporary closures to local roads. However, access to the Project site during construction would be kept clear and unobstructed at all times in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations.

Fire service requirements are generally based on the size of the building and relationships to other structures and property lines. The Project site is currently developed and the boundary of the proposed Project would not extend beyond the current airport boundary. The proposed Project would comply with all applicable City, state, and federal codes and ordinances, and architectural plans would be reviewed and approved by the City of Los Angeles Fire Department prior to Project implementation. Therefore, the proposed Project would not result in any substantial increase in demand for fire protection services that may result in the need for new or altered fire protection services. Accordingly, no significant impacts related to fire protection services are anticipated, and, as such, no mitigation measures or further evaluation are required.

b. Police protection?

No Impact. Both the Los Angeles World Airports Police Division (LAWAPD) and the City of Los Angeles Police Department LAX Detail (LAPD LAX Detail) provide police protection services to LAX, including the Project site. The LAWAPD is located less than one mile east of the Project site and the LAPD LAX Detail station is located approximately half a mile east of the Project site. Demand for on-airport police protection services is typically determined by increases in aircraft activity and employees. As discussed in Response No. XII.a. above, the proposed improvements would not increase existing employment, passenger capacity or aircraft parking capacity at LAX. Therefore, no impacts on airport police protection services are expected with implementation of the proposed Project, and, as such, no mitigation measures or further evaluation are required.

c. Schools?

No Impact. The proposed Project involves improvements to the existing CUP and associated facilities and does not include residential development. As discussed in Response No. XII.a. above, the proposed improvements would not increase existing passenger capacity or employment. As a result, there would be no indirect growth that would impact schools. Since the proposed Project would not include residential development or directly or indirectly increase employment or existing passenger capacity, no enrollment increases would occur. Therefore, no impacts to or need for new school facilities would occur, and no mitigation measures or further evaluation are required.

[50] City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.26.1, April 2004.

d. Parks?

No Impact. The proposed Project involves improvements to the CUP and associated facilities and does not include residential development. As discussed in Response No. XII.a. above, none of the proposed improvements would increase employment or existing passenger capacity. Since the proposed Project does not include residential development and would not directly or indirectly increase employment or existing passenger capacity, additional demand for parks would not occur. Therefore, no impacts to or the need for new parks would occur, and, as such, no mitigation measures or further evaluation are required.

e. Other governmental services (including roads)?

No Impact. Other than emergency access as described in Response No. XV.d-e below, the Project would have no impacts on governmental services. No additional analysis of potential impacts on other governmental services is required in the CUP Replacement Project Draft EIR.

XIV. RECREATION.

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed Project involves improvements to the CUP and associated facilities and does not include residential development. As discussed in Response No. XII.a. above, the proposed improvements would not increase operational employment or existing passenger capacity. Since the proposed Project does not include residential development or increase the number of employees or existing passenger capacity, additional demand for neighborhood and regional parks or other recreational facilities is not anticipated. Accordingly, no physical deterioration of any recreational facilities would occur as a result of increased use that would be associated with the proposed Project. Therefore, no impacts to existing parks or recreational facilities would occur, and, as such, no mitigation measures or further evaluation are required.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. As discussed in Response No. XIV.a. above, the proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities. In addition, the proposed Project does not include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. Therefore, no impacts would occur, and, as such, no mitigation measures or further evaluation are required.

XV. TRANSPORTATION/CIRCULATION. *Would the project:*

a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to ratio capacity on roads, or congestion at intersections)?

b. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

a-b. Potentially Significant Impact. Construction of the proposed Project would generate traffic associated with workers traveling to and from the construction employee parking area,[51] truck haul/delivery trips, and miscellaneous construction-related travel. These vehicle trips could result in traffic impacts on the local roadway system during the construction period. Also, the proposed Project would likely modify the traffic flow around parking structure 2A. The CUP Replacement Project Draft EIR will address such impacts and recommend mitigation measures for any significant traffic impacts. The CUP Replacement Project Draft EIR will also evaluate potential impacts, if any, resulting from the demolition of the current facilities and implementation of new facilities located on the site.

The proposed Project involves improvements to the CUP and associated facilities. As discussed in Response No. XII.a., the proposed improvements would not increase existing passenger capacity or aircraft parking capacity at LAX, nor would they increase the number of employees traveling to LAX each day. To the extent, if any, implementation of the proposed Project would help LAX accommodate the growth in activity levels anticipated for LAX in the future, by supporting the ongoing need for space conditioning within terminal and concourse areas, the impacts of such growth are addressed in the LAX Master Plan Final EIR.[52] The operation of the proposed Project would not have significant impacts to transportation/traffic by creating an increase in traffic or exceeding any level of service standards. As such, no mitigation measures or further evaluation are required relative to operational traffic impacts.

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?

No impact. The proposed Project is located within the central core of the CTA and would not change air traffic operations or increase airport operations. Therefore, the proposed Project would have no impacts on air traffic patterns, and no mitigation measures or further evaluation are required.

---

51 It is anticipated that parking for construction employees would be located on surface parking lots near the CUP and therefore, there would be no need to shuttle employees to the job site.

52 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, April 2004.

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

Less Than Significant Impact. The Project would not involve roadway design features that would substantially increase hazards. Construction equipment would be required to use the local roadways, however, this is not anticipated to create a safety hazard. When necessary, travel lanes would be closed or restricted to allow for construction access and activities. Signage and/or flaggers would be provided to ensure safe movement of traffic when closures are required. Therefore, the Project would not substantially increase hazards related to a design feature or incompatible use, and no mitigation measures or further evaluation are required.

e. Result in inadequate emergency access?

f. Result in inadequate parking capacity?

e-f. Potentially Significant Impact. Construction of the proposed Project and associated pipelines may require some closures to local roads during the construction phase. These road closures may temporarily impact intersection flow and emergency access routes within the Project vicinity. In addition, the proposed Project is located in the center of four parking garages and in the vicinity of four other parking garages. Construction for the proposed Project and associated pipelines could result in temporary closure of roadways leading to the garages. While closure of any parking structures is not anticipated during construction, ingress and egress may temporarily be limited. Further, existing surface parking in the CUP vicinity may be used for construction worker parking and equipment staging. Impacts related to emergency access, and parking capacity associated with Project construction are potentially significant and will, therefore, be discussed in the CUP Replacement Project Draft EIR.

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

Less Than Significant Impact. The proposed Project is located primarily within the airport and would not conflict with policies, plans, or programs supporting alternative transportation. Construction activities may require temporary road closures and detours, which, depending on the nature and location of such closures/detours, could temporarily affect operations at bus and shuttle stops within the CTA. However, this would be a temporary disruption and alternative bus and shuttle stops or routes would be devised as needed. Construction of the recycled/reclaimed pipeline and treatment system may also require road closures and detours, however, this would be temporary and would not conflict with the plans or programs supporting alternative transportation. Therefore impacts to alternative transportation policies, plans, or programs, would not be significant and no mitigation measures or further evaluation are required.

XVI. UTILITIES. *Would the project:*

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. Sanitary wastewater generated by activities at LAX, including the existing CUP, is treated at the Hyperion Treatment Plant (HTP). The City of Los Angeles Integrated Resources Plan (IRP) Facilities Plan reviewed the water and wastewater needs of the City of Los Angeles for the next 20 years and identified necessary infrastructure improvements and policy recommendations.[53] Of the four alternatives assessed in the IRP and IRP EIR, Alternative 4 was deemed as the staff recommended alternative. Alternative 4 would add a truck-loading facility, digesters, and secondary clarifiers to the HTP. The schedule for implementing the components that comprise Alternative 4 will be initiated by monitored triggers that include population growth, increases in wastewater flow, regulatory changes, and policy decisions. The City of Los Angeles has an approved plan to accommodate future and cumulative wastewater treatment capacity and is implementing the components that comprise its plan through the monitoring of triggers (i.e., population growth, regulatory changes, and other policy decisions) as part of their implementation strategy. As discussed in Response No. XII.a., the Project's proposed improvements would not increase existing employment or passenger capacity at LAX. As discussed in Response No. XVI.D. below, water demand for the new CUP is estimated to double. However, most of this water would evaporate during the cooling process and therefore would not result in an increase in the amount of wastewater requiring treatment. Therefore, no impact with regard to wastewater generation and treatment would occur, and, as such, no mitigation measures or further evaluation are required.

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?

No Impact. As discussed in Response No. XII.a., the proposed improvements would not increase existing employment or passenger capacity at LAX. As such, implementation of the proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. No impact to water or wastewater facilities would occur, and, therefore, no mitigation measures or further evaluation are required.

c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. At LAX, stormwater is discharged to both County of Los Angeles and City of Los Angeles drainage and flood control structures. The existing drainage system at LAX consists of catch basins, subsurface storm drains and open channels, and outfalls. The Project site is within the Imperial

53 City of Los Angeles, Department of Public Works (Bureau of Sanitation) and Department of Water and Power, City of Los Angeles Integrated Resources Plan, Facilities Plan, July 2004 (Volumes 1 and 4 updates November 2005).

Drain Subbasin.[54] The Project site is developed and paved and Project implementation would not increase the amount of surface run off from the site. However, the proposed Project would require the relocation of area storm drains due to the CUP relocation. The area storm drains would be relocated in accordance with the City of Los Angeles, Department of Public Works requirements and would not increase the existing capacity or change the basic function of the drainage system at LAX. Therefore, the proposed Project would not result in the need to construct new stormwater drainage facilities or to expand existing facilities, the construction or expansion of which would cause environmental effects to occur. As such, no mitigation measures or further evaluation are required.

d. Have sufficient water supplies available to serve the project from existing entitlements and resource, or are new or expanded entitlements needed?

No Impact. The LADWP is the water purveyor for LAX. LADWP is responsible for supplying, treating, and distributing water within the City. According to LADWP, it has met the immediate needs of its customers and is well positioned to continue to do so in the future.[55] LAX is served by a 36-inch trunk line in Sepulveda Boulevard that distributes water to a combination of 12-inch and 16-inch transmission lines running along the airport perimeter and 8-inch and 10-inch transmission lines primarily along the perimeter of the airport terminals. Water demand for the existing CUP is currently approximately 83.6 million gallons per year, of which approximately 86 percent (72.4 million gallons) is used for the cooling towers. Based on the proposed sizing of the new cooling towers, water demand for the new CUP is estimated to increase by approximately 70 million gallons per year.. LAWA has been coordinating with LADWP regarding the water supply system for the new CUP, in terms of water supply and conveyance system improvements, and both parties are jointly exploring the potential to use recycled/ reclaimed water in the new cooling towers. Presently there is an LADWP 24-inch diameter pipeline located along the east and north boundaries of the airport that conveys tertiary treated water from the West Basin Municipal Water Recycling Facility to areas north of the airport, including Playa Vista. LAWA and LADWP identified potential options for constructing a new 6- to 8-inch diameter pipeline between the existing 24-inch diameter pipeline and the new CUP, and potential locations for developing a small water treatment system. A treatment system would be required to reduce the levels of certain compounds, such as chlorine and ammonia, within the recycled water prior to being used for the cooling towers. Such compounds can corrode or otherwise adversely affect materials within the cooling towers . LAWA and LADWP are currently evaluating and refining the potential options related to the water supply system for the CUP, both in terms of recycled water and/or potable water to meet the system's needs. Based on the above, it is anticipated that there would be sufficient water infrastructure and supplies available to serve the proposed Project, and no new or expanded entitlements would be needed. Therefore, Project implementation would not result in adverse impacts to water supplies, and, as such, no mitigation measures or further evaluation are required.

---

54 City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.7, April 2004.

55 City of Los Angeles Department of Water and Power, Urban Water Management Plan, 2005.

e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. As discussed in Response Nos. XVI.a. and b. above, the proposed improvements would not increase existing employment or passenger capacity at LAX. Existing wastewater facilities are adequate to serve the proposed Project. Therefore, no impact to wastewater facilities would occur, and, as such, no mitigation measures or further evaluation are required.

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?

f-g. Less Than Significant Impact. Implementation of the CUP Replacement Project would result in the generation of solid waste from demolition of existing facilities and construction waste associated with new construction. Construction waste would include of concrete pavement, building materials, and metal pipe. Approximately 2,957 cy of concrete pavement material associated with the existing CUP would be demolished. This material would be reused on-site or transported off-site for reuse or disposal, depending on suitability of the material for reuse. Demolition of the existing CUP and maintenance buildings would generate approximately 800 cy of solid waste requiring disposal. Additional solid waste requiring disposal includes the existing pipelines to be replaced and existing CUP equipment that is now obsolete. The County of Los Angeles currently has adequate inert (construction) waste capacity. The County's current Annual Report on the Countywide Summary Plan and Siting Element estimated the total remaining permitted inert waste capacity in Los Angeles County to be approximately 47.02 million tons as of January 1, 2007.[56] Therefore, there is anticipated to be no shortfall in disposal capacity for inert waste within the county. As such, impacts of the proposed Project to inert solid waste would be less than significant and no mitigation measures or further evaluation are required.

[56] County of Los Angeles, Department of Public Works, Annual Report on the Countywide Summary Plan and Countywide Siting Element, June 2008

XVII. MANDATORY FINDINGS OF SIGNIFICANCE.

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of 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?

Potentially Significant Impact. The proposed Project has the potential to significantly degrade the quality of the environment relative to air quality, including criteria pollutants, toxic air contaminants, and greenhouse gas, and transportation/traffic. The potential for significant impacts to these resources will be evaluated in the CUP Replacement Project Draft EIR.

b. Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual 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).

Potentially Significant Impact. Implementation of the proposed Project may result in cumulative impacts when considered with other past, present and probable future projects on the airport and in the surrounding area, particularly as related to construction-related cumulative air quality (including greenhouse gas emissions) and traffic impacts. The potential for the proposed Project to contribute to such cumulative adverse environmental impacts will be evaluated in the CUP Replacement Project Draft EIR.

c. Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact. Implementation of the proposed Project may result in adverse environmental effects which could potentially result in substantial adverse effects on humans, particularly in regard to construction-related air quality (including greenhouse gas emissions) and traffic impacts. The potential for the proposed Project to result in significant adverse impacts on humans will be evaluated in the CUP Replacement Project Draft EIR.

REFERENCES

California Department of Transportation, Transportation and Construction Induced Vibration Guidance Manual. June 2004.

City of Los Angeles, Department of Public Works (Bureau of Sanitation) and Department of Water and Power, *City of Los Angeles Integrated Resources Plan, Facilities Plan*, July 2004 (Volumes 1 and 4 updates November 2005).

City of Los Angeles Department of Water and Power, Urban Water Management Plan, 2005.

City of Los Angeles Department of Water and Power, Water Supply Availability Assessment for the Los Angeles World Airports Master Plan Alternative "D" Project. June 2003.

City of Los Angeles, L.A. CEQA Thresholds Guide, 2006.

City of Los Angeles, Los Angeles International Airport Specific Plan, Ordinance No. 176, 345, January 20, 2005.

City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Archaeological Treatment Plan, June 2005.

City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Paleontological Management Treatment Plan, June 2005.

City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Procedure for the Management of Contaminated Materials Encountered During Construction, 2005.

City of Los Angeles, Los Angeles World Airports, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, April 2004.

City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, November 1996.

County of Los Angeles, Department of Public Works, Annual Report on the Countywide Summary Plan and Countywide Siting Element, June 2008.

CTL Environmental Services, Hazardous Materials Survey, LAX Central Utilities Plant, Los Angeles, California, March 19, 2008.

CTL Environmental Services, Phase I Environmental Site Assessment of the Los Angeles International Airport Central Utility Plant, Los Angeles, California. Prepared for Los Angeles World Airports, November 2007.

LAWA Site Assessment Report Underground Storage Tanks 161, 162, 163. Los Angeles International Airport, Central Utility Plant. 275 Center Way, Lost Angeles, California. July 21, 2006.

LAX Airport Impact Area: CNEL 65, 70, and 75 dB Contours, 3Q07, http://www.lawa.org/welcome_LAX.aspx?id=1090, website accessed on February 16, 2009.

Public Resources Code 2690-2699.6.

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

Notice of Preparation

March 30, 2009

'09 APR 24 AM10:10

To: Reviewing Agencies

Re: Los Angeles International Airport (LAX) Central Utility Plant (CUP) Replacement Project
SCH# 2009041043

Attached for your review and comment is the Notice of Preparation (NOP) for the Los Angeles International Airport (LAX) Central Utility Plant (CUP) Replacement Project 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:

Dennis Quilliam
Los Angeles World Airports
7301 World Way West, 3rd Floor
Los Angeles, CA 91406

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,

for: Scott Morgan
Assistant Deputy Director & Senior Planner, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2009044043

Project Title Los Angeles International Airport (LAX) Central Utility Plant (CUP) Replacement Project

Lead Agency Los Angeles World Airports

Type **NOP** Notice of Preparation

Description The proposed project provides for the replacement of the existing Central Utility Plant (CUP) and assorted infrastructure and facilities. The CUP provides heating and air conditioning to the LAX Central Terminal Area (CTA), and also includes a cogeneration facility that uses steam from the boiler system to drive an electrical generator.

Lead Agency Contact

Name Dennis Quilliam

Agency Los Angeles World Airports

Phone 310-646-7614 ***Fax***

email

Address 7301 World Way West, 3rd Floor

City Los Angeles ***State*** CA ***Zip*** 91406

Project Location

County Los Angeles

City Los Angeles, City of

Region

Cross Streets World Way/Center Way

Lat / Long 33° 56' 38" N / 118° 24' 14" W

Parcel No.

Township ***Range*** ***Section*** ***Base***

Proximity to:

Highways Hwy 1 (Lincoln/Sepulveda)

Airports LAX

Railways

Waterways Pacific Ocean

Schools St. Bernards High Schools

Land Use Airport related airfield, LAX-A Zone

Project Issues Air Quality; Traffic/Circulation; Cumulative Effects

---

Reviewing Agencies Resources Agency; California Energy Commission; Department of Parks and Recreation; Department of Fish and Game, Region 5; Department of General Services; Public Utilities Commission; Office of Emergency Services; Native American Heritage Commission; Santa Monica Bay Restoration; Caltrans, Division of Aeronautics; Caltrans, District 7; Air Resources Board, Airport Projects; Integrated Waste Management Board; State Water Resources Control Board, Division of Water Quality; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 4

Date Received 04/09/2009 ***Start of Review*** 04/09/2009 ***End of Review*** 05/11/2009

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: LOS ANGELES

SCH# 2009041

Resources Agency

Resources Agency
Nadell Gayou

Dept. of Boating & Waterways
Mike Sotelo

California Coastal Commission
Elizabeth A. Fuchs

Colorado River Board
Gerald R. Zimmerman

Dept. of Conservation
Rebecca Salazar

California Energy Commission
Dale Edwards

Cal Fire
Allen Robertson

Office of Historic Preservation
Wayne Donaldson

Dept of Parks & Recreation
Environmental Stewardship Section

Central Valley Flood Protection Board
Jon Yego

S.F. Bay Conservation & Dev't. Comm.
Steve McAdam

Dept. of Water Resources
Resources Agency
Nadell Gayou

____
Conservancy

Fish and Game

Depart. of Fish & Game
Scott Flint
Environmental Services Division

Fish & Game Region 1
Donald Koch

Fish & Game Region 1E
Laurie Harnsberger

Fish & Game Region 2
Jeff Drongesen

Fish & Game Region 3
Robert Floerke

Fish & Game Region 4
Julie Vance

Fish & Game Region 5
Don Chadwick
Habitat Conservation Program

Fish & Game Region 6
Gabrina Gatchel
Habitat Conservation Program

Fish & Game Region 6 I/M
Gabrina Getchel
Inyo/Mono, Habitat Conservation Program

Dept. of Fish & Game M
George Isaac
Marine Region

Other Departments

Food & Agriculture
Steve Shaffer
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
Bridgette Binning
Dept. of Health/Drinking Water

Independent Commissions,Boards

Delta Protection Commission
Linda Flack

Office of Emergency Services
Dennis Castrillo

Governor's Office of Planning & Research
State Clearinghouse

Native American Heritage Comm.
Debbie Treadway

Public Utilities Commission
Leo Wong

Santa Monica Bay Restoration
Guangyu Wang

State Lands Commission
Marina Brand

Tahoe Regional Planning Agency (TRPA)
Cherry Jacques

Business, Trans & Housing

Caltrans - Division of Aeronautics
Sandy Hesnard

Caltrans - Planning
Terri Pencovic

California Highway Patrol
Scott Loetscher
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
Bruce de Terra

Caltrans, District 4
Lisa Carboni

Caltrans, District 5
David Murray

Caltrans, District 6
Michael Navarro

Caltrans, District 7
Elmer Alvarez

Caltrans, District 8
Dan Kopulsky

Caltrans, District 9
Gayle Rosander

Caltrans, District 10
Tom Dumas

Caltrans, District 11
Jacob Armstrong

Caltrans, District 12
Chris Herre

Cal EPA

Air Resources Board

Airport Projects
Jim Lerner

Transportation Projects
Douglas Ito

Industrial Projects
Mike Tollstrup

California Integrated Waste Management Board
Sue O'Leary

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
Steven Herrera
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 ______________

Last Updated on 03/24/2009

'09 MAY 7 AM 11:26

OIL, GAS & GEOTHERMAL

DEPARTMENT OF CONSERVATION

DIVISION OF OIL, GAS AND GEOTHERMAL RESOURCES

5816 Corporate Avenue • Suite 200 • CYPRESS, CALIFORNIA, 90630-4731

PHONE 714 / 816-6847 • **FAX** 714 / 816-6853 • **WEBSITE** conservation.ca.gov

May 5, 2009

Mr. Dennis Quilliam
Los Angeles World Airports
7301 World Way West, 3rd Floor
Los Angeles, CA 91406

Subject: Notice of Preparation for Los Angeles International Airport (LAX) Central Utility Plant (CUP) Replacement Project – SCH# 2009041043

Dear Mr. Quilliam:

The Department of Conservation's Division of Oil, Gas, and Geothermal Resources (Division) has reviewed the above referenced Notice of Preparation for Los Angeles Airport (LAX) Central Utility Plant (CUP) Replacement Project. We offer the following comments for your consideration.

The Division is mandated by Section 3106 of the Public Resources Code (PRC) to supervise the drilling, operation, maintenance, and plugging and abandonment of wells for the purpose of preventing: (1) damage to life, health, property, and natural resources; (2) damage to underground and surface waters suitable for irrigation or domestic use; (3) loss of oil, gas, or reservoir energy; and (4) damage to oil and gas deposits by infiltrating water and other causes. Furthermore, the PRC vests in the State Oil and Gas Supervisor (Supervisor) the authority to regulate the manner of drilling, operation, maintenance, and abandonment of oil and gas wells so as to conserve, protect, and prevent waste of these resources, while at the same time encouraging operators to apply viable methods for the purpose of increasing the ultimate recovery of oil and gas.

The scope and content of information that is germane to the Division's responsibility are contained in Section 3000 et seq. of the Public Resources Code (PRC), and administrative regulations under Title 14, Division 2, Chapter 4, of the California Code of Regulations.

The proposed project is located within the administrative boundaries of the Hyperion oil field and Los Angeles County. There are ten plugged and abandoned wells within or in proximity to the project boundaries. The wells are identified on Division map W1-5 and in Division records. The Division recommends that all wells within or in close proximity to project boundaries be accurately plotted on future project maps.

Building over or in the proximity of idle or plugged and abandoned wells should be avoided if at all possible. If this is not possible, it may be necessary to plug or re-plug wells to current Division specifications. Also, the State Oil and Gas Supervisor is authorized to order the reabandonment of previously plugged and abandoned wells when construction over or in the proximity of wells could result in a hazard (Section 3208.1 of the Public Resources Code). If abandonment or reabandonment is necessary, the cost of operations is the responsibility of the owner of the property upon which the structure will be located. Finally, if construction over an abandoned well is unavoidable an adequate gas venting system should be placed over the well.

Furthermore, if any plugged and abandoned or unrecorded wells are damaged or uncovered during excavation or grading, remedial plugging operations may be required. If such damage or discovery occurs, the Division's district office must be contacted to obtain information on the requirements for and approval to perform remedial operations.

To ensure proper review of building projects, the Division has published an informational packet entitled, "Construction Project Site Review and Well Abandonment Procedure" that outlines the information a project developer must submit to the Division for review. Developers should contact the Division Cypress district office for a copy of the site-review packet. The local planning department should verify that final building plans have undergone Division review prior to the start of construction.

Thank you for the opportunity to comment on the Notice of Preparation. If you have questions on our comments, or require technical assistance or information, please call me at the Cypress district office: 5816 Corporate Avenue, Suite 200, Cypress, CA 90630-4731; phone (714) 816-6847.

Sincerely,

Paul Frost

Paul Frost
Associate Oil & Gas Engineer
Division of Oil, Gas and Geothermal Resources
District 1 - Cypress

cc: State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Adele Lagomarsino – Division Headquarters
Sacramento

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, OFFICE OF PUBLIC
TRANSPORTATION AND REGIONAL PLANNING
IGR/CEQA BRANCH
100 SOUTH MAIN STREET
LOS ANGELES, CA 90012
PHONE (213) 897-6696
FAX (213) 897-1337

Flex your power!
Be energy efficient!

April 27, 2009

IGR/CEQA NOP CS/090414
LAX Central Utility Plant Replacement Project
Vic. LA-1-26.89, SCH# 2009041043

Mr. Dennis Quilliam
Los Angeles World Airports
7301 World Way West, 3rd Floor
Los Angeles, CA 91406

Dear Mr. Quilliam:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Notice of Preparation (NOP) for the LAX Central Utility Plant Replacement Project. Based on the information received, we have the following comments:

We recommend early consultation with our Permits office to determine the feasibility of proposed pipeline alignments. Engineering concepts, environmental issues, hazardous materials, etc. Caltrans Encroachment Permits will be needed for any pipeline construction beneath State Route 1 (SR-1) Sepulveda Boulevard. For any construction road closures or detours, a Construction Management Plan will be needed.

Transport of over-size or over-weight vehicles on State highways will need a Caltrans Transportation Permit. We recommend that construction related truck trips on State highways be limited to off-peak commute periods. The contractor should avoid platooning of truck trips on mainline freeways, on freeway on/off-ramps and at freeway ramp intersections.

If you have any questions, you may reach me at (213) 897-6696 and please refer to our record number 090414/CS.

Sincerely,

Elmer Alvarez

ELMER ALVAREZ
IGR/CEQA Program Manager
Office of Regional Planning

cc: Scott Morgan, State Clearinghouse

'08 APR 24 AM10:49

Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

April 21, 2009

Mr. Dennis Quilliam, City Planner
City of Los Angeles, Los Angeles World Airports
7301 World Way West, 3rd Floor
Los Angeles, CA 90045

Dear Mr. Quilliam:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for the Los Angeles International Airport Central Utility Plant (CUP) Replacement Project. This letter conveys recommendations from the Los Angeles County Metropolitan Transportation Authority (Metro) concerning issues that are germane to our agency's statutory responsibilities in relation to the proposed project.

A Traffic Impact Analysis (TIA), with highway, freeway, and transit components, is required under the State of California Congestion Management Program (CMP) statute. The CMP TIA Guidelines are published in the "2004 Congestion Management Program for Los Angeles County", Appendix D. The geographic area examined in the TIA must include the following, at a minimum:

1. All CMP arterial monitoring intersections, including monitored freeway on/off-ramp intersections, where the proposed project will add 50 or more trips during either the a.m. or p.m. weekday peak hour (of adjacent street traffic); and
2. Mainline freeway-monitoring locations where the project will add 150 or more trips, in either direction, during either the a.m. or p.m. weekday peak hour.

Among the required steps for the analysis of development-related impacts to transit are:

3. Evidence that in addition to Metro, all affected Municipal transit operators received the NOP for the Draft EIR;
4. A summary of the existing transit services in the area;
5. Estimated project trip generation and mode assignment for both morning and evening peak periods;
6. Documentation on the assumptions/analyses used to determine the number and percentage of trips assigned to transit;
7. Information on facilities and/or programs that will be incorporated into the development plan that will encourage public transit usage and transportation demand management (TDM) policies and programs; and
8. An analysis of the expected project impacts on current and future transit services along with proposed project mitigation.

Metro looks forward to reviewing the Draft EIR. If you have any questions regarding this response, please call me at 213-922-6908 or by email at chapmans@metro.net. Please send the Draft EIR to the following address:

Metro CEQA Review Coordination
One Gateway Plaza MS 99-23-2
Los Angeles, CA 90012-2952
Attn: Susan Chapman

Sincerely,

Susan Chapman
Program Manager, Long Range Planning

'09 APR 24 AM10:44

South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

April 16, 2009

Mr. Dennis Quilliam, City Planner
City of Los Angeles
Los Angeles World Airports
7301 World Way West 3rd Floor
Los Angeles, CA 90045

Dear Mr. Quilliam:

Notice of Preparation of a Draft Environmental Impact Report (Draft EIR) for the Los Angeles International Airport Central Utility Plant Replacement 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 environmental impact report (EIR). Please send the SCAQMD a copy of the Draft EIR upon its completion. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality analysis and electronic versions of all air quality modeling and health risk assessment files. Electronic files include spreadsheets, database files, input files, output files, etc., and does not mean 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. Alternatively, the lead agency may wish to consider using the California Air Resources Board (CARB) approved URBEMIS 2007 Model. This model is available on the SCAQMD Website at: www.urbemis.com.

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.

It is recommended that lead agencies for projects generating or attracting vehicular trips, especially heavy-duty diesel-fueled vehicles, 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 sitting 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. 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 is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Daniel Garcia, Air Quality Specialist, CEQA Section, at (909) 396-3304 if you have any questions regarding this letter.

Sincerely,

Steve Smith

Steve Smith, Ph.D.
Program Supervisor, CEQA Section
Planning, Rule Development and Area Sources

SS:DG:AK
LAC090410-03AK
Control Number

FORM GEN. 160 (Rev. 6-80)

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

File: SC.CE.

DATE: April 23, 2009

TO: Dennis Quilliam, City Planner
Los Angeles World Airports

'09 APR 29 AM 9:21

FROM: Brent Lorscheider, Division Manager
Wastewater Engineering Services Division
Bureau of Sanitation

SUBJECT: **Los Angeles International Airport (LAX) Central Utility Plant (CUP) Replacement Project – Notice of Preparation Draft EIR**

This is in response to your April 8, 2009 letter requesting wastewater service information for the proposed project. The Bureau of Sanitation, Wastewater Engineering Services Division (WESD) has reviewed the request and found the project to be related to replacement of the existing Central Utility Plant (CUP) and associated infrastructure and facilities only. These improvements will not increase the existing employment or passenger capacity at the LAX. Based on the project description, this project is unrelated to sewers. We therefore have no sewer assessment to provide. Should the project description change, please continue to send us information so that we may determine if a sewer assessment is required in the future

If you have any questions, please call Abdul Danishwar of my staff at (323) 342-6220.

File Location: \Div Files\SCAR\CEQA Review\FINAL CEQA Response LTRs\LAX CUP Replacement Project-NOP Draft EIR.doc

'09 MAY 18 AM10:42

TRANSITION LOS ANGELES CITY HUB
6700 WEST 83RD STREET
LOS ANGELES, CA 90045
HTTP://TRANSITIONLA.BLOGSPOT.COM
TRANSITIONLA@GMAIL.COM

Guiding our communities
from oil dependency to local resilience

May 8, 2009

Mr. Dennis Quilliam, City Planner
City of Los Angeles, Los Angeles World Airports
7301 World Way West, 3rd Floor
Los Angeles, CA 90045

Re: Notice of Preparation of a Draft Environmental Impact Report
Los Angeles International Airport Central Utility Plant Replacement Project
Case No. EIR-09-009-AD

Mr. Quilliam:

The proposed Central Utility Plant Replacement Project is predicated upon the Los Angeles International Airport Specific Plan (Specific Plan) adopted December 14, 2004. Many things have changed since 2004.

Our economic outlook is vastly altered. Our understanding of peak oil has progressed considerably. And the urgency with which we must act to mitigate the impacts of global warming calls for a dramatically different approach.

As the Draft EIR is prepared, it must address the realities of our present circumstances and the revised projections for our future.

"Current and anticipated demand"

The NOP cites that a new Central Utility Plant (CUP) is needed to meet "current and anticipated demand."[1] Yet the airport demand statistics being used in the Specific Plan – and thus the NOP – are now questionable.

The airline industry is in serious decline. November 2008 statistics show that U.S. airlines carried 13.5 percent fewer domestic passengers compared to the prior year[2], and statistics through January 2009 documented multiple consecutive months of contraction.[3] January 2009 statistics also documented a 23.2 percent year-on-year demand drop in cargo markets.[4]

On top of this, we have the issue of peak oil. International demand for oil and gas will outstrip supply within seven years, according to Royal Dutch Shell chief executive Jeroen van der Veer.[5] Oil and gas are changing from being cheap, plentiful, and in constant supply, to being costly and precious, with a supply that is unpredictable.

Peak oil means we will not have the cheap, abundant energy supply to continue "business as usual," much less to create growth or expansion of energy-intense activities. Alternative energy sources will provide only limited solutions because none has the energy density to replace liquid fuels, and certainly none can power an aircraft.

As further repercussions of the economic downturn unfold, as we experience fuel supply constrictions, and see dramatic fuel price volatility with the unfolding of peak oil, the current decline in the airport industry is only going to compound.

The airline industry is thus a doomed industry, a relic of a bygone era in this time of peak oil and global warming mitigation.

- **The Draft EIR must reevaluate airport demand statistics within the context of peak oil, economic collapse, and global warming.**

Economics

The credit crisis, the housing market crash, and rising unemployment are symptoms of a deteriorating economy. We are seeing budget crises across the board.

- "The City currently faces a Fiscal Year 2009-10 deficit of $530 million and Fiscal Year 2010-11 deficit of nearly $1 billion." – Website of the Mayor's Office [6]
- The California budget deficit has been projected at more than $41 billion.[7]
- At the Federal level, some forecasters anticipate annual budget deficits that will force the nation to borrow nearly $9.3 trillion over the next decade.[8]

Borrowing – or budget shortfalls – is a practice which presumes that the future will bring a surplus in order to repay the borrowed funds. For several decades this presumption has been accurate. But not today:

- The International Monetary Fund expects global growth to turn negative this year.[9]
- A January 2009 gathering of the foremost global political and business leaders at the World Economic Forum at Davos spoke of "Depression 2.0" [10]
- "The current global recession is likely to be 'unusually long and severe, and the recovery sluggish,' the International Monetary Fund has warned."[11]

In short, this economic "downturn" is very likely to deepen. There will be no future surplus; thus additional current day borrowing (or overspending) is imprudent.

Additionally: "Some other things about the global energy predicament are poorly understood by the public and even our leaders. This is going to be a permanent energy crisis, and these energy problems will synergize with the disruptions of climate change ... to produce higher orders of trouble. ... The upshot of all this is that we are entering a historical period of potentially great instability, turbulence and hardship."[12]

Our limited public funds are needed to maintain and restructure public services, facilitate retraining for future-oriented jobs, and create community preparedness for the realities of a post-petroleum future. Taking precious public funds, at this point in human history, and expending them toward an anachronistic industry means those funds aren't available to help our citizens in a time of deepening crisis.

- **This spending choice – to forego helping our citizens in crisis, in favor of building further infrastructure toward an outdated industry – stands to cause substantial adverse effects on the citizens of our city. How can this spending choice not "cause substantial adverse effects on human beings, either directly or indirectly"? The Draft EIR (NOP Section XVII c.) must answer.**

Return on Investment

If the City does decide to invest public funds into the airport at this point in human history, the new CUP must be designed to return benefit for that investment. With the airline industry drifting into its twilight years, the new CUP must be designed to provide alternate uses to the general public as the airport volume tapers off. The new CUP must have functionality beyond the sunset of the airline industry.

The entirety of the new CUP's operating life will fall within time periods when humanity is striving to reduce carbon emissions and simultaneously cope with the decreases in fossil energy supplies. (A timeline schedule of carbon reduction goals and peak oil projections – compared with the timeline of the new CUP – has been enclosed for your reference.) The new CUP must be designed to help Los Angeles citizens through this dual crisis.

- **The Draft EIR should indicate the expected lifespan of the new CUP (presumably 40+ years like the old one), and to what alternative purposes the CUP will be put in those coming decades as airport needs disappear.**
- **The Draft EIR should demonstrate that the new CUP has been designed with ability to shut down service to selected terminals or sections of the airport property when these buildings phase out of use with decline of airport functionality.**

The NOP indicates the new transformers "*may* also export power back to the grid."[13](emphasis added) In this era of declining airport demand, the new CUP *must* be designed with alternate, non-airport functionality in mind.

- **In mitigation for the use of public funds toward a major project for a declining industry, the new CUP should be designed so that it "*does* export power back to the grid" as airport use declines. The Draft EIR should demonstrate the benefits to the surrounding community once LAX airport no longer needs the power the CUP generates (i.e. new local electricity generation source for the area run on renewable biogas, etc.).**

The new CUP should be designed to function in a post-peak world. While it is admirable that biogas is being considered[14], the NOP indicates that the biogas will be blended with natural gas, without stating how heavily the ratio is dependent upon the fossil-based gas.

Forerunner projections assert that U.S. natural gas peaked circa 2001; conservative projections place peak natural gas around 2022, which is well within the anticipated operating lifespan of the new CUP. The peak in natural gas production does not signify 'running out of gas', but it does mean the end of cheap gas, as we switch from a buyers' to a sellers' market.[15] Extreme price volatility is imminent. Is our City investing in a Plant which is short-term because it will very soon become too expensive to function?

> **The Draft EIR should explain CUP planned operations for future years when natural gas is much higher in cost or much less available. The new CUP must be designed to be functional and useful, even at reduced capacity, on varying ratios which include pure biogas.**

Global Warming

Since the adoption of the Specific Plan, global warming legislation has been passed and concrete societal goals have been expressed. U.S. participation in international legislation now seems likely under the new Presidential Administration. Any renovations at LAX must comply with all of these, whether legally binding or not yet binding. The new CUP must meet or exceed societal goals during its lifetime.

> **At Section III, the Draft EIR must clearly reveal, with respect to greenhouse gas emissions that are "real, permanent, quantifiable, and verifiable" (as defined by California Health and Safety Code Section 38562(d)(1)) how the new CUP operations will help LAX meet or exceed each of the following societal goals:**

- reduce global warming pollution at least 25% below 1990 levels by 2020 (widely-accepted national goal);[16]
- reduce global warming pollution at least 35% below 1990 levels by 2030 (LA City goal);[17]
- make significant progress toward reducing global warming pollution at least 80% below 1990 levels by 2050 (widely-accepted national goal and likely international legislation);[18]
- How does the new CUP help LAX reflect the IPCC's "Underlying policy framework" for Transport Sector? (international guideline)[19]
- How does the new CUP help LAX comply with the California Global Warming Solutions Act? How does the LAX combined airport enterprise measure up to Health and Safety Code Section 38530(b)(1) (irrespective of any and all waivers LAX might have sought under Section 38562(b) or other sections)? (California state law)
- How does the new CUP help LAX adhere to the U.S. Mayor's Climate Protection Agreement, Item C 1?[20]

- How does the new CUP contribute to reducing CO_2 concentrations below 350ppm by late this century?[21] This statistic transcends the realm of "goals," and instead represents basic human survival.

Pollution offset credits, Certified Emission Reductions (CERs), and clean development mechanisms (CDMs) are credit-swapping techniques for getting old, polluting technologies to become aware of how much they pollute. Pollution offset credits and carbon credits are interesting artificial tools for raising current-day consumer awareness of the need to change our ways. But the point is not to "use offsets." The point is to make real, physical decreases in greenhouse gas emissions. As we contemplate building new infrastructure to see us into the future, we must move beyond the artifice of "credits."

Any equipment built now, with an operational lifespan that overlaps these critical carbon decrease years, must be designed to function cleanly in and of itself, without dependency upon other enterprises for "credits" to cover up an intrinsically flawed design.

The NOP uses such terms as "obsolete" and "aged" as a reason for CUP replacement. Since the new CUP is being built with knowledge and awareness of these societal goals, it must be designed to attain these goals without need for purchase of pollution offset credits or carbon credits; if it does not, the new design is clearly "obsolete" and "aged" even before it is built.

➢ **The Draft EIR should demonstrate that the new CUP has been designed to meet or exceed societal goals without any need for purchase of pollution offset credits or carbon credits.**

The Post-peak world

We have recently crossed (or very soon will cross) the half-way point of global oil and natural gas supplies. Even conservative thinkers are now admitting the limitations.[22] The U.S. House of Representatives has a Peak Oil Caucus.[23] Many major cities are studying and preparing for post-peak scenarios.[24] Los Angeles, claiming to be the "cleanest and greenest big city in the nation,"[25] should similarly plan.

While many of the points in this letter may sound like radical departures from the status quo, it is important to examine the science. Societal expectations of unlimited resources and uninterrupted, abundant fossil fuel supplies are unrealistic. We can continue pretending there isn't a problem until we reach catastrophe, or we can get down to work now, and rationally plan what we're going to do about it.

> "The circumstances ... will require us to downscale and re-scale virtually everything we do and how we do it, from the kind of communities we physically inhabit to the way we grow our food to the way we work and trade the products of our work. Our lives will become profoundly and intensely local. Daily life will be far less about mobility and much more about staying where you are."[26]

Currently, fruits and vegetables in conventional grocery stores travel an average of 1,500 miles from farm to table. With reduced transportation abilities, we will no longer be able to import our food from long distances; we will need to produce food much closer to the places where people live.

The currently-vacant acreage at LAX Northside – one of the last remaining major land tracts in the area – may become essential for food production in the decade ahead. One plan for this property included community gardens.[27] Since publication of that plan, the "recession gardening" movement has taken off; people now are beginning to value open land – not for construction projects but for growing food. The LAX Northside vacant land is a completely inappropriate site for the water processing plant or for any other current-day construction project.

As we design plans for a post-petroleum future, we begin to realize that chipping away at this large piece of open land for construction projects devoted to an energy-intense paradigm may undermine our long-term survival.

- **The Draft EIR (sections IX b. and II c.) must treat the LAX Northside land tract as a "potential farmland" resource for purposes of the EIR process.**

In addition to considerations of decreased airport volume and alternate (non-airport) uses for the CUP, other issues demand consideration in planning for a post-peak, climate-changed world.

Forecasts show that in the climate change world of our future, the "droughts" we're currently experiencing will become the norm. While it is admirable that reclaimed water is being considered for the new CUP[28], will the planned water system remain functional given the changes we face? Will it still remain functional as California water supply approaches 70% of 2005 levels? What about if it approaches 10% of 2005 levels?

In California, 19% of the state's electricity goes into moving and pumping water.[29] How will the CUP's intertwined systems function in an energy-constrained world?

- **The Draft EIR should consider what will power the pumps to get water from Hyperion to the new water treatment plant, and what will power the new water treatment plant. Will the new CUP generate sufficient electricity back to the surrounding community to cover its own operations plus create sufficient return on investment?**
- **The Draft EIR should demonstrate that adequate consideration has been given to Hyperion's operations in the world of the future. Will post-peak changes in energy supplies affect Hyperion operations to the extent that the new CUP won't be supplied with biogas?**
- **The Draft EIR should explore how Hyperion and the new CUP will operate under the region-wide decreased water supply we will have as climate change sets in.**

Planning for an energy-constrained world demands thinking in dramatically different fashion. The presumption that economic growth will continue forever has now been shaken to its core. The presumption that our energy supply is unlimited is unfounded. These base line changes call for a different way of evaluating decisions about building, about expansion, about government policy and about community. Please give our comments and questions serious consideration as you prepare the Draft EIR.

Sincerely,

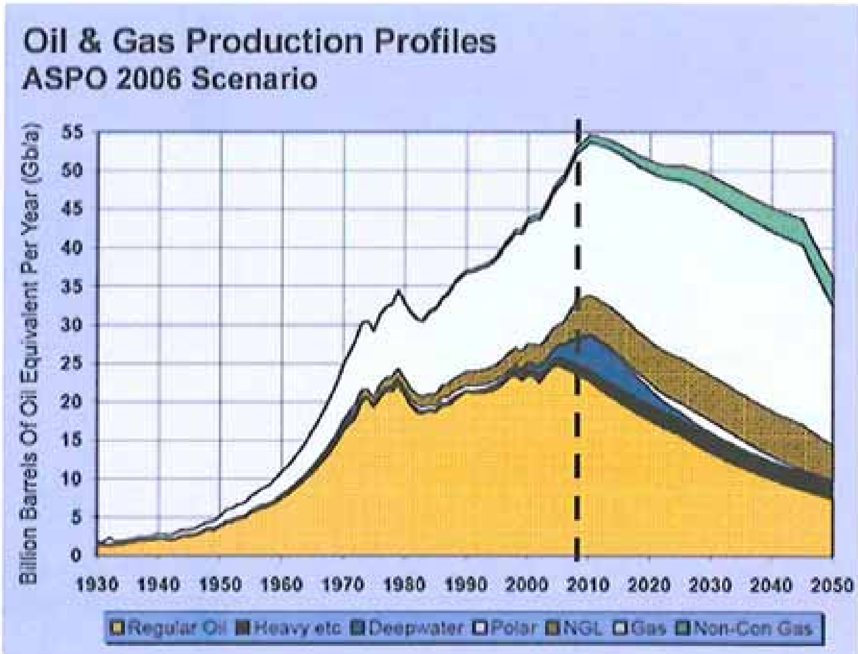
Joanne Poyourow
Transition Los Angeles

The Reverend Peter H. Rood, Jr.
Environmental Change-Makers

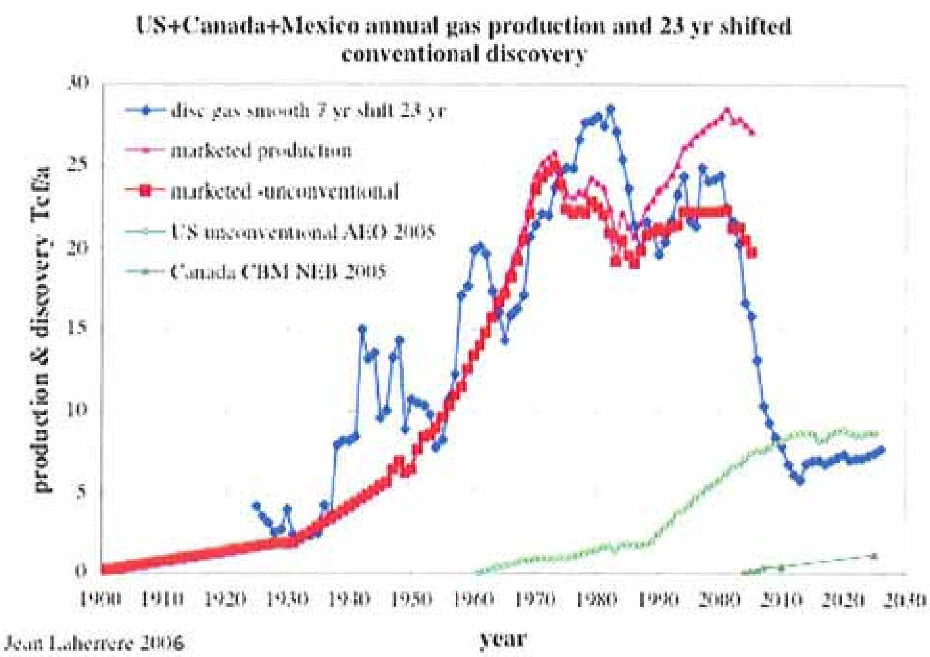
Transition Los Angeles is a group of local grassroots citizens who are preparing our communities for a positive outcome through the sweeping changes coming with global warming and peak oil. They work to Transition our society from our current high-energy, high-consumption lifestyles toward our inevitable lower-powered future. They do this by growing local *resilience*, our ability to flex and adapt to change. Their predecessor organization -- the **Environmental Change-Makers** of Westchester -- has held free public meetings on environmental solutions for over three years. Transition Los Angeles is affiliated with Transition United States and the international Transition Network.

Cc: Mayor Antonio Villaraigosa
Councilmember Bill Rosendahl
Assemblymember Curren Price
Assemblymember Ted Lieu
Representative Maxine Waters
Congresswoman Jane Harman
Governor Arnold Schwarzenegger
Congressional Peak Oil Caucus c/o Representative Roscoe Bartlett

Los Angeles Times
350.org
Sierra Club Legislative Office
Union of Concerned Scientists West Coast Office
Transition United States



Peak Oil [30]

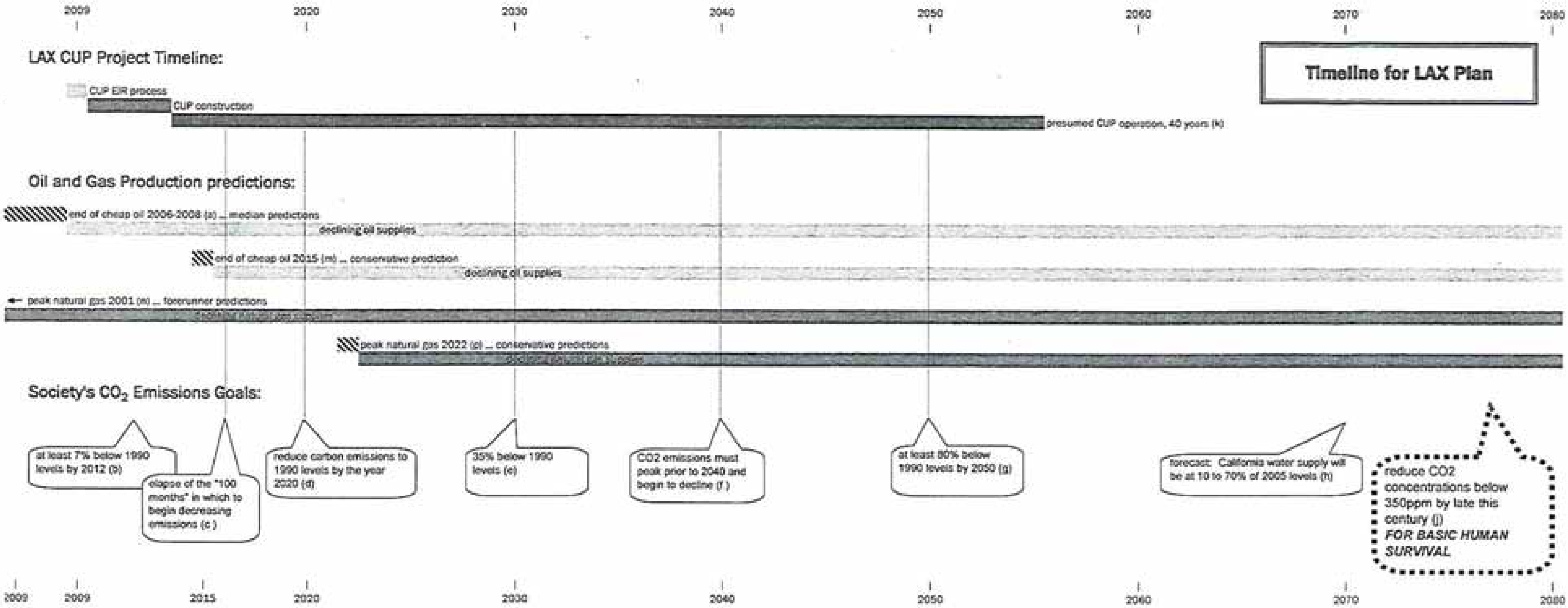


Peak natural gas [31]

Production is neatly mirroring Discovery with a 23 year lag.

Notes

[1] LAX CUP Replacement Project EIR Notice of Preparation page 3, Section 2: Project Description
[2] TravelPulse.com, "DOT Reports Largest Air Traffic Decline Since 2002," February 13, 2009 http://www.travelpulse.com/Resources/Editorial.aspx?n=51853
[3] International Air Transport Association, "Economic Gloom Continues in January Traffic," February 26, 2009 http://www.iata.org/pressroom/pr/2009-02-26-01.htm
[4] International Air Transport Association, "Economic Gloom Continues in January Traffic," February 26, 2009 http://www.iata.org/pressroom/pr/2009-02-26-01.htm
[5] "Peak Oil by 2015," Business Spectator, January 2008 http://www.businessspectator.com.au/bs.nsf/Article/Peak-oil-by-2015-Shell-BA6GT?OpenDocument
[6] http://www.ci.la.ca.us/Mayor/ posting feed of L.A. Times story http://www.latimes.com/news/opinion/la-ed-budget7-2009apr07,0,4120732.story
[7] Time, "The Great California Fiscal Earthquake," January 9, 2009 http://www.time.com/time/nation/article/0,8599,1870299,00.html
[8] The Washington Post, "Deficit Projected to Swell Beyond Earlier Estimates," March 21, 2009 http://www.washingtonpost.com/wp-dyn/content/article/2009/03/20/AR2009032001820.html
[9] "World Economy to Shrink for First Time in 60 Years," Guardian UK, March 10, 2009 http://www.guardian.co.uk/business/2009/mar/10/imf-great-recession
[10] January 2009 http://news.bbc.co.uk/2/hi/business/davos/7859179.stm
[11] BBC News, April 16, 2009 http://news.bbc.co.uk/2/hi/business/8000529.stm
[12] James Howard Kunsler, "The Long Emergency," http://www.energybulletin.net/node/4856
[13] LAX CUP Replacement Project EIR Notice of Preparation, Section 2.1 (page 4)
[14] LAX CUP Replacement Project EIR Notice of Preparation, Section 2.1 (page 3)
[15] Paraphrasing Energy Bulletin, Peak Oil Primer, http://www.energybulletin.net/primer
[16] 25% statistic is explained at http://www.1sky.org/about/1sky-solutions
[17] 35% statistic is explained at Green LA environmental agenda, Office of the Mayor, http://www.ci.la.ca.us/Mayor/
[18] 80% statistic is explained at http://stepitup2007.org/article.php?id=466 and has been reiterated by Todd Stern, US Envoy to UN negotiations in Bonn, Germany, March 2009, thereby indicating that it is on the table as international legislation. http://www.huffingtonpost.com/2009/03/29/obamas-climate-change-tea_n_180441.html
[19] IPCC Fourth Assessment Report (AR4), Working Group III Report, "Mitigation of Climate Change," November 2007, Table SPM-4. http://www.ipcc.ch/
[20] U.S. Mayor's Climate Protection Agreement, 2005. http://www.seattle.gov/mayor/climate/
[21] Hansen, J., Sato, M., Kharecha, P., Beerling, D., Masson-Delmotte, V., Pagani, M., Royer, D., Zachos, J., "Target Atmospheric CO_2: Where Should Humanity Aim?" www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf
[22] U.S. Government Accountability Office, "Addressing a Peak and Decline in Oil Production," February 2007 http://www.gao.gov/products/GAO-07-283
[23] http://www.globalpublicmedia.com/articles/572
[24] Portland Peak Oil Task Force http://www.portlandonline.com/osd/index.cfm?c=42894 ; San Francisco Peak Oil Preparedness Task Force
http://www.sfenvironment.com/our_policies/overview.html?ssi=20#LegislationandInitiatives
[25] http://mayor.lacity.org/villaraigosaplan/EnergyandEnvironment/LACITY_004467.htm
[26] James Howard Kunsler, "The Long Emergency," http://www.energybulletin.net/node/4856
[27] UCLA Landscape Architecture Program, *In the Shadow of LAX: Balancing an Airport Environment with Community and Habitat*, circa 2006 or 2007
[28] LAX CUP Replacement Project EIR Notice of Preparation, Section 2.1 (page 6)
[29] Per Center for Sustainable Energy, "A Sustainable Energy & Water Future," powerpoint presentation, October 2007 http://www.waterconservationsummit.com/A_Sustainable_Energy__Water_Future.pps
[30] Energy Bulletin, Peak Oil Primer, http://www.energybulletin.net/primer
[31] The Oil Drum: Europe http://europe.theoildrum.com/story/2006/11/27/61031/618#more



SOURCES

(a) Association for the Study of Peak Oil and Gas, "Oil and Gas Production Profiles, ASPO 2006 Scenario," www.energybulletin.net/primer.php
(b) U.S. Mayor's Climate Protection Agreement. www.seattle.gov/mayor/climate/
(c) New Economics Foundation, http://www.guardian.co.uk/environment/2008/aug/01/climatechange.carbonemissions
(d) California Global Warming Solutions Act of 2006 (Division 25.5, commencing with Section 38500, of the Health and Safety Code). Also www.1sky.org/about/1sky-solutions ("at least 25% below 1990 levels by 2020")
(e) Green LA environmental agenda, Office of the Mayor, http://www.ci.la.ca.us/Mayor/
(f) IPCC Fourth Assessment Report (AR4), Working Group III Report, 2007. www.ipcc.ch/ Figures SPM-5 and SPM11, "Summary for Policymakers," 16 Nov 2007.
(g) http://stepitup2007.org/article.php?id=466 and www.presidentsclimatecommitment.org/html/commitment.php Reiterated by Todd Stern, US Envoy to UN negotiations in Bonn, Germany, March 2009 http://www.huffingtonpost.com/2009/03/29/obamas-climate-change-tsa_n_180441.html
(h) Union of Concerned Scientists, "Our Changing Climate: Assessing the Risks to California," July 2006. (best case scenario)
(j) Hansen, J., Sato, M., Kharecha, P., Beerling, D., Masson-Delmotte, V., Pagani, M., Royer, D., Zachos, J., "Target Atmospheric CO2: Where Should Humanity Aim?" www.columbia.edu/~jeh1/2008/TargetCO2_20080407.pdf
(k) 40 years per WWF Living Planet report
(m) Royal Dutch Shell chief executive Jeroen van der Veer, "Peak Oil by 2015," Business Spectator, January 2008 http://www.businessspectator.com.au/bs.nsf/Article/Peak-oil-by-2015-Shell-BA6G7?OpenDocument
(n) Jean Laherrere, The Oil Drum: Europe http://europe.theoildrum.com/story/2006/11/27/61031/618#more
(p) U.S. Energy Information Administration projection as of June 2008 http://en.wikipedia.org/wiki/Peak_gas#Recent_US_peak_predictions

APPENDIX B – TRAFFIC

Appendix B-1
LAX Central Utility Plant Project Draft EIR

Study Area Intersection Geometries

June 2009

Prepared for:

Los Angeles World Airports
One World Way
Los Angeles, California 90045

Prepared by:

Ricondo & Associates, Inc.

Table of Contents

List of Figures

This page intentionally left blank.

1. INTERSECTION GEOMETRY

Appendix B-1 provides the existing and future geometry for each of the 28 intersections included in the Traffic Study.

Figure 1 TRAFFIX Lane Geometry Report (Existing 2008)

Central Utility Plant

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
14	AVIATION BLVD. @ CENTURY BLVD.	201100	202010	103100	103100
16	IMPERIAL HWY. @ AVIATION BLVD.	202010	201110	202100	203010
19	AVIATION BLVD. @ 111TH	101100	101100	100100	101100
36	La CIENEGA BLVD. @ CENTURY BLVD.	102020	102020	103010	103100
39	CENTURY BLVD. @ 405 N/B RAMP	200010	000010	102110	002100
47	IMPERIAL HWY. @ DOUGLAS ST.	101020	100011	102100	202100
65	SEPULVEDA @ H. HUGHES PARKWAY	004010	203000	000000	300010
67	IMPERIAL HWY. @ La CIENEGA BLVD.	201110	201110	203020	203020
68	IMPERIAL HWY @MAIN STREET	110010	000000	002010	102010
69	IMPERIAL HWY @ PERSHING DR.	000001	200010	202000	002010
71	IMPERIAL HWY @ SEPULVEDA BLVD.	103010	203100	203010	203010
73	IMPERIAL HWY @ NASH ST.	100020	110110	002100	203000
74	IMPERIAL HWY. @ 105 RAMP	200020	000000	002110	202000
75	IMPERIAL HWY. @ 405 NORTH RAMP	100001	000000	002110	002110
89	La CIENEGA BLVD. @ LENNOX BLVD.	001100	102100	000000	110010
94	La CIENEGA BLVD. @ 111TH STREET	102000	002100	200010	000000
96	La CIENEGA BLVD. @ 405 S/B RAMP	001110	102000	000000	100001
97	La CIENEGA BLVD. @ 405 S/B RAMP	001100	201100	000010	000020
98	La CIENEGA BLVD. @ 405 S/B RAMP	102010	102100	000001	200010
101	SEPULVEDA BLVD. @ LA TIJERA BLVD.	102100	102100	102010	101100
108	SEPULVEDA BLVD. @ LINCOLN BLVD.	402100	003100	000040	000010
114	SEPULVEDA BLVD. @ MANCHESTER AVE.	102100	102100	202010	102010
123	WESTCHESTER PARKWAY @ PERSHING DR.	002010	102000	000000	200010
135	SEPULVEDA BLVD. @ WESTCHESTER PKWY.	102100	102100	101100	101100
136	SEPULVEDA @ 76th/77th STREET	102100	102100	201010	101010
137	SEPULVEDA BLVD. @ 79th/80th STREET	102100	103010	101010	100100
138	SEPULVEDA BLVD. @ 83rd STREET	102100	102100	000001	100100
1000	La CIENEGA BLVD. @ 104 TH STREET	101100	102100	101010	000001

Figure 2 TRAFFIX Lane Geometry Report (Future 2011)

Central Utility Plant

Lane Geometry Report

Number of approach lanes: (L) (LT) (T) (RT) (R) (LTR)

Node	Intersection	NB	SB	EB	WB
14	AVIATION BLVD. @ CENTURY BLVD.	201100	202010	103100	103100
16	IMPERIAL HWY. @ AVIATION BLVD.	202010	201110	202100	203010
19	AVIATION BLVD. @ 111TH	101100	101100	100100	101100
36	La CIENEGA BLVD. @ CENTURY BLVD.	102020	102020	103010	103100
39	CENTURY BLVD. @ 405 N/B RAMP	200010	000010	102110	002100
47	IMPERIAL HWY. @ DOUGLAS ST.	101020	100011	102100	202100
65	SEPULVEDA @ H. HUGHES PARKWAY	004010	203000	000000	300010
67	IMPERIAL HWY. @ La CIENEGA BLVD.	201110	201110	203020	203020
68	IMPERIAL HWY @MAIN STREET	110010	000000	002010	102010
69	IMPERIAL HWY @ PERSHING DR.	000001	200010	202000	102010
71	IMPERIAL HWY @ SEPULVEDA BLVD.	103010	203100	203010	203010
73	IMPERIAL HWY @ NASH ST.	100020	110110	002100	203000
74	IMPERIAL HWY. @ 105 RAMP	200020	000000	002110	202000
75	IMPERIAL HWY. @ 405 NORTH RAMP	100001	000000	002110	002110
89	La CIENEGA BLVD. @ LENNOX BLVD.	001100	102100	000000	110010
94	La CIENEGA BLVD. @ 111TH STREET	102000	002100	200010	000000
96	La CIENEGA BLVD. @ 405 S/B RAMP	001110	102000	000000	100001
97	La CIENEGA BLVD. @ 405 S/B RAMP	001100	201100	000010	000020
98	La CIENEGA BLVD. @ 405 S/B RAMP	102010	102100	000001	200010
101	SEPULVEDA BLVD. @ LA TIJERA BLVD.	103010	103010	102010	101100
108	SEPULVEDA BLVD. @ LINCOLN BLVD.	402100	003100	000040	000010
114	SEPULVEDA BLVD. @ MANCHESTER AVE.	103010	103010	202010	102010
123	WESTCHESTER PARKWAY @ PERSHING DR.	002010	102000	000000	200010
135	SEPULVEDA BLVD. @ WESTCHESTER PKWY.	103010	103010	101100	101100
136	SEPULVEDA @ 76th/77th STREET	103010	103010	201010	101010
137	SEPULVEDA BLVD. @ 79th/80th STREET	102100	103010	101010	100100
138	SEPULVEDA BLVD. @ 83rd STREET	102100	102100	000001	100100
1000	La CIENEGA BLVD. @ 104 TH STREET	101100	102100	101010	000001

This page intentionally left blank.

Appendix B-2
LAX Central Utility Plant Project Draft EIR

Construction Vehicle Haul Routes and Distributions

June 2009

Prepared for:

Los Angeles World Airports
One World Way
Los Angeles, California 90045

Prepared by:

Ricondo & Associates, Inc.

Confidential - Preliminary Draft Deliberative Material

Table of Contents

List of Tables

This page intentionally left blank.

1. CONSTRUCTION VEHICLE DISTRIBUTIONS

Appendix B-2 provides vehicle distribution of construction trips expected to be using the different routes entering and exiting the study area for LAX Central Utility Plant Project. A description of each vehicle route is provided as well as the percentage of vehicles assumed to be distributed on each route by the type of construction vehicle.

This page left intentionally blank.

Table 1

LAX Central Utility Plant Construction Study – Project Related Construction Vehicle Routes

From	To	Route [1]	Percentage of Trips [2]
Employees Entering the Study Area			
I-405 South	Construction Employee Lot [5]	I-405 NB to Century WB to CTA	23%
I-405 North [6]	Construction Employee Lot [5]	I-405 SB to Howard Hughes WB to Sepulveda SB to Century WB to CTA	21%
I-105 East	Construction Employee Lot [5]	I-105 WB to Imperial WB to Aviation NB to Century WB to CTA	32%
North Sepulveda [3]	Construction Employee Lot [5]	North Sepulveda SB to Century WB to CTA	6%
South Sepulveda	Construction Employee Lot [5]	South Sepulveda NB to Century WB to CTA	5%
East Century	Construction Employee Lot [5]	Century WB to CTA	3%
North La Cienega	Construction Employee Lot [5]	La Cienega SB to Century WB to CTA	1%
South La Cienega	Construction Employee Lot [5]	La Cienega NB to Century WB to CTA	0.1%
East Imperial	Construction Employee Lot [5]	Imperial WB to Aviation NB to Century WB to CTA	5%
West Imperial	Construction Employee Lot [5]	Imperial EB to Aviation NB to Century WB to CTA	0.03%
South Main	Construction Employee Lot [5]	South Main NB to Imperial EB to Aviation NB to Century WB to CTA	0.1%
South Douglas/Nash [4]	Construction Employee Lot [5]	South Douglas NB to Imperial EB to Aviation NB to Century WB to CTA	1%
North Aviation	Construction Employee Lot [5]	Aviation SB to Century WB to CTA	1%
South Aviation	Construction Employee Lot [5]	Aviation NB to Century WB to CTA	2%
East Lennox	Construction Employee Lot [5]	Lennox WB to La Cienega NB to Century WB to CTA	0.1%
Employees Exiting the Study Area			
Construction Employee Lot [5]	I-405 South	CTA to Century EB to La Cienega SB to I-405 SB Ramp	23%
Construction Employee Lot [5]	I-405 North [6]	CTA to Century EB to Sepulveda NB to Howard Hughes EB to I-405 NB Ramp	21%
Construction Employee Lot [5]	I-105 East	CTA to Century EB to Aviation SB to Imperial EB to I-105 EB Ramp	32%
Construction Employee Lot [5]	North Sepulveda [3]	CTA to Century EB to Sepulveda NB	6%
Construction Employee Lot [5]	South Sepulveda	CTA to Century EB to Sepulveda SB	5%
Construction Employee Lot [5]	East Century	CTA to Century EB	3%
Construction Employee Lot [5]	North La Cienega	CTA to Century EB to La Cienega NB	1%
Construction Employee Lot [5]	South La Cienega	CTA to Century EB to La Cienega SB	0.1%
Construction Employee Lot [5]	East Imperial	CTA to Century EB to Aviation SB to Imperial EB	5%
Construction Employee Lot [5]	West Imperial	CTA to Century EB to Aviation SB to Imperial WB	0.03%
Construction Employee Lot [5]	South Main	CTA to Century EB to Aviation SB to Imperial WB to Main SB	0.1%
Construction Employee Lot [5]	South Douglas/Nash	CTA to Century EB to Aviation SB to Imperial WB to Nash SB	1%
Construction Employee Lot [5]	North Aviation	CTA to Century EB to Aviation NB	1%
Construction Employee Lot [5]	South Aviation	CTA to Century EB to Aviation SB	2%
Construction Employee Lot [5]	East Lennox	CTA to Century EB to La Cienega SB to Lennox EB	0.1%
Shuttles Entering the Construction Site			
Construction Employee Lot [5]	Construction Site	N/A	N/A

Table 1

LAX Central Utility Plant Construction Study – Project Related Construction Vehicle Routes

From	To	Route [1]	Percentage of Trips [2]
Shuttles Exiting the Construction Site			
Construction Site	Construction Employee Lot [5]	N/A	N/A
Deliveries Entering the Construction Site			
I-405 South	Construction Site	I-405 NB to I-105 WB to Sepulveda NB to Century WB to CTA	30%
I-405 North	Construction Site	I-405 SB to Century WB to CTA	28%
I-105 East	Construction Site	I-105 WB to Sepulveda NB to Century WB to CTA	42%
Deliveries Exiting the Construction Site			
Construction Site	I-405 South	CTA to Century EB to Sepulveda SB to I-105 EB to I-405 SB	30%
Construction Site	I-405 North	CTA to Century EB to I-405 NB	28%
Construction Site	I-105 East	CTA to Century EB to Sepulveda SB to I-105 EB	42%

1/ Construction approach routes provided by LAWA Ground Transportation Planning Section.

2/ The percentage of trips were obtained from the estimated 2005 Regional Transportation Plan background population of the LAX Master Plan Supplement to the Draft EIR (Table S1).

3/ Several roadways were combined with North Sepulveda Boulevard including Lincoln Boulevard, La Tijera Boulevard, and Manchester Boulevard.

4/ Douglas Street and Nash Street are a one-way pair south of Imperial Highway.

5/ The construction employee lot is located within the Central Terminal Area (CTA).

6/ Approximately 90 percent of the employee vehicles entering/exiting the employee parking area from the North on I-405 (21% of all study area trips) are assumed to use Sepulveda Boulevard to access the CTA. The other 10 percent are assumed to use either La Tijera Boulevard (five percent) or Century Boulevard (five percent).

Sources: LAWA Staff and Ricondo & Associates, Inc., June 2009.

Appendix B-3

LAX Central Utility Plant Project Draft EIR

Study Area Intersection Volumes

June 2009

Prepared for:

Los Angeles World Airports
One World Way
Los Angeles, California 90045

Prepared by:

Ricondo & Associates, Inc.

Table of Contents

List of Tables

This page intentionally left blank.

1. INTERSECTION VOLUMES

Appendix B-3 includes the intersection volumes used in the traffic analysis summary tables.

Table 1 - LAX Central Utility Plant Project – Baseline (2008)

Table 2 - LAX Central Utility Plant Project – 2011 Without Project

Table 3 - LAX Central Utility Plant Project – 2011 With Project

Table 4 - LAX Central Utility Plant Project – Baseline (2008) plus Project

This page left intentionally blank

Table 1

LAX Central Utility Plant Project – Baseline (2008) Intersection Volumes

Intersection	Peak Hour [1]	North Approach Right	North Approach Thru	North Approach Left	North Approach Total	East Approach Right	East Approach Thru	East Approach Left	East Approach Total	South Approach Right	South Approach Thru	South Approach Left	South Approach Total	West Approach Right	West Approach Thru	West Approach Left	West Approach Total	Intersection Total
69. Imperial Hwy. & Pershing Dr.	Construction AM	41	2	495	539	710	249	8	967	1	-	1	3	4	240	132	377	1,886
69. Imperial Hwy. & Pershing Dr.	Construction PM	166	25	726	917	623	467	4	1,094	7	-	4	11	-	492	135	627	2,649
68. Imperial Hwy. & Main St.	Construction AM	-	-	2	2	4	783	251	1,037	461	-	209	670	92	619	-	710	2,419
68. Imperial Hwy. & Main St.	Construction PM	-	-	2	2	-	846	539	1,385	379	-	221	600	290	914	-	1,204	3,191
71. Imperial Hwy. & Sepulveda Blvd.	Construction AM	20	1,331	147	1,497	182	127	151	459	465	996	73	1,534	94	188	125	408	3,899
71. Imperial Hwy. & Sepulveda Blvd.	Construction PM	38	1,819	307	2,164	327	290	222	839	1,140	1,833	174	3,147	176	296	163	635	6,785
73. Imperial Hwy. & Nash St.	Construction AM	370	757	213	1,340	-	568	145	713	15	-	7	22	64	350	-	414	2,489
73. Imperial Hwy. & Nash St.	Construction PM	191	189	172	552	-	848	59	907	93	-	72	165	54	770	-	824	2,448
47. Imperial Hwy. & Douglas St.	Construction AM	11	3	12	26	46	683	74	803	54	9	38	100	58	285	19	363	1,293
47. Imperial Hwy. & Douglas St.	Construction PM	42	14	84	140	35	561	29	625	424	17	168	609	41	972	38	1,051	2,425
14. Imperial Hwy. & Aviation Blvd.	Construction AM	104	220	130	454	581	627	219	1,426	90	396	156	642	59	190	67	317	2,839
14. Imperial Hwy. & Aviation Blvd.	Construction PM	106	547	427	1,080	345	396	219	960	320	457	166	943	247	1,042	220	1,509	4,492
74. Imperial Hwy. & I-105 EB Ramps	Construction AM	-	-	-	-	-	731	52	783	262	-	741	1,003	264	172	-	436	2,221
74. Imperial Hwy. & I-105 EB Ramps	Construction PM	-	-	-	-	-	586	237	823	517	-	430	947	790	956	-	1,746	3,516
67. Imperial Hwy. & La Cienega Blvd.	Construction AM	191	114	42	348	297	512	41	851	83	133	58	274	135	122	160	417	1,889
67. Imperial Hwy. & La Cienega Blvd.	Construction PM	349	469	337	1,155	193	398	46	637	601	203	75	879	233	1,008	200	1,441	4,112
75. Imperial Hwy. & I-405 NB Ramps	Construction AM	-	-	-	-	295	600	-	896	41	-	237	279	47	179	-	226	1,401
75. Imperial Hwy. & I-405 NB Ramps	Construction PM	-	-	-	-	184	410	-	594	219	-	222	441	232	1,674	-	1,906	2,941
14. Century Blvd. & Aviation Blvd.	Construction AM	95	242	48	385	93	1,162	61	1,316	34	428	427	889	204	700	72	976	3,565
14. Century Blvd. & Aviation Blvd.	Construction PM	111	523	122	756	112	1,233	94	1,439	83	655	448	1,186	416	1,726	134	2,276	5,657
19. Aviation Blvd. & 111th St.	Construction AM	40	536	56	632	64	25	25	114	53	897	21	971	21	13	26	59	1,777
19. Aviation Blvd. & 111th St.	Construction PM	81	1,095	86	1,262	118	53	53	224	96	882	19	997	29	78	75	182	2,665
96. La Cienega Blvd. & I-405 SB Ramps N of Century	Construction AM	-	255	122	376	44	-	535	579	75	584	-	659	-	-	-	-	1,615
96. La Cienega Blvd. & I-405 SB Ramps N of Century	Construction PM	-	695	160	855	168	-	650	818	72	593	-	665	-	-	-	-	2,338
36. La Cienega Blvd. & Century Blvd.	Construction AM	405	306	67	778	348	920	205	1,472	136	263	111	510	257	419	65	741	3,502
36. La Cienega Blvd. & Century Blvd.	Construction PM	442	585	370	1,397	231	751	112	1,094	609	302	151	1,062	794	1,208	162	2,164	5,717
97. La Cienega Blvd. & I-405 SB Ramps S of Century	Construction AM	6	394	344	745	60	-	-	60	22	444	-	466	1	-	-	1	1,271
97. La Cienega Blvd. & I-405 SB Ramps S of Century	Construction PM	5	863	643	1,511	468	-	-	468	34	617	-	651	-	-	-	-	2,630
1000. La Cienega Blvd. & 104th St.	Construction AM	41	324	17	382	1	1	3	6	14	424	155	592	40	1	21	62	1,042
1000. La Cienega Blvd. & 104th St.	Construction PM	20	793	21	834	-	-	-	-	21	528	101	650	235	3	111	349	1,833
89. La Cienega Blvd. & Lennox Blvd.	Construction AM	1	288	36	326	136	-	97	232	22	472	-	494	-	-	-	-	1,053
89. La Cienega Blvd. & Lennox Blvd.	Construction PM	1	858	218	1,077	70	-	82	152	191	594	-	785	-	-	-	-	2,014
94. La Cienega Blvd. & 111th St.	Construction AM	93	275	-	368	-	-	-	-	-	388	118	506	30	-	59	89	964
94. La Cienega Blvd. & 111th St.	Construction PM	121	857	-	978	-	-	-	-	-	570	103	673	188	-	175	363	2,014
98. La Cienega Blvd. & I-405 SB Ramps N of Imperial	Construction AM	4	268	49	320	36	-	104	140	77	467	-	544	4	1	1	5	1,010
98. La Cienega Blvd. & I-405 SB Ramps N of Imperial	Construction PM	4	917	108	1,029	98	-	160	258	69	546	-	615	28	-	-	28	1,930
39. Century Blvd. & I-405 NB Ramps	Construction AM	24	-	-	24	6	1,089	-	1,096	106	-	682	788	251	350	7	608	2,516
39. Century Blvd. & I-405 NB Ramps	Construction PM	32	-	-	32	17	891	-	908	408	-	429	837	616	1,540	33	2,189	3,966
123. Pershing Drive & Westchester Pkwy	Construction AM	-	230	23	253	26	-	110	136	142	636	-	778	-	-	-	-	1,166
123. Pershing Drive & Westchester Pkwy	Construction PM	-	478	77	555	113	-	116	229	246	547	-	793	-	-	-	-	1,577
65. Sepulveda Boulevard & Howard Hughes Pkwy	Construction AM	-	397	91	488	158	-	251	409	540	1,123	-	1,663	-	-	-	-	2,560
65. Sepulveda Boulevard & Howard Hughes Pkwy	Construction PM	-	1,722	553	2,275	364	-	466	830	431	1,603	-	2,034	-	-	-	-	5,139
136. Sepulveda Boulevard & 76th St. / 77th St.	Construction AM	71	707	20	798	170	21	12	203	10	1,397	16	1,424	30	27	384	441	2,866
136. Sepulveda Boulevard & 76th St. / 77th St.	Construction PM	289	1,848	110	2,247	75	57	35	167	33	1,656	36	1,725	70	54	200	324	4,463
137. Sepulveda Boulevard & 79th St. / 80th St.	Construction AM	74	682	17	773	70	111	9	190	6	1,389	58	1,454	39	54	74	167	2,584
137. Sepulveda Boulevard & 79th St. / 80th St.	Construction PM	193	1,684	60	1,937	28	75	22	125	26	1,640	91	1,757	58	87	112	257	4,076
138. Sepulveda Boulevard & 83rd St.	Construction AM	34	653	18	705	23	52	14	89	3	1,283	17	1,303	29	42	36	107	2,203
138. Sepulveda Boulevard & 83rd St.	Construction PM	71	1,597	35	1,703	25	39	9	73	13	1,641	65	1,719	36	70	57	163	3,658
114. Sepulveda Boulevard & Manchester Blvd	Construction AM	71	625	82	778	262	622	53	936	37	1,014	64	1,115	41	341	77	459	3,288

B-3. Study Area Intersection Volumes

Table 1

LAX Central Utility Plant Project – Baseline (2008) Intersection Volumes

		Construction PM	261	1,199	238	1,698	188	835	89	1,112	84	1,355	107	1,546	97	991	209	1,297	5,653
101.	Sepulveda Boulevard & La Tijera Blvd.	Construction AM	33	622	22	677	16	129	124	269	79	1,010	75	1,165	38	212	37	287	2,397
		Construction PM	80	1,177	63	1,320	60	378	199	637	175	1,373	142	1,690	83	461	70	614	4,261
135.	Sepulveda Boulevard & Westchester Pkwy	Construction AM	36	771	64	871	90	177	67	334	27	1,007	91	1,125	34	114	9	157	2,487
		Construction PM	36	1,341	134	1,511	135	311	178	624	61	1,470	166	1,697	100	196	53	349	4,181
108.	Sepulveda Boulevard & Lincoln Blvd	Construction AM	2	851	-	853	1	-	-	1	207	1,270	835	2,312	693	-	-	693	3,859
		Construction PM	13	1,605	-	1,618	6	-	-	6	337	1,777	1,329	3,443	1,267	-	-	1,267	6,334

[1] Construction a.m. peak (6:00 - 7:00 a.m.), and the Construction p.m. peak (3:30 - 4:30 p.m.).

Sources: Los Angeles World Airports, Ricondo & Associates, Inc. Data collected by Wiltec in August 2008.

Table 2

LAX Central Utility Plant Project – 2011 Without Project Intersection Volumes

		North Approach				East Approach				South Approach				West Approach				
Intersection	**Peak Hour [1]**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Right**	**Thru**	**Left**	**Total**	**Intersection Total**
69. Imperial Hwy. & Pershing Dr.	Construction AM	44	2	568	614	1,131	264	8	1,403	2	-	2	4	5	255	140	400	2,422
	Construction PM	176	27	1,141	1,344	775	496	4	1,275	7	-	4	11	-	522	143	665	3,296
68. Imperial Hwy. & Main St.	Construction AM	-	-	2	2	4	1,207	266	1,477	489	-	222	711	97	700	-	797	2,988
	Construction PM	-	-	2	2	-	1,012	572	1,584	402	-	235	637	308	1,341	-	1,649	3,873
71. Imperial Hwy. & Sepulveda Blvd.	Construction AM	21	1,412	156	1,589	193	316	161	670	513	1,084	77	1,674	100	217	133	450	4,383
	Construction PM	40	1,957	326	2,323	347	363	256	966	1,214	1,951	185	3,351	187	497	173	857	7,496
73. Imperial Hwy. & Nash St.	Construction AM	392	803	226	1,421	-	799	154	953	16	-	8	24	68	408	-	476	2,874
	Construction PM	203	201	183	587	-	978	66	1,044	99	-	76	175	61	1,000	-	1,061	2,867
47. Imperial Hwy. & Douglas St.	Construction AM	12	3	13	28	49	905	78	1,032	60	9	44	112	61	340	20	421	1,593
	Construction PM	45	15	89	149	37	672	31	740	451	18	179	647	44	1,214	40	1,298	2,835
14. Imperial Hwy. & Aviation Blvd.	Construction AM	111	233	138	482	761	828	232	1,822	96	429	178	703	63	203	110	376	3,382
	Construction PM	112	580	453	1,145	397	493	241	1,131	340	487	179	1,006	275	1,253	254	1,781	5,064
74. Imperial Hwy. & I-105 EB Ramps	Construction AM	-	-	-	-	-	958	59	1,017	278	-	913	1,191	280	183	-	463	2,670
	Construction PM	-	-	-	-	-	709	379	1,087	549	-	483	1,032	838	1,162	-	2,000	4,119
67. Imperial Hwy. & La Cienega Blvd.	Construction AM	224	121	48	393	315	562	44	921	88	141	62	291	143	130	169	442	2,047
	Construction PM	545	499	459	1,503	205	426	49	680	638	215	80	933	248	1,070	212	1,530	4,646
75. Imperial Hwy. & I-405 NB Ramps	Construction AM	-	-	-	-	314	793	-	1,107	44	-	252	296	53	191	-	244	1,646
	Construction PM	-	-	-	-	195	471	-	666	232	-	236	468	329	1,932	-	2,261	3,395
14. Century Blvd. & Aviation Blvd.	Construction AM	101	257	54	412	99	1,234	65	1,398	37	455	454	945	216	765	77	1,058	3,812
	Construction PM	118	555	130	803	119	1,309	100	1,528	107	698	498	1,302	441	1,837	142	2,420	6,052
19. Aviation Blvd. & 111th St.	Construction AM	43	569	59	671	69	27	27	123	56	1,145	23	1,224	22	14	27	63	2,082
	Construction PM	86	1,162	91	1,339	164	56	56	276	102	990	20	1,112	31	83	80	194	2,921
96. La Cienega Blvd. & I-405 SB Ramps N of Century	Construction AM	-	298	129	427	47	-	651	698	80	619	-	699	-	-	-	-	1,824
	Construction PM	-	757	170	927	178	-	708	886	76	641	-	717	-	-	-	-	2,529
36. La Cienega Blvd. & Century Blvd.	Construction AM	430	413	71	914	384	976	322	1,682	147	282	119	548	296	445	69	810	3,954
	Construction PM	469	640	409	1,518	248	797	141	1,187	751	408	183	1,342	848	1,296	172	2,315	6,362
97. La Cienega Blvd. & I-405 SB Ramps S of Century	Construction AM	7	641	365	1,013	64	-	-	64	24	471	-	495	1	-	-	1	1,573
	Construction PM	5	963	682	1,650	497	-	-	497	36	655	-	691	-	-	-	-	2,839
1000. La Cienega Blvd. & 104th St.	Construction AM	43	566	18	627	2	2	3	7	14	450	164	628	239	1	22	262	1,525
	Construction PM	21	889	22	932	-	-	-	-	22	567	107	696	303	3	118	424	2,052
89. La Cienega Blvd. & Lennox Blvd.	Construction AM	18	318	39	375	144	-	102	246	24	501	-	525	16	-	-	16	1,162
	Construction PM	17	1,307	231	1,555	74	-	87	161	203	630	-	833	16	-	-	16	2,565
94. La Cienega Blvd. & 111th St.	Construction AM	101	319	-	419	-	-	-	-	-	412	125	537	32	-	63	95	1,051
	Construction PM	172	1,277	-	1,449	-	-	-	-	-	605	109	714	200	-	186	386	2,549
98. La Cienega Blvd. & I-405 SB Ramps N of Imperial	Construction AM	4	292	55	351	39	-	110	149	82	496	-	578	4	1	1	6	1,084
	Construction PM	4	1,234	206	1,444	104	-	170	274	73	579	-	652	30	-	-	30	2,400
39. Century Blvd. & I-405 NB Ramps	Construction AM	25	-	-	25	7	1,188	-	1,195	112	-	815	927	266	385	8	659	2,806
	Construction PM	34	-	-	34	18	953	-	971	433	-	474	907	654	1,655	35	2,344	4,257
123. Pershing Drive & Westchester Pkwy	Construction AM	-	244	24	268	27	-	172	199	566	675	-	1,241	-	-	-	-	1,709
	Construction PM	-	507	82	589	120	-	533	653	393	580	-	973	-	-	-	-	2,216
65. Sepulveda Boulevard & Howard Hughes Pkwy	Construction AM	-	444	96	540	168	-	377	545	573	1,193	-	1,766	-	-	-	-	2,850
	Construction PM	-	1,832	587	2,419	386	-	521	907	568	1,724	-	2,291	-	-	-	-	5,617
136. Sepulveda Boulevard & 76th St. / 77th St.	Construction AM	75	914	21	1,010	180	23	13	216	11	1,484	17	1,512	32	29	408	469	3,208
	Construction PM	307	1,999	117	2,423	80	60	37	177	35	1,920	38	1,993	74	57	212	343	4,936
137. Sepulveda Boulevard & 79th St. / 80th St.	Construction AM	79	886	18	983	74	118	9	201	7	1,475	61	1,543	42	57	79	178	2,906

B-3. Study Area Intersection Volumes

Table 2

LAX Central Utility Plant Project – 2011 Without Project Intersection Volumes

		Construction PM	205	1,825	64	2,094	30	80	23	133	28	1,903	97	2,028	62	92	119	273	4,528
138.	Sepulveda Boulevard & 83rd St.	Construction AM	36	856	19	911	24	55	14	93	3	1,362	18	1,383	30	45	38	113	2,501
		Construction PM	75	1,733	37	1,845	27	41	10	78	14	1,904	69	1,987	38	74	60	172	4,082
114.	Sepulveda Boulevard & Manchester Blvd	Construction AM	75	826	87	988	278	660	56	994	39	1,077	68	1,184	44	362	81	487	3,654
		Construction PM	277	1,310	253	1,840	200	886	94	1,180	89	1,601	114	1,804	103	1,052	222	1,377	6,201
101.	Sepulveda Boulevard & La Tijera Blvd.	Construction AM	107	751	24	882	17	144	131	292	84	1,073	80	1,237	40	225	39	304	2,715
		Construction PM	102	1,270	67	1,439	64	403	211	678	186	1,548	151	1,885	88	496	146	730	4,731
135.	Sepulveda Boulevard & Westchester Pkwy	Construction AM	107	841	68	1,015	96	188	71	355	29	1,070	96	1,195	36	121	9	166	2,731
		Construction PM	54	1,428	142	1,624	143	330	189	662	65	1,583	176	1,824	106	208	125	439	4,548
108.	Sepulveda Boulevard & Lincoln Blvd	Construction AM	2	926	-	928	2	-	-	2	219	1,349	931	2,499	736	-	-	736	4,164
		Construction PM	14	1,708	-	1,722	6	-	-	6	358	1,909	1,420	3,687	1,390	-	-	1,390	6,805

[1] Construction a.m. peak (6:00 - 7:00 a.m.), and the Construction p.m. peak (3:30 - 4:30 p.m.).

Sources: Los Angeles World Airports, Ricondo & Associates, Inc. Data collected by Wiltec in August 2008.

Table 3

LAX Central Utility Plant Project – 2011 With Project Intersection Volumes

	Intersection	Peak Hour [1]	North Approach Right	Thru	Left	Total	East Approach Right	Thru	Left	Total	South Approach Right	Thru	Left	Total	West Approach Right	Thru	Left	Total	Intersection Total
69.	Imperial Hwy. & Pershing Dr.	Construction AM	44	2	568	614	1,131	264	8	1,403	2	-	2	4	5	255	140	400	2,422
		Construction PM	176	27	1,141	1,344	775	496	4	1,275	7	-	4	11	-	522	143	665	3,296
68.	Imperial Hwy. & Main St.	Construction AM	-	-	2	2	4	1,207	266	1,477	489	-	222	712	97	700	-	797	2,988
		Construction PM	-	-	2	2	-	1,012	572	1,584	402	-	235	637	308	1,341	-	1,649	3,873
71.	Imperial Hwy. & Sepulveda Blvd.	Construction AM	21	1,412	156	1,589	193	316	161	670	519	1,084	77	1,680	100	217	133	450	4,389
		Construction PM	40	1,957	326	2,323	347	363	262	972	1,214	1,951	185	3,351	187	497	173	857	7,502
73.	Imperial Hwy. & Nash St.	Construction AM	392	803	226	1,421	-	799	154	953	16	-	8	24	68	414	-	482	2,880
		Construction PM	203	201	183	587	-	984	66	1,050	99	-	76	175	61	1,000	-	1,061	2,873
47.	Imperial Hwy. & Douglas St.	Construction AM	12	3	13	28	49	905	78	1,032	60	9	44	113	61	346	20	427	1,600
		Construction PM	45	15	89	149	37	678	31	746	451	18	179	647	44	1,214	40	1,298	2,841
14.	Imperial Hwy. & Aviation Blvd.	Construction AM	111	233	138	482	766	828	232	1,827	96	432	178	706	63	203	117	382	3,397
		Construction PM	119	583	453	1,154	397	493	241	1,131	340	487	179	1,006	275	1,253	259	1,786	5,078
74.	Imperial Hwy. & I-105 EB Ramps	Construction AM	-	-	-	-	-	963	59	1,022	278	-	949	1,227	280	183	-	463	2,712
		Construction PM	-	-	-	-	-	709	379	1,087	549	-	483	1,032	874	1,167	-	2,041	4,160
67.	Imperial Hwy. & La Cienega Blvd.	Construction AM	224	121	48	393	315	567	44	926	88	141	62	291	143	130	169	442	2,052
		Construction PM	545	499	459	1,503	205	426	49	680	638	215	80	933	248	1,075	212	1,535	4,651
75.	Imperial Hwy. & I-405 NB Ramps	Construction AM	-	-	-	-	314	798	-	1,112	44	-	252	296	53	191	-	244	1,652
		Construction PM	-	-	-	-	195	471	-	666	232	-	236	468	329	1,937	-	2,266	3,400
14.	Century Blvd. & Aviation Blvd.	Construction AM	102	257	54	412	99	1,269	65	1,433	37	455	505	996	216	765	77	1,058	3,899
		Construction PM	118	555	130	803	119	1,310	100	1,529	107	698	498	1,302	492	1,870	143	2,505	6,138
19.	Aviation Blvd. & 111th St.	Construction AM	43	569	59	671	69	27	27	123	56	1,196	23	1,275	22	14	27	63	2,133
		Construction PM	86	1,213	91	1,390	164	56	56	276	102	990	20	1,112	31	83	80	194	2,971
96.	La Cienega Blvd. & I-405 SB Ramps N of Century	Construction AM	-	298	129	427	47	-	654	701	80	619	-	699	-	-	-	-	1,827
		Construction PM	-	757	171	928	178	-	709	887	76	641	-	717	-	-	-	-	2,532
36.	La Cienega Blvd. & Century Blvd.	Construction AM	434	413	71	918	384	1,006	322	1,713	147	282	119	548	296	445	69	810	3,989
		Construction PM	471	640	409	1,519	248	797	141	1,187	751	408	183	1,342	848	1,326	175	2,349	6,396
97.	La Cienega Blvd. & I-405 SB Ramps S of Century	Construction AM	7	667	365	1,039	64	-	-	64	24	471	-	495	1	-	-	1	1,599
		Construction PM	5	963	682	1,650	497	-	-	497	36	682	-	718	-	-	-	-	2,865
100 0.	La Cienega Blvd. & 104th St.	Construction AM	43	566	18	627	2	2	3	7	14	476	164	654	239	1	22	262	1,551
		Construction PM	21	916	22	959	-	-	-	-	22	567	107	696	303	3	118	424	2,079
89.	La Cienega Blvd. & Lennox Blvd.	Construction AM	18	318	39	375	144	-	102	247	24	501	-	525	16	-	-	16	1,163
		Construction PM	17	1,307	231	1,555	74	-	87	161	203	630	-	833	16	-	0	16	2,565
94.	La Cienega Blvd. & 111th St.	Construction AM	101	319	-	419	-	-	-	-	-	438	125	563	32	-	63	95	1,078
		Construction PM	172	1,304	-	1,475	-	-	-	-	-	605	109	714	200	-	186	386	2,576
98.	La Cienega Blvd. & I-405 SB Ramps N of Imperial	Construction AM	4	292	55	351	39	-	110	149	82	496	-	578	4	1	1	6	1,084
		Construction PM	4	1,234	206	1,444	104	-	170	274	73	579	-	652	30	-	-	30	2,400
39.	Century Blvd. & I-405 NB Ramps	Construction AM	25	-	-	25	7	1,192	-	1,199	112	-	817	929	266	385	8	659	2,811
		Construction PM	34	-	-	34	18	953	-	971	433	-	474	907	654	1,659	36	2,349	4,262
123.	Pershing Drive & Westchester Pkwy	Construction AM	-	244	24	268	27	-	172	199	566	675	-	1,241	-	-	-	-	1,709
		Construction PM	-	507	82	589	120	-	533	653	393	580	-	973	-	-	-	-	2,216
65.	Sepulveda Boulevard & Howard Hughes Pkwy	Construction AM	-	450	96	546	168	-	398	566	573	1,193	-	1,766	-	-	-	-	2,878
		Construction PM	-	1,832	587	2,419	386	-	521	907	589	1,730	-	2,319	-	-	-	-	5,645
136.	Sepulveda Boulevard & 76th St. / 77th St.	Construction AM	75	942	21	1,038	180	23	13	216	11	1,484	17	1,512	32	29	408	469	3,236
		Construction PM	307	1,999	117	2,423	80	60	37	177	35	1,948	38	2,021	74	57	212	343	4,964
137.	Sepulveda Boulevard & 79th St. / 80th St.	Construction AM	79	914	18	1,011	74	118	9	201	7	1,475	61	1,543	42	57	79	178	2,934

Table 3

LAX Central Utility Plant Project – 2011 With Project Intersection Volumes

		Construction PM	205	1,825	64	2,094	30	80	23	133	28	1,931	97	2,056	62	92	119	273	4,556
138.	Sepulveda Boulevard & 83rd St.	Construction AM	36	884	19	939	24	55	14	93	3	1,362	18	1,383	30	45	38	113	2,529
		Construction PM	75	1,733	37	1,845	27	41	10	78	14	1,932	69	2,015	38	74	60	172	4,110
114.	Sepulveda Boulevard & Manchester Blvd	Construction AM	75	854	87	1,016	278	660	56	994	39	1,077	68	1,184	44	362	81	487	3,682
		Construction PM	277	1,310	253	1,840	200	886	94	1,180	89	1,629	114	1,832	103	1,052	222	1,377	6,229
101.	Sepulveda Boulevard & La Tijera Blvd.	Construction AM	107	779	24	910	17	144	132	293	84	1,073	80	1,237	40	225	39	304	2,744
		Construction PM	102	1,270	67	1,439	64	403	211	678	187	1,576	151	1,914	88	496	146	730	4,760
135.	Sepulveda Boulevard & Westchester Pkwy	Construction AM	107	870	68	1,044	96	188	71	355	29	1,070	96	1,195	36	121	9	166	2,760
		Construction PM	54	1,428	142	1,624	143	330	189	662	65	1,612	176	1,853	106	208	125	439	4,577
108.	Sepulveda Boulevard & Lincoln Blvd	Construction AM	2	955	-	957	2	-	-	2	219	1,349	931	2,499	736	-	-	736	4,194
		Construction PM	14	1,708	-	1,722	6	-	-	6	358	1,938	1,420	3,716	1,390	-	-	1,390	6,834

[1] Construction a.m. peak (6:00 - 7:00 a.m.), and the Construction p.m. peak (3:30 - 4:30 p.m.).

Sources: Los Angeles World Airports, Ricondo & Associates, Inc. Data collected by Wiltec in August 2008.

Table 4

LAX Central Utility Plant Project – Baseline (2008) plus Project Intersection Volumes

	Intersection	Peak Hour [1]	North Approach				East Approach				South Approach				West Approach				
			Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Intersection Total
69.	Imperial Hwy. & Pershing Dr.	Construction AM	41	2	495	539	710	249	8	967	1	-	1	3	4	240	132	377	1,886
		Construction PM	166	25	726	917	623	467	4	1,094	7	-	4	11	-	492	135	627	2,649
68.	Imperial Hwy. & Main St.	Construction AM	-	-	2	2	4	783	251	1,037	461	-	209	670	92	619	-	710	2,419
		Construction PM	-	-	2	2	-	846	539	1,385	379	-	221	600	290	914	-	1,204	3,191
71.	Imperial Hwy. & Sepulveda Blvd.	Construction AM	20	1,331	147	1,497	182	127	151	459	471	996	73	1,540	94	188	125	408	3,905
		Construction PM	38	1,819	307	2,164	327	290	228	845	1,140	1,833	174	3,147	176	296	163	635	6,791
73.	Imperial Hwy. & Nash St.	Construction AM	370	757	213	1,340	-	568	145	713	15	-	7	22	64	356	-	420	2,495
		Construction PM	191	189	172	552	-	854	60	914	93	-	72	165	54	770	-	824	2,455
47.	Imperial Hwy. & Douglas St.	Construction AM	11	3	12	26	46	683	74	803	54	9	38	101	58	291	19	369	1,299
		Construction PM	42	14	84	140	35	567	29	631	424	17	168	609	41	972	38	1,051	2,431
14.	Imperial Hwy. & Aviation Blvd.	Construction AM	104	220	130	454	586	627	219	1,432	90	398	156	644	59	190	74	324	2,854
		Construction PM	113	550	427	1,089	345	396	219	960	320	457	166	943	247	1,042	225	1,514	4,507
74.	Imperial Hwy. & I-105 EB Ramps	Construction AM	-	-	-	-	-	736	52	788	262	-	778	1,039	264	172	-	436	2,263
		Construction PM	-	-	-	-	-	586	237	823	517	-	430	947	826	961	-	1,788	3,558
67.	Imperial Hwy. & La Cienega Blvd.	Construction AM	191	114	42	348	297	517	41	856	83	133	58	274	135	122	160	417	1,895
		Construction PM	349	469	337	1,155	193	398	46	637	601	203	75	879	233	1,013	200	1,446	4,117
75.	Imperial Hwy. & I-405 NB Ramps	Construction AM	-	-	-	-	295	605	-	901	41	-	237	279	47	179	-	226	1,406
		Construction PM	-	-	-	-	184	410	-	594	219	-	222	441	232	1,679	-	1,911	2,946
14.	Century Blvd. & Aviation Blvd.	Construction AM	96	242	48	386	93	1,196	61	1,350	34	428	478	940	204	700	72	976	3,652
		Construction PM	111	523	122	756	112	1,235	94	1,441	83	655	448	1,186	467	1,759	135	2,361	5,743
19.	Aviation Blvd. & 111th St.	Construction AM	40	536	56	632	64	25	25	114	53	948	21	1,022	21	13	26	59	1,828
		Construction PM	81	1,146	86	1,313	118	53	53	224	96	882	19	997	29	78	75	182	2,716
96.	La Cienega Blvd. & I-405 SB Ramps N of Century	Construction AM	-	255	122	376	44	-	538	582	75	584	-	659	-	-	-	-	1,617
		Construction PM	-	695	161	856	168	-	652	820	72	593	-	665	-	-	-	-	2,341
36.	La Cienega Blvd. & Century Blvd.	Construction AM	409	306	67	782	348	950	205	1,502	136	263	111	510	257	419	65	741	3,536
		Construction PM	444	585	370	1,399	231	751	112	1,094	609	302	151	1,062	794	1,238	165	2,197	5,752
97.	La Cienega Blvd. & I-405 SB Ramps S of Century	Construction AM	6	420	344	771	60	-	-	60	22	444	-	466	1	-	-	1	1,297
		Construction PM	5	863	643	1,511	468	-	-	468	34	643	-	677	-	-	-	-	2,656
1000.	La Cienega Blvd. & 104th St.	Construction AM	41	324	17	382	1	1	3	6	14	451	155	619	40	1	21	62	1,068
		Construction PM	20	819	21	860	-	-	-	-	21	528	101	650	235	3	111	349	1,859
89.	La Cienega Blvd. & Lennox Blvd.	Construction AM	1	288	36	326	136	-	97	233	22	472	-	494	-	-	-	-	1,053
		Construction PM	1	858	218	1,077	70	-	82	152	191	594	-	785	-	-	0	0	2,014
94.	La Cienega Blvd. & 111th St.	Construction AM	93	275	-	368	-	-	-	-	-	415	118	533	30	-	59	89	990
		Construction PM	121	883	-	1,004	-	-	-	-	-	570	103	673	188	-	175	363	2,040
98.	La Cienega Blvd. & I-405 SB Ramps N of Imperial	Construction AM	4	268	49	320	36	-	104	140	77	467	-	544	4	1	1	5	1,010
		Construction PM	4	917	108	1,029	98	-	160	258	69	546	-	615	28	-	-	28	1,930
39.	Century Blvd. & I-405 NB Ramps	Construction AM	24	-	-	24	6	1,093	-	1,100	106	-	684	790	251	350	7	608	2,521
		Construction PM	32	-	-	32	17	891	-	908	408	-	429	837	616	1,544	34	2,194	3,971
123.	Pershing Drive & Westchester Pkwy	Construction AM	-	230	23	253	26	-	110	136	142	636	-	778	-	-	-	-	1,166
		Construction PM	-	478	77	555	113	-	116	229	246	547	-	793	-	-	-	-	1,577
65.	Sepulveda Boulevard & Howard Hughes Pkwy	Construction AM	-	404	91	494	158	-	273	431	540	1,123	-	1,663	-	-	-	-	2,588
		Construction PM	-	1,722	553	2,275	364	-	466	830	453	1,609	-	2,062	-	-	-	-	5,167
136.	Sepulveda Boulevard & 76th St. / 77th St.	Construction AM	71	735	20	826	170	21	12	203	10	1,397	16	1,424	30	27	384	441	2,894
		Construction PM	289	1,848	110	2,247	75	57	35	167	33	1,684	36	1,753	70	54	200	324	4,491
137.	Sepulveda Boulevard & 79th St. / 80th St.	Construction AM	74	710	17	801	70	111	9	190	6	1,389	58	1,454	39	54	74	167	2,612

B-3. Study Area Intersection Volumes

Table 4

LAX Central Utility Plant Project – Baseline (2008) plus Project Intersection Volumes

	Construction PM	193	1,684	60	1,937	28	75	22	125	26	1,668	91	1,785	58	87	112	257	4,104
138. Sepulveda Boulevard & 83rd St.	Construction AM	34	681	18	733	23	52	14	89	3	1,283	17	1,303	29	42	36	107	2,231
	Construction PM	71	1,597	35	1,703	25	39	9	73	13	1,669	65	1,747	36	70	57	163	3,686
114. Sepulveda Boulevard & Manchester Blvd	Construction AM	71	653	82	806	262	622	53	936	37	1,014	64	1,115	41	341	77	459	3,316
	Construction PM	261	1,199	238	1,698	188	835	89	1,112	84	1,383	107	1,574	97	991	209	1,297	5,681
101. Sepulveda Boulevard & La Tijera Blvd.	Construction AM	33	650	22	705	16	129	125	270	79	1,010	75	1,165	38	212	37	287	2,426
	Construction PM	80	1,177	63	1,320	60	378	199	637	176	1,401	142	1,719	83	461	70	614	4,290
135. Sepulveda Boulevard & Westchester Pkwy	Construction AM	36	800	64	900	90	177	67	334	27	1,007	91	1,125	34	114	9	157	2,516
	Construction PM	36	1,341	134	1,511	135	311	178	624	61	1,499	166	1,726	100	196	53	349	4,210
108. Sepulveda Boulevard & Lincoln Blvd	Construction AM	2	880	-	882	1	-	-	1	207	1,270	835	2,312	693	-	-	693	3,888
	Construction PM	13	1,605	-	1,618	6	-	-	6	337	1,806	1,329	3,472	1,267	-	-	1,267	6,363

[1] Construction a.m. peak (6:00 - 7:00 a.m.), and the Construction p.m. peak (3:30 - 4:30 p.m.).

Sources: Los Angeles World Airports, Ricondo & Associates, Inc. Data collected by Wiltec in August 2008.

Appendix B-4
LAX Central Utility Plant Project Draft EIR

Study Area Intersection Capacity Analysis

June 2009

Prepared for:

Los Angeles World Airports
One World Way
Los Angeles, California 90045

Prepared by:

Ricondo & Associates, Inc.

Table of Contents

TRAFFIX Analysis Reports

Baseline (2008) AM Peak

Baseline (2008) PM Peak

2011 Without Project AM Peak

2011 Without Project PM Peak

2011 With Project AM Peak

2011 With Project PM Peak

Baseline (2008) With Project AM Peak

Baseline (2008) With Project PM Peak

This page intentionally left blank.

1. CAPACITY ANALYSIS RESULTS

Appendix B-4 provides the capacity analysis results for each condition and scenario evaluated in the traffic study. The table included summarizing the V/C ratios and level of service results for the two analysis peak hours, construction a.m. peak hour, and construction p.m. peak hour, for the Baseline With and Without Project (2008), Cumulative Traffic With and Without Project at CUP Peak (Fourth Quarter 2011). In addition, the TRAFFIX analysis report outputs are included for each analysis condition and evaluation hours.

B-4. Study Area Intersection Capacity Analysis

This page left intentionally blank.

TRAFFIX Analysis Reports

```
 Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                                Scenario Report
Scenario:             Baseline 2008-AM Peak

Command:              Employee AM
Volume:               Employee AM
Geometry:             Existing geometry
Impact Fee:           Default Impact Fee
Trip Generation:      Default Trip Generation
Trip Distribution:    Default Trip Distribution
Paths:                Default Paths
Routes:               Default Routes
Configuration:        Default Configuration
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #14 AVIATION BLVD. @ CENTURY BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.539
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       49              Level Of Service:                  A
********************************************************************************
Street Name:          AVIATION BLVD.                    CENTURY BLVD.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  0   2  0  2  0  1   1  0  3  1  0   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     427  428    34    48  242    95    72  700   204    61 1162    93
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:  427  428    34    48  242    95    72  700   204    61 1162    93
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:   427  428    34    48  242    95    72  700   204    61 1162    93
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  427  428    34    48  242    95    72  700   204    61 1162    93
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:     1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   470  428    34    53  242    95    72  700   204    61 1162    93
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.85  0.15  2.00 2.00  1.00  1.00 3.10  0.90  1.00 3.70  0.30
Final Sat.:  2750 2548   202  2750 2750  1375  1375 4259  1241  1375 5092   408
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.17  0.17  0.02 0.09  0.07  0.05 0.16  0.16  0.04 0.23  0.23
Crit Vol:     235                     121         72                     314
Crit Moves:  ****                    ****       ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #16 IMPERIAL HWY. @ AVIATION BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.593
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       56              Level Of Service:                  A
********************************************************************************
Street Name:           AVIATION BL.                     IMPERIAL HWY.
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        Protected        Protected
Rights:            Ovl              Ovl            Include            Ovl
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        2  0  2  0  1   2  0  1  1  1   2  0  2  1  0   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  396    90   130  220   104    67  190    59   219  627   581
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  396    90   130  220   104    67  190    59   219  627   581
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  396    90   130  220   104    67  190    59   219  627   581
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  156  396    90   130  220   104    67  190    59   219  627   581
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:     1.10 1.00  1.00  1.10 1.00  1.10  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   172  396    90   143  220   114    74  190    59   241  627   581
------------|---------------||---------------||---------------||---------------|
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:       2.00 2.00  1.00  2.00 1.97  1.03  2.00 2.29  0.71  2.00 3.00  1.00
Final Sat.:  2750 2750  1375  2750 2714  1411  2750 3148   977  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.14  0.07  0.05 0.08  0.08  0.03 0.06  0.06  0.09 0.15  0.42
Crit Vol:          198           0                37                         581
Crit Moves:       ****        ****              ****                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #19 AVIATION BLVD. @ 111TH
********************************************************************************
Cycle (sec):       100              Critical Vol./Cap. (X):       0.423
Loss Time (sec):     0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      40              Level Of Service:                 A
********************************************************************************
Street Name:            AVIATION BLVD.                     111TH STREET
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        Protected        Protected
Rights:           Ovl             Include          Include           Ovl
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  1  1  0   1  0  1  1  0   1  0  0  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     21  897    53    56  536    40    26   13    21    25   25    64
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:  21  897    53    56  536    40    26   13    21    25   25    64
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:   21  897    53    56  536    40    26   13    21    25   25    64
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  21  897    53    56  536    40    26   13    21    25   25    64
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
Final Vol.:   21  897    53    56  536    40    26   13    21    25   25    64
------------|---------------||---------------||---------------||---------------|
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 1.89  0.11  1.00 1.86  0.14  1.00 0.38  0.62  1.00 1.00  1.00
Final Sat.:  1375 2597   153  1375 2559   191  1375  526   849  1375 1375  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.35  0.35  0.04 0.21  0.21  0.02 0.02  0.02  0.02 0.02  0.05
Crit Vol:          475          56               26                     25
Crit Moves:       ****        ****             ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #36 La CIENEGA BLVD. @ CENTURY BLVD
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.462
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       42               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  CENTURY BLVD.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  2   1  0  2  0  2   1  0  3  0  1   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     111  263   136    67  306   405    65  419   257   205  920   348
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:  111  263   136    67  306   405    65  419   257   205  920   348
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:   111  263   136    67  306   405    65  419   257   205  920   348
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  111  263   136    67  306   405    65  419   257   205  920   348
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  1.10  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   111  263   150    67  306   446    65  419   257   205  920   348
------------|---------------||---------------||---------------||---------------|
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 2.00  2.00  1.00 2.00  2.00  1.00 3.00  1.00  1.00 3.00  1.00
Final Sat.:  1375 2750  2750  1375 2750  2750  1375 4125  1375  1375 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.10  0.05  0.05 0.11  0.16  0.05 0.10  0.19  0.15 0.22  0.25
Crit Vol:     111                    153         65                    307
Crit Moves:  ****                   ****       ****                   ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #39 CENTURY BLVD. @ 405 N/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.514
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       30               Level Of Service:                  A
********************************************************************************
Street Name:        405 NORTH OFF RAMP                   CENTURY BLVD
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
Lanes:        2  0  0  0  1   0  0  0  0  1   1  0  2  1  1   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     682    0   106     0    0    24     7  350   251     0 1089     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:  682    0   106     0    0    24     7  350   251     0 1089     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:   682    0   106     0    0    24     7  350   251     0 1089     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  682    0   106     0    0    24     7  350   251     0 1089     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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:   750    0   106     0    0    24     7  350   276     0 1089     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:       2.00 0.00  1.00  0.00 0.00  1.00  1.00 2.24  1.76  0.00 2.98  0.02
Final Sat.:  3000    0  1500     0    0  1500  1500 3354  2646     0 4475    25
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.25 0.00  0.07  0.00 0.00  0.02  0.00 0.10  0.10  0.00 0.24  0.24
Crit Vol:     375                            24     7                    365
Crit Moves:  ****                          ****  ****                   ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #47 IMPERIAL HWY. @ DOUGLAS ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.225
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       29              Level Of Service:                  A
********************************************************************************
Street Name:          DOUGLAS STREET                    IMPERIAL HWY.
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  1  0  2   1  0  1! 0  1   1  0  2  1  0   2  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38    9    54    12    3    11    19  285    58    74  683    46
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:   38    9    54    12    3    11    19  285    58    74  683    46
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:    38    9    54    12    3    11    19  285    58    74  683    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   38    9    54    12    3    11    19  285    58    74  683    46
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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    38    9    59    13    3    12    19  285    58    81  683    46
------------|---------------||---------------||---------------||---------------|
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 1.00  2.00  1.40 0.32  1.28  1.00 2.49  0.51  2.00 2.81  0.19
Final Sat.:  1375 1375  2750  1924  437  1764  1375 3427   698  2750 3865   260
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.01  0.02  0.01 0.01  0.01  0.01 0.08  0.08  0.03 0.18  0.18
Crit Vol:      38                    9          19                    243
Crit Moves:  ****                 ****        ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #65 SEPULVEDA @ H. HUGHES PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.326
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       21              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard             H. Hughes Parkway
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:           Ignore          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  4  0  1   2  0  3  0  0   0  0  0  0  0   3  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0 1123   540    91  397     0     0    0     0   251    0   158
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:   0 1123   540    91  397     0     0    0     0   251    0   158
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0 1123     0    91  397     0     0    0     0   251    0   158
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0 1123     0    91  397     0     0    0     0   251    0   158
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00  1.10 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    0 1123     0   100  397     0     0    0     0   276    0   158
------------|---------------||---------------||---------------||---------------|
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 4.00  1.00  2.00 3.00  0.00  0.00 0.00  0.00  3.00 0.00  1.00
Final Sat.:     0 6000  1500  3000 4500     0     0    0     0  4500    0  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.19  0.00  0.03 0.09  0.00  0.00 0.00  0.00  0.06 0.00  0.11
Crit Vol:         281          50               0                         158
Crit Moves:      ****        ****                                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #67 IMPERIAL HWY. @ La CIENEGA BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.290
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       32              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                   IMPERIAL HWY.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  1    2  0  1  1  1    2  0  3  0  2    2  0  3  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      58  133    83    42  114   191   160  122   135    41  512   297
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:   58  133    83    42  114   191   160  122   135    41  512   297
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:    58  133    83    42  114   191   160  122   135    41  512   297
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   58  133    83    42  114   191   160  122   135    41  512   297
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:     1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10
Final Vol.:    64  133    91    46  114   210   176  122   149    45  512   327
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.78  1.22  2.00 1.06  1.94  2.00 3.00  2.00  2.00 3.00  2.00
Final Sat.:  2750 2446  1679  2750 1451  2674  2750 4125  2750  2750 4125  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.05  0.05  0.02 0.08  0.08  0.06 0.03  0.05  0.02 0.12  0.12
Crit Vol:      32                    108         88                     171
Crit Moves:  ****                   ****       ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #68 IMPERIAL HWY @MAIN STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.475
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       35              Level Of Service:                  A
********************************************************************************
Street Name:            MAIN STREET                        IMPERIAL HWY
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Ignore           Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  1  0  0  1    1  0  0  0  0    0  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     209    0   461     2    0     0     0  619    92   251  783     4
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:  209    0   461     2    0     0     0  619    92   251  783     4
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   209    0     0     2    0     0     0  619    92   251  783     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  209    0     0     2    0     0     0  619    92   251  783     4
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   230    0     0     2    0     0     0  619    92   251  783     4
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  1.00 0.00  0.00  0.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  2850    0  1425  1425    0     0     0 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.00  0.00  0.00 0.00  0.00  0.00 0.22  0.06  0.18 0.27  0.00
Crit Vol:     115                  2                  310          251
Crit Moves:  ****              ****                  ****        ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #69 IMPERIAL HWY @ PERSHING DR.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.551
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       72              Level Of Service:                   A
********************************************************************************
Street Name:    PERSHING DR./HYPERION DWY.          IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Include           Ovl
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1! 0  0   1  1  0  1  0   2  0  1  1  0   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1     0     1   495     2    41   132   240     4     8   249   710
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:    1     0     1   495     2    41   132   240     4     8   249   710
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     1   495     2    41   132   240     4     8   249   710
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    1     0     1   495     2    41   132   240     4     8   249   710
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  1.10  1.00  1.00  1.10  1.00  1.00  1.00  1.00  1.00
Final Vol.:     1     0     1   545     2    41   145   240     4     8   249   710
------------|---------------||---------------||---------------||---------------|
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:       0.50  0.00  0.50  2.00  0.05  0.95  2.00  1.97  0.03  1.00  2.00  1.00
Final Sat.:   713     0   713  2850    66  1359  2850  2803    47  1425  2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00  0.19  0.03  0.03  0.05  0.09  0.09  0.01  0.09  0.50
Crit Vol:                   2     0                73                         710
Crit Moves:              ****  ****              ****                        ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #71 IMPERIAL HWY @ SEPULVEDA BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.579
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       54              Level Of Service:                  A
********************************************************************************
Street Name:          SEPULVEDA BL.                      IMPERIAL HWY
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        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   2  0  3  1  0   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      73  996   465   147 1331    20   125  188    94   151  127   182
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:   73  996   465   147 1331    20   125  188    94   151  127   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:    73  996   465   147 1331    20   125  188    94   151  127   182
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   73  996   465   147 1331    20   125  188    94   151  127   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  1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:    73  996   465   162 1331    20   138  188    94   166  127   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 3.00  1.00  2.00 3.94  0.06  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  1375 4125  1375  2750 5419    81  2750 4125  1375  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.24  0.34  0.06 0.25  0.25  0.05 0.05  0.07  0.06 0.03  0.13
Crit Vol:                465    81                69                       182
Crit Moves:             ****  ****              ****                      ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #73 IMPERIAL HWY @ NASH ST.
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.447
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       34                Level Of Service:                  A
********************************************************************************
Street Name:  FWY 105 OFF RAMP/ NASH STREET            IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  0  0  2   1  1  0  1  1   0  0  2  1  0   2  0  3  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7     0    15   213   757   370     0   350    64   145   568     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:    7     0    15   213   757   370     0   350    64   145   568     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:     7     0    15   213   757   370     0   350    64   145   568     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    7     0    15   213   757   370     0   350    64   145   568     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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     7     0    17   234   757   407     0   350    64   160   568     0
------------|---------------||---------------||---------------||---------------|
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 0.00  2.00  1.00 1.84  1.16  0.00 2.54  0.46  2.00 3.00  0.00
Final Sat.:  1425    0  2850  1425 2623  1652     0 3614   661  2850 4275     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.01  0.16 0.29  0.25  0.00 0.10  0.10  0.06 0.13  0.00
Crit Vol:                  8        411              138         80
Crit Moves:             ****       ****             ****       ****
********************************************************************************
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #74 IMPERIAL HWY. @  105 RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.603
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       47               Level Of Service:                  B
********************************************************************************
Street Name:              / 105 RAMP                      IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted       Protected
Rights:            Ovl              Ovl            Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  1  1   2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     741    0   262     0    0     0     0  172   264    52  731     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:  741    0   262     0    0     0     0  172   264    52  731     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:   741    0   262     0    0     0     0  172   264    52  731     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  741    0   262     0    0     0     0  172   264    52  731     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:     1.10 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.10  1.10 1.00  1.00
Final Vol.:   815    0   288     0    0     0     0  172   290    57  731     0
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  2.00  0.00 0.00  0.00  0.00 2.00  2.00  2.00 2.00  0.00
Final Sat.:  2850    0  2850     0    0     0     0 2850  2850  2850 2850     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.29 0.00  0.10  0.00 0.00  0.00  0.00 0.06  0.10  0.02 0.26  0.00
Crit Vol:     408                   0                86                366
Crit Moves:  ****                                  ****              ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #75 IMPERIAL HWY. @ 405 NORTH RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.246
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       25               Level Of Service:                  A
********************************************************************************
Street Name:              405 NORTH RAMP                    IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Ignore           Ignore
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  1! 0  0   0  0  0  0  0   0  0  2  1  1   0  0  2  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     237    0    41     0    0     0     0  179    47     0  600   295
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:  237    0    41     0    0     0     0  179    47     0  600   295
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   237    0    41     0    0     0     0  179     0     0  600     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  237    0    41     0    0     0     0  179     0     0  600     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
Final Vol.:   261    0    41     0    0     0     0  179     0     0  600     0
------------|---------------||---------------||---------------||---------------|
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:       1.73 0.00  0.27  0.00 0.00  0.00  0.00 3.00  1.00  0.00 3.00  1.00
Final Sat.:  2463    0   387     0    0     0     0 4275  1425     0 4275  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.00  0.11  0.00 0.00  0.00  0.00 0.04  0.00  0.00 0.14  0.00
Crit Vol:                151          0             0                  200
Crit Moves:             ****                    ****                  ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #89 La CIENEGA BLVD. @ LENNOX BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.294
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       26              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    LENNOX BLVD
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted       Permit+Prot      Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  0   1  0  2  1  0   0  0  0  0  0   1  1  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  472    22    36  288     1     0    0     0    97    0   136
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:    0  472    22    36  288     1     0    0     0    97    0   136
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  472    22    36  288     1     0    0     0    97    0   136
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  472    22    36  288     1     0    0     0    97    0   136
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  1.10 1.00  1.00
Final Vol.:     0  472    22    36  288     1     0    0     0   107    0   136
------------|---------------||---------------||---------------||---------------|
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 1.91  0.09  1.00 2.99  0.01  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2723   127  1425 4260    15     0    0     0  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.17  0.03 0.07  0.07  0.00 0.00  0.00  0.04 0.00  0.10
Crit Vol:          247          36                     0                    136
Crit Moves:       ****        ****                                         ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #94 La CIENEGA BLVD. @ 111TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.192
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       23              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                  / 111TH STREET
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       Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  0   0  0  2  1  0   2  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     118  388     0     0  275    93    59    0    30     0    0     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:  118  388     0     0  275    93    59    0    30     0    0     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:   118  388     0     0  275    93    59    0    30     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  118  388     0     0  275    93    59    0    30     0    0     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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   118  388     0     0  275    93    65    0    30     0    0     0
------------|---------------||---------------||---------------||---------------|
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  0.00  0.00 2.24  0.76  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1425 2850     0     0 3195  1080  2850    0  1425     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.14  0.00  0.00 0.09  0.09  0.02 0.00  0.02  0.00 0.00  0.00
Crit Vol:     118                   123         32                      0
Crit Moves:  ****                  ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #96 La CIENEGA BLVD. @ 405 S/B RAPM
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.512
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       38              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 N/B RAPM
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       Split Phase      Split Phase
Rights:             Ovl            Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  1   1  0  2  0  0   0  0  0  0  0   1  0  1! 0  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:       0  584    75   122  255     0     0    0     0   535    0    44
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:    0  584    75   122  255     0     0    0     0   535    0    44
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  584    75   122  255     0     0    0     0   535    0    44
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  584    75   122  255     0     0    0     0   535    0    44
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  1.10  1.00 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0  584    83   122  255     0     0    0     0   589    0    44
------------|----------------||----------------||----------------||----------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  1.86 0.00  0.14
Final Sat.:     0 2850  1425  1425 2850     0     0    0     0  2652    0   198
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.06  0.09 0.09  0.00  0.00 0.00  0.00  0.22 0.00  0.22
Crit Vol:          292         122                     0          316
Crit Moves:       ****        ****                                ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #97 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.308
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                   405 S/B RAMP
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       Split Phase      Split Phase
Rights:            Include          Include          Include           Ovl
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:         0  0  1  1  0   2  0  1  1  0   0  0  0  0  1   0  0  0  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  444    22   344  394     6     0     0     1     0     0    60
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:    0  444    22   344  394     6     0     0     1     0     0    60
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  444    22   344  394     6     0     0     1     0     0    60
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol:    0  444    22   344  394     6     0     0     1     0     0    60
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  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10
Final Vol.:     0  444    22   378  394     6     0     0     1     0     0    66
------------|---------------||---------------||---------------||---------------|
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:       0.00 1.91  0.09  2.00 1.97  0.03  0.00 0.00  1.00  0.00 0.00  2.00
Final Sat.:     0 2620   130  2750 2709    41     0     0  1375     0     0  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.17  0.14 0.15  0.15  0.00 0.00  0.00  0.00 0.00  0.02
Crit Vol:          233         189                             1           0
Crit Moves:       ****        ****                          ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #98 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.243
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       25               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 S/B RAMP
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      Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  1   1  0  2  1  0   0  0  1! 0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  467    77   49  268     4    1    1     4  104    0    36
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:    0  467    77   49  268     4    1    1     4  104    0    36
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  467    77   49  268     4    1    1     4  104    0    36
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0  467    77   49  268     4    1    1     4  104    0    36
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 1.10 1.00  1.00
Final Vol.:     0  467    77   49  268     4    1    1     4  114    0    36
------------|---------------||---------------||---------------||---------------|
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 2.96  0.04 0.17 0.17  0.66 2.00 0.00  1.00
Final Sat.:  1425 2850  1425 1425 4212    63  238  238   950 2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.16  0.05 0.03 0.06  0.06 0.00 0.00  0.00 0.04 0.00  0.03
Crit Vol:          234         49                          6    57
Crit Moves:       ****       ****                       ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #101 SEPULVEDA BLVD. @ LA TIJERA BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.447
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       41              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard            La Tijera Boulevard
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       1  0  2  1  0   1  0  2  1  0   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     75 1010    79    22  622    33    37  212    38   124  129    16
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:  75 1010    79    22  622    33    37  212    38   124  129    16
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:   75 1010    79    22  622    33    37  212    38   124  129    16
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  75 1010    79    22  622    33    37  212    38   124  129    16
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
Final Vol.:   75 1010    79    22  622    33    37  212    38   124  129    16
------------|---------------||---------------||---------------||---------------|
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 2.78  0.22  1.00 2.85  0.15  1.00 2.00  1.00  1.00 1.78  0.22
Final Sat.:  1375 3826   299  1375 3917   208  1375 2750  1375  1375 2447   303
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.26  0.26  0.02 0.16  0.16  0.03 0.08  0.03  0.09 0.05  0.05
Crit Vol:          363          22                      106         124
Crit Moves:       ****        ****                     ****        ****
********************************************************************************


  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #108 SEPULVEDA BLVD. @ LINCOLN BLVD.
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.479
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       50                Level Of Service:                  A
********************************************************************************
Street Name:       SEPULVEDA BOULEVARD              LINCOLN 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
Lanes:        4  0  2  1  0   0  0  3  1  0   0  0  0  0  4   0  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     835 1270   207    0  851     2    0    0   693    0    0     1
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:  835 1270   207    0  851     2    0    0   693    0    0     1
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:   835 1270   207    0  851     2    0    0   693    0    0     1
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  835 1270   207    0  851     2    0    0   693    0    0     1
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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:   919 1270   207    0  851     2    0    0   762    0    0     1
------------|---------------||---------------||---------------||---------------|
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:       4.00 2.58  0.42  0.00 3.99  0.01  0.00 0.00  4.00  0.00 0.00  1.00
Final Sat.:  5700 3676   599     0 5687    13     0    0  5700     0    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.35  0.35  0.00 0.15  0.15  0.00 0.00  0.13  0.00 0.00  0.00
Crit Vol:          492               213                     191     0
Crit Moves:       ****                                      ****  ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #114 SEPULVEDA BLVD. @ MANCHESTER AVE.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.571
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       53              Level Of Service:                 A
********************************************************************************
Street Name:       Sepulveda Boulevard              Manchester Avenue
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Prot+Permit      Prot+Permit       Protected       Prot+Permit
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       1  0  2  1  0   1  0  2  1  0   2  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     64 1014    37    82  625    71    77  341    41    53  622   262
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:  64 1014    37    82  625    71    77  341    41    53  622   262
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:   64 1014    37    82  625    71    77  341    41    53  622   262
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  64 1014    37    82  625    71    77  341    41    53  622   262
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   64 1014    37    82  625    71    85  341    41    53  622   262
------------|---------------||---------------||---------------||---------------|
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 2.89  0.11  1.00 2.69  0.31  2.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 3980   145  1375 3704   421  2750 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.25  0.25  0.06 0.17  0.17  0.03 0.12  0.03  0.04 0.23  0.19
Crit Vol:          350          82               42                     311
Crit Moves:       ****        ****             ****                    ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #123 WESTCHESTER PARKWAY @ PERSHING DRIVE
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.282
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       26                Level Of Service:                  A
********************************************************************************
Street Name:              Pershing Drive                Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Protected         Permitted        Permitted
Rights:          Include          Include           Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  2  0  1   1  0  2  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  636   142    23  230     0     0     0     0   110     0    26
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:    0  636   142    23  230     0     0     0     0   110     0    26
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  636   142    23  230     0     0     0     0   110     0    26
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol:    0  636   142    23  230     0     0     0     0   110     0    26
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  1.10 1.00  1.00
Final Vol.:     0  636   142    23  230     0     0     0     0   121     0    26
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2850  1425  1425 2850     0     0     0     0  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.22  0.10  0.02 0.08  0.00  0.00 0.00  0.00  0.04 0.00  0.02
Crit Vol:          318          23                     0          61
Crit Moves:       ****        ****                               ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #135 SEPULVEDA BLVD. @ WESTCHESTER PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.401
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       38              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard            Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  1  0   1  0  2  1  0   1  0  1  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      91 1007    27    64  771    36     9  114    34    67  177    90
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:   91 1007    27    64  771    36     9  114    34    67  177    90
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:    91 1007    27    64  771    36     9  114    34    67  177    90
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   91 1007    27    64  771    36     9  114    34    67  177    90
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
Final Vol.:    91 1007    27    64  771    36     9  114    34    67  177    90
------------|---------------||---------------||---------------||---------------|
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 2.92  0.08  1.00 2.87  0.13  1.00 1.54  0.46  1.00 1.33  0.67
Final Sat.:  1375 4017   108  1375 3941   184  1375 2118   632  1375 1823   927
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.25  0.05 0.20  0.20  0.01 0.05  0.05  0.05 0.10  0.10
Crit Vol:          345          64                9                    133
Crit Moves:       ****        ****              ****                  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #136 SEPULVEDA @ 76th/77th STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.580
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       34               Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard              76th/77th Street
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
Lanes:        1  0  2  1  0   1  0  2  1  0   2  0  1  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      16 1397    10    20  707    71   384   27    30    12   21   170
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:   16 1397    10    20  707    71   384   27    30    12   21   170
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:    16 1397    10    20  707    71   384   27    30    12   21   170
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   16 1397    10    20  707    71   384   27    30    12   21   170
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:    16 1397    10    20  707    71   422   27    30    12   21   170
------------|---------------||---------------||---------------||---------------|
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 2.98  0.02  1.00 2.73  0.27  2.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1500 4468    32  1500 4089   411  3000 1500  1500  1500 1500  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.31  0.31  0.01 0.17  0.17  0.14 0.02  0.02  0.01 0.01  0.11
Crit Vol:          469          20                211                         170
Crit Moves:       ****        ****              ****                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #137 SEPULVEDA BLVD. @ 79th/80th STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.491
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       28              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard              79th/80th Street
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
Lanes:        1  0  2  1  0   1  0  3  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      58 1389     6    17  682    74    74   54    39     9  111    70
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:   58 1389     6    17  682    74    74   54    39     9  111    70
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:    58 1389     6    17  682    74    74   54    39     9  111    70
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   58 1389     6    17  682    74    74   54    39     9  111    70
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
Final Vol.:    58 1389     6    17  682    74    74   54    39     9  111    70
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  1.00 3.00  1.00  1.00 1.00  1.00  1.00 0.61  0.39
Final Sat.:  1500 4481    19  1500 4500  1500  1500 1500  1500  1500  920   580
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.31  0.31  0.01 0.15  0.05  0.05 0.04  0.03  0.01 0.12  0.12
Crit Vol:          465          17              74                     181
Crit Moves:       ****        ****            ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #138 SEPULVEDA BLVD. @ 83rd STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.378
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       23              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard                83rd Street
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
Lanes:        1  0  2  1  0    1  0  2  1  0    0  0  1! 0  0    1  0  0  1  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:      17 1283     3    18  653    34    36   42    29    14   52    23
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:   17 1283     3    18  653    34    36   42    29    14   52    23
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:    17 1283     3    18  653    34    36   42    29    14   52    23
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   17 1283     3    18  653    34    36   42    29    14   52    23
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
Final Vol.:    17 1283     3    18  653    34    36   42    29    14   52    23
------------|----------------||----------------||----------------||----------------|
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 2.99  0.01  1.00 2.85  0.15  0.34 0.39  0.27  1.00 0.69  0.31
Final Sat.:  1500 4490    10  1500 4277   223   505  589   407  1500 1040   460
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.29  0.29  0.01 0.15  0.15  0.07 0.07  0.07  0.01 0.05  0.05
Crit Vol:          429          18                     107          14
Crit Moves:       ****        ****                    ****        ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1000 La CIENEGA BLVD. @ 104 TH STREET
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.224
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       24                Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                   104 TH STREET
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  2  1  0   1  0  1  0  1   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     155  424    14    17  324    41    21    1    40     3    1     1
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:  155  424    14    17  324    41    21    1    40     3    1     1
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:   155  424    14    17  324    41    21    1    40     3    1     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  155  424    14    17  324    41    21    1    40     3    1     1
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
Final Vol.:   155  424    14    17  324    41    21    1    40     3    1     1
------------|---------------||---------------||---------------||---------------|
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 1.94  0.06  1.00 2.66  0.34  1.00 1.00  1.00  0.60 0.20  0.20
Final Sat.:  1425 2759    91  1425 3795   480  1425 1425  1425   855  285   285
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.15  0.15  0.01 0.09  0.09  0.01 0.00  0.03  0.00 0.00  0.00
Crit Vol:     155                     122                     40     3
Crit Moves:  ****                    ****                   ****  ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-PM Peak
```

```
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                                Scenario Report
Scenario:             Baseline 2008-PM Peak

Command:              Employee PM
Volume:               Employee PM
Geometry:             Existing geometry
Impact Fee:           Default Impact Fee
Trip Generation:      Default Trip Generation
Trip Distribution:    Default Trip Distribution
Paths:                Default Paths
Routes:               Default Routes
Configuration:        Default Configuration
```

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #14 AVIATION BLVD. @ CENTURY BLVD.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.827
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      132               Level Of Service:                  D
********************************************************************************
Street Name:          AVIATION BLVD.                    CENTURY BLVD.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  0   2  0  2  0  1   1  0  3  1  0   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     448  655    83   122  523   111   134 1726   416    94 1233   112
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:  448  655    83   122  523   111   134 1726   416    94 1233   112
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:   448  655    83   122  523   111   134 1726   416    94 1233   112
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  448  655    83   122  523   111   134 1726   416    94 1233   112
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:     1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   493  655    83   134  523   111   134 1726   416    94 1233   112
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.78  0.22  2.00 2.00  1.00  1.00 3.22  0.78  1.00 3.67  0.33
Final Sat.:  2750 2441   309  2750 2750  1375  1375 4432  1068  1375 5042   458
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.27  0.27  0.05 0.19  0.08  0.10 0.39  0.39  0.07 0.24  0.24
Crit Vol:     246                    262              536         94
Crit Moves:  ****                   ****             ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #16 IMPERIAL HWY. @ AVIATION BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.737
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       87              Level Of Service:                  C
********************************************************************************
Street Name:           AVIATION BL.                   IMPERIAL HWY.
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        Protected        Protected
Rights:            Ovl              Ovl            Include            Ovl
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  2  0  1   2  0  1  1  1   2  0  2  1  0   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     166  457   320   427  547   106   220 1042   247   219  396   345
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:  166  457   320   427  547   106   220 1042   247   219  396   345
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:   166  457   320   427  547   106   220 1042   247   219  396   345
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  166  457   320   427  547   106   220 1042   247   219  396   345
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:     1.10 1.00  1.00  1.10 1.00  1.10  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   183  457   320   470  547   117   242 1042   247   241  396   345
------------|---------------||---------------||---------------||---------------|
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:       2.00 2.00  1.00  2.00 2.00  1.00  2.00 2.43  0.57  2.00 3.00  1.00
Final Sat.:  2750 2750  1375  2750 2750  1375  2750 3335   790  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.17  0.23  0.17 0.20  0.08  0.09 0.31  0.31  0.09 0.10  0.25
Crit Vol:          229         235                    430         120
Crit Moves:        ****        ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #19 AVIATION BLVD. @ 111TH
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.558
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       52              Level Of Service:                  A
********************************************************************************
Street Name:          AVIATION BLVD.                     111TH STREET
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        Protected        Protected
Rights:            Ovl            Include          Include            Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19  882    96    86 1095    81    75   78    29    53   53   118
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:   19  882    96    86 1095    81    75   78    29    53   53   118
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  882    96    86 1095    81    75   78    29    53   53   118
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   19  882    96    86 1095    81    75   78    29    53   53   118
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
Final Vol.:    19  882    96    86 1095    81    75   78    29    53   53   118
------------|---------------||---------------||---------------||---------------|
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 1.86  0.14  1.00 0.73  0.27  1.00 1.00  1.00
Final Sat.:  1375 2480   270  1375 2561   189  1375 1002   373  1375 1375  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.36  0.36  0.06 0.43  0.43  0.05 0.08  0.08  0.04 0.04  0.09
Crit Vol:      19                    588              107          53
Crit Moves:  ****                   ****             ****         ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #36 La CIENEGA BLVD. @ CENTURY BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.980
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  E
********************************************************************************
Street Name:         La CIENEGA BLVD.                  CENTURY BLVD.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  2   1  0  2  0  2   1  0  3  0  1   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     151  302   609   370  585   442   162 1208   794   112  751   231
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:  151  302   609   370  585   442   162 1208   794   112  751   231
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:   151  302   609   370  585   442   162 1208   794   112  751   231
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  151  302   609   370  585   442   162 1208   794   112  751   231
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  1.10  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   151  302   670   370  585   486   162 1208   794   112  751   231
------------|---------------||---------------||---------------||---------------|
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 2.00  2.00  1.00 2.00  2.00  1.00 3.00  1.00  1.00 3.06  0.94
Final Sat.:  1375 2750  2750  1375 2750  2750  1375 4125  1375  1375 4206  1294
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.24  0.27 0.21  0.18  0.12 0.29  0.58  0.08 0.18  0.18
Crit Vol:                335   370                           794     0
Crit Moves:             ****  ****                          ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #39 CENTURY BLVD. @ 405 N/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.548
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       32               Level Of Service:                  A
********************************************************************************
Street Name:        405 NORTH OFF RAMP                   CENTURY BLVD
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
Lanes:        2  0  0  0  1   0  0  0  0  1   1  0  2  1  1   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     429    0   408     0    0    32    33 1540   616     0  891    17
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:  429    0   408     0    0    32    33 1540   616     0  891    17
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:   429    0   408     0    0    32    33 1540   616     0  891    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  429    0   408     0    0    32    33 1540   616     0  891    17
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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:   472    0   408     0    0    32    33 1540   678     0  891    17
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  0.00 0.00  1.00  1.00 2.78  1.22  0.00 2.94  0.06
Final Sat.:  3000    0  1500     0    0  1500  1500 4167  1833     0 4416    84
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.00  0.27  0.00 0.00  0.02  0.02 0.37  0.37  0.00 0.20  0.20
Crit Vol:     236                          32        554          0
Crit Moves:  ****                        ****       ****       ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #47 IMPERIAL HWY. @ DOUGLAS ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.482
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       44              Level Of Service:                  A
********************************************************************************
Street Name:          DOUGLAS STREET                  IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  0  2    1  0  1! 0  1    1  0  2  1  0    2  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     168   17   424    84   14    42    38  972    41    29  561    35
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:  168   17   424    84   14    42    38  972    41    29  561    35
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:   168   17   424    84   14    42    38  972    41    29  561    35
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  168   17   424    84   14    42    38  972    41    29  561    35
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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:   168   17   466    92   14    46    38  972    41    32  561    35
------------|---------------||---------------||---------------||---------------|
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 1.00  2.00  1.82 0.18  1.00  1.00 2.88  0.12  2.00 2.82  0.18
Final Sat.:  1375 1375  2750  2498  252  1375  1375 3958   167  2750 3883   242
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.01  0.17  0.04 0.06  0.03  0.03 0.25  0.25  0.01 0.14  0.14
Crit Vol:                233          76                338          16
Crit Moves:             ****        ****               ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #65 SEPULVEDA @ H. HUGHES PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.713
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       50              Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard            H. Hughes Parkway
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:          Ignore           Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  4  0  1   2  0  3  0  0   0  0  0  0  0   3  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1603   431   553 1722     0     0    0     0   466    0   364
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:    0 1603   431   553 1722     0     0    0     0   466    0   364
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1603     0   553 1722     0     0    0     0   466    0   364
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1603     0   553 1722     0     0    0     0   466    0   364
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00  1.10 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0 1603     0   608 1722     0     0    0     0   513    0   364
------------|---------------||---------------||---------------||---------------|
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 4.00  1.00  2.00 3.00  0.00  0.00 0.00  0.00  3.00 0.00  1.00
Final Sat.:     0 6000  1500  3000 4500     0     0    0     0  4500    0  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.27  0.00  0.20 0.38  0.00  0.00 0.00  0.00  0.11 0.00  0.24
Crit Vol:         401          304                0                         364
Crit Moves:      ****         ****                                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #67 IMPERIAL HWY. @ La CIENEGA BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.638
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       63              Level Of Service:                  B
********************************************************************************
Street Name:         La CIENEGA BLVD.                  IMPERIAL HWY.
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        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  1  1  1   2  0  1  1  1   2  0  3  0  2   2  0  3  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      75  203   601   337  469   349   200 1008   233    46  398   193
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:   75  203   601   337  469   349   200 1008   233    46  398   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:    75  203   601   337  469   349   200 1008   233    46  398   193
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   75  203   601   337  469   349   200 1008   233    46  398   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:     1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10
Final Vol.:    83  203   661   371  469   384   220 1008   256    51  398   212
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.00  2.00  2.00 1.65  1.35  2.00 3.00  2.00  2.00 3.00  2.00
Final Sat.:  2750 1375  2750  2750 2268  1857  2750 4125  2750  2750 4125  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.15  0.24  0.13 0.21  0.21  0.08 0.24  0.09  0.02 0.10  0.08
Crit Vol:                331   185                   336          25
Crit Moves:             ****  ****                  ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #68 IMPERIAL HWY @MAIN STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.786
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       87               Level Of Service:                  C
********************************************************************************
Street Name:           MAIN STREET                        IMPERIAL HWY
Approach:      North Bound       South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase       Split Phase        Permitted        Protected
Rights:           Ignore           Include           Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  1  0  0  1    1  0  0  0  0    0  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     221    0   379     2    0     0     0  914   290   539  846     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:  221    0   379     2    0     0     0  914   290   539  846     0
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   221    0     0     2    0     0     0  914   290   539  846     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  221    0     0     2    0     0     0  914   290   539  846     0
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   243    0     0     2    0     0     0  914   290   539  846     0
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  1.00 0.00  0.00  0.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  2850    0  1425  1425    0     0     0 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.00  0.00  0.00 0.00  0.00  0.00 0.32  0.20  0.38 0.30  0.00
Crit Vol:     122                2                   457         539
Crit Moves:  ****             ****                  ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #69 IMPERIAL HWY @ PERSHING DR.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.504
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      37                Level Of Service:                  A
********************************************************************************
Street Name:    PERSHING DR./HYPERION DWY.               IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Include           Ovl
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1! 0  0   1  1  0  1  0   2  0  2  0  0   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      4    0     7  726   25   166  135  492     0    4  467   623
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:   4    0     7  726   25   166  135  492     0    4  467   623
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:    4    0     7  726   25   166  135  492     0    4  467   623
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   4    0     7  726   25   166  135  492     0    4  467   623
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 1.10 1.00  1.00 1.10 1.00  1.00 1.00 1.00  1.00
Final Vol.:    4    0     7  799   25   166  149  492     0    4  467   623
------------|---------------||---------------||---------------||---------------|
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:       0.36 0.00  0.64 2.00 0.13  0.87 2.00 2.00  0.00 1.00 2.00  1.00
Final Sat.:   518    0   907 2850  187  1238 2850 2850     0 1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.00  0.01 0.28 0.13  0.13 0.05 0.17  0.00 0.00 0.16  0.44
Crit Vol:                 11  399             74                    234
Crit Moves:             **** ****           ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #71 IMPERIAL HWY @ SEPULVEDA BL.
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        1.255
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180                Level Of Service:                  F
********************************************************************************
Street Name:              SEPULVEDA BL.                      IMPERIAL HWY
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   2  0  3  1  0   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     174 1833  1140   307 1819    38   163  296   176   222  290   327
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:  174 1833  1140   307 1819    38   163  296   176   222  290   327
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:   174 1833  1140   307 1819    38   163  296   176   222  290   327
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  174 1833  1140   307 1819    38   163  296   176   222  290   327
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  1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   174 1833  1140   338 1819    38   179  296   176   244  290   327
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  2.00 3.92  0.08  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  1375 4125  1375  2750 5387   113  2750 4125  1375  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.44  0.83  0.12 0.34  0.34  0.07 0.07  0.13  0.09 0.07  0.24
Crit Vol:               1140   169              90                          327
Crit Moves:             ****  ****            ****                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #73 IMPERIAL HWY @ NASH ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.370
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       30              Level Of Service:                  A
********************************************************************************
Street Name:  FWY 105 OFF RAMP/ NASH STREET          IMPERIAL HWY.
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Split Phase      Split Phase       Permitted        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       1  0  0  0  2   1  1  0  1  1   0  0  2  1  0   2  0  3  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      72    0    93   172  189   191     0  770    54    59  848     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:   72    0    93   172  189   191     0  770    54    59  848     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:    72    0    93   172  189   191     0  770    54    59  848     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   72    0    93   172  189   191     0  770    54    59  848     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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    72    0   102   189  189   210     0  770    54    65  848     0
------------|---------------||---------------||---------------||---------------|
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 0.00  2.00  1.28 1.28  1.44  0.00 2.80  0.20  2.00 3.00  0.00
Final Sat.:  1425    0  2850  1828 1831  2042     0 3995   280  2850 4275     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.00  0.04  0.10 0.10  0.10  0.00 0.19  0.19  0.02 0.20  0.00
Crit Vol:      72              148                    275          32
Crit Moves:  ****              ****                   ****         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #74 IMPERIAL HWY. @  105 RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.611
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       48              Level Of Service:                  B
********************************************************************************
Street Name:           / 105 RAMP                      IMPERIAL HWY.
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Split Phase      Split Phase       Permitted        Protected
Rights:           Ovl              Ovl            Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       2  0  0  0  2   0  0  0  0  0   0  0  2  1  1   2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    430    0   517    0    0     0    0  956   790  237  586     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: 430    0   517    0    0     0    0  956   790  237  586     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:  430    0   517    0    0     0    0  956   790  237  586     0
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 430    0   517    0    0     0    0  956   790  237  586     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:    1.10 1.00  1.10 1.00 1.00  1.00 1.00 1.00  1.10 1.10 1.00  1.00
Final Vol.:  473    0   569    0    0     0    0  956   869  261  586     0
------------|---------------||---------------||---------------||---------------|
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:      2.00 0.00  2.00 0.00 0.00  0.00 0.00 2.10  1.90 2.00 2.00  0.00
Final Sat.: 2850    0  2850    0    0     0    0 2986  2714 2850 2850     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.17 0.00  0.20 0.00 0.00  0.00 0.00 0.32  0.32 0.09 0.21  0.00
Crit Vol:               284         0               456        130
Crit Moves:            ****                        ****       ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #75 IMPERIAL HWY. @ 405 NORTH RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.554
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       42               Level Of Service:                  A
********************************************************************************
Street Name:              405 NORTH RAMP                     IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Ignore           Ignore
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1! 0  0   0  0  0  0  0   0  0  2  1  1   0  0  2  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     222    0   219     0    0     0     0 1674   232     0  410   184
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:  222    0   219     0    0     0     0 1674   232     0  410   184
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   222    0   219     0    0     0     0 1674     0     0  410     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  222    0   219     0    0     0     0 1674     0     0  410     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
Final Vol.:   244    0   219     0    0     0     0 1674     0     0  410     0
------------|---------------||---------------||---------------||---------------|
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:       1.05 0.00  0.95  0.00 0.00  0.00  0.00 3.00  1.00  0.00 3.00  1.00
Final Sat.:  1503    0  1347     0    0     0     0 4275  1425     0 4275  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.00  0.16  0.00 0.00  0.00  0.00 0.39  0.00  0.00 0.10  0.00
Crit Vol:              232          0                 558          0
Crit Moves:           ****                           ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #89 La CIENEGA BLVD. @ LENNOX BLVD
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.478
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       36               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    LENNOX BLVD
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted      Permit+Prot      Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1  1  0   1  0  2  1  0   0  0  0  0  0   1  1  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  594   191   218  858     1     0    0     0    82    0    70
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:    0  594   191   218  858     1     0    0     0    82    0    70
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  594   191   218  858     1     0    0     0    82    0    70
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  594   191   218  858     1     0    0     0    82    0    70
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  1.10 1.00  1.00
Final Vol.:     0  594   191   218  858     1     0    0     0    90    0    70
------------|---------------||---------------||---------------||---------------|
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 1.51  0.49  1.00 2.99  0.01  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2157   693  1425 4270     5     0    0     0  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.28  0.28  0.15 0.20  0.20  0.00 0.00  0.00  0.03 0.00  0.05
Crit Vol:          392         218                     0                    70
Crit Moves:       ****        ****                                        ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #94 La CIENEGA BLVD. @ 111TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.433
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  / 111TH STREET
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      Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  2  0  0   0  0  2  1  0   2  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     103  570     0     0  857   121   175    0   188     0    0     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:  103  570     0     0  857   121   175    0   188     0    0     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:   103  570     0     0  857   121   175    0   188     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  103  570     0     0  857   121   175    0   188     0    0     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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   103  570     0     0  857   121   193    0   188     0    0     0
------------|---------------||---------------||---------------||---------------|
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  0.00  0.00 2.63  0.37  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1425 2850     0     0 3746   529  2850    0  1425     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.20  0.00  0.00 0.23  0.23  0.07 0.00  0.13  0.00 0.00  0.00
Crit Vol:     103                   326                    188          0
Crit Moves:  ****                  ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #96 La CIENEGA BLVD. @ 405 S/B RAPM
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.630
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       50              Level Of Service:                  B
********************************************************************************
Street Name:        La CIENEGA BLVD.                  405 N/B RAPM
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      Split Phase      Split Phase
Rights:            Ovl            Include         Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1  1  1   1  0  2  0  0   0  0  0  0  0   1  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  593    72   160  695     0     0    0     0   650    0   168
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:   0  593    72   160  695     0     0    0     0   650    0   168
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  593    72   160  695     0     0    0     0   650    0   168
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0  593    72   160  695     0     0    0     0   650    0   168
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  1.10  1.00 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    0  593    79   160  695     0     0    0     0   715    0   168
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  1.62 0.00  0.38
Final Sat.:    0 2850  1425  1425 2850     0     0    0     0  2308    0   542
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.21  0.06  0.11 0.24  0.00  0.00 0.00  0.00  0.31 0.00  0.31
Crit Vol:         297         160                     0          442
Crit Moves:       ****        ****                               ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #97 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.494
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       45              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                    405 S/B RAMP
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       Split Phase      Split Phase
Rights:           Include          Include          Include           Ovl
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1  1  0   2  0  1  1  0   0  0  1! 0  0   0  0  0  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  617    34   643  863     5     0     0     0     0     0   468
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:    0  617    34   643  863     5     0     0     0     0     0   468
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  617    34   643  863     5     0     0     0     0     0   468
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol:    0  617    34   643  863     5     0     0     0     0     0   468
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  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10
Final Vol.:     0  617    34   707  863     5     0     0     0     0     0   515
------------|---------------||---------------||---------------||---------------|
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:       0.00 1.90  0.10  2.00 1.99  0.01  0.00 1.00  0.00  0.00 0.00  2.00
Final Sat.:     0 2606   144  2750 2734    16     0 1375     0     0     0  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.24  0.24  0.26 0.32  0.32  0.00 0.00  0.00  0.00 0.00  0.19
Crit Vol:          325         354                       0                 0
Crit Moves:       ****        ****                                      ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #98 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.349
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       29              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  405 S/B RAMP
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      Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  1   1  0  2  1  0   0  0  0  0  1   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  546    69   108  917     4     0    0    28   160    0    98
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:   0  546    69   108  917     4     0    0    28   160    0    98
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  546    69   108  917     4     0    0    28   160    0    98
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0  546    69   108  917     4     0    0    28   160    0    98
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  1.10 1.00  1.00
Final Vol.:    0  546    69   108  917     4     0    0    28   176    0    98
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  0.00 0.00  1.00  2.00 0.00  1.00
Final Sat.:  1425 2850  1425  1425 4256    19     0    0  1425  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.19  0.05  0.08 0.22  0.22  0.00 0.00  0.02  0.06 0.00  0.07
Crit Vol:          273         108                           28    88
Crit Moves:        ****        ****                        ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #101 SEPULVEDA BLVD. @ LA TIJERA BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.733
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       86              Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard            La Tijera Boulevard
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0    0    0    0    0    0    0    0    0    0
Lanes:       1  0  2  1  0   1  0  2  1  0   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     142 1373   175   63 1177    80   70  461    83  199  378    60
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:  142 1373   175   63 1177    80   70  461    83  199  378    60
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:   142 1373   175   63 1177    80   70  461    83  199  378    60
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  142 1373   175   63 1177    80   70  461    83  199  378    60
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
Final Vol.:   142 1373   175   63 1177    80   70  461    83  199  378    60
------------|---------------||---------------||---------------||---------------|
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 2.66  0.34  1.00 2.81  0.19  1.00 2.00  1.00  1.00 1.73  0.27
Final Sat.:  1375 3659   466  1375 3862   263  1375 2750  1375  1375 2373   377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.38  0.38  0.05 0.30  0.30  0.05 0.17  0.06  0.14 0.16  0.16
Crit Vol:          516          63                      231         199
Crit Moves:       ****        ****                     ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #108 SEPULVEDA BLVD. @ LINCOLN BLVD.
********************************************************************************
Cycle (sec):       100              Critical Vol./Cap. (X):        0.785
Loss Time (sec):     0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      86              Level Of Service:                  C
********************************************************************************
Street Name:       SEPULVEDA BOULEVARD             LINCOLN 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
Lanes:        4  0  2  1  0   0  0  3  1  0   0  0  0  0  4   0  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    1329 1777   337     0 1605    13     0    0  1267     0    0     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: 1329 1777   337     0 1605    13     0    0  1267     0    0     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:  1329 1777   337     0 1605    13     0    0  1267     0    0     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1329 1777   337     0 1605    13     0    0  1267     0    0     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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:  1462 1777   337     0 1605    13     0    0  1394     0    0     6
------------|---------------||---------------||---------------||---------------|
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:       4.00 2.52  0.48  0.00 3.97  0.03  0.00 0.00  4.00  0.00 0.00  1.00
Final Sat.:  5700 3594   681     0 5654    46     0    0  5700     0    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.26 0.49  0.49  0.00 0.28  0.28  0.00 0.00  0.24  0.00 0.00  0.00
Crit Vol:     365                   404                    348     0
Crit Moves:  ****                  ****                   ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #114 SEPULVEDA BLVD. @ MANCHESTER AVE.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.947
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180               Level Of Service:                  E
********************************************************************************
Street Name:       Sepulveda Boulevard             Manchester Avenue
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:       Prot+Permit      Prot+Permit       Protected       Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  1  0    1  0  2  1  0    2  0  2  0  1    1  0  2  0  1
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:     107 1355    84   238 1199   261   209  991    97    89  835   188
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:  107 1355    84   238 1199   261   209  991    97    89  835   188
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 1355    84   238 1199   261   209  991    97    89  835   188
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  107 1355    84   238 1199   261   209  991    97    89  835   188
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   107 1355    84   238 1199   261   230  991    97    89  835   188
------------|----------------||----------------||----------------||----------------|
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 2.82  0.18  1.00 2.46  0.54  2.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 3884   241  1375 3388   737  2750 2750  1375  1375 2750  1375
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.35  0.35  0.17 0.35  0.35  0.08 0.36  0.07  0.06 0.30  0.14
Crit Vol:          480         238                    496         89
Crit Moves:       ****        ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #123 WESTCHESTER PARKWAY @ PERSHING DRIVE
********************************************************************************
Cycle (sec):       100              Critical Vol./Cap. (X):        0.325
Loss Time (sec):     0 (Y+R =  4 sec) Average Delay (sec/veh):    xxxxxx
Optimal Cycle:      28              Level Of Service:                  A
********************************************************************************
Street Name:          Pershing Drive               Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Permitted        Protected        Permitted        Permitted
Rights:         Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:       0  0  2  0  1   1  0  2  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  547   246    77  478     0     0    0     0   116    0   113
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:   0  547   246    77  478     0     0    0     0   116    0   113
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  547   246    77  478     0     0    0     0   116    0   113
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0  547   246    77  478     0     0    0     0   116    0   113
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  1.10 1.00  1.00
Final Vol.:    0  547   246    77  478     0     0    0     0   128    0   113
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:    0 2850  1425  1425 2850     0     0    0     0  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.19  0.17  0.05 0.17  0.00  0.00 0.00  0.00  0.04 0.00  0.08
Crit Vol:          274          77                 0                       113
Crit Moves:       ****        ****                                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #135 SEPULVEDA BLVD. @ WESTCHESTER PARKWAY
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.706
Loss Time (sec):       0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        77              Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard           Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  1  0   1  0  2  1  0   1  0  1  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     166 1470    61   134 1341    36    53  196   100   178  311   135
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:  166 1470    61   134 1341    36    53  196   100   178  311   135
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:   166 1470    61   134 1341    36    53  196   100   178  311   135
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  166 1470    61   134 1341    36    53  196   100   178  311   135
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
Final Vol.:   166 1470    61   134 1341    36    53  196   100   178  311   135
------------|---------------||---------------||---------------||---------------|
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 2.88  0.12  1.00 2.92  0.08  1.00 1.32  0.68  1.00 1.39  0.61
Final Sat.:  1375 3961   164  1375 4017   108  1375 1821   929  1375 1918   832
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.37  0.37  0.10 0.33  0.33  0.04 0.11  0.11  0.13 0.16  0.16
Crit Vol:          510         134                    148         178
Crit Moves:       ****        ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #136 SEPULVEDA @ 76th/77th STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.622
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       38               Level Of Service:                  B
********************************************************************************
Street Name:       Sepulveda Boulevard              76th/77th Street
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
Lanes:        1  0  2  1  0   1  0  2  1  0   2  0  1  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36 1656    33   110 1848   289   200   54    70    35   57    75
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 1656    33   110 1848   289   200   54    70    35   57    75
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 1656    33   110 1848   289   200   54    70    35   57    75
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   36 1656    33   110 1848   289   200   54    70    35   57    75
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:    36 1656    33   110 1848   289   220   54    70    35   57    75
------------|---------------||---------------||---------------||---------------|
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 2.94  0.06  1.00 2.59  0.41  2.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1500 4412    88  1500 3891   609  3000 1500  1500  1500 1500  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.38  0.38  0.07 0.47  0.47  0.07 0.04  0.05  0.02 0.04  0.05
Crit Vol:      36                   712         110                           75
Crit Moves:  ****                  ****        ****                         ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #137 SEPULVEDA BLVD. @ 79th/80th STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.578
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      34               Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard             79th/80th Street
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
Lanes:        1  0  2  1  0   1  0  3  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     91 1640    26    60 1684   193   112   87    58    22   75    28
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:  91 1640    26    60 1684   193   112   87    58    22   75    28
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:   91 1640    26    60 1684   193   112   87    58    22   75    28
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  91 1640    26    60 1684   193   112   87    58    22   75    28
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
Final Vol.:   91 1640    26    60 1684   193   112   87    58    22   75    28
------------|---------------||---------------||---------------||---------------|
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 2.95  0.05  1.00 3.00  1.00  1.00 1.00  1.00  1.00 0.73  0.27
Final Sat.:  1500 4430    70  1500 4500  1500  1500 1500  1500  1500 1092   408
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.37  0.37  0.04 0.37  0.13  0.07 0.06  0.04  0.01 0.07  0.07
Crit Vol:      91                    561         112                     103
Crit Moves:  ****                   ****        ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #138 SEPULVEDA BLVD. @ 83rd STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.529
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       31               Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard                 83rd Street
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
Lanes:        1  0  2  1  0   1  0  2  1  0   0  0  1! 0  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65 1641    13    35 1597    71    57   70    36     9   39    25
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:   65 1641    13    35 1597    71    57   70    36     9   39    25
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 1641    13    35 1597    71    57   70    36     9   39    25
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   65 1641    13    35 1597    71    57   70    36     9   39    25
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
Final Vol.:    65 1641    13    35 1597    71    57   70    36     9   39    25
------------|---------------||---------------||---------------||---------------|
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 2.98  0.02  1.00 2.87  0.13  0.35 0.43  0.22  1.00 0.61  0.39
Final Sat.:  1500 4465    35  1500 4308   192   525  644   331  1500  914   586
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.37  0.37  0.02 0.37  0.37  0.11 0.11  0.11  0.01 0.04  0.04
Crit Vol:      65                   556              163           9
Crit Moves:  ****                  ****             ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1000 La CIENEGA BLVD. @ 104 TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.426
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       32              Level Of Service:                 A
********************************************************************************
Street Name:          La CIENEGA BLVD.                   104 TH STREET
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit       Permitted         Permitted         Permitted
Rights:           Include          Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  2  1  0   1  0  1  0  1   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     101  528    21    21  793    20   111    3   235     0    0     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:  101  528    21    21  793    20   111    3   235     0    0     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:   101  528    21    21  793    20   111    3   235     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  101  528    21    21  793    20   111    3   235     0    0     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
Final Vol.:   101  528    21    21  793    20   111    3   235     0    0     0
------------|---------------||---------------||---------------||---------------|
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 1.92  0.08  1.00 2.93  0.07  1.00 1.00  1.00  0.00 1.00  0.00
Final Sat.:  1425 2741   109  1425 4170   105  1425 1425  1425     0 1425     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.19  0.19  0.01 0.19  0.19  0.08 0.00  0.16  0.00 0.00  0.00
Crit Vol:     101                    271                   235     0
Crit Moves:  ****                   ****                  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                                Scenario Report
Scenario:             2011 Without Project-AM Peak

Command:              Employee AM
Volume:               Employee AM
Geometry:             Existing geometry
Impact Fee:           Default Impact Fee
Trip Generation:      Default Trip Generation
Trip Distribution:    Default Trip Distribution
Paths:                Default Paths
Routes:               Default Routes
Configuration:        Default Configuration
```

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #14 AVIATION BLVD. @ CENTURY BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.573
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       53              Level Of Service:                  A
********************************************************************************
Street Name:          AVIATION BLVD.                    CENTURY BLVD.
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        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  0   2  0  2  0  1   1  0  3  1  0   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     454  455    37    54  257   101    77  765   216    65 1234    99
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:  454  455    37    54  257   101    77  765   216    65 1234    99
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:   454  455    37    54  257   101    77  765   216    65 1234    99
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  454  455    37    54  257   101    77  765   216    65 1234    99
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:     1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   499  455    37    59  257   101    77  765   216    65 1234    99
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.85  0.15  2.00 2.00  1.00  1.00 3.12  0.88  1.00 3.70  0.30
Final Sat.:  2750 2543   207  2750 2750  1375  1375 4289  1211  1375 5092   408
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.18  0.18  0.02 0.09  0.07  0.06 0.18  0.18  0.05 0.24  0.24
Crit Vol:     250                   129          77                     333
Crit Moves:  ****                  ****        ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
-------------------------------------------------------------------------------
                      Central Utility Plant Project
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
*******************************************************************************
Intersection #16 IMPERIAL HWY. @ AVIATION BL.
*******************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.753
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       92              Level Of Service:                  C
*******************************************************************************
Street Name:           AVIATION BL.                    IMPERIAL HWY.
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        Protected        Protected
Rights:           Ovl              Ovl            Include            Ovl
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       2  0  2  0  1   2  0  1  1  1   2  0  2  1  0   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    178  429    96  138  233   111  110  203    63  232  828   761
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: 178  429    96  138  233   111  110  203    63  232  828   761
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:  178  429    96  138  233   111  110  203    63  232  828   761
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 178  429    96  138  233   111  110  203    63  232  828   761
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:    1.10 1.00  1.00 1.10 1.00  1.10 1.10 1.00  1.00 1.10 1.00  1.00
Final Vol.:  196  429    96  152  233   122  121  203    63  255  828   761
------------|---------------||---------------||---------------||---------------|
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:      2.00 2.00  1.00 2.00 1.97  1.03 2.00 2.29  0.71 2.00 3.00  1.00
Final Sat.: 2750 2750  1375 2750 2707  1418 2750 3148   977 2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.07 0.16  0.07 0.06 0.09  0.09 0.04 0.06  0.06 0.09 0.20  0.55
Crit Vol:         215          0             61                           761
Crit Moves:       ****       ****           ****                         ****
*******************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #19 AVIATION BLVD. @ 111TH
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.525
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       48              Level Of Service:                  A
********************************************************************************
Street Name:          AVIATION BLVD.                     111TH STREET
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        Protected        Protected
Rights:            Ovl            Include          Include            Ovl
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       1  0  1  1  0   1  0  1  1  0   1  0  0  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     23 1145    56    59  569    43    27   14    22    27   27    69
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:  23 1145    56    59  569    43    27   14    22    27   27    69
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:   23 1145    56    59  569    43    27   14    22    27   27    69
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  23 1145    56    59  569    43    27   14    22    27   27    69
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
Final Vol.:   23 1145    56    59  569    43    27   14    22    27   27    69
------------|---------------||---------------||---------------||---------------|
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 1.91  0.09  1.00 1.86  0.14  1.00 0.39  0.61  1.00 1.00  1.00
Final Sat.:  1375 2622   128  1375 2557   193  1375  535   840  1375 1375  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.44  0.44  0.04 0.22  0.22  0.02 0.03  0.03  0.02 0.02  0.05
Crit Vol:          601          59                     36          27
Crit Moves:       ****        ****                   ****        ****
********************************************************************************


  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #36 La CIENEGA BLVD. @ CENTURY BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.600
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       57              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                   CENTURY BLVD.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  2   1  0  2  0  2   1  0  3  0  1   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119  282   147    71  413   430    69  445   296   322  976   384
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:  119  282   147    71  413   430    69  445   296   322  976   384
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:   119  282   147    71  413   430    69  445   296   322  976   384
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  119  282   147    71  413   430    69  445   296   322  976   384
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  1.10  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   119  282   162    71  413   473    69  445   296   322  976   384
------------|---------------||---------------||---------------||---------------|
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 2.00  2.00  1.00 2.00  2.00  1.00 3.00  1.00  1.00 3.00  1.00
Final Sat.:  1375 2750  2750  1375 2750  2750  1375 4125  1375  1375 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.10  0.06  0.05 0.15  0.17  0.05 0.11  0.22  0.23 0.24  0.28
Crit Vol:       0                   207                    296   322
Crit Moves:  ****                  ****                   ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #39 CENTURY BLVD. @ 405 N/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.586
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       35              Level Of Service:                  A
********************************************************************************
Street Name:        405 NORTH OFF RAMP                       CENTURY BLVD
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
Lanes:        2  0  0  0  1   0  0  0  0  1   1  0  2  1  1   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     815    0   112     0    0    25     8  385   266     0 1188     7
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:  815    0   112     0    0    25     8  385   266     0 1188     7
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:   815    0   112     0    0    25     8  385   266     0 1188     7
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  815    0   112     0    0    25     8  385   266     0 1188     7
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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:   897    0   112     0    0    25     8  385   293     0 1188     7
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  0.00 0.00  1.00  1.00 2.27  1.73  0.00 2.98  0.02
Final Sat.:  3000    0  1500     0    0  1500  1500 3409  2591     0 4474    26
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.30 0.00  0.07  0.00 0.00  0.02  0.01 0.11  0.11  0.00 0.27  0.27
Crit Vol:     448                             25     8                   398
Crit Moves:  ****                           ****  ****                  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #47 IMPERIAL HWY. @ DOUGLAS ST.
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap. (X):        0.285
Loss Time (sec):       0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        32               Level Of Service:                  A
********************************************************************************
Street Name:          DOUGLAS STREET                  IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  0  2   1  0  1! 0  1   1  0  2  1  0   2  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      44    9    60    13    3    12    20  340    61    78  905    49
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:   44    9    60    13    3    12    20  340    61    78  905    49
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:    44    9    60    13    3    12    20  340    61    78  905    49
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   44    9    60    13    3    12    20  340    61    78  905    49
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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    44    9    66    14    3    13    20  340    61    86  905    49
------------|---------------||---------------||---------------||---------------|
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 1.00  2.00  1.41 0.29  1.30  1.00 2.54  0.46  2.00 2.85  0.15
Final Sat.:  1375 1375  2750  1934  406  1785  1375 3498   627  2750 3913   212
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.01  0.02  0.01 0.01  0.01  0.01 0.10  0.10  0.03 0.23  0.23
Crit Vol:      44                  10          20                    318
Crit Moves:  ****                ****        ****                  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #65 SEPULVEDA @ H. HUGHES PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.346
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       22              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard              H. Hughes Parkway
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:          Ignore           Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  4  0  1   2  0  3  0  0   0  0  0  0  0   3  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1193   573    96  444     0     0    0     0   377    0   168
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:    0 1193   573    96  444     0     0    0     0   377    0   168
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1193     0    96  444     0     0    0     0   377    0   168
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1193     0    96  444     0     0    0     0   377    0   168
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00  1.10 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0 1193     0   106  444     0     0    0     0   415    0   168
------------|---------------||---------------||---------------||---------------|
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 4.00  1.00  2.00 3.00  0.00  0.00 0.00  0.00  3.00 0.00  1.00
Final Sat.:     0 6000  1500  3000 4500     0     0    0     0  4500    0  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.00  0.04 0.10  0.00  0.00 0.00  0.00  0.09 0.00  0.11
Crit Vol:          298          53                 0                        168
Crit Moves:       ****        ****                                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #67 IMPERIAL HWY. @ La CIENEGA BLVD.
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.317
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33                Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                   IMPERIAL HWY.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  1  1  1   2  0  1  1  1   2  0  3  0  2   2  0  3  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62  141    88    48  121   224   169  130   143    44  562   315
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:   62  141    88    48  121   224   169  130   143    44  562   315
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:    62  141    88    48  121   224   169  130   143    44  562   315
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   62  141    88    48  121   224   169  130   143    44  562   315
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:     1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10
Final Vol.:    68  141    97    53  121   246   186  130   157    48  562   347
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.78  1.22  2.00 1.00  2.00  2.00 3.00  2.00  2.00 3.00  2.00
Final Sat.:  2750 2446  1679  2750 1375  2750  2750 4125  2750  2750 4125  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.06  0.06  0.02 0.09  0.09  0.07 0.03  0.06  0.02 0.14  0.13
Crit Vol:      34                  121          93                     187
Crit Moves:  ****                  ****        ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #68 IMPERIAL HWY @MAIN STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.519
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       39              Level Of Service:                  A
********************************************************************************
Street Name:           MAIN STREET                    IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Ignore           Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  1  0  0  1   1  0  0  0  0   0  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     222    0   489     2    0     0     0  700    97   266 1207     4
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:  222    0   489     2    0     0     0  700    97   266 1207     4
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   222    0     0     2    0     0     0  700    97   266 1207     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  222    0     0     2    0     0     0  700    97   266 1207     4
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   244    0     0     2    0     0     0  700    97   266 1207     4
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  1.00 0.00  0.00  0.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  2850    0  1425  1425    0     0     0 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.00  0.00  0.00 0.00  0.00  0.00 0.25  0.07  0.19 0.42  0.00
Crit Vol:     122              2                     350         266
Crit Moves:  ****           ****                    ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #69 IMPERIAL HWY @ PERSHING DR.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.851
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:      180              Level Of Service:                  D
********************************************************************************
Street Name:    PERSHING DR./HYPERION DWY.            IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Include           Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1! 0  0    1  1  0  1  0    2  0  1  1  0    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    0     2   568    2    44   140  255     5     8  264  1131
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:    2    0     2   568    2    44   140  255     5     8  264  1131
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:     2    0     2   568    2    44   140  255     5     8  264  1131
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2    0     2   568    2    44   140  255     5     8  264  1131
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  1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:     2    0     2   625    2    44   154  255     5     8  264  1131
------------|---------------||---------------||---------------||---------------|
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:       0.50 0.00  0.50  2.00 0.04  0.96  2.00 1.96  0.04  1.00 2.00  1.00
Final Sat.:   713    0   713  2850   62  1363  2850 2795    55  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.22 0.03  0.03  0.05 0.09  0.09  0.01 0.09  0.79
Crit Vol:                  4     0              77                         1131
Crit Moves:             ****  ****            ****                         ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #71 IMPERIAL HWY @ SEPULVEDA BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.629
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       61              Level Of Service:                  B
********************************************************************************
Street Name:            SEPULVEDA BL.                      IMPERIAL HWY
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   2  0  3  1  0   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     77 1084   513   156 1412    21   133  217   100   161  316   193
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:  77 1084   513   156 1412    21   133  217   100   161  316   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:   77 1084   513   156 1412    21   133  217   100   161  316   193
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  77 1084   513   156 1412    21   133  217   100   161  316   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  1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   77 1084   513   172 1412    21   146  217   100   177  316   193
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  2.00 3.94  0.06  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  1375 4125  1375  2750 5419    81  2750 4125  1375  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.26  0.37  0.06 0.26  0.26  0.05 0.05  0.07  0.06 0.08  0.14
Crit Vol:                513    86                73                         193
Crit Moves:             ****  ****              ****                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
---------------------------------------------------------------------------------
                      Central Utility Plant Project
---------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
*********************************************************************************
Intersection #73 IMPERIAL HWY @ NASH ST.
*********************************************************************************
Cycle (sec):       100              Critical Vol./Cap. (X):       0.610
Loss Time (sec):     0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      48              Level Of Service:                 B
*********************************************************************************
Street Name:  FWY 105 OFF RAMP/ NASH STREET          IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  0  0  2   1  1  0  1  1   0  0  2  1  0   2  0  3  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    0    16   226  803   392     0  408    68   154  799     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:    8    0    16   226  803   392     0  408    68   154  799     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:     8    0    16   226  803   392     0  408    68   154  799     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    8    0    16   226  803   392     0  408    68   154  799     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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     8    0    18   249  803   431     0  408    68   169  799     0
------------|---------------||---------------||---------------||---------------|
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 0.00  2.00  1.00 1.84  1.16  0.00 2.57  0.43  2.00 3.00  0.00
Final Sat.:  1425    0  2850  1425 2624  1651     0 3664   611  2850 4275     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.00  0.01  0.17 0.31  0.26  0.00 0.11  0.11  0.06 0.19  0.00
Crit Vol:                  9        436              159              266
Crit Moves:             ****       ****             ****             ****
*********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #74 IMPERIAL HWY. @  105 RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.753
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       75              Level Of Service:                 C
********************************************************************************
Street Name:            / 105 RAMP                    IMPERIAL HWY.
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Split Phase      Split Phase       Permitted        Protected
Rights:           Ovl              Ovl            Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       2  0  0  0  2   0  0  0  0  0   0  0  2  1  1   2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    913    0   278    0    0     0    0  183   280   59  958     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: 913    0   278    0    0     0    0  183   280   59  958     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:  913    0   278    0    0     0    0  183   280   59  958     0
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 913    0   278    0    0     0    0  183   280   59  958     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:    1.10 1.00  1.10 1.00 1.00  1.00 1.00 1.00  1.10 1.10 1.00  1.00
Final Vol.: 1004    0   306    0    0     0    0  183   308   65  958     0
------------|---------------||---------------||---------------||---------------|
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:      2.00 0.00  2.00 0.00 0.00  0.00 0.00 2.00  2.00 2.00 2.00  0.00
Final Sat.: 2850    0  2850    0    0     0    0 2850  2850 2850 2850     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.35 0.00  0.11 0.00 0.00  0.00 0.00 0.06  0.11 0.02 0.34  0.00
Crit Vol:    502                  0               91               479
Crit Moves: ****                             ****             ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #75 IMPERIAL HWY. @ 405 NORTH RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.298
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       27               Level Of Service:                  A
********************************************************************************
Street Name:             405 NORTH RAMP                    IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Ignore           Ignore
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1! 0  0   0  0  0  0  0   0  0  2  1  1   0  0  2  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     252    0    44     0    0     0     0  191    53     0  793   314
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:  252    0    44     0    0     0     0  191    53     0  793   314
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   252    0    44     0    0     0     0  191     0     0  793     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  252    0    44     0    0     0     0  191     0     0  793     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
Final Vol.:   277    0    44     0    0     0     0  191     0     0  793     0
------------|---------------||---------------||---------------||---------------|
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:       1.73 0.00  0.27  0.00 0.00  0.00  0.00 3.00  1.00  0.00 3.00  1.00
Final Sat.:  2460    0   390     0    0     0     0 4275  1425     0 4275  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.00  0.11  0.00 0.00  0.00  0.00 0.04  0.00  0.00 0.19  0.00
Crit Vol:     161                    0           0                     264
Crit Moves:  ****                              ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #89 La CIENEGA BLVD. @ LENNOX BLVD
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.324
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       28               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    LENNOX BLVD
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted      Permit+Prot      Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  1  1  0   1  0  2  1  0   0  0  0  0  1   1  1  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  501    24   39  318    18    0    0    16  102    0   144
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:   0  501    24   39  318    18    0    0    16  102    0   144
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  501    24   39  318    18    0    0    16  102    0   144
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   0  501    24   39  318    18    0    0    16  102    0   144
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 1.10 1.00  1.00
Final Vol.:    0  501    24   39  318    18    0    0    16  112    0   144
------------|---------------||---------------||---------------||---------------|
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 1.91  0.09 1.00 2.84  0.16 0.00 0.00  1.00 2.00 0.00  1.00
Final Sat.:     0 2720   130 1425 4046   229    0    0  1425 2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.18  0.18 0.03 0.08  0.08 0.00 0.00  0.01 0.04 0.00  0.10
Crit Vol:          262        39                             16               144
Crit Moves:        ****       ****                          ****              ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #94 La CIENEGA BLVD. @ 111TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.210
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       24              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                  / 111TH STREET
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      Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        1  0  2  0  0   0  0  2  1  0   2  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     125  412    0     0  319   101    63    0    32     0    0     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:  125  412    0     0  319   101    63    0    32     0    0     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:   125  412    0     0  319   101    63    0    32     0    0     0
Reduct Vol:     0    0    0     0    0     0     0    0     0     0    0     0
Reduced Vol:  125  412    0     0  319   101    63    0    32     0    0     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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   125  412    0     0  319   101    69    0    32     0    0     0
------------|---------------||---------------||---------------||---------------|
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  0.00  0.00 2.28  0.72  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1425 2850    0     0 3247  1028  2850    0  1425     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.14  0.00  0.00 0.10  0.10  0.02 0.00  0.02  0.00 0.00  0.00
Crit Vol:     125                  140          35                     0
Crit Moves:  ****                 ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #96 La CIENEGA BLVD. @ 405 S/B RAPM
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.575
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       44               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 N/B RAPM
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       Split Phase      Split Phase
Rights:            Ovl            Include          Include          Include
Min. Green:    0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1  1  1   1  0  2  0  0   0  0  0  0  0   1  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0   619    80   129   298     0     0     0     0   651     0    47
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:   0   619    80   129   298     0     0     0     0   651     0    47
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   619    80   129   298     0     0     0     0   651     0    47
Reduct Vol:    0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   0   619    80   129   298     0     0     0     0   651     0    47
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  1.10  1.00 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    0   619    88   129   298     0     0     0     0   716     0    47
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  1.88 0.00  0.12
Final Sat.:    0  2850  1425  1425 2850     0     0     0     0  2674     0   176
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.22  0.06  0.09 0.10  0.00  0.00 0.00  0.00  0.27 0.00  0.27
Crit Vol:          310         129                     0         382
Crit Moves:       ****        ****                               ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #97 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.327
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       34               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  405 S/B RAMP
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       Split Phase      Split Phase
Rights:           Include          Include          Include           Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  0   2  0  1  1  0   0  0  0  0  1   0  0  0  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  471    24   365  641     7     0    0     1     0    0    64
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:    0  471    24   365  641     7     0    0     1     0    0    64
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  471    24   365  641     7     0    0     1     0    0    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  471    24   365  641     7     0    0     1     0    0    64
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  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10
Final Vol.:     0  471    24   402  641     7     0    0     1     0    0    70
------------|---------------||---------------||---------------||---------------|
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:       0.00 1.90  0.10  2.00 1.98  0.02  0.00 0.00  1.00  0.00 0.00  2.00
Final Sat.:     0 2617   133  2750 2720    30     0    0  1375     0    0  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.18  0.18  0.15 0.24  0.24  0.00 0.00  0.00  0.00 0.00  0.03
Crit Vol:          247         201                             1          0
Crit Moves:       ****        ****                          ****       ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #98 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.259
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       25               Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                    405 S/B RAMP
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       Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  1   1  0  2  1  0   0  0  1! 0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  496    82   55  292     4    1    1     4  110    0    39
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:   0  496    82   55  292     4    1    1     4  110    0    39
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  496    82   55  292     4    1    1     4  110    0    39
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   0  496    82   55  292     4    1    1     4  110    0    39
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 1.10 1.00  1.00
Final Vol.:    0  496    82   55  292     4    1    1     4  121    0    39
------------|---------------||---------------||---------------||---------------|
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 2.96  0.04 0.17 0.17  0.66 2.00 0.00  1.00
Final Sat.:  1425 2850  1425 1425 4217    58  238  238   950 2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.06 0.04 0.07  0.07 0.00 0.00  0.00 0.04 0.00  0.03
Crit Vol:          248          55                         6        61
Crit Moves:        ****        ****                     ****      ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #101 SEPULVEDA BLVD. @ LA TIJERA BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.455
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       42              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard            La Tijera Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      80 1073    84    24  751   107    39  225    40   131  144    17
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:   80 1073    84    24  751   107    39  225    40   131  144    17
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:    80 1073    84    24  751   107    39  225    40   131  144    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   80 1073    84    24  751   107    39  225    40   131  144    17
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
Final Vol.:    80 1073    84    24  751   107    39  225    40   131  144    17
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  1.00 2.00  1.00  1.00 1.79  0.21
Final Sat.:  1375 4125  1375  1375 4125  1375  1375 2750  1375  1375 2460   290
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.26  0.06  0.02 0.18  0.08  0.03 0.08  0.03  0.10 0.06  0.06
Crit Vol:          358          24                     113          131
Crit Moves:       ****        ****                    ****         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #108 SEPULVEDA BLVD. @ LINCOLN BLVD.
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):       0.509
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       57                Level Of Service:                 A
********************************************************************************
Street Name:       SEPULVEDA BOULEVARD              LINCOLN 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
Lanes:        4  0  2  1  0   0  0  3  1  0   0  0  0  0  4   0  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     931 1349   219     0  926     2     0     0   736     0     0     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:  931 1349   219     0  926     2     0     0   736     0     0     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:   931 1349   219     0  926     2     0     0   736     0     0     2
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol:  931 1349   219     0  926     2     0     0   736     0     0     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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:  1024 1349   219     0  926     2     0     0   810     0     0     2
------------|---------------||---------------||---------------||---------------|
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:       4.00 2.58  0.42  0.00 3.99  0.01  0.00 0.00  4.00  0.00 0.00  1.00
Final Sat.:  5700 3678   597     0 5688    12     0     0  5700     0     0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.37  0.37  0.00 0.16  0.16  0.00 0.00  0.14  0.00 0.00  0.00
Crit Vol:          523              232                     202     0
Crit Moves:       ****                                     ****  ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #114 SEPULVEDA BLVD. @ MANCHESTER AVE.
********************************************************************************
Cycle (sec):       100              Critical Vol./Cap. (X):        0.597
Loss Time (sec):     0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:      57              Level Of Service:                  A
********************************************************************************
Street Name:        Sepulveda Boulevard              Manchester Avenue
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit       Protected       Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   2  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      68 1077    39    87  826    75    81  362    44    56  660   278
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:   68 1077    39    87  826    75    81  362    44    56  660   278
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:    68 1077    39    87  826    75    81  362    44    56  660   278
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   68 1077    39    87  826    75    81  362    44    56  660   278
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:    68 1077    39    87  826    75    89  362    44    56  660   278
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  2.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 4125  1375  1375 4125  1375  2750 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.26  0.03  0.06 0.20  0.05  0.03 0.13  0.03  0.04 0.24  0.20
Crit Vol:          359          87               45                     330
Crit Moves:       ****        ****             ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #123 WESTCHESTER PARKWAY @ PERSHING DRIVE
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.480
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       36                Level Of Service:                  A
********************************************************************************
Street Name:          Pershing Drive                Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Protected         Permitted         Permitted
Rights:          Include          Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  2  0  1   1  0  2  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  675   566    24  244     0     0    0     0   172    0    27
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:    0  675   566    24  244     0     0    0     0   172    0    27
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  675   566    24  244     0     0    0     0   172    0    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  675   566    24  244     0     0    0     0   172    0    27
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  1.10 1.00  1.00
Final Vol.:     0  675   566    24  244     0     0    0     0   189    0    27
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2850  1425  1425 2850     0     0    0     0  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.24  0.40  0.02 0.09  0.00  0.00 0.00  0.00  0.07 0.00  0.02
Crit Vol:                566    24                     0          95
Crit Moves:             ****  ****                               ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #135 SEPULVEDA BLVD. @ WESTCHESTER PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.418
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       39              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard            Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   1  0  1  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      96 1070    29    68  841   107     9  121    36    71  188    96
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 1070    29    68  841   107     9  121    36    71  188    96
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 1070    29    68  841   107     9  121    36    71  188    96
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   96 1070    29    68  841   107     9  121    36    71  188    96
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
Final Vol.:    96 1070    29    68  841   107     9  121    36    71  188    96
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  1.00 1.54  0.46  1.00 1.32  0.68
Final Sat.:  1375 4125  1375  1375 4125  1375  1375 2119   631  1375 1820   930
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.26  0.02  0.05 0.20  0.08  0.01 0.06  0.06  0.05 0.10  0.10
Crit Vol:          357          68                      79          71
Crit Moves:        ****        ****                    ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #136 SEPULVEDA @ 76th/77th STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.613
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       37               Level Of Service:                  B
********************************************************************************
Street Name:       Sepulveda Boulevard                76th/77th Street
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
Lanes:        1  0  3  0  1   1  0  3  0  1   2  0  1  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     17 1484    11    21  914    75   408   29    32    13   23   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:  17 1484    11    21  914    75   408   29    32    13   23   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:   17 1484    11    21  914    75   408   29    32    13   23   180
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  17 1484    11    21  914    75   408   29    32    13   23   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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   17 1484    11    21  914    75   449   29    32    13   23   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:       1.00 3.00  1.00  1.00 3.00  1.00  2.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1500 4500  1500  1500 4500  1500  3000 1500  1500  1500 1500  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.33  0.01  0.01 0.20  0.05  0.15 0.02  0.02  0.01 0.02  0.12
Crit Vol:          495          21               224                         180
Crit Moves:        ****       ****              ****                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #137 SEPULVEDA BLVD. @ 79th/80th STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.522
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       30               Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard              79th/80th Street
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
Lanes:        1  0  2  1  0   1  0  3  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     61 1475     7    18  886    79    79   57    42     9  118    74
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 1475     7    18  886    79    79   57    42     9  118    74
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 1475     7    18  886    79    79   57    42     9  118    74
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  61 1475     7    18  886    79    79   57    42     9  118    74
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
Final Vol.:   61 1475     7    18  886    79    79   57    42     9  118    74
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  1.00 3.00  1.00  1.00 1.00  1.00  1.00 0.61  0.39
Final Sat.:  1500 4479    21  1500 4500  1500  1500 1500  1500  1500  922   578
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.33  0.33  0.01 0.20  0.05  0.05 0.04  0.03  0.01 0.13  0.13
Crit Vol:          494          18                79                     192
Crit Moves:        ****       ****              ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #138 SEPULVEDA BLVD. @ 83rd STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.401
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       24              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard                  83rd Street
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
Lanes:        1  0  2  1  0   1  0  2  1  0   0  0  1! 0  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18 1362     3    19  856    36    38   45    30    14   55    24
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 1362     3    19  856    36    38   45    30    14   55    24
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 1362     3    19  856    36    38   45    30    14   55    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   18 1362     3    19  856    36    38   45    30    14   55    24
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
Final Vol.:    18 1362     3    19  856    36    38   45    30    14   55    24
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  1.00 2.88  0.12  0.34 0.40  0.26  1.00 0.70  0.30
Final Sat.:  1500 4490    10  1500 4318   182   504  597   398  1500 1044   456
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.30  0.30  0.01 0.20  0.20  0.08 0.08  0.08  0.01 0.05  0.05
Crit Vol:          455          19                      113         14
Crit Moves:       ****        ****                     ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1000 La CIENEGA BLVD. @ 104 TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.427
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       32              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                  104 TH STREET
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit        Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  2  1  0   1  0  1  0  1   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     164  450    14    18  566    43    22    1   239     3    2     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:  164  450    14    18  566    43    22    1   239     3    2     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:   164  450    14    18  566    43    22    1   239     3    2     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  164  450    14    18  566    43    22    1   239     3    2     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
Final Vol.:   164  450    14    18  566    43    22    1   239     3    2     2
------------|---------------||---------------||---------------||---------------|
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 1.94  0.06  1.00 2.79  0.21  1.00 1.00  1.00  0.43 0.29  0.28
Final Sat.:  1425 2764    86  1425 3973   302  1425 1425  1425   611  407   407
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.16  0.16  0.01 0.14  0.14  0.02 0.00  0.17  0.00 0.00  0.00
Crit Vol:     164                    203                     239     3
Crit Moves:  ****                   ****                    ****  ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

2011 Without Project-PM Peak

```
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                                Scenario Report
Scenario:             2011 Without Project-PM Peak

Command:              Delivery
Volume:               Delivery
Geometry:             Existing geometry
Impact Fee:           Default Impact Fee
Trip Generation:      Default Trip Generation
Trip Distribution:    Default Trip Distribution
Paths:                Default Paths
Routes:               Default Routes
Configuration:        Default Configuration
```

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #14 AVIATION BLVD. @ CENTURY BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.888
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  D
********************************************************************************
Street Name:          AVIATION BLVD.                    CENTURY BLVD.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  0   2  0  2  0  1   1  0  3  1  0   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     498  698   107   130  555   118   142 1837   441   100 1309   119
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:  498  698   107   130  555   118   142 1837   441   100 1309   119
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:   498  698   107   130  555   118   142 1837   441   100 1309   119
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  498  698   107   130  555   118   142 1837   441   100 1309   119
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:     1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   548  698   107   143  555   118   142 1837   441   100 1309   119
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.73  0.27  2.00 2.00  1.00  1.00 3.23  0.77  1.00 3.67  0.33
Final Sat.:  2750 2384   366  2750 2750  1375  1375 4435  1065  1375 5042   458
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20 0.29  0.29  0.05 0.20  0.09  0.10 0.41  0.41  0.07 0.26  0.26
Crit Vol:     274                    278               569          100
Crit Moves:  ****                  ****              ****         ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #16 IMPERIAL HWY. @ AVIATION BL.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.825
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      130               Level Of Service:                  D
********************************************************************************
Street Name:               AVIATION BL.                  IMPERIAL HWY.
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        Protected        Protected
Rights:           Ovl              Ovl            Include            Ovl
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  2  0  1   2  0  1  1  1   2  0  2  1  0   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     179  487   340   453  580   112   254 1253   275   241  493   397
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:  179  487   340   453  580   112   254 1253   275   241  493   397
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  487   340   453  580   112   254 1253   275   241  493   397
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  179  487   340   453  580   112   254 1253   275   241  493   397
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:     1.10 1.00  1.00  1.10 1.00  1.10  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   197  487   340   498  580   123   279 1253   275   265  493   397
------------|---------------||---------------||---------------||---------------|
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:       2.00 2.00  1.00  2.00 2.00  1.00  2.00 2.46  0.54  2.00 3.00  1.00
Final Sat.:  2750 2750  1375  2750 2750  1375  2750 3383   742  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.18  0.25  0.18 0.21  0.09  0.10 0.37  0.37  0.10 0.12  0.29
Crit Vol:          244         249                     509         133
Crit Moves:       ****        ****                    ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #19 AVIATION BLVD. @ 111TH
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.587
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       55              Level Of Service:                  A
********************************************************************************
Street Name:          AVIATION BLVD.                     111TH STREET
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        Protected        Protected
Rights:            Ovl             Include          Include           Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  1  1  0   1  0  0  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20  990   102    91 1162    86    80   83    31    56   56   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:   20  990   102    91 1162    86    80   83    31    56   56   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:    20  990   102    91 1162    86    80   83    31    56   56   164
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   20  990   102    91 1162    86    80   83    31    56   56   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
Final Vol.:    20  990   102    91 1162    86    80   83    31    56   56   164
------------|---------------||---------------||---------------||---------------|
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 1.81  0.19  1.00 1.86  0.14  1.00 0.73  0.27  1.00 1.00  1.00
Final Sat.:  1375 2493   257  1375 2560   190  1375 1001   374  1375 1375  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.40  0.40  0.07 0.45  0.45  0.06 0.08  0.08  0.04 0.04  0.12
Crit Vol:          546          91                     114          56
Crit Moves:       ****        ****                    ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #36 La CIENEGA BLVD. @ CENTURY BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        1.081
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  F
********************************************************************************
Street Name:         La CIENEGA BLVD.                  CENTURY BLVD.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  2   1  0  2  0  2   1  0  3  0  1   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     183  408   751   409  640   469   172 1296   848   141  797   248
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:  183  408   751   409  640   469   172 1296   848   141  797   248
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:   183  408   751   409  640   469   172 1296   848   141  797   248
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  183  408   751   409  640   469   172 1296   848   141  797   248
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  1.10  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   183  408   826   409  640   516   172 1296   848   141  797   248
------------|---------------||---------------||---------------||---------------|
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 2.00  2.00  1.00 2.00  2.00  1.00 3.00  1.00  1.00 3.05  0.95
Final Sat.:  1375 2750  2750  1375 2750  2750  1375 4125  1375  1375 4195  1305
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.15  0.30  0.30 0.23  0.19  0.13 0.31  0.62  0.10 0.19  0.19
Crit Vol:               413   409                            848     0
Crit Moves:            ****  ****                           ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #39 CENTURY BLVD. @ 405 N/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.592
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       35              Level Of Service:                  A
********************************************************************************
Street Name:        405 NORTH OFF RAMP                   CENTURY BLVD
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
Lanes:        2  0  0  0  1   0  0  0  0  1   1  0  2  1  1   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     474    0   433     0    0    34    35 1655   654     0  953    18
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:  474    0   433     0    0    34    35 1655   654     0  953    18
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:   474    0   433     0    0    34    35 1655   654     0  953    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  474    0   433     0    0    34    35 1655   654     0  953    18
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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:   521    0   433     0    0    34    35 1655   719     0  953    18
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  0.00 0.00  1.00  1.00 2.79  1.21  0.00 2.94  0.06
Final Sat.:  3000    0  1500     0    0  1500  1500 4182  1818     0 4417    83
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.29  0.00 0.00  0.02  0.02 0.40  0.40  0.00 0.22  0.22
Crit Vol:     261                            34        594          0
Crit Moves:  ****                          ****       ****       ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #47 IMPERIAL HWY. @ DOUGLAS ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.555
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       51              Level Of Service:                  A
********************************************************************************
Street Name:          DOUGLAS STREET                  IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  0  2   1  0  1! 0  1   1  0  2  1  0   2  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     179   18   451    89   15    45    40 1214    44    31  672    37
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:  179   18   451    89   15    45    40 1214    44    31  672    37
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   18   451    89   15    45    40 1214    44    31  672    37
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  179   18   451    89   15    45    40 1214    44    31  672    37
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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:   179   18   496    98   15    50    40 1214    44    34  672    37
------------|---------------||---------------||---------------||---------------|
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 1.00  2.00  1.81 0.19  1.00  1.00 2.90  0.10  2.00 2.84  0.16
Final Sat.:  1375 1375  2750  2487  263  1375  1375 3981   144  2750 3910   215
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.01  0.18  0.04 0.06  0.04  0.03 0.30  0.30  0.01 0.17  0.17
Crit Vol:                248         78               419         17
Crit Moves:             ****       ****              ****       ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #65 SEPULVEDA @ H. HUGHES PARKWAY
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.760
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       60               Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard            H. Hughes Parkway
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:           Ignore           Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  4  0  1   2  0  3  0  0   0  0  0  0  0   3  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1724   568   587 1832     0     0    0     0   521    0   386
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:    0 1724   568   587 1832     0     0    0     0   521    0   386
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1724     0   587 1832     0     0    0     0   521    0   386
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1724     0   587 1832     0     0    0     0   521    0   386
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00  1.10 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0 1724     0   646 1832     0     0    0     0   573    0   386
------------|---------------||---------------||---------------||---------------|
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 4.00  1.00  2.00 3.00  0.00  0.00 0.00  0.00  3.00 0.00  1.00
Final Sat.:     0 6000  1500  3000 4500     0     0    0     0  4500    0  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.29  0.00  0.22 0.41  0.00  0.00 0.00  0.00  0.13 0.00  0.26
Crit Vol:          431         323               0                        386
Crit Moves:       ****        ****                                       ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #67 IMPERIAL HWY. @ La CIENEGA BLVD.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.718
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       81               Level Of Service:                  C
********************************************************************************
Street Name:         La CIENEGA BLVD.                   IMPERIAL HWY.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  1    2  0  1  1  1    2  0  3  0  2    2  0  3  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      80  215   638   459  499   545   212 1070   248    49  426   205
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:   80  215   638   459  499   545   212 1070   248    49  426   205
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:    80  215   638   459  499   545   212 1070   248    49  426   205
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   80  215   638   459  499   545   212 1070   248    49  426   205
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:     1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10
Final Vol.:    88  215   702   505  499   600   233 1070   273    54  426   226
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.00  2.00  2.00 1.36  1.64  2.00 3.00  2.00  2.00 3.00  2.00
Final Sat.:  2750 1375  2750  2750 1874  2251  2750 4125  2750  2750 4125  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.16  0.26  0.18 0.27  0.27  0.08 0.26  0.10  0.02 0.10  0.08
Crit Vol:                351   252                    357          27
Crit Moves:             ****  ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #68 IMPERIAL HWY @MAIN STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.964
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180               Level Of Service:                  E
********************************************************************************
Street Name:           MAIN STREET                     IMPERIAL HWY
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase        Permitted        Protected
Rights:           Ignore          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  1  0  0  1   1  0  0  0  0   0  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     235    0   402     2    0     0     0 1341   308   572 1012     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:  235    0   402     2    0     0     0 1341   308   572 1012     0
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   235    0     0     2    0     0     0 1341   308   572 1012     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  235    0     0     2    0     0     0 1341   308   572 1012     0
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   259    0     0     2    0     0     0 1341   308   572 1012     0
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  1.00 0.00  0.00  0.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  2850    0  1425  1425    0     0     0 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.00  0.00  0.00 0.00  0.00  0.00 0.47  0.22  0.40 0.36  0.00
Crit Vol:     129                  2                  671         572
Crit Moves:  ****              ****               ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #69 IMPERIAL HWY @ PERSHING DR.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.677
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       58              Level Of Service:                  B
********************************************************************************
Street Name:    PERSHING DR./HYPERION DWY.               IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Include            Ovl
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1! 0  0   1  1  0  1  0   2  0  2  0  0   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4     0     7  1141    27   176   143   522     0     4   496   775
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:    4     0     7  1141    27   176   143   522     0     4   496   775
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:     4     0     7  1141    27   176   143   522     0     4   496   775
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    4     0     7  1141    27   176   143   522     0     4   496   775
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  1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:     4     0     7  1255    27   176   157   522     0     4   496   775
------------|---------------||---------------||---------------||---------------|
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:       0.36 0.00  0.64  2.00 0.13  0.87  2.00 2.00  0.00  1.00 2.00  1.00
Final Sat.:   518     0   907  2850  190  1235  2850 2850     0  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.00  0.01  0.44 0.14  0.14  0.06 0.18  0.00  0.00 0.17  0.54
Crit Vol:                 11   628               79                     248
Crit Moves:             ****  ****             ****                    ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #71 IMPERIAL HWY @ SEPULVEDA BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        1.335
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  F
********************************************************************************
Street Name:           SEPULVEDA BL.                      IMPERIAL HWY
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   2  0  3  1  0   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     185 1951  1214   326 1957    40   173  497   187   256  363   347
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:  185 1951  1214   326 1957    40   173  497   187   256  363   347
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:   185 1951  1214   326 1957    40   173  497   187   256  363   347
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  185 1951  1214   326 1957    40   173  497   187   256  363   347
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  1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   185 1951  1214   359 1957    40   190  497   187   282  363   347
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  2.00 3.92  0.08  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  1375 4125  1375  2750 5390   110  2750 4125  1375  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.47  0.88  0.13 0.36  0.36  0.07 0.12  0.14  0.10 0.09  0.25
Crit Vol:               1214   179              95                           347
Crit Moves:             ****  ****             ****                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #73 IMPERIAL HWY @ NASH ST.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.437
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33               Level Of Service:                  A
********************************************************************************
Street Name:  FWY 105 OFF RAMP/ NASH STREET          IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted       Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  0  0  2   1  1  0  1  1   0  0  2  1  0   2  0  3  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      76    0    99   183  201   203     0 1000    61    66  978     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:   76    0    99   183  201   203     0 1000    61    66  978     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:    76    0    99   183  201   203     0 1000    61    66  978     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   76    0    99   183  201   203     0 1000    61    66  978     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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    76    0   109   201  201   223     0 1000    61    73  978     0
------------|---------------||---------------||---------------||---------------|
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 0.00  2.00  1.28 1.28  1.44  0.00 2.83  0.17  2.00 3.00  0.00
Final Sat.:  1425    0  2850  1828 1831  2041     0 4029   246  2850 4275     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.00  0.04  0.11 0.11  0.11  0.00 0.25  0.25  0.03 0.23  0.00
Crit Vol:      76              157                    354          36
Crit Moves:  ****             ****                   ****         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #74 IMPERIAL HWY. @  105 RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.724
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       67              Level Of Service:                  C
********************************************************************************
Street Name:            / 105 RAMP                    IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:            Ovl              Ovl            Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  1  1   2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     483    0   549     0    0     0     0 1162   838   379  709     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: 483    0   549     0    0     0     0 1162   838   379  709     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:   483    0   549     0    0     0     0 1162   838   379  709     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  483    0   549     0    0     0     0 1162   838   379  709     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:     1.10 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.10  1.10 1.00  1.00
Final Vol.:   531    0   604     0    0     0     0 1162   922   417  709     0
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  2.00  0.00 0.00  0.00  0.00 2.23  1.77  2.00 2.00  0.00
Final Sat.:  2850    0  2850     0    0     0     0 3179  2521  2850 2850     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.00  0.21  0.00 0.00  0.00  0.00 0.37  0.37  0.15 0.25  0.00
Crit Vol:                302          0                521         208
Crit Moves:             ****                          ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #75 IMPERIAL HWY. @ 405 NORTH RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.624
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       50               Level Of Service:                  B
********************************************************************************
Street Name:              405 NORTH RAMP                     IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Ignore           Ignore
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       1  0  1! 0  0   0  0  0  0  0   0  0  2  1  1   0  0  2  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    236    0   232    0    0     0    0 1932   329    0  471   195
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: 236    0   232    0    0     0    0 1932   329    0  471   195
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:  236    0   232    0    0     0    0 1932     0    0  471     0
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 236    0   232    0    0     0    0 1932     0    0  471     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
Final Vol.:  260    0   232    0    0     0    0 1932     0    0  471     0
------------|---------------||---------------||---------------||---------------|
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:       1.06 0.00  0.94  0.00 0.00  0.00  0.00 3.00  1.00  0.00 3.00  1.00
Final Sat.:  1505    0  1345     0    0     0     0 4275  1425     0 4275  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.17  0.00 0.00  0.00  0.00 0.45  0.00  0.00 0.11  0.00
Crit Vol:               246          0               644          0
Crit Moves:            ****                         ****        ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #89 La CIENEGA BLVD. @ LENNOX BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.499
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       37              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                    LENNOX BLVD
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted      Permit+Prot      Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  0   1  0  2  1  0   0  0  0  0  1   1  1  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  630   203   231 1307    17     0    0    16    87    0    74
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:    0  630   203   231 1307    17     0    0    16    87    0    74
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  630   203   231 1307    17     0    0    16    87    0    74
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  630   203   231 1307    17     0    0    16    87    0    74
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  1.10 1.00  1.00
Final Vol.:     0  630   203   231 1307    17     0    0    16    96    0    74
------------|---------------||---------------||---------------||---------------|
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 1.51  0.49  1.00 2.96  0.04  0.00 0.00  1.00  2.00 0.00  1.00
Final Sat.:     0 2155   695  1425 4220    55     0    0  1425  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.29  0.29  0.16 0.31  0.31  0.00 0.00  0.01  0.03 0.00  0.05
Crit Vol:         417          231                              16    48
Crit Moves:       ****         ****                            ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #94 La CIENEGA BLVD. @ 111TH STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.556
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       42               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                   / 111TH STREET
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       Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  0   0  0  2  1  0   2  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     109  605     0     0 1277   172   186    0   200     0    0     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:  109  605     0     0 1277   172   186    0   200     0    0     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:   109  605     0     0 1277   172   186    0   200     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  109  605     0     0 1277   172   186    0   200     0    0     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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   109  605     0     0 1277   172   205    0   200     0    0     0
------------|---------------||---------------||---------------||---------------|
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  0.00  0.00 2.64  0.36  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1425 2850     0     0 3768   507  2850    0  1425     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.21  0.00  0.00 0.34  0.34  0.07 0.00  0.14  0.00 0.00  0.00
Crit Vol:     109                   483                    200          0
Crit Moves:  ****                  ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #96 La CIENEGA BLVD. @ 405 S/B RAPM
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.680
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       58              Level Of Service:                  B
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 N/B RAPM
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      Split Phase      Split Phase
Rights:            Ovl            Include         Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  1   1  0  2  0  0   0  0  0  0  0   1  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  641    76   170  757     0     0    0     0   708    0   178
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:    0  641    76   170  757     0     0    0     0   708    0   178
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  641    76   170  757     0     0    0     0   708    0   178
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  641    76   170  757     0     0    0     0   708    0   178
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  1.10  1.00 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0  641    84   170  757     0     0    0     0   779    0   178
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  1.63 0.00  0.37
Final Sat.:     0 2850  1425  1425 2850     0     0    0     0  2320    0   530
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.22  0.06  0.12 0.27  0.00  0.00 0.00  0.00  0.34 0.00  0.34
Crit Vol:          321         170                       0         478
Crit Moves:       ****        ****                                ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #97 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.524
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       48               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 S/B RAMP
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       Split Phase      Split Phase
Rights:           Include          Include          Include           Ovl
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1  1  0   2  0  1  1  0   0  0  1! 0  0   0  0  0  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  655    36   682  963     5     0     0     0     0     0   497
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:    0  655    36   682  963     5     0     0     0     0     0   497
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  655    36   682  963     5     0     0     0     0     0   497
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol:    0  655    36   682  963     5     0     0     0     0     0   497
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  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10
Final Vol.:     0  655    36   750  963     5     0     0     0     0     0   547
------------|---------------||---------------||---------------||---------------|
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:       0.00 1.90  0.10  2.00 1.99  0.01  0.00 1.00  0.00  0.00 0.00  2.00
Final Sat.:     0 2607   143  2750 2736    14     0 1375     0     0     0  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.25  0.25  0.27 0.35  0.35  0.00 0.00  0.00  0.00 0.00  0.20
Crit Vol:          345         375                      0                 0
Crit Moves:       ****        ****                                      ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #98 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):       100                Critical Vol./Cap. (X):        0.434
Loss Time (sec):     0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      33                Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 S/B RAMP
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      Split Phase      Split Phase
Rights:          Include          Include         Include          Include
Min. Green:    0    0    0    0    0    0    0    0    0    0    0    0
Lanes:       1  0  2  0  1   1  0  2  1  0   0  0  0  0  1   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  579    73   206 1234     4     0    0    30   170    0   104
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:   0  579    73   206 1234     4     0    0    30   170    0   104
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  579    73   206 1234     4     0    0    30   170    0   104
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0  579    73   206 1234     4     0    0    30   170    0   104
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  1.10 1.00  1.00
Final Vol.:    0  579    73   206 1234     4     0    0    30   187    0   104
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  0.00 0.00  1.00  2.00 0.00  1.00
Final Sat.:  1425 2850  1425  1425 4261    14     0    0  1425  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.05  0.14 0.29  0.29  0.00 0.00  0.02  0.07 0.00  0.07
Crit Vol:          290         206                           30    94
Crit Moves:       ****        ****                         ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #101 SEPULVEDA BLVD. @ LA TIJERA BLVD.
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap. (X):        0.758
Loss Time (sec):       0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        94               Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard              La Tijera Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     151 1548   186    67 1270   102   146  496    88   211  403    64
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:  151 1548   186    67 1270   102   146  496    88   211  403    64
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:   151 1548   186    67 1270   102   146  496    88   211  403    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  151 1548   186    67 1270   102   146  496    88   211  403    64
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
Final Vol.:   151 1548   186    67 1270   102   146  496    88   211  403    64
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  1.00 2.00  1.00  1.00 1.73  0.27
Final Sat.:  1375 4125  1375  1375 4125  1375  1375 2750  1375  1375 2373   377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.38  0.14  0.05 0.31  0.07  0.11 0.18  0.06  0.15 0.17  0.17
Crit Vol:          516          67                    248          211
Crit Moves:       ****        ****                   ****        ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #108 SEPULVEDA BLVD. @ LINCOLN BLVD.
********************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):        0.844
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      120             Level Of Service:                  D
********************************************************************************
Street Name:       SEPULVEDA BOULEVARD            LINCOLN 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
Lanes:        4  0  2  1  0   0  0  3  1  0   0  0  0  0  4   0  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    1420 1909  358     0 1708   14     0    0 1390     0    0    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: 1420 1909  358     0 1708   14     0    0 1390     0    0    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:  1420 1909  358     0 1708   14     0    0 1390     0    0    6
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol: 1420 1909  358     0 1708   14     0    0 1390     0    0    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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:  1562 1909  358     0 1708   14     0    0 1529     0    0    6
------------|---------------||---------------||---------------||---------------|
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:       4.00 2.53  0.47  0.00 3.97  0.03  0.00 0.00  4.00  0.00 0.00  1.00
Final Sat.:  5700 3600   675     0 5654    46     0    0 5700     0    0 1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.27 0.53  0.53  0.00 0.30  0.30  0.00 0.00  0.27  0.00 0.00  0.00
Crit Vol:     391                    430                    382     0
Crit Moves:  ****                   ****                   ****  ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #114 SEPULVEDA BLVD. @ MANCHESTER AVE.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        1.023
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  F
********************************************************************************
Street Name:       Sepulveda Boulevard            Manchester Avenue
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit       Protected        Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   2  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114 1601    89   253 1310   277   222 1052   103    94  886   200
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:  114 1601    89   253 1310   277   222 1052   103    94  886   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:   114 1601    89   253 1310   277   222 1052   103    94  886   200
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  114 1601    89   253 1310   277   222 1052   103    94  886   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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   114 1601    89   253 1310   277   244 1052   103    94  886   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 3.00  1.00  1.00 3.00  1.00  2.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 4125  1375  1375 4125  1375  2750 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.39  0.06  0.18 0.32  0.20  0.09 0.38  0.07  0.07 0.32  0.15
Crit Vol:          534         253                    526         94
Crit Moves:       ****        ****                   ****        ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #123 WESTCHESTER PARKWAY @ PERSHING DRIVE
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.539
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       40                Level Of Service:                  A
********************************************************************************
Street Name:            Pershing Drive                Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Protected         Permitted         Permitted
Rights:           Include          Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  2  0  1   1  0  2  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  580   393    82  507     0     0    0     0   533    0   120
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:    0  580   393    82  507     0     0    0     0   533    0   120
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  580   393    82  507     0     0    0     0   533    0   120
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  580   393    82  507     0     0    0     0   533    0   120
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  1.10 1.00  1.00
Final Vol.:     0  580   393    82  507     0     0    0     0   586    0   120
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2850  1425  1425 2850     0     0    0     0  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.28  0.06 0.18  0.00  0.00 0.00  0.00  0.21 0.00  0.08
Crit Vol:                393    82                    0          293
Crit Moves:             ****  ****                               ****
********************************************************************************
```

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #135 SEPULVEDA BLVD. @ WESTCHESTER PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.737
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       87              Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard            Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   1  0  1  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     176 1583    65   142 1428    54   125  208   106   189  330   143
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:  176 1583    65   142 1428    54   125  208   106   189  330   143
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:   176 1583    65   142 1428    54   125  208   106   189  330   143
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  176 1583    65   142 1428    54   125  208   106   189  330   143
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
Final Vol.:   176 1583    65   142 1428    54   125  208   106   189  330   143
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  1.00 1.32  0.68  1.00 1.40  0.60
Final Sat.:  1375 4125  1375  1375 4125  1375  1375 1822   928  1375 1919   831
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.38  0.05  0.10 0.35  0.04  0.09 0.11  0.11  0.14 0.17  0.17
Crit Vol:     176                    476        125                     237
Crit Moves:  ****                   ****       ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #136 SEPULVEDA @ 76th/77th STREET
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.636
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       40                Level Of Service:                  B
********************************************************************************
Street Name:       Sepulveda Boulevard              76th/77th Street
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
Lanes:        1  0  3  0  1   1  0  3  0  1   2  0  1  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38 1920    35   117 1999   307   212   57    74    37   60    80
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:   38 1920    35   117 1999   307   212   57    74    37   60    80
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:    38 1920    35   117 1999   307   212   57    74    37   60    80
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   38 1920    35   117 1999   307   212   57    74    37   60    80
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:    38 1920    35   117 1999   307   233   57    74    37   60    80
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  2.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1500 4500  1500  1500 4500  1500  3000 1500  1500  1500 1500  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.43  0.02  0.08 0.44  0.20  0.08 0.04  0.05  0.02 0.04  0.05
Crit Vol:          640         117               117                          80
Crit Moves:       ****        ****              ****                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #137 SEPULVEDA BLVD. @ 79th/80th STREET
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.623
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       38                Level Of Service:                  B
********************************************************************************
Street Name:       Sepulveda Boulevard              79th/80th Street
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
Lanes:        1  0  2  1  0   1  0  3  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     97 1903    28    64 1825   205   119   92    62    23   80    30
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:  97 1903    28    64 1825   205   119   92    62    23   80    30
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:   97 1903    28    64 1825   205   119   92    62    23   80    30
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  97 1903    28    64 1825   205   119   92    62    23   80    30
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
Final Vol.:   97 1903    28    64 1825   205   119   92    62    23   80    30
------------|---------------||---------------||---------------||---------------|
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 2.96  0.04  1.00 3.00  1.00  1.00 1.00  1.00  1.00 0.73  0.27
Final Sat.:  1500 4435    65  1500 4500  1500  1500 1500  1500  1500 1091   409
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.43  0.43  0.04 0.41  0.14  0.08 0.06  0.04  0.02 0.07  0.07
Crit Vol:      97                  608         119                    110
Crit Moves:  ****                  ****        ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #138 SEPULVEDA BLVD. @ 83rd STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.569
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard                 83rd Street
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
Lanes:        1  0  2  1  0   1  0  2  1  0   0  0  1! 0  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      69 1904    14    37 1733    75    60   74    38    10   41    27
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:   69 1904    14    37 1733    75    60   74    38    10   41    27
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:    69 1904    14    37 1733    75    60   74    38    10   41    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   69 1904    14    37 1733    75    60   74    38    10   41    27
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
Final Vol.:    69 1904    14    37 1733    75    60   74    38    10   41    27
------------|---------------||---------------||---------------||---------------|
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 2.98  0.02  1.00 2.88  0.12  0.35 0.43  0.22  1.00 0.60  0.40
Final Sat.:  1500 4467    33  1500 4313   187   523  645   331  1500  904   596
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.43  0.43  0.02 0.40  0.40  0.11 0.11  0.11  0.01 0.05  0.05
Crit Vol:      69                     603              172         10
Crit Moves:  ****                    ****             ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 Without Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1000 La CIENEGA BLVD. @ 104 TH STREET
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.501
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       37                Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  104 TH STREET
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit        Permitted         Permitted         Permitted
Rights:           Include          Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0    1  0  2  1  0    1  0  1  0  1    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     107  567    22    22  889    21   118    3   303     0    0     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:  107  567    22    22  889    21   118    3   303     0    0     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:   107  567    22    22  889    21   118    3   303     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  107  567    22    22  889    21   118    3   303     0    0     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
Final Vol.:   107  567    22    22  889    21   118    3   303     0    0     0
------------|---------------||---------------||---------------||---------------|
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 1.93  0.07  1.00 2.93  0.07  1.00 1.00  1.00  0.00 1.00  0.00
Final Sat.:  1425 2744   106  1425 4176    99  1425 1425  1425     0 1425     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.21  0.21  0.02 0.21  0.21  0.08 0.00  0.21  0.00 0.00  0.00
Crit Vol:     107                    303                   303     0
Crit Moves:  ****                   ****                  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                                Scenario Report
Scenario:             2011 With Project-AM Peak

Command:              Employee AM
Volume:               Employee AM
Geometry:             Existing geometry
Impact Fee:           Default Impact Fee
Trip Generation:      Default Trip Generation
Trip Distribution:    Default Trip Distribution
Paths:                Default Paths
Routes:               Default Routes
Configuration:        Default Configuration
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #14 AVIATION BLVD. @ CENTURY BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.600
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       57              Level Of Service:                  B
********************************************************************************
Street Name:          AVIATION BLVD.                    CENTURY BLVD.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  0   2  0  2  0  1   1  0  3  1  0   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     505  455    37    54  257   102    77  765   216    65 1269    99
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:  505  455    37    54  257   102    77  765   216    65 1269    99
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:   505  455    37    54  257   102    77  765   216    65 1269    99
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  505  455    37    54  257   102    77  765   216    65 1269    99
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:     1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   556  455    37    59  257   102    77  765   216    65 1269    99
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.85  0.15  2.00 2.00  1.00  1.00 3.12  0.88  1.00 3.71  0.29
Final Sat.:  2750 2543   207  2750 2750  1375  1375 4289  1211  1375 5102   398
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20 0.18  0.18  0.02 0.09  0.07  0.06 0.18  0.18  0.05 0.25  0.25
Crit Vol:     278                     129          77                    342
Crit Moves:  ****                    ****        ****                   ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #16 IMPERIAL HWY. @ AVIATION BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.761
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       95              Level Of Service:                  C
********************************************************************************
Street Name:           AVIATION BL.                      IMPERIAL HWY.
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        Protected        Protected
Rights:           Ovl              Ovl             Include           Ovl
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  2  0  1   2  0  1  1  1   2  0  2  1  0   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     178  432    96   138  233   111   117  203    63   232  828   766
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:  178  432    96   138  233   111   117  203    63   232  828   766
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:   178  432    96   138  233   111   117  203    63   232  828   766
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  178  432    96   138  233   111   117  203    63   232  828   766
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:     1.10 1.00  1.00  1.10 1.00  1.10  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   196  432    96   152  233   122   129  203    63   255  828   766
------------|---------------||---------------||---------------||---------------|
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:       2.00 2.00  1.00  2.00 1.97  1.03  2.00 2.29  0.71  2.00 3.00  1.00
Final Sat.:  2750 2750  1375  2750 2707  1418  2750 3148   977  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.16  0.07  0.06 0.09  0.09  0.05 0.06  0.06  0.09 0.20  0.56
Crit Vol:          216           0                64                        766
Crit Moves:       ****        ****              ****                       ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #19 AVIATION BLVD. @ 111TH
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.544
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       50               Level Of Service:                  A
********************************************************************************
Street Name:          AVIATION BLVD.                     111TH STREET
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        Protected        Protected
Rights:            Ovl             Include          Include            Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  1  1  0   1  0  0  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      23 1196    56    59  569    43    27   14    22    27   27    69
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:   23 1196    56    59  569    43    27   14    22    27   27    69
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:    23 1196    56    59  569    43    27   14    22    27   27    69
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   23 1196    56    59  569    43    27   14    22    27   27    69
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
Final Vol.:    23 1196    56    59  569    43    27   14    22    27   27    69
------------|---------------||---------------||---------------||---------------|
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 1.91  0.09  1.00 1.86  0.14  1.00 0.39  0.61  1.00 1.00  1.00
Final Sat.:  1375 2627   123  1375 2557   193  1375  535   840  1375 1375  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.46  0.46  0.04 0.22  0.22  0.02 0.03  0.03  0.02 0.02  0.05
Crit Vol:          626          59                     36          27
Crit Moves:       ****        ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #36 La CIENEGA BLVD. @ CENTURY BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.600
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       57              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  CENTURY BLVD.
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  2   1  0  2  0  2   1  0  3  0  1   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     119  282   147    71  413   434    69  445   296   322 1006   384
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:  119  282   147    71  413   434    69  445   296   322 1006   384
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:   119  282   147    71  413   434    69  445   296   322 1006   384
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  119  282   147    71  413   434    69  445   296   322 1006   384
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  1.10  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   119  282   162    71  413   477    69  445   296   322 1006   384
------------|---------------||---------------||---------------||---------------|
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 2.00  2.00  1.00 2.00  2.00  1.00 3.00  1.00  1.00 3.00  1.00
Final Sat.:  1375 2750  2750  1375 2750  2750  1375 4125  1375  1375 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.10  0.06  0.05 0.15  0.17  0.05 0.11  0.22  0.23 0.24  0.28
Crit Vol:       0                   207                    296   322
Crit Moves:  ****                  ****                   ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #39 CENTURY BLVD. @ 405 N/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.588
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       35              Level Of Service:                  A
********************************************************************************
Street Name:        405 NORTH OFF RAMP                    CENTURY BLVD
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
Lanes:        2  0  0  0  1   0  0  0  0  1   1  0  2  1  1   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     817     0   112     0     0    25     8   385   266     0  1192     7
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:  817     0   112     0     0    25     8   385   266     0  1192     7
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:   817     0   112     0     0    25     8   385   266     0  1192     7
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  817     0   112     0     0    25     8   385   266     0  1192     7
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:     1.10  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.10  1.00  1.00  1.00
Final Vol.:   899     0   112     0     0    25     8   385   293     0  1192     7
------------|---------------||---------------||---------------||---------------|
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:       2.00  0.00  1.00  0.00  0.00  1.00  1.00  2.27  1.73  0.00  2.98  0.02
Final Sat.:  3000     0  1500     0     0  1500  1500  3409  2591     0  4474    26
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.30  0.00  0.07  0.00  0.00  0.02  0.01  0.11  0.11  0.00  0.27  0.27
Crit Vol:     449                             25     8                     400
Crit Moves:  ****                           ****  ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #47 IMPERIAL HWY. @ DOUGLAS ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.285
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       32              Level Of Service:                  A
********************************************************************************
Street Name:          DOUGLAS STREET                    IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  0  2   1  0  1! 0  1   1  0  2  1  0   2  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      44    9    60    13    3    12    20  346    61    78  905    49
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:   44    9    60    13    3    12    20  346    61    78  905    49
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:    44    9    60    13    3    12    20  346    61    78  905    49
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   44    9    60    13    3    12    20  346    61    78  905    49
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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    44    9    66    14    3    13    20  346    61    86  905    49
------------|---------------||---------------||---------------||---------------|
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 1.00  2.00  1.41 0.29  1.30  1.00 2.55  0.45  2.00 2.85  0.15
Final Sat.:  1375 1375  2750  1934  406  1785  1375 3507   618  2750 3913   212
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.01  0.02  0.01 0.01  0.01  0.01 0.10  0.10  0.03 0.23  0.23
Crit Vol:      44                     10          20                     318
Crit Moves:  ****                   ****        ****                   ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #65 SEPULVEDA @ H. HUGHES PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.346
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       22              Level Of Service:                 A
********************************************************************************
Street Name:       Sepulveda Boulevard              H. Hughes Parkway
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:          Ignore           Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  4  0  1   2  0  3  0  0   0  0  0  0  0   3  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1193   573    96  450     0     0    0     0   398    0   168
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:    0 1193   573    96  450     0     0    0     0   398    0   168
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1193     0    96  450     0     0    0     0   398    0   168
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1193     0    96  450     0     0    0     0   398    0   168
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00  1.10 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0 1193     0   106  450     0     0    0     0   438    0   168
------------|---------------||---------------||---------------||---------------|
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 4.00  1.00  2.00 3.00  0.00  0.00 0.00  0.00  3.00 0.00  1.00
Final Sat.:     0 6000  1500  3000 4500     0     0    0     0  4500    0  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.00  0.04 0.10  0.00  0.00 0.00  0.00  0.10 0.00  0.11
Crit Vol:          298          53                0                           168
Crit Moves:        ****       ****                                           ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
---------------------------------------------------------------------------------
                      Central Utility Plant Project
---------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
*********************************************************************************
Intersection #67 IMPERIAL HWY. @ La CIENEGA BLVD.
*********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.318
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33              Level Of Service:                  A
*********************************************************************************
Street Name:         La CIENEGA BLVD.                   IMPERIAL HWY.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  1    2  0  1  1  1    2  0  3  0  2    2  0  3  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62  141    88    48  121   224   169  130   143    44  567   315
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:   62  141    88    48  121   224   169  130   143    44  567   315
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:    62  141    88    48  121   224   169  130   143    44  567   315
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   62  141    88    48  121   224   169  130   143    44  567   315
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:     1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10
Final Vol.:    68  141    97    53  121   246   186  130   157    48  567   347
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.78  1.22  2.00 1.00  2.00  2.00 3.00  2.00  2.00 3.00  2.00
Final Sat.:  2750 2446  1679  2750 1375  2750  2750 4125  2750  2750 4125  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.06  0.06  0.02 0.09  0.09  0.07 0.03  0.06  0.02 0.14  0.13
Crit Vol:      34                    121          93                    189
Crit Moves:  ****                   ****        ****                   ****
*********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #68 IMPERIAL HWY @MAIN STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.519
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       39              Level Of Service:                  A
********************************************************************************
Street Name:           MAIN STREET                     IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Ignore           Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  1  0  0  1   1  0  0  0  0   0  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     222    0   489     2    0     0     0  700    97   266 1207     4
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:  222    0   489     2    0     0     0  700    97   266 1207     4
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   222    0     0     2    0     0     0  700    97   266 1207     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  222    0     0     2    0     0     0  700    97   266 1207     4
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   244    0     0     2    0     0     0  700    97   266 1207     4
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  1.00 0.00  0.00  0.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  2850    0  1425  1425    0     0     0 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.00  0.00  0.00 0.00  0.00  0.00 0.25  0.07  0.19 0.42  0.00
Crit Vol:     122                2                   350         266
Crit Moves:  ****             ****                  ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #69 IMPERIAL HWY @ PERSHING DR.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.851
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180               Level Of Service:                  D
********************************************************************************
Street Name:    PERSHING DR./HYPERION DWY.             IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Include            Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1! 0  0    1  1  0  1  0    2  0  1  1  0    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       2    0     2   568    2    44   140  255     5     8  264  1131
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:    2    0     2   568    2    44   140  255     5     8  264  1131
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:     2    0     2   568    2    44   140  255     5     8  264  1131
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    2    0     2   568    2    44   140  255     5     8  264  1131
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  1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:     2    0     2   625    2    44   154  255     5     8  264  1131
------------|---------------||---------------||---------------||---------------|
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:       0.50 0.00  0.50  2.00 0.04  0.96  2.00 1.96  0.04  1.00 2.00  1.00
Final Sat.:   713    0   713  2850   62  1363  2850 2795    55  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.22 0.03  0.03  0.05 0.09  0.09  0.01 0.09  0.79
Crit Vol:                  4     0                77                        1131
Crit Moves:             ****  ****              ****                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #71 IMPERIAL HWY @ SEPULVEDA BL.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.633
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       62               Level Of Service:                  B
********************************************************************************
Street Name:           SEPULVEDA BL.                     IMPERIAL HWY
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   2  0  3  1  0   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      77 1084   519   156 1412    21   133  217   100   161  316   193
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:   77 1084   519   156 1412    21   133  217   100   161  316   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:    77 1084   519   156 1412    21   133  217   100   161  316   193
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   77 1084   519   156 1412    21   133  217   100   161  316   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  1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:    77 1084   519   172 1412    21   146  217   100   177  316   193
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  2.00 3.94  0.06  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  1375 4125  1375  2750 5419    81  2750 4125  1375  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.26  0.38  0.06 0.26  0.26  0.05 0.05  0.07  0.06 0.08  0.14
Crit Vol:                519    86                 73                       193
Crit Moves:             ****  ****               ****                      ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #73 IMPERIAL HWY @ NASH ST.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.612
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       48               Level Of Service:                  B
********************************************************************************
Street Name:  FWY 105 OFF RAMP/ NASH STREET            IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        1  0  0  0  2   1  1  0  1  1   0  0  2  1  0   2  0  3  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    0   16   226  803   392     0  414    68   154  799     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:    8    0   16   226  803   392     0  414    68   154  799     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:     8    0   16   226  803   392     0  414    68   154  799     0
Reduct Vol:     0    0    0     0    0     0     0    0     0     0    0     0
Reduced Vol:    8    0   16   226  803   392     0  414    68   154  799     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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     8    0   18   249  803   431     0  414    68   169  799     0
------------|---------------||---------------||---------------||---------------|
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 0.00  2.00  1.00 1.84  1.16  0.00 2.58  0.42  2.00 3.00  0.00
Final Sat.:  1425    0  2850  1425 2624  1651     0 3672   603  2850 4275     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.00  0.01  0.17 0.31  0.26  0.00 0.11  0.11  0.06 0.19  0.00
Crit Vol:                  9        436               161               266
Crit Moves:             ****       ****              ****              ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #74 IMPERIAL HWY. @  105 RAMP
********************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):        0.768
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       80             Level Of Service:                  C
********************************************************************************
Street Name:            / 105 RAMP                    IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:            Ovl              Ovl            Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  1  1   2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     949    0   278     0    0     0     0  183   280    59  963     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:  949    0   278     0    0     0     0  183   280    59  963     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:   949    0   278     0    0     0     0  183   280    59  963     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  949    0   278     0    0     0     0  183   280    59  963     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:     1.10 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.10  1.10 1.00  1.00
Final Vol.:  1044    0   306     0    0     0     0  183   308    65  963     0
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  2.00  0.00 0.00  0.00  0.00 2.00  2.00  2.00 2.00  0.00
Final Sat.:  2850    0  2850     0    0     0     0 2850  2850  2850 2850     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.37 0.00  0.11  0.00 0.00  0.00  0.00 0.06  0.11  0.02 0.34  0.00
Crit Vol:     522                    0                91                482
Crit Moves:  ****                                   ****              ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #75 IMPERIAL HWY. @ 405 NORTH RAMP
********************************************************************************
Cycle (sec):       100             Critical Vol./Cap. (X):        0.299
Loss Time (sec):     0 (Y+R =  4 sec) Average Delay (sec/veh):   xxxxxx
Optimal Cycle:      27             Level Of Service:                  A
********************************************************************************
Street Name:          405 NORTH RAMP                     IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Ignore           Ignore
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  1! 0  0   0  0  0  0  0   0  0  2  1  1   0  0  2  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     252    0    44     0    0     0     0  191    53     0  798   314
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:  252    0    44     0    0     0     0  191    53     0  798   314
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   252    0    44     0    0     0     0  191     0     0  798     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  252    0    44     0    0     0     0  191     0     0  798     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
Final Vol.:   277    0    44     0    0     0     0  191     0     0  798     0
------------|---------------||---------------||---------------||---------------|
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:       1.73 0.00  0.27  0.00 0.00  0.00  0.00 3.00  1.00  0.00 3.00  1.00
Final Sat.:  2460    0   390     0    0     0     0 4275  1425     0 4275  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.00  0.11  0.00 0.00  0.00  0.00 0.04  0.00  0.00 0.19  0.00
Crit Vol:     161                     0           0                     266
Crit Moves:  ****                              ****                    ****
********************************************************************************
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                     Central Utility Plant Project
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #89 La CIENEGA BLVD. @ LENNOX BLVD
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.324
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       28               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    LENNOX BLVD
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted      Permit+Prot      Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1  1  0   1  0  2  1  0   0  0  0  0  1   1  1  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  501    24   39  318    18    0    0    16  102    0   144
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:    0  501    24   39  318    18    0    0    16  102    0   144
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  501    24   39  318    18    0    0    16  102    0   144
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0  501    24   39  318    18    0    0    16  102    0   144
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 1.10 1.00  1.00
Final Vol.:     0  501    24   39  318    18    0    0    16  112    0   144
------------|---------------||---------------||---------------||---------------|
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 1.91  0.09 1.00 2.84  0.16 0.00 0.00  1.00 2.00 0.00  1.00
Final Sat.:     0 2720   130 1425 4046   229    0    0  1425 2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.18  0.18 0.03 0.08  0.08 0.00 0.00  0.01 0.04 0.00  0.10
Crit Vol:          262         39                          16               144
Crit Moves:       ****        ****                        ****             ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #94 La CIENEGA BLVD. @ 111TH STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.210
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       24               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  / 111TH STREET
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      Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  0   0  0  2  1  0   2  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     125  438     0     0  319   101    63    0    32     0    0     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:  125  438     0     0  319   101    63    0    32     0    0     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:   125  438     0     0  319   101    63    0    32     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  125  438     0     0  319   101    63    0    32     0    0     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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   125  438     0     0  319   101    69    0    32     0    0     0
------------|---------------||---------------||---------------||---------------|
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  0.00  0.00 2.28  0.72  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1425 2850     0     0 3247  1028  2850    0  1425     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.15  0.00  0.00 0.10  0.10  0.02 0.00  0.02  0.00 0.00  0.00
Crit Vol:     125                   140         35                      0
Crit Moves:  ****                  ****        ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #96 La CIENEGA BLVD. @ 405 S/B RAPM
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.577
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       44                Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 N/B RAPM
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       Split Phase      Split Phase
Rights:            Ovl            Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  1   1  0  2  0  0   0  0  0  0  0   1  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  619    80   129  298     0     0    0     0   654    0    47
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:    0  619    80   129  298     0     0    0     0   654    0    47
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  619    80   129  298     0     0    0     0   654    0    47
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  619    80   129  298     0     0    0     0   654    0    47
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  1.10  1.00 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0  619    88   129  298     0     0    0     0   719    0    47
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  1.88 0.00  0.12
Final Sat.:     0 2850  1425  1425 2850     0     0    0     0  2675    0   175
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.22  0.06  0.09 0.10  0.00  0.00 0.00  0.00  0.27 0.00  0.27
Crit Vol:          310         129                     0                     383
Crit Moves:       ****        ****                                          ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #97 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.327
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       34              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 S/B RAMP
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       Split Phase      Split Phase
Rights:           Include          Include          Include            Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  0   2  0  1  1  0   0  0  0  0  1   0  0  0  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  471    24   365  667     7     0    0     1     0    0    64
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:    0  471    24   365  667     7     0    0     1     0    0    64
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  471    24   365  667     7     0    0     1     0    0    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  471    24   365  667     7     0    0     1     0    0    64
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  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10
Final Vol.:     0  471    24   402  667     7     0    0     1     0    0    70
------------|---------------||---------------||---------------||---------------|
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:       0.00 1.90  0.10  2.00 1.98  0.02  0.00 0.00  1.00  0.00 0.00  2.00
Final Sat.:     0 2617   133  2750 2721    29     0    0  1375     0    0  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.18  0.18  0.15 0.25  0.25  0.00 0.00  0.00  0.00 0.00  0.03
Crit Vol:          247         201                           1          0
Crit Moves:       ****        ****                        ****       ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #98 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):        0.259
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       25             Level Of Service:                   A
********************************************************************************
Street Name:          La CIENEGA BLVD.                   405 S/B RAMP
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       Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  1   1  0  2  1  0   0  0  1! 0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  496    82    55  292     4     1    1     4   110    0    39
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:    0  496    82    55  292     4     1    1     4   110    0    39
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  496    82    55  292     4     1    1     4   110    0    39
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  496    82    55  292     4     1    1     4   110    0    39
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  1.10 1.00  1.00
Final Vol.:     0  496    82    55  292     4     1    1     4   121    0    39
------------|---------------||---------------||---------------||---------------|
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 2.96  0.04  0.17 0.17  0.66  2.00 0.00  1.00
Final Sat.:  1425 2850  1425  1425 4217    58   238  238   950  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.06  0.04 0.07  0.07  0.00 0.00  0.00  0.04 0.00  0.03
Crit Vol:          248          55                      6          61
Crit Moves:       ****        ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #101 SEPULVEDA BLVD. @ LA TIJERA BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.455
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       42              Level Of Service:                 A
********************************************************************************
Street Name:       Sepulveda Boulevard            La Tijera Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      80 1073    84    24  779   107    39  225    40   132  144    17
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:   80 1073    84    24  779   107    39  225    40   132  144    17
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:    80 1073    84    24  779   107    39  225    40   132  144    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   80 1073    84    24  779   107    39  225    40   132  144    17
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
Final Vol.:    80 1073    84    24  779   107    39  225    40   132  144    17
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  1.00 2.00  1.00  1.00 1.79  0.21
Final Sat.:  1375 4125  1375  1375 4125  1375  1375 2750  1375  1375 2460   290
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.26  0.06  0.02 0.19  0.08  0.03 0.08  0.03  0.10 0.06  0.06
Crit Vol:          358          24                      113         132
Crit Moves:       ****         ****                    ****        ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #108 SEPULVEDA BLVD. @ LINCOLN BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.509
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       58              Level Of Service:                 A
********************************************************************************
Street Name:       SEPULVEDA BOULEVARD             LINCOLN 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
Lanes:        4  0  2  1  0   0  0  3  1  0   0  0  0  0  4   0  0  0  0  1
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:     931 1349   219     0  955     2     0    0   736     0    0     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:  931 1349   219     0  955     2     0    0   736     0    0     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:   931 1349   219     0  955     2     0    0   736     0    0     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  931 1349   219     0  955     2     0    0   736     0    0     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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:  1024 1349   219     0  955     2     0    0   810     0    0     2
------------|----------------||----------------||----------------||----------------|
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:       4.00 2.58  0.42  0.00 3.99  0.01  0.00 0.00  4.00  0.00 0.00  1.00
Final Sat.:  5700 3678   597     0 5688    12     0    0  5700     0    0  1425
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.37  0.37  0.00 0.17  0.17  0.00 0.00  0.14  0.00 0.00  0.00
Crit Vol:          523              239                     202     0
Crit Moves:       ****                                     ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #114 SEPULVEDA BLVD. @ MANCHESTER AVE.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.597
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):    xxxxxx
Optimal Cycle:       57              Level Of Service:                  A
********************************************************************************
Street Name:          Sepulveda Boulevard             Manchester Avenue
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit       Protected       Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   2  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      68 1077    39    87  854    75    81  362    44    56  660   278
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:   68 1077    39    87  854    75    81  362    44    56  660   278
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:    68 1077    39    87  854    75    81  362    44    56  660   278
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   68 1077    39    87  854    75    81  362    44    56  660   278
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:    68 1077    39    87  854    75    89  362    44    56  660   278
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  2.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 4125  1375  1375 4125  1375  2750 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.26  0.03  0.06 0.21  0.05  0.03 0.13  0.03  0.04 0.24  0.20
Crit Vol:          359          87                45                     330
Crit Moves:        ****         ****              ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #123 WESTCHESTER PARKWAY @ PERSHING DRIVE
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.480
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       36              Level Of Service:                  A
********************************************************************************
Street Name:          Pershing Drive                Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Protected        Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  2  0  1   1  0  2  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  675   566   24  244     0    0    0     0  172    0    27
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:    0  675   566   24  244     0    0    0     0  172    0    27
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  675   566   24  244     0    0    0     0  172    0    27
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0  675   566   24  244     0    0    0     0  172    0    27
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 1.10 1.00  1.00
Final Vol.:     0  675   566   24  244     0    0    0     0  189    0    27
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00 1.00 2.00  0.00 0.00 0.00  0.00 2.00 0.00  1.00
Final Sat.:     0 2850  1425 1425 2850     0    0    0     0 2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.24  0.40 0.02 0.09  0.00 0.00 0.00  0.00 0.07 0.00  0.02
Crit Vol:                566   24                    0           95
Crit Moves:             ****  ****                              ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #135 SEPULVEDA BLVD. @ WESTCHESTER PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.418
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       39              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard            Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   1  0  1  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      96 1070    29    68  870   107     9  121    36    71  188    96
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 1070    29    68  870   107     9  121    36    71  188    96
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 1070    29    68  870   107     9  121    36    71  188    96
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   96 1070    29    68  870   107     9  121    36    71  188    96
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
Final Vol.:    96 1070    29    68  870   107     9  121    36    71  188    96
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  1.00 1.54  0.46  1.00 1.32  0.68
Final Sat.:  1375 4125  1375  1375 4125  1375  1375 2119   631  1375 1820   930
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.26  0.02  0.05 0.21  0.08  0.01 0.06  0.06  0.05 0.10  0.10
Crit Vol:          357          68                     79          71
Crit Moves:       ****        ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #136 SEPULVEDA @ 76th/77th STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.613
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       37              Level Of Service:                  B
********************************************************************************
Street Name:       Sepulveda Boulevard               76th/77th Street
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
Lanes:        1  0  3  0  1   1  0  3  0  1   2  0  1  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      17 1484    11    21  942    75   408   29    32    13   23   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:   17 1484    11    21  942    75   408   29    32    13   23   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:    17 1484    11    21  942    75   408   29    32    13   23   180
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   17 1484    11    21  942    75   408   29    32    13   23   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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:    17 1484    11    21  942    75   449   29    32    13   23   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:       1.00 3.00  1.00  1.00 3.00  1.00  2.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1500 4500  1500  1500 4500  1500  3000 1500  1500  1500 1500  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.33  0.01  0.01 0.21  0.05  0.15 0.02  0.02  0.01 0.02  0.12
Crit Vol:          495          21              224                         180
Crit Moves:       ****        ****             ****                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #137 SEPULVEDA BLVD. @ 79th/80th STREET
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):       0.522
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       30                Level Of Service:                 A
********************************************************************************
Street Name:       Sepulveda Boulevard              79th/80th Street
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
Lanes:        1  0  2  1  0   1  0  3  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61 1475     7    18  914    79    79   57    42     9  118    74
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 1475     7    18  914    79    79   57    42     9  118    74
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 1475     7    18  914    79    79   57    42     9  118    74
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   61 1475     7    18  914    79    79   57    42     9  118    74
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
Final Vol.:    61 1475     7    18  914    79    79   57    42     9  118    74
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  1.00 3.00  1.00  1.00 1.00  1.00  1.00 0.61  0.39
Final Sat.:  1500 4479    21  1500 4500  1500  1500 1500  1500  1500  922   578
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.33  0.33  0.01 0.20  0.05  0.05 0.04  0.03  0.01 0.13  0.13
Crit Vol:          494          18                 79                    192
Crit Moves:       ****        ****               ****                   ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #138 SEPULVEDA BLVD. @ 83rd STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.401
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       24              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard                 83rd Street
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
Lanes:        1  0  2  1  0   1  0  2  1  0   0  0  1! 0  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      18 1362     3    19  884    36    38   45    30    14   55    24
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 1362     3    19  884    36    38   45    30    14   55    24
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 1362     3    19  884    36    38   45    30    14   55    24
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   18 1362     3    19  884    36    38   45    30    14   55    24
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
Final Vol.:    18 1362     3    19  884    36    38   45    30    14   55    24
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  1.00 2.88  0.12  0.34 0.40  0.26  1.00 0.70  0.30
Final Sat.:  1500 4490    10  1500 4324   176   504  597   398  1500 1044   456
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.30  0.30  0.01 0.20  0.20  0.08 0.08  0.08  0.01 0.05  0.05
Crit Vol:          455          19                      113          14
Crit Moves:       ****        ****                     ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1000 La CIENEGA BLVD. @ 104 TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.427
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       32              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                  104 TH STREET
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit        Permitted         Permitted         Permitted
Rights:           Include           Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  2  1  0   1  0  1  0  1   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     164  476    14    18  566    43    22    1   239     3    2     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:  164  476    14    18  566    43    22    1   239     3    2     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:   164  476    14    18  566    43    22    1   239     3    2     2
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  164  476    14    18  566    43    22    1   239     3    2     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
Final Vol.:   164  476    14    18  566    43    22    1   239     3    2     2
------------|---------------||---------------||---------------||---------------|
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 1.94  0.06  1.00 2.79  0.21  1.00 1.00  1.00  0.43 0.29  0.28
Final Sat.:  1425 2769    81  1425 3973   302  1425 1425  1425   611  407   407
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.17  0.17  0.01 0.14  0.14  0.02 0.00  0.17  0.00 0.00  0.00
Crit Vol:     164                     203                     239     3
Crit Moves:  ****                  ****                   ****  ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

2011 With Project-PM Peak

```
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                                Scenario Report
Scenario:              2011 With Project-PM Peak

Command:               Delivery
Volume:                Delivery
Geometry:              Existing geometry
Impact Fee:            Default Impact Fee
Trip Generation:       Default Trip Generation
Trip Distribution:     Default Trip Distribution
Paths:                 Default Paths
Routes:                Default Routes
Configuration:         Default Configuration
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #14 AVIATION BLVD. @ CENTURY BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.903
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  E
********************************************************************************
Street Name:           AVIATION BLVD.                    CENTURY BLVD.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  1  1  0   2  0  2  0  1   1  0  3  1  0   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     498  698   107   130  555   118   143 1870   492   100 1310   119
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:  498  698   107   130  555   118   143 1870   492   100 1310   119
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:   498  698   107   130  555   118   143 1870   492   100 1310   119
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  498  698   107   130  555   118   143 1870   492   100 1310   119
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:     1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   548  698   107   143  555   118   143 1870   492   100 1310   119
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.73  0.27  2.00 2.00  1.00  1.00 3.17  0.83  1.00 3.67  0.33
Final Sat.:  2750 2384   366  2750 2750  1375  1375 4354  1146  1375 5042   458
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.20 0.29  0.29  0.05 0.20  0.09  0.10 0.43  0.43  0.07 0.26  0.26
Crit Vol:     274                     278                591         100
Crit Moves:  ****                    ****               ****        ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #16 IMPERIAL HWY. @ AVIATION BL.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.825
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      130               Level Of Service:                  D
********************************************************************************
Street Name:             AVIATION BL.                     IMPERIAL HWY.
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        Protected        Protected
Rights:            Ovl              Ovl            Include            Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  2  0  1   2  0  1  1  1   2  0  2  1  0   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     179  487   340   453  583   119   259 1253   275   241  493   397
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:  179  487   340   453  583   119   259 1253   275   241  493   397
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  487   340   453  583   119   259 1253   275   241  493   397
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  179  487   340   453  583   119   259 1253   275   241  493   397
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:     1.10 1.00  1.00  1.10 1.00  1.10  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   197  487   340   498  583   131   285 1253   275   265  493   397
------------|---------------||---------------||---------------||---------------|
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:       2.00 2.00  1.00  2.00 2.00  1.00  2.00 2.46  0.54  2.00 3.00  1.00
Final Sat.:  2750 2750  1375  2750 2750  1375  2750 3383   742  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.18  0.25  0.18 0.21  0.10  0.10 0.37  0.37  0.10 0.12  0.29
Crit Vol:          244         249                     509         133
Crit Moves:       ****        ****                    ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #19 AVIATION BLVD. @ 111TH
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.611
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       59              Level Of Service:                 B
********************************************************************************
Street Name:          AVIATION BLVD.                     111TH STREET
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        Protected        Protected
Rights:            Ovl            Include          Include            Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  1  1  0   1  0  0  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20  990   102    91 1213    86    80   83    31    56   56   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:   20  990   102    91 1213    86    80   83    31    56   56   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:    20  990   102    91 1213    86    80   83    31    56   56   164
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   20  990   102    91 1213    86    80   83    31    56   56   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
Final Vol.:    20  990   102    91 1213    86    80   83    31    56   56   164
------------|---------------||---------------||---------------||---------------|
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 1.81  0.19  1.00 1.87  0.13  1.00 0.73  0.27  1.00 1.00  1.00
Final Sat.:  1375 2493   257  1375 2568   182  1375 1001   374  1375 1375  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.40  0.40  0.07 0.47  0.47  0.06 0.08  0.08  0.04 0.04  0.12
Crit Vol:      20                   650              114         56
Crit Moves:  ****                  ****             ****        ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #36 La CIENEGA BLVD. @ CENTURY BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        1.081
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  F
********************************************************************************
Street Name:          La CIENEGA BLVD.                   CENTURY BLVD.
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  2   1  0  2  0  2   1  0  3  0  1   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     183  408   751   409  640   471   175 1326   848   141  797   248
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:  183  408   751   409  640   471   175 1326   848   141  797   248
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:   183  408   751   409  640   471   175 1326   848   141  797   248
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  183  408   751   409  640   471   175 1326   848   141  797   248
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  1.10  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   183  408   826   409  640   518   175 1326   848   141  797   248
------------|---------------||---------------||---------------||---------------|
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 2.00  2.00  1.00 2.00  2.00  1.00 3.00  1.00  1.00 3.05  0.95
Final Sat.:  1375 2750  2750  1375 2750  2750  1375 4125  1375  1375 4195  1305
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.15  0.30  0.30 0.23  0.19  0.13 0.32  0.62  0.10 0.19  0.19
Crit Vol:                413   409                             848     0
Crit Moves:             ****  ****                            ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #39 CENTURY BLVD. @ 405 N/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.593
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       35               Level Of Service:                  A
********************************************************************************
Street Name:        405 NORTH OFF RAMP                  CENTURY BLVD
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
Lanes:        2  0  0  0  1   0  0  0  0  1   1  0  2  1  1   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     474    0   433     0    0    34    36 1659   654     0  953    18
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:  474    0   433     0    0    34    36 1659   654     0  953    18
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:   474    0   433     0    0    34    36 1659   654     0  953    18
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  474    0   433     0    0    34    36 1659   654     0  953    18
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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:   521    0   433     0    0    34    36 1659   719     0  953    18
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  0.00 0.00  1.00  1.00 2.79  1.21  0.00 2.94  0.06
Final Sat.:  3000    0  1500     0    0  1500  1500 4185  1815     0 4417    83
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.29  0.00 0.00  0.02  0.02 0.40  0.40  0.00 0.22  0.22
Crit Vol:     261                          34        595              0
Crit Moves:  ****                        ****       ****         ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #47 IMPERIAL HWY. @ DOUGLAS ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.555
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       51              Level Of Service:                  A
********************************************************************************
Street Name:          DOUGLAS STREET                    IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  0  2   1  0  1! 0  1   1  0  2  1  0   2  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     179   18   451    89   15    45    40 1214    44    31  678    37
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:  179   18   451    89   15    45    40 1214    44    31  678    37
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   18   451    89   15    45    40 1214    44    31  678    37
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  179   18   451    89   15    45    40 1214    44    31  678    37
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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:   179   18   496    98   15    50    40 1214    44    34  678    37
------------|---------------||---------------||---------------||---------------|
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 1.00  2.00  1.81 0.19  1.00  1.00 2.90  0.10  2.00 2.84  0.16
Final Sat.:  1375 1375  2750  2487  263  1375  1375 3981   144  2750 3912   213
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.01  0.18  0.04 0.06  0.04  0.03 0.30  0.30  0.01 0.17  0.17
Crit Vol:              248          78               419          17
Crit Moves:           ****        ****              ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #65 SEPULVEDA @ H. HUGHES PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.761
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):    xxxxxx
Optimal Cycle:       60              Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard              H. Hughes Parkway
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:           Ignore          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  4  0  1   2  0  3  0  0   0  0  0  0  0   3  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1730   589   587 1832     0     0    0     0   521    0   386
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:    0 1730   589   587 1832     0     0    0     0   521    0   386
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1730     0   587 1832     0     0    0     0   521    0   386
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1730     0   587 1832     0     0    0     0   521    0   386
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00  1.10 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0 1730     0   646 1832     0     0    0     0   573    0   386
------------|---------------||---------------||---------------||---------------|
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 4.00  1.00  2.00 3.00  0.00  0.00 0.00  0.00  3.00 0.00  1.00
Final Sat.:     0 6000  1500  3000 4500     0     0    0     0  4500    0  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.29  0.00  0.22 0.41  0.00  0.00 0.00  0.00  0.13 0.00  0.26
Crit Vol:          433         323               0                            386
Crit Moves:       ****        ****                                           ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #67 IMPERIAL HWY. @ La CIENEGA BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.719
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       81              Level Of Service:                  C
********************************************************************************
Street Name:         La CIENEGA BLVD.                   IMPERIAL HWY.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  1  1  1   2  0  1  1  1   2  0  3  0  2   2  0  3  0  2
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:      80  215   638   459  499   545   212 1075   248    49  426   205
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:   80  215   638   459  499   545   212 1075   248    49  426   205
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:    80  215   638   459  499   545   212 1075   248    49  426   205
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   80  215   638   459  499   545   212 1075   248    49  426   205
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:     1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10
Final Vol.:    88  215   702   505  499   600   233 1075   273    54  426   226
------------|----------------||----------------||----------------||----------------|
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:       2.00 1.00  2.00  2.00 1.36  1.64  2.00 3.00  2.00  2.00 3.00  2.00
Final Sat.:  2750 1375  2750  2750 1874  2251  2750 4125  2750  2750 4125  2750
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.16  0.26  0.18 0.27  0.27  0.08 0.26  0.10  0.02 0.10  0.08
Crit Vol:               351   252                    358          27
Crit Moves:            ****  ****                   ****        ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #68 IMPERIAL HWY @MAIN STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.964
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  E
********************************************************************************
Street Name:           MAIN STREET                      IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted       Protected
Rights:           Ignore           Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  1  0  0  1   1  0  0  0  0   0  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     235    0   402     2    0     0     0 1341   308   572 1012     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:  235    0   402     2    0     0     0 1341   308   572 1012     0
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   235    0     0     2    0     0     0 1341   308   572 1012     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  235    0     0     2    0     0     0 1341   308   572 1012     0
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   259    0     0     2    0     0     0 1341   308   572 1012     0
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  1.00 0.00  0.00  0.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  2850    0  1425  1425    0     0     0 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.00  0.00  0.00 0.00  0.00  0.00 0.47  0.22  0.40 0.36  0.00
Crit Vol:     129                2                  671         572
Crit Moves:  ****             ****               ****        ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #69 IMPERIAL HWY @ PERSHING DR.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.677
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       58              Level Of Service:                  B
********************************************************************************
Street Name:    PERSHING DR./HYPERION DWY.               IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Include           Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1! 0  0    1  1  0  1  0    2  0  2  0  0    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    0     7  1141   27   176   143  522     0     4  496   775
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:    4    0     7  1141   27   176   143  522     0     4  496   775
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:     4    0     7  1141   27   176   143  522     0     4  496   775
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    4    0     7  1141   27   176   143  522     0     4  496   775
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  1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:     4    0     7  1255   27   176   157  522     0     4  496   775
------------|---------------||---------------||---------------||---------------|
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:       0.36 0.00  0.64  2.00 0.13  0.87  2.00 2.00  0.00  1.00 2.00  1.00
Final Sat.:   518    0   907  2850  190  1235  2850 2850     0  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.00  0.01  0.44 0.14  0.14  0.06 0.18  0.00  0.00 0.17  0.54
Crit Vol:                 11   628             79                     248
Crit Moves:             ****  ****           ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #71 IMPERIAL HWY @ SEPULVEDA BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        1.335
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  F
********************************************************************************
Street Name:          SEPULVEDA BL.                      IMPERIAL HWY
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        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1    2  0  3  1  0    2  0  3  0  1    2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     185 1951  1214   326 1957    40   173  497   187   262  363   347
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:  185 1951  1214   326 1957    40   173  497   187   262  363   347
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:   185 1951  1214   326 1957    40   173  497   187   262  363   347
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  185 1951  1214   326 1957    40   173  497   187   262  363   347
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  1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   185 1951  1214   359 1957    40   190  497   187   288  363   347
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  2.00 3.92  0.08  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  1375 4125  1375  2750 5390   110  2750 4125  1375  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.47  0.88  0.13 0.36  0.36  0.07 0.12  0.14  0.10 0.09  0.25
Crit Vol:               1214   179               95                          347
Crit Moves:             ****  ****             ****                         ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #73 IMPERIAL HWY @ NASH ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.437
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33              Level Of Service:                  A
********************************************************************************
Street Name:  FWY 105 OFF RAMP/ NASH STREET            IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  0  0  2   1  1  0  1  1   0  0  2  1  0   2  0  3  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      76    0    99   183  201   203     0 1000    61    66  984     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:   76    0    99   183  201   203     0 1000    61    66  984     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:    76    0    99   183  201   203     0 1000    61    66  984     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   76    0    99   183  201   203     0 1000    61    66  984     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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    76    0   109   201  201   223     0 1000    61    73  984     0
------------|---------------||---------------||---------------||---------------|
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 0.00  2.00  1.28 1.28  1.44  0.00 2.83  0.17  2.00 3.00  0.00
Final Sat.:  1425    0  2850  1828 1831  2041     0 4029   246  2850 4275     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.00  0.04  0.11 0.11  0.11  0.00 0.25  0.25  0.03 0.23  0.00
Crit Vol:      76              157                     354          36
Crit Moves:  ****             ****                    ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #74 IMPERIAL HWY. @  105 RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.732
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       69              Level Of Service:                  C
********************************************************************************
Street Name:           / 105 RAMP                     IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:            Ovl              Ovl            Include          Include
Min. Green:    0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  1  1   2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     483     0   549     0     0     0     0  1167   874   379   709     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:  483     0   549     0     0     0     0  1167   874   379   709     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:   483     0   549     0     0     0     0  1167   874   379   709     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  483     0   549     0     0     0     0  1167   874   379   709     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:     1.10  1.00  1.10  1.00  1.00  1.00  1.00  1.00  1.10  1.10  1.00  1.00
Final Vol.:   531     0   604     0     0     0     0  1167   961   417   709     0
------------|---------------||---------------||---------------||---------------|
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:       2.00  0.00  2.00  0.00  0.00  0.00  0.00  2.19  1.81  2.00  2.00  0.00
Final Sat.:  2850     0  2850     0     0     0     0  3125  2575  2850  2850     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19  0.00  0.21  0.00  0.00  0.00  0.00  0.37  0.37  0.15  0.25  0.00
Crit Vol:                 302           0                  532         208
Crit Moves:              ****                             ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #75 IMPERIAL HWY. @ 405 NORTH RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.626
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       50               Level Of Service:                  B
********************************************************************************
Street Name:           405 NORTH RAMP                     IMPERIAL HWY
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Ignore           Ignore
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        1  0  1! 0  0   0  0  0  0  0   0  0  2  1  1   0  0  2  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     236     0   232     0     0     0     0 1937   329     0  471   195
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:  236     0   232     0     0     0     0 1937   329     0  471   195
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
PHF Volume:   236     0   232     0     0     0     0 1937     0     0  471     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:  236     0   232     0     0     0     0 1937     0     0  471     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
MLF Adj:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00  1.00 1.00  0.00
Final Vol.:   260     0   232     0     0     0     0 1937     0     0  471     0
------------|---------------||---------------||---------------||---------------|
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:       1.06 0.00  0.94  0.00 0.00  0.00  0.00 3.00  1.00  0.00 3.00  1.00
Final Sat.:  1505     0  1345     0     0     0     0 4275  1425     0 4275  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.17  0.00 0.00  0.00  0.00 0.45  0.00  0.00 0.11  0.00
Crit Vol:               246           0                646           0
Crit Moves:            ****                           ****        ****
********************************************************************************
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #89 La CIENEGA BLVD. @ LENNOX BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.499
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       37              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                    LENNOX BLVD
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted       Permit+Prot      Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  0   1  0  2  1  0   0  0  0  0  1   1  1  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  630   203   231 1307    17     0    0    16    87    0    74
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:    0  630   203   231 1307    17     0    0    16    87    0    74
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  630   203   231 1307    17     0    0    16    87    0    74
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  630   203   231 1307    17     0    0    16    87    0    74
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  1.10 1.00  1.00
Final Vol.:     0  630   203   231 1307    17     0    0    16    96    0    74
------------|---------------||---------------||---------------||---------------|
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 1.51  0.49  1.00 2.96  0.04  0.00 0.00  1.00  2.00 0.00  1.00
Final Sat.:     0 2155   695  1425 4220    55     0    0  1425  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.29  0.29  0.16 0.31  0.31  0.00 0.00  0.01  0.03 0.00  0.05
Crit Vol:          417         231                              16    48
Crit Moves:        ****        ****                           ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #94 La CIENEGA BLVD. @ 111TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.562
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      42               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  / 111TH STREET
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       Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  0   0  0  2  1  0   2  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     109  605     0     0 1304   172   186    0   200     0    0     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:  109  605     0     0 1304   172   186    0   200     0    0     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:   109  605     0     0 1304   172   186    0   200     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  109  605     0     0 1304   172   186    0   200     0    0     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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   109  605     0     0 1304   172   205    0   200     0    0     0
------------|---------------||---------------||---------------||---------------|
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  0.00  0.00 2.65  0.35  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1425 2850     0     0 3777   498  2850    0  1425     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.21  0.00  0.00 0.35  0.35  0.07 0.00  0.14  0.00 0.00  0.00
Crit Vol:     109                     492                    200         0
Crit Moves:  ****                 ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #96 La CIENEGA BLVD. @ 405 S/B RAPM
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.681
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       58              Level Of Service:                  B
********************************************************************************
Street Name:         La CIENEGA BLVD.                  405 N/B RAPM
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      Split Phase      Split Phase
Rights:             Ovl            Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  1   1  0  2  0  0   0  0  0  0  0   1  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  641    76   171  757     0     0    0     0   709    0   178
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:    0  641    76   171  757     0     0    0     0   709    0   178
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  641    76   171  757     0     0    0     0   709    0   178
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  641    76   171  757     0     0    0     0   709    0   178
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  1.10  1.00 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0  641    84   171  757     0     0    0     0   780    0   178
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  1.63 0.00  0.37
Final Sat.:     0 2850  1425  1425 2850     0     0    0     0  2320    0   530
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.22  0.06  0.12 0.27  0.00  0.00 0.00  0.00  0.34 0.00  0.34
Crit Vol:          321         171                    0                     479
Crit Moves:       ****        ****                                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #97 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.534
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       49               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 S/B RAMP
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       Split Phase      Split Phase
Rights:           Include          Include         Include           Ovl
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1  1  0   2  0  1  1  0   0  0  1! 0  0   0  0  0  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  682    36   682  963     5     0     0     0     0     0   497
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:    0  682    36   682  963     5     0     0     0     0     0   497
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  682    36   682  963     5     0     0     0     0     0   497
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol:    0  682    36   682  963     5     0     0     0     0     0   497
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  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10
Final Vol.:     0  682    36   750  963     5     0     0     0     0     0   547
------------|---------------||---------------||---------------||---------------|
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:       0.00 1.90  0.10  2.00 1.99  0.01  0.00 1.00  0.00  0.00 0.00  2.00
Final Sat.:     0 2612   138  2750 2736    14     0 1375     0     0     0  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.26  0.26  0.27 0.35  0.35  0.00 0.00  0.00  0.00 0.00  0.20
Crit Vol:          359         375                      0                 0
Crit Moves:       ****        ****                                     ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #98 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.434
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33              Level Of Service:                 A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  405 S/B RAMP
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      Split Phase      Split Phase
Rights:          Include          Include         Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  1   1  0  2  1  0   0  0  0  0  1   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  579    73   206 1234     4    0    0    30   170    0   104
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:   0  579    73   206 1234     4    0    0    30   170    0   104
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  579    73   206 1234     4    0    0    30   170    0   104
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   0  579    73   206 1234     4    0    0    30   170    0   104
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  1.10 1.00  1.00
Final Vol.:    0  579    73   206 1234     4    0    0    30   187    0   104
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  0.00 0.00  1.00  2.00 0.00  1.00
Final Sat.:  1425 2850  1425  1425 4261    14    0    0  1425  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.05  0.14 0.29  0.29  0.00 0.00  0.02  0.07 0.00  0.07
Crit Vol:          290         206                           30    94
Crit Moves:        ****        ****                        ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #101 SEPULVEDA BLVD. @ LA TIJERA BLVD.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.765
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      97                Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard            La Tijera Boulevard
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     151 1576   187    67 1270   102   146  496    88   211  403    64
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:  151 1576   187    67 1270   102   146  496    88   211  403    64
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:   151 1576   187    67 1270   102   146  496    88   211  403    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  151 1576   187    67 1270   102   146  496    88   211  403    64
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
Final Vol.:   151 1576   187    67 1270   102   146  496    88   211  403    64
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  1.00 2.00  1.00  1.00 1.73  0.27
Final Sat.:  1375 4125  1375  1375 4125  1375  1375 2750  1375  1375 2373   377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.38  0.14  0.05 0.31  0.07  0.11 0.18  0.06  0.15 0.17  0.17
Crit Vol:          525          67                    248          211
Crit Moves:       ****        ****                   ****        ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #108 SEPULVEDA BLVD. @ LINCOLN BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.844
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:      120              Level Of Service:                  D
********************************************************************************
Street Name:       SEPULVEDA BOULEVARD             LINCOLN 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
Lanes:        4  0  2  1  0   0  0  3  1  0   0  0  0  0  4   0  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    1420 1938   358     0 1708    14     0    0  1390     0    0     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: 1420 1938   358     0 1708    14     0    0  1390     0    0     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:  1420 1938   358     0 1708    14     0    0  1390     0    0     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 1420 1938   358     0 1708    14     0    0  1390     0    0     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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:  1562 1938   358     0 1708    14     0    0  1529     0    0     6
------------|---------------||---------------||---------------||---------------|
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:       4.00 2.53  0.47  0.00 3.97  0.03  0.00 0.00  4.00  0.00 0.00  1.00
Final Sat.:  5700 3608   667     0 5654    46     0    0  5700     0    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.27 0.54  0.54  0.00 0.30  0.30  0.00 0.00  0.27  0.00 0.00  0.00
Crit Vol:     391                   430                     382     0
Crit Moves:  ****                  ****                    ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #114 SEPULVEDA BLVD. @ MANCHESTER AVE.
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        1.030
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180                Level Of Service:                  F
********************************************************************************
Street Name:       Sepulveda Boulevard             Manchester Avenue
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit       Protected       Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   2  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     114 1629    89   253 1310   277   222 1052   103    94  886   200
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:  114 1629    89   253 1310   277   222 1052   103    94  886   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:   114 1629    89   253 1310   277   222 1052   103    94  886   200
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  114 1629    89   253 1310   277   222 1052   103    94  886   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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   114 1629    89   253 1310   277   244 1052   103    94  886   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 3.00  1.00  1.00 3.00  1.00  2.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 4125  1375  1375 4125  1375  2750 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.39  0.06  0.18 0.32  0.20  0.09 0.38  0.07  0.07 0.32  0.15
Crit Vol:          543         253                    526          94
Crit Moves:       ****        ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #123 WESTCHESTER PARKWAY @ PERSHING DRIVE
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.539
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       40              Level Of Service:                  A
********************************************************************************
Street Name:          Pershing Drive                Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Protected         Permitted        Permitted
Rights:          Include          Include           Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  2  0  1    1  0  2  0  0    0  0  0  0  0    2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  580   393    82  507     0     0    0     0   533    0   120
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:    0  580   393    82  507     0     0    0     0   533    0   120
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  580   393    82  507     0     0    0     0   533    0   120
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  580   393    82  507     0     0    0     0   533    0   120
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  1.10 1.00  1.00
Final Vol.:     0  580   393    82  507     0     0    0     0   586    0   120
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2850  1425  1425 2850     0     0    0     0  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.28  0.06 0.18  0.00  0.00 0.00  0.00  0.21 0.00  0.08
Crit Vol:                393    82                     0          293
Crit Moves:             ****  ****                               ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #135 SEPULVEDA BLVD. @ WESTCHESTER PARKWAY
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap. (X):        0.757
Loss Time (sec):       0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:        94              Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard            Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   1  0  3  0  1   1  0  1  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     176 1612    65   142 1428    54   125  208   106   189  330   143
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:  176 1612    65   142 1428    54   125  208   106   189  330   143
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:   176 1612    65   142 1428    54   125  208   106   189  330   143
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  176 1612    65   142 1428    54   125  208   106   189  330   143
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
Final Vol.:   176 1612    65   142 1428    54   125  208   106   189  330   143
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  1.00 1.32  0.68  1.00 1.40  0.60
Final Sat.:  1375 4125  1375  1375 4125  1375  1375 1822   928  1375 1919   831
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.39  0.05  0.10 0.35  0.04  0.09 0.11  0.11  0.14 0.17  0.17
Crit Vol:          537         142              125                     237
Crit Moves:       ****        ****             ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #136 SEPULVEDA @ 76th/77th STREET
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.642
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       40                Level Of Service:                  B
********************************************************************************
Street Name:       Sepulveda Boulevard              76th/77th Street
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
Lanes:        1  0  3  0  1   1  0  3  0  1   2  0  1  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38 1948    35   117 1999   307   212   57    74    37   60    80
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:   38 1948    35   117 1999   307   212   57    74    37   60    80
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:    38 1948    35   117 1999   307   212   57    74    37   60    80
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   38 1948    35   117 1999   307   212   57    74    37   60    80
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:    38 1948    35   117 1999   307   233   57    74    37   60    80
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  1.00 3.00  1.00  2.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1500 4500  1500  1500 4500  1500  3000 1500  1500  1500 1500  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.43  0.02  0.08 0.44  0.20  0.08 0.04  0.05  0.02 0.04  0.05
Crit Vol:          649         117               117                          80
Crit Moves:       ****        ****              ****                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #137 SEPULVEDA BLVD. @ 79th/80th STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.631
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       39              Level Of Service:                  B
********************************************************************************
Street Name:       Sepulveda Boulevard              79th/80th Street
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
Lanes:        1  0  2  1  0   1  0  3  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      97 1931    28    64 1825   205   119   92    62    23   80    30
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:   97 1931    28    64 1825   205   119   92    62    23   80    30
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:    97 1931    28    64 1825   205   119   92    62    23   80    30
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   97 1931    28    64 1825   205   119   92    62    23   80    30
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
Final Vol.:    97 1931    28    64 1825   205   119   92    62    23   80    30
------------|---------------||---------------||---------------||---------------|
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 2.96  0.04  1.00 3.00  1.00  1.00 1.00  1.00  1.00 0.73  0.27
Final Sat.:  1500 4436    64  1500 4500  1500  1500 1500  1500  1500 1091   409
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.44  0.44  0.04 0.41  0.14  0.08 0.06  0.04  0.02 0.07  0.07
Crit Vol:          653          64               119                    110
Crit Moves:       ****        ****              ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #138 SEPULVEDA BLVD. @ 83rd STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.569
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33               Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard                 83rd Street
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
Lanes:        1  0  2  1  0   1  0  2  1  0   0  0  1! 0  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      69 1932    14    37 1733    75    60   74    38    10   41    27
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:   69 1932    14    37 1733    75    60   74    38    10   41    27
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:    69 1932    14    37 1733    75    60   74    38    10   41    27
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   69 1932    14    37 1733    75    60   74    38    10   41    27
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
Final Vol.:    69 1932    14    37 1733    75    60   74    38    10   41    27
------------|---------------||---------------||---------------||---------------|
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 2.98  0.02  1.00 2.88  0.12  0.35 0.43  0.22  1.00 0.60  0.40
Final Sat.:  1500 4468    32  1500 4313   187   523  645   331  1500  904   596
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.43  0.43  0.02 0.40  0.40  0.11 0.11  0.11  0.01 0.05  0.05
Crit Vol:      69                    603              172         10
Crit Moves:  ****                   ****             ****        ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
2011 With Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1000 La CIENEGA BLVD. @ 104 TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.507
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       38              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                  104 TH STREET
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit        Permitted         Permitted         Permitted
Rights:           Include           Include           Include           Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  2  1  0   1  0  1  0  1   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     107  567    22    22  916    21   118    3   303     0    0     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:  107  567    22    22  916    21   118    3   303     0    0     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:   107  567    22    22  916    21   118    3   303     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  107  567    22    22  916    21   118    3   303     0    0     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
Final Vol.:   107  567    22    22  916    21   118    3   303     0    0     0
------------|---------------||---------------||---------------||---------------|
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 1.93  0.07  1.00 2.93  0.07  1.00 1.00  1.00  0.00 1.00  0.00
Final Sat.:  1425 2744   106  1425 4179    96  1425 1425  1425     0 1425     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.21  0.21  0.02 0.22  0.22  0.08 0.00  0.21  0.00 0.00  0.00
Crit Vol:     107                     312                     303     0
Crit Moves:  ****                    ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                                Scenario Report
Scenario:             Baseline 2008 plus Project-AM Peak

Command:              Delivery
Volume:               Delivery
Geometry:             Existing geometry
Impact Fee:           Default Impact Fee
Trip Generation:      Default Trip Generation
Trip Distribution:    Default Trip Distribution
Paths:                Default Paths
Routes:               Default Routes
Configuration:        Default Configuration
```

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #14 AVIATION BLVD. @ CENTURY BLVD.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.566
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       53               Level Of Service:                  A
********************************************************************************
Street Name:          AVIATION BLVD.                    CENTURY BLVD.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  0   2  0  2  0  1   1  0  3  1  0   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     478  428    34    48  242    96    72  700   204    61 1196    93
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:  478  428    34    48  242    96    72  700   204    61 1196    93
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:   478  428    34    48  242    96    72  700   204    61 1196    93
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  478  428    34    48  242    96    72  700   204    61 1196    93
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:     1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   526  428    34    53  242    96    72  700   204    61 1196    93
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.85  0.15  2.00 2.00  1.00  1.00 3.10  0.90  1.00 3.71  0.29
Final Sat.:  2750 2548   202  2750 2750  1375  1375 4259  1241  1375 5103   397
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.19 0.17  0.17  0.02 0.09  0.07  0.05 0.16  0.16  0.04 0.23  0.23
Crit Vol:     263                    121          72                    322
Crit Moves:  ****                   ****        ****                   ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #16 IMPERIAL HWY. @ AVIATION BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.601
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       57              Level Of Service:                  B
********************************************************************************
Street Name:           AVIATION BL.                     IMPERIAL HWY.
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        Protected        Protected
Rights:            Ovl              Ovl            Include            Ovl
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  2  0  1   2  0  1  1  1   2  0  2  1  0   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     156  398    90  130  220   104   74  190    59  219  627   586
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  398    90  130  220   104   74  190    59  219  627   586
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  398    90  130  220   104   74  190    59  219  627   586
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  156  398    90  130  220   104   74  190    59  219  627   586
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:     1.10 1.00  1.00 1.10 1.00  1.10 1.10 1.00  1.00 1.10 1.00  1.00
Final Vol.:   172  398    90  143  220   114   81  190    59  241  627   586
------------|---------------||---------------||---------------||---------------|
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:       2.00 2.00  1.00 2.00 1.97  1.03 2.00 2.29  0.71 2.00 3.00  1.00
Final Sat.:  2750 2750  1375 2750 2714  1411 2750 3148   977 2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.14  0.07 0.05 0.08  0.08 0.03 0.06  0.06 0.09 0.15  0.43
Crit Vol:          199          0                41                        586
Crit Moves:        ****        ****             ****                      ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #19 AVIATION BLVD. @ 111TH
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.442
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       41               Level Of Service:                  A
********************************************************************************
Street Name:          AVIATION BLVD.                     111TH STREET
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        Protected        Protected
Rights:           Ovl             Include          Include           Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  1  1  0   1  0  0  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      21  948    53    56  536    40    26   13    21    25   25    64
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:   21  948    53    56  536    40    26   13    21    25   25    64
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:    21  948    53    56  536    40    26   13    21    25   25    64
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   21  948    53    56  536    40    26   13    21    25   25    64
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
Final Vol.:    21  948    53    56  536    40    26   13    21    25   25    64
------------|---------------||---------------||---------------||---------------|
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 1.89  0.11  1.00 1.86  0.14  1.00 0.38  0.62  1.00 1.00  1.00
Final Sat.:  1375 2604   146  1375 2559   191  1375  526   849  1375 1375  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.36  0.36  0.04 0.21  0.21  0.02 0.02  0.02  0.02 0.02  0.05
Crit Vol:         501          56                26                     25
Crit Moves:       ****        ****              ****                   ****
********************************************************************************
```

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #36 La CIENEGA BLVD. @ CENTURY BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.475
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       43              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  CENTURY BLVD.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  2   1  0  2  0  2   1  0  3  0  1   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     111  263   136    67  306   409    65  419   257   205  950   348
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:  111  263   136    67  306   409    65  419   257   205  950   348
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:   111  263   136    67  306   409    65  419   257   205  950   348
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  111  263   136    67  306   409    65  419   257   205  950   348
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  1.10  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   111  263   150    67  306   450    65  419   257   205  950   348
------------|---------------||---------------||---------------||---------------|
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 2.00  2.00  1.00 2.00  2.00  1.00 3.00  1.00  1.00 3.00  1.00
Final Sat.:  1375 2750  2750  1375 2750  2750  1375 4125  1375  1375 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.10  0.05  0.05 0.11  0.16  0.05 0.10  0.19  0.15 0.23  0.25
Crit Vol:     111                     225     0                     317
Crit Moves:  ****                    ****  ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #39 CENTURY BLVD. @ 405 N/B RAMP
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.516
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       30                Level Of Service:                  A
********************************************************************************
Street Name:        405 NORTH OFF RAMP                    CENTURY BLVD
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
Lanes:        2  0  0  0  1    0  0  0  0  1    1  0  2  1  1    0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     684    0   106     0    0    24     7  350   251     0 1093     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:  684    0   106     0    0    24     7  350   251     0 1093     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:   684    0   106     0    0    24     7  350   251     0 1093     6
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  684    0   106     0    0    24     7  350   251     0 1093     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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:   752    0   106     0    0    24     7  350   276     0 1093     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:       2.00 0.00  1.00  0.00 0.00  1.00  1.00 2.24  1.76  0.00 2.98  0.02
Final Sat.:  3000    0  1500     0    0  1500  1500 3354  2646     0 4475    25
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.25 0.00  0.07  0.00 0.00  0.02  0.00 0.10  0.10  0.00 0.24  0.24
Crit Vol:     376                            24     7                     366
Crit Moves:  ****                          ****  ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #47 IMPERIAL HWY. @ DOUGLAS ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.225
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       29              Level Of Service:                  A
********************************************************************************
Street Name:          DOUGLAS STREET                    IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  1  0  2   1  0  1! 0  1   1  0  2  1  0   2  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      38    9    54    12    3    11    19  291    58    74  683    46
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:   38    9    54    12    3    11    19  291    58    74  683    46
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:    38    9    54    12    3    11    19  291    58    74  683    46
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   38    9    54    12    3    11    19  291    58    74  683    46
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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    38    9    59    13    3    12    19  291    58    81  683    46
------------|---------------||---------------||---------------||---------------|
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 1.00  2.00  1.40 0.32  1.28  1.00 2.50  0.50  2.00 2.81  0.19
Final Sat.:  1375 1375  2750  1924  437  1764  1375 3439   686  2750 3865   260
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.01  0.02  0.01 0.01  0.01  0.01 0.08  0.08  0.03 0.18  0.18
Crit Vol:      38                    9          19                     243
Crit Moves:  ****                 ****        ****                    ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #65 SEPULVEDA @ H. HUGHES PARKWAY
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.326
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       21                Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard             H. Hughes Parkway
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:          Ignore          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  4  0  1   2  0  3  0  0   0  0  0  0  0   3  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1123   540    91  404     0     0    0     0   273    0   158
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:    0 1123   540    91  404     0     0    0     0   273    0   158
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1123     0    91  404     0     0    0     0   273    0   158
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1123     0    91  404     0     0    0     0   273    0   158
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00  1.10 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0 1123     0   100  404     0     0    0     0   300    0   158
------------|---------------||---------------||---------------||---------------|
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 4.00  1.00  2.00 3.00  0.00  0.00 0.00  0.00  3.00 0.00  1.00
Final Sat.:     0 6000  1500  3000 4500     0     0    0     0  4500    0  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.19  0.00  0.03 0.09  0.00  0.00 0.00  0.00  0.07 0.00  0.11
Crit Vol:          281          50                 0                          158
Crit Moves:       ****        ****                                           ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #67 IMPERIAL HWY. @ La CIENEGA BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.291
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       32              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                   IMPERIAL HWY.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  1  1  1    2  0  1  1  1    2  0  3  0  2    2  0  3  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      58  133    83    42  114   191   160  122   135    41  517   297
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:   58  133    83    42  114   191   160  122   135    41  517   297
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:    58  133    83    42  114   191   160  122   135    41  517   297
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   58  133    83    42  114   191   160  122   135    41  517   297
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:     1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10
Final Vol.:    64  133    91    46  114   210   176  122   149    45  517   327
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.78  1.22  2.00 1.06  1.94  2.00 3.00  2.00  2.00 3.00  2.00
Final Sat.:  2750 2446  1679  2750 1451  2674  2750 4125  2750  2750 4125  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.05  0.05  0.02 0.08  0.08  0.06 0.03  0.05  0.02 0.13  0.12
Crit Vol:      32                    108         88                     172
Crit Moves:  ****                   ****       ****                    ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #68 IMPERIAL HWY @MAIN STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.475
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       35              Level Of Service:                  A
********************************************************************************
Street Name:            MAIN STREET                         IMPERIAL HWY
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase        Permitted        Protected
Rights:           Ignore           Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  1  0  0  1   1  0  0  0  0    0  0  2  0  1    1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     209    0   461     2    0     0     0  619    92   251  783     4
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:  209    0   461     2    0     0     0  619    92   251  783     4
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   209    0     0     2    0     0     0  619    92   251  783     4
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  209    0     0     2    0     0     0  619    92   251  783     4
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   230    0     0     2    0     0     0  619    92   251  783     4
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  1.00 0.00  0.00  0.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  2850    0  1425  1425    0     0     0 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.00  0.00  0.00 0.00  0.00  0.00 0.22  0.06  0.18 0.27  0.00
Crit Vol:     115                  2                  310         251
Crit Moves:  ****              ****                  ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #69 IMPERIAL HWY @ PERSHING DR.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.551
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       72              Level Of Service:                  A
********************************************************************************
Street Name:    PERSHING DR./HYPERION DWY.              IMPERIAL HWY
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Split Phase      Split Phase       Permitted        Permitted
Rights:          Include          Include          Include            Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  0  1! 0  0   1  1  0  0  1   2  0  1  1  0   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       1    0     1   495    2    41   132  240     4     8  249   710
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:    1    0     1   495    2    41   132  240     4     8  249   710
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     1   495    2    41   132  240     4     8  249   710
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    1    0     1   495    2    41   132  240     4     8  249   710
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  1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:     1    0     1   545    2    41   145  240     4     8  249   710
------------|---------------||---------------||---------------||---------------|
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:       0.50 0.00  0.50  1.99 0.01  1.00  2.00 1.97  0.03  1.00 2.00  1.00
Final Sat.:   713    0   713  2840   10  1425  2850 2803    47  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.19 0.19  0.03  0.05 0.09  0.09  0.01 0.09  0.50
Crit Vol:                  2     0             73                          710
Crit Moves:             ****  ****           ****                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #71 IMPERIAL HWY @ SEPULVEDA BL.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.584
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       55               Level Of Service:                  A
********************************************************************************
Street Name:           SEPULVEDA BL.                      IMPERIAL HWY
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        Protected        Protected
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  3  0  1   2  0  3  1  0   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      73  996   471   147 1331    20   125  188    94   151  127   182
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:   73  996   471   147 1331    20   125  188    94   151  127   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:    73  996   471   147 1331    20   125  188    94   151  127   182
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   73  996   471   147 1331    20   125  188    94   151  127   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  1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:    73  996   471   162 1331    20   138  188    94   166  127   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 3.00  1.00  2.00 3.94  0.06  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  1375 4125  1375  2750 5419    81  2750 4125  1375  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.24  0.34  0.06 0.25  0.25  0.05 0.05  0.07  0.06 0.03  0.13
Crit Vol:               471    81                69                           182
Crit Moves:            ****  ****              ****                          ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #73 IMPERIAL HWY @ NASH ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.449
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       34              Level Of Service:                   A
********************************************************************************
Street Name:  FWY 105 OFF RAMP/ NASH STREET            IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  0  0  2   1  1  0  1  1   0  0  2  1  0   2  0  3  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       7    0    15   213  757   370     0  356    64   145  568     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:    7    0    15   213  757   370     0  356    64   145  568     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:     7    0    15   213  757   370     0  356    64   145  568     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    7    0    15   213  757   370     0  356    64   145  568     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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     7    0    17   234  757   407     0  356    64   160  568     0
------------|---------------||---------------||---------------||---------------|
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 0.00  2.00  1.00 1.84  1.16  0.00 2.54  0.46  2.00 3.00  0.00
Final Sat.:  1425    0  2850  1425 2623  1652     0 3624   651  2850 4275     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.01  0.16 0.29  0.25  0.00 0.10  0.10  0.06 0.13  0.00
Crit Vol:                  8        411             140          80
Crit Moves:             ****       ****            ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #74 IMPERIAL HWY. @  105 RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.619
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       49              Level Of Service:                  B
********************************************************************************
Street Name:             / 105 RAMP                     IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:            Ovl              Ovl            Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  1  1   2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     778    0   262     0    0     0     0  172   264    52  736     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:  778    0   262     0    0     0     0  172   264    52  736     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:   778    0   262     0    0     0     0  172   264    52  736     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  778    0   262     0    0     0     0  172   264    52  736     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:     1.10 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.10  1.10 1.00  1.00
Final Vol.:   856    0   288     0    0     0     0  172   290    57  736     0
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  2.00  0.00 0.00  0.00  0.00 2.00  2.00  2.00 2.00  0.00
Final Sat.:  2850    0  2850     0    0     0     0 2850  2850  2850 2850     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.30 0.00  0.10  0.00 0.00  0.00  0.00 0.06  0.10  0.02 0.26  0.00
Crit Vol:     428                     0                86               368
Crit Moves:  ****                                    ****              ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #75 IMPERIAL HWY. @ 405 NORTH RAMP
********************************************************************************
Cycle (sec):       100              Critical Vol./Cap. (X):        0.247
Loss Time (sec):     0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:      25              Level Of Service:                  A
********************************************************************************
Street Name:              405 NORTH RAMP                     IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Split Phase      Split Phase       Permitted        Permitted
Rights:          Include          Include          Ignore           Ignore
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        1  0  1! 0  0    0  0  0  0  0    0  0  2  1  1    0  0  2  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     237    0    41    0    0     0    0  179    47    0  605   295
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:  237    0    41    0    0     0    0  179    47    0  605   295
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Volume:   237    0    41    0    0     0    0  179     0    0  605     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  237    0    41    0    0     0    0  179     0    0  605     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
MLF Adj:     1.10 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
Final Vol.:   261    0    41    0    0     0    0  179     0    0  605     0
------------|---------------||---------------||---------------||---------------|
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:       1.73 0.00  0.27 0.00 0.00  0.00 0.00 3.00  1.00 0.00 3.00  1.00
Final Sat.:  2463    0   387    0    0     0    0 4275  1425    0 4275  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.00  0.11 0.00 0.00  0.00 0.00 0.04  0.00 0.00 0.14  0.00
Crit Vol:                151         0           0                    202
Crit Moves:             ****                 ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #89 La CIENEGA BLVD. @ LENNOX BLVD
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.294
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       26                Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                    LENNOX BLVD
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted       Permit+Prot      Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  0   1  0  2  1  0   0  0  0  0  0   1  1  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  472    22    36  288     1     0    0     0    97    0   136
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:    0  472    22    36  288     1     0    0     0    97    0   136
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  472    22    36  288     1     0    0     0    97    0   136
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  472    22    36  288     1     0    0     0    97    0   136
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  1.10 1.00  1.00
Final Vol.:     0  472    22    36  288     1     0    0     0   107    0   136
------------|---------------||---------------||---------------||---------------|
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 1.91  0.09  1.00 2.99  0.01  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2723   127  1425 4260    15     0    0     0  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.17  0.03 0.07  0.07  0.00 0.00  0.00  0.04 0.00  0.10
Crit Vol:          247          36                      0                   136
Crit Moves:       ****        ****                                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #94 La CIENEGA BLVD. @ 111TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.192
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       23              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                   / 111TH STREET
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       Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        1  0  2  0  0    0  0  2  1  0    2  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     118  415    0     0  275   93    59    0   30     0    0    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:  118  415    0     0  275   93    59    0   30     0    0    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:   118  415    0     0  275   93    59    0   30     0    0    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:  118  415    0     0  275   93    59    0   30     0    0    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  1.10 1.00 1.00  1.00 1.00 1.00
Final Vol.:   118  415    0     0  275   93    65    0   30     0    0    0
------------|---------------||---------------||---------------||---------------|
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 0.00  0.00 2.24 0.76  2.00 0.00 1.00  0.00 0.00 0.00
Final Sat.:  1425 2850    0     0 3195 1080  2850    0 1425     0    0    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.15 0.00  0.00 0.09 0.09  0.02 0.00 0.02  0.00 0.00 0.00
Crit Vol:     118                  123         32                     0
Crit Moves:  ****                 ****       ****
********************************************************************************
```

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #96 La CIENEGA BLVD. @ 405 S/B RAPM
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.514
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       38               Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                    405 N/B RAPM
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      Split Phase      Split Phase
Rights:             Ovl            Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  1   1  0  2  0  0   0  0  0  0  0   1  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  584    75   122  255     0     0    0     0   538    0    44
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:    0  584    75   122  255     0     0    0     0   538    0    44
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  584    75   122  255     0     0    0     0   538    0    44
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  584    75   122  255     0     0    0     0   538    0    44
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  1.10  1.00 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0  584    83   122  255     0     0    0     0   592    0    44
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  1.86 0.00  0.14
Final Sat.:     0 2850  1425  1425 2850     0     0    0     0  2653    0   197
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.20  0.06  0.09 0.09  0.00  0.00 0.00  0.00  0.22 0.00  0.22
Crit Vol:          292         122                     0                   318
Crit Moves:       ****        ****                                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #97 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.308
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33              Level Of Service:                  A
********************************************************************************
Street Name:          La CIENEGA BLVD.                  405 S/B RAMP
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       Split Phase      Split Phase
Rights:           Include          Include         Include            Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  0   2  0  1  1  0   0  0  0  0  1   0  0  0  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  444    22   344  420     6     0    0     1     0    0    60
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:    0  444    22   344  420     6     0    0     1     0    0    60
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  444    22   344  420     6     0    0     1     0    0    60
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  444    22   344  420     6     0    0     1     0    0    60
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  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10
Final Vol.:     0  444    22   378  420     6     0    0     1     0    0    66
------------|---------------||---------------||---------------||---------------|
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:       0.00 1.91  0.09  2.00 1.97  0.03  0.00 0.00  1.00  0.00 0.00  2.00
Final Sat.:     0 2620   130  2750 2711    39     0    0  1375     0    0  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.17  0.14 0.15  0.15  0.00 0.00  0.00  0.00 0.00  0.02
Crit Vol:          233         189                             1          0
Crit Moves:       ****        ****                          ****       ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #98 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.243
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       25               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 S/B RAMP
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      Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  0  1   1  0  2  1  0   0  0  1! 0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  467    77   49  268     4    1    1     4  104    0    36
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:   0  467    77   49  268     4    1    1     4  104    0    36
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  467    77   49  268     4    1    1     4  104    0    36
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   0  467    77   49  268     4    1    1     4  104    0    36
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 1.10 1.00  1.00
Final Vol.:    0  467    77   49  268     4    1    1     4  114    0    36
------------|---------------||---------------||---------------||---------------|
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 2.96  0.04 0.17 0.17  0.66 2.00 0.00  1.00
Final Sat.:  1425 2850  1425 1425 4212    63  238  238   950 2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.16  0.05 0.03 0.06  0.06 0.00 0.00  0.00 0.04 0.00  0.03
Crit Vol:         234         49                          6        57
Crit Moves:       ****        ****                      ****       ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #101 SEPULVEDA BLVD. @ LA TIJERA BLVD.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.448
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       41               Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard           La Tijera Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  1  0   1  0  2  1  0   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      75 1010    79    22  650    33    37  212    38   125  129    16
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:   75 1010    79    22  650    33    37  212    38   125  129    16
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:    75 1010    79    22  650    33    37  212    38   125  129    16
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   75 1010    79    22  650    33    37  212    38   125  129    16
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
Final Vol.:    75 1010    79    22  650    33    37  212    38   125  129    16
------------|---------------||---------------||---------------||---------------|
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 2.78  0.22  1.00 2.86  0.14  1.00 2.00  1.00  1.00 1.78  0.22
Final Sat.:  1375 3826   299  1375 3926   199  1375 2750  1375  1375 2447   303
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.26  0.26  0.02 0.17  0.17  0.03 0.08  0.03  0.09 0.05  0.05
Crit Vol:          363          22                    106          125
Crit Moves:       ****        ****                   ****         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #108 SEPULVEDA BLVD. @ LINCOLN BLVD.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.479
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       51               Level Of Service:                  A
********************************************************************************
Street Name:       SEPULVEDA BOULEVARD              LINCOLN 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
Lanes:        4  0  2  1  0   0  0  3  1  0   0  0  0  0  4   0  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     835 1270   207     0  880     2     0    0   693     0    0     1
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:  835 1270   207     0  880     2     0    0   693     0    0     1
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:   835 1270   207     0  880     2     0    0   693     0    0     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  835 1270   207     0  880     2     0    0   693     0    0     1
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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:   919 1270   207     0  880     2     0    0   762     0    0     1
------------|---------------||---------------||---------------||---------------|
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:       4.00 2.58  0.42  0.00 3.99  0.01  0.00 0.00  4.00  0.00 0.00  1.00
Final Sat.:  5700 3676   599     0 5687    13     0    0  5700     0    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.35  0.35  0.00 0.15  0.15  0.00 0.00  0.13  0.00 0.00  0.00
Crit Vol:          492              220                    191     0
Crit Moves:       ****                                    ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #114 SEPULVEDA BLVD. @ MANCHESTER AVE.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.571
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       53              Level Of Service:                  A
********************************************************************************
Street Name:        Sepulveda Boulevard             Manchester Avenue
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  1  0   1  0  2  1  0   2  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      64 1014    37    82  653    71    77  341    41    53  622   262
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:   64 1014    37    82  653    71    77  341    41    53  622   262
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:    64 1014    37    82  653    71    77  341    41    53  622   262
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   64 1014    37    82  653    71    77  341    41    53  622   262
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:    64 1014    37    82  653    71    85  341    41    53  622   262
------------|---------------||---------------||---------------||---------------|
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 2.89  0.11  1.00 2.71  0.29  2.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 3980   145  1375 3720   405  2750 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.25  0.25  0.06 0.18  0.18  0.03 0.12  0.03  0.04 0.23  0.19
Crit Vol:          350          82                42                    311
Crit Moves:       ****        ****              ****                  ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #123 WESTCHESTER PARKWAY @ PERSHING DRIVE
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.282
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       26               Level Of Service:                  A
********************************************************************************
Street Name:           Pershing Drive                Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Protected         Permitted        Permitted
Rights:          Include          Include           Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  2  0  1   1  0  2  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  636   142    23  230     0     0     0     0   110     0    26
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:    0  636   142    23  230     0     0     0     0   110     0    26
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  636   142    23  230     0     0     0     0   110     0    26
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol:    0  636   142    23  230     0     0     0     0   110     0    26
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  1.10 1.00  1.00
Final Vol.:     0  636   142    23  230     0     0     0     0   121     0    26
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2850  1425  1425 2850     0     0     0     0  2850     0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.22  0.10  0.02 0.08  0.00  0.00 0.00  0.00  0.04 0.00  0.02
Crit Vol:          318         23                      0          61
Crit Moves:       ****        ****                               ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #135 SEPULVEDA BLVD. @ WESTCHESTER PARKWAY
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.401
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       38               Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard           Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  1  0   1  0  2  1  0   1  0  1  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      91 1007    27    64  800    36     9  114    34    67  177    90
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:   91 1007    27    64  800    36     9  114    34    67  177    90
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:    91 1007    27    64  800    36     9  114    34    67  177    90
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   91 1007    27    64  800    36     9  114    34    67  177    90
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
Final Vol.:    91 1007    27    64  800    36     9  114    34    67  177    90
------------|---------------||---------------||---------------||---------------|
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 2.92  0.08  1.00 2.87  0.13  1.00 1.54  0.46  1.00 1.33  0.67
Final Sat.:  1375 4017   108  1375 3947   178  1375 2118   632  1375 1823   927
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.25  0.25  0.05 0.20  0.20  0.01 0.05  0.05  0.05 0.10  0.10
Crit Vol:          345          64                9                      133
Crit Moves:        ****        ****              ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #136 SEPULVEDA @ 76th/77th STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.580
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       34              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard              76th/77th Street
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
Lanes:        1  0  2  1  0   1  0  2  1  0   2  0  1  0  1   1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     16 1397    10    20  735    71   384   27    30    12   21   170
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:  16 1397    10    20  735    71   384   27    30    12   21   170
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:   16 1397    10    20  735    71   384   27    30    12   21   170
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  16 1397    10    20  735    71   384   27    30    12   21   170
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   16 1397    10    20  735    71   422   27    30    12   21   170
------------|---------------||---------------||---------------||---------------|
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 2.98  0.02  1.00 2.74  0.26  2.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1500 4468    32  1500 4104   396  3000 1500  1500  1500 1500  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.31  0.31  0.01 0.18  0.18  0.14 0.02  0.02  0.01 0.01  0.11
Crit Vol:          469          20               211                      170
Crit Moves:        ****        ****              ****                     ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #137 SEPULVEDA BLVD. @ 79th/80th STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.491
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       28              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard              79th/80th Street
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
Lanes:        1  0  2  1  0   1  0  3  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      58 1389     6    17  710    74    74   54    39     9  111    70
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:   58 1389     6    17  710    74    74   54    39     9  111    70
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:    58 1389     6    17  710    74    74   54    39     9  111    70
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   58 1389     6    17  710    74    74   54    39     9  111    70
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
Final Vol.:    58 1389     6    17  710    74    74   54    39     9  111    70
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  1.00 3.00  1.00  1.00 1.00  1.00  1.00 0.61  0.39
Final Sat.:  1500 4481    19  1500 4500  1500  1500 1500  1500  1500  920   580
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.31  0.31  0.01 0.16  0.05  0.05 0.04  0.03  0.01 0.12  0.12
Crit Vol:          465          17                74                     181
Crit Moves:       ****        ****              ****                    ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #138 SEPULVEDA BLVD. @ 83rd STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.378
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       23               Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard                 83rd Street
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
Lanes:        1  0  2  1  0   1  0  2  1  0   0  0  1! 0  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     17 1283     3    18  681    34    36   42    29    14   52    23
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:  17 1283     3    18  681    34    36   42    29    14   52    23
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:   17 1283     3    18  681    34    36   42    29    14   52    23
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  17 1283     3    18  681    34    36   42    29    14   52    23
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
Final Vol.:   17 1283     3    18  681    34    36   42    29    14   52    23
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  1.00 2.86  0.14  0.34 0.39  0.27  1.00 0.69  0.31
Final Sat.:  1500 4490    10  1500 4286   214   505  589   407  1500 1040   460
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.29  0.29  0.01 0.16  0.16  0.07 0.07  0.07  0.01 0.05  0.05
Crit Vol:          429          18                    107          14
Crit Moves:        ****        ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-AM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1000 La CIENEGA BLVD. @ 104 TH STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.224
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       24              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  104 TH STREET
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit       Permitted        Permitted        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  2  1  0   1  0  1  0  1   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     155  451    14    17  324    41    21    1    40     3    1     1
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:  155  451    14    17  324    41    21    1    40     3    1     1
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:   155  451    14    17  324    41    21    1    40     3    1     1
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  155  451    14    17  324    41    21    1    40     3    1     1
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
Final Vol.:   155  451    14    17  324    41    21    1    40     3    1     1
------------|---------------||---------------||---------------||---------------|
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 1.94  0.06  1.00 2.66  0.34  1.00 1.00  1.00  0.60 0.20  0.20
Final Sat.:  1425 2764    86  1425 3795   480  1425 1425  1425   855  285   285
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.16  0.16  0.01 0.09  0.09  0.01 0.00  0.03  0.00 0.00  0.00
Crit Vol:     155                    122                    40     3
Crit Moves:  ****                  ****                   ****  ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

Baseline 2008 plus Project-PM Peak

```
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                                Scenario Report
Scenario:             Baseline 2008 plus Project-PM Peak

Command:              Employee AM
Volume:               Employee AM
Geometry:             Existing geometry
Impact Fee:           Default Impact Fee
Trip Generation:      Default Trip Generation
Trip Distribution:    Default Trip Distribution
Paths:                Default Paths
Routes:               Default Routes
Configuration:        Default Configuration
```

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #14 AVIATION BLVD. @ CENTURY BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.842
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      145              Level Of Service:                  D
********************************************************************************
Street Name:          AVIATION BLVD.                    CENTURY BLVD.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        2  0  1  1  0   2  0  2  0  1   1  0  3  1  0   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     448  655    83   122  523   111   135 1759   467    94 1235   112
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:  448  655    83   122  523   111   135 1759   467    94 1235   112
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:   448  655    83   122  523   111   135 1759   467    94 1235   112
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  448  655    83   122  523   111   135 1759   467    94 1235   112
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:     1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   493  655    83   134  523   111   135 1759   467    94 1235   112
------------|---------------||---------------||---------------||---------------|
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:       2.00 1.78  0.22  2.00 2.00  1.00  1.00 3.16  0.84  1.00 3.67  0.33
Final Sat.:  2750 2441   309  2750 2750  1375  1375 4346  1154  1375 5043   457
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.18 0.27  0.27  0.05 0.19  0.08  0.10 0.40  0.40  0.07 0.24  0.24
Crit Vol:     246                    262              556          94
Crit Moves:  ****                   ****             ****         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #16 IMPERIAL HWY. @ AVIATION BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.737
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       87              Level Of Service:                  C
********************************************************************************
Street Name:           AVIATION BL.                      IMPERIAL HWY.
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        Protected        Protected
Rights:            Ovl              Ovl            Include             Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        2  0  2  0  1   2  0  1  1  1   2  0  2  1  0   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     166  457   320   427  550   113   225 1042   247   219  396   345
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:  166  457   320   427  550   113   225 1042   247   219  396   345
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:   166  457   320   427  550   113   225 1042   247   219  396   345
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  166  457   320   427  550   113   225 1042   247   219  396   345
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:     1.10 1.00  1.00  1.10 1.00  1.10  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   183  457   320   470  550   124   248 1042   247   241  396   345
------------|---------------||---------------||---------------||---------------|
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:       2.00 2.00  1.00  2.00 2.00  1.00  2.00 2.43  0.57  2.00 3.00  1.00
Final Sat.:  2750 2750  1375  2750 2750  1375  2750 3335   790  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.17  0.23  0.17 0.20  0.09  0.09 0.31  0.31  0.09 0.10  0.25
Crit Vol:          229         235                   430         120
Crit Moves:       ****        ****                  ****        ****
********************************************************************************
```

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #19 AVIATION BLVD. @ 111TH
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.576
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       54              Level Of Service:                  A
********************************************************************************
Street Name:          AVIATION BLVD.                     111TH STREET
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         Protected         Protected
Rights:            Ovl              Include           Include            Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:         1  0  1  1  0    1  0  1  1  0    1  0  0  1  0    1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      19  882    96    86 1146    81    75   78    29    53   53   118
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:   19  882    96    86 1146    81    75   78    29    53   53   118
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  882    96    86 1146    81    75   78    29    53   53   118
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   19  882    96    86 1146    81    75   78    29    53   53   118
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
Final Vol.:    19  882    96    86 1146    81    75   78    29    53   53   118
------------|---------------||---------------||---------------||---------------|
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 1.87  0.13  1.00 0.73  0.27  1.00 1.00  1.00
Final Sat.:  1375 2480   270  1375 2568   182  1375 1002   373  1375 1375  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.36  0.36  0.06 0.45  0.45  0.05 0.08  0.08  0.04 0.04  0.09
Crit Vol:      19                      613               107          53
Crit Moves:  ****                     ****              ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #36 La CIENEGA BLVD. @ CENTURY BLVD
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.980
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180               Level Of Service:                  E
********************************************************************************
Street Name:         La CIENEGA BLVD.                  CENTURY BLVD.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:            Ovl              Ovl              Ovl              Ovl
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  2   1  0  2  0  2   1  0  3  0  1   1  0  3  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     151  302   609   370  585   444   165 1238   794   112  751   231
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:  151  302   609   370  585   444   165 1238   794   112  751   231
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:   151  302   609   370  585   444   165 1238   794   112  751   231
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  151  302   609   370  585   444   165 1238   794   112  751   231
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  1.10  1.00 1.00  1.10  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   151  302   670   370  585   488   165 1238   794   112  751   231
------------|---------------||---------------||---------------||---------------|
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 2.00  2.00  1.00 2.00  2.00  1.00 3.00  1.00  1.00 3.06  0.94
Final Sat.:  1375 2750  2750  1375 2750  2750  1375 4125  1375  1375 4206  1294
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11 0.11  0.24  0.27 0.21  0.18  0.12 0.30  0.58  0.08 0.18  0.18
Crit Vol:                335   370                           794     0
Crit Moves:             ****  ****                          ****  ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #39 CENTURY BLVD. @ 405 N/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.549
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       32              Level Of Service:                  A
********************************************************************************
Street Name:        405 NORTH OFF RAMP                 CENTURY BLVD
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
Lanes:        2  0  0  0  1   0  0  0  0  1   1  0  2  1  1   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     429    0   408     0    0    32    34 1544   616     0  891    17
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:  429    0   408     0    0    32    34 1544   616     0  891    17
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:   429    0   408     0    0    32    34 1544   616     0  891    17
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  429    0   408     0    0    32    34 1544   616     0  891    17
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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:   472    0   408     0    0    32    34 1544   678     0  891    17
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  0.00 0.00  1.00  1.00 2.78  1.22  0.00 2.94  0.06
Final Sat.:  3000    0  1500     0    0  1500  1500 4170  1830     0 4416    84
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16 0.00  0.27  0.00 0.00  0.02  0.02 0.37  0.37  0.00 0.20  0.20
Crit Vol:     236                          32         555          0
Crit Moves:  ****                        ****        ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #47 IMPERIAL HWY. @ DOUGLAS ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.482
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       44              Level Of Service:                   A
********************************************************************************
Street Name:          DOUGLAS STREET                    IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  0  2   1  0  1! 0  1   1  0  2  1  0   2  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     168   17   424    84   14    42    38  972    41    29  567    35
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:  168   17   424    84   14    42    38  972    41    29  567    35
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:   168   17   424    84   14    42    38  972    41    29  567    35
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  168   17   424    84   14    42    38  972    41    29  567    35
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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:   168   17   466    92   14    46    38  972    41    32  567    35
------------|---------------||---------------||---------------||---------------|
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 1.00  2.00  1.82 0.18  1.00  1.00 2.88  0.12  2.00 2.83  0.17
Final Sat.:  1375 1375  2750  2498  252  1375  1375 3958   167  2750 3885   240
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.01  0.17  0.04 0.06  0.03  0.03 0.25  0.25  0.01 0.15  0.15
Crit Vol:                233          76              338         16
Crit Moves:             ****        ****             ****       ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #65 SEPULVEDA @ H. HUGHES PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.714
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):    xxxxxx
Optimal Cycle:       50              Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard             H. Hughes Parkway
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:           Ignore           Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  4  0  1   2  0  3  0  0   0  0  0  0  0   3  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0 1609   453   553 1722     0     0    0     0   466    0   364
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:    0 1609   453   553 1722     0     0    0     0   466    0   364
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0 1609     0   553 1722     0     0    0     0   466    0   364
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1609     0   553 1722     0     0    0     0   466    0   364
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  0.00  1.10 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0 1609     0   608 1722     0     0    0     0   513    0   364
------------|---------------||---------------||---------------||---------------|
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 4.00  1.00  2.00 3.00  0.00  0.00 0.00  0.00  3.00 0.00  1.00
Final Sat.:     0 6000  1500  3000 4500     0     0    0     0  4500    0  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.27  0.00  0.20 0.38  0.00  0.00 0.00  0.00  0.11 0.00  0.24
Crit Vol:          402         304               0                          364
Crit Moves:       ****        ****                                         ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #67 IMPERIAL HWY. @ La CIENEGA BLVD.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.639
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       63               Level Of Service:                  B
********************************************************************************
Street Name:          La CIENEGA BLVD.                 IMPERIAL HWY.
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        2  0  1  1  1   2  0  1  1  1   2  0  3  0  2   2  0  3  0  2
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:      75  203   601   337  469   349   200 1013   233    46  398   193
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:   75  203   601   337  469   349   200 1013   233    46  398   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:    75  203   601   337  469   349   200 1013   233    46  398   193
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   75  203   601   337  469   349   200 1013   233    46  398   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:     1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10  1.10 1.00  1.10
Final Vol.:    83  203   661   371  469   384   220 1013   256    51  398   212
------------|----------------||----------------||----------------||----------------|
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:       2.00 1.00  2.00  2.00 1.65  1.35  2.00 3.00  2.00  2.00 3.00  2.00
Final Sat.:  2750 1375  2750  2750 2268  1857  2750 4125  2750  2750 4125  2750
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.03 0.15  0.24  0.13 0.21  0.21  0.08 0.25  0.09  0.02 0.10  0.08
Crit Vol:                331   185                   338          25
Crit Moves:             ****  ****                  ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #68 IMPERIAL HWY @MAIN STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.786
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       87              Level Of Service:                  C
********************************************************************************
Street Name:           MAIN STREET                       IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Ignore           Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  1  0  0  1   1  0  0  0  0   0  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     221    0   379     2    0     0     0  914   290   539  846     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:  221    0   379     2    0     0     0  914   290   539  846     0
User Adj:    1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:   221    0     0     2    0     0     0  914   290   539  846     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  221    0     0     2    0     0     0  914   290   539  846     0
PCE Adj:     1.00 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.10 1.00  0.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:   243    0     0     2    0     0     0  914   290   539  846     0
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  1.00  1.00 0.00  0.00  0.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  2850    0  1425  1425    0     0     0 2850  1425  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.00  0.00  0.00 0.00  0.00  0.00 0.32  0.20  0.38 0.30  0.00
Crit Vol:     122                2                    457         539
Crit Moves:  ****             ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #69 IMPERIAL HWY @ PERSHING DR.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.513
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       38              Level Of Service:                  A
********************************************************************************
Street Name:    PERSHING DR./HYPERION DWY.               IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Include           Ovl
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1! 0  0   1  1  0  0  1   2  0  1  1  0   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4     0     7   726    25   166   135   492     0     4   467   623
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:    4     0     7   726    25   166   135   492     0     4   467   623
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:     4     0     7   726    25   166   135   492     0     4   467   623
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    4     0     7   726    25   166   135   492     0     4   467   623
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  1.10 1.00  1.00  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:     4     0     7   799    25   166   149   492     0     4   467   623
------------|---------------||---------------||---------------||---------------|
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:       0.36 0.00  0.64  1.94 0.06  1.00  2.00 2.00  0.00  1.00 2.00  1.00
Final Sat.:   518     0   907  2763   87  1425  2850 2850     0  1425 2850  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.00  0.01  0.29 0.29  0.12  0.05 0.17  0.00  0.00 0.16  0.44
Crit Vol:                 11   412               74                      234
Crit Moves:             ****  ****             ****                     ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #71 IMPERIAL HWY @ SEPULVEDA BL.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        1.255
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180              Level Of Service:                  F
********************************************************************************
Street Name:          SEPULVEDA BL.                      IMPERIAL HWY
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        Protected        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  3  0  1   2  0  3  1  0   2  0  3  0  1   2  0  3  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     174 1833  1140   307 1819    38   163  296   176   228  290   327
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:  174 1833  1140   307 1819    38   163  296   176   228  290   327
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:   174 1833  1140   307 1819    38   163  296   176   228  290   327
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  174 1833  1140   307 1819    38   163  296   176   228  290   327
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  1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.00  1.00
Final Vol.:   174 1833  1140   338 1819    38   179  296   176   251  290   327
------------|---------------||---------------||---------------||---------------|
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 3.00  1.00  2.00 3.92  0.08  2.00 3.00  1.00  2.00 3.00  1.00
Final Sat.:  1375 4125  1375  2750 5387   113  2750 4125  1375  2750 4125  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.13 0.44  0.83  0.12 0.34  0.34  0.07 0.07  0.13  0.09 0.07  0.24
Crit Vol:               1140   169              90                            327
Crit Moves:             ****  ****             ****                          ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #73 IMPERIAL HWY @ NASH ST.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.370
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       30              Level Of Service:                  A
********************************************************************************
Street Name:  FWY 105 OFF RAMP/ NASH STREET          IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Protected
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  0  0  2   1  1  0  1  1   0  0  2  1  0   2  0  3  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      72    0    93   172  189   191     0  770    54    60  854     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:   72    0    93   172  189   191     0  770    54    60  854     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:    72    0    93   172  189   191     0  770    54    60  854     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   72    0    93   172  189   191     0  770    54    60  854     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  1.10  1.10 1.00  1.10  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:    72    0   102   189  189   210     0  770    54    66  854     0
------------|---------------||---------------||---------------||---------------|
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 0.00  2.00  1.28 1.28  1.44  0.00 2.80  0.20  2.00 3.00  0.00
Final Sat.:  1425    0  2850  1828 1831  2042     0 3995   280  2850 4275     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.00  0.04  0.10 0.10  0.10  0.00 0.19  0.19  0.02 0.20  0.00
Crit Vol:      72              148                   275         33
Crit Moves:  ****             ****                  ****        ****
********************************************************************************
```

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #74 IMPERIAL HWY. @  105 RAMP
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.619
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       49               Level Of Service:                  B
********************************************************************************
Street Name:             / 105 RAMP                    IMPERIAL HWY.
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase        Permitted        Protected
Rights:            Ovl              Ovl             Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        2  0  0  0  2   0  0  0  0  0   0  0  2  1  1   2  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     430    0   517    0    0     0    0  961   826  237  586     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:  430    0   517    0    0     0    0  961   826  237  586     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:   430    0   517    0    0     0    0  961   826  237  586     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  430    0   517    0    0     0    0  961   826  237  586     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:     1.10 1.00  1.10 1.00 1.00  1.00 1.00 1.00  1.10 1.10 1.00  1.00
Final Vol.:   473    0   569    0    0     0    0  961   909  261  586     0
------------|---------------||---------------||---------------||---------------|
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:       2.00 0.00  2.00 0.00 0.00  0.00 0.00 2.06  1.94 2.00 2.00  0.00
Final Sat.:  2850    0  2850    0    0     0    0 2930  2770 2850 2850     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.00  0.20 0.00 0.00  0.00 0.00 0.33  0.33 0.09 0.21  0.00
Crit Vol:                284         0              467        130
Crit Moves:             ****                       ****       ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #75 IMPERIAL HWY. @ 405 NORTH RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.555
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       42              Level Of Service:                  A
********************************************************************************
Street Name:          405 NORTH RAMP                     IMPERIAL HWY
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Permitted        Permitted
Rights:           Include          Include          Ignore           Ignore
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  1! 0  0   0  0  0  0  0   0  0  2  1  1   0  0  2  1  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    222    0   219    0    0     0    0 1679   232    0  410   184
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: 222    0   219    0    0     0    0 1679   232    0  410   184
User Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
PHF Volume:  222    0   219    0    0     0    0 1679     0    0  410     0
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol: 222    0   219    0    0     0    0 1679     0    0  410     0
PCE Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
MLF Adj:    1.10 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00 1.00 1.00  0.00
Final Vol.:  244    0   219    0    0     0    0 1679     0    0  410     0
------------|---------------||---------------||---------------||---------------|
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:      1.05 0.00  0.95 0.00 0.00  0.00 0.00 3.00  1.00 0.00 3.00  1.00
Final Sat.: 1503    0  1347    0    0     0    0 4275  1425    0 4275  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.16 0.00  0.16 0.00 0.00  0.00 0.00 0.39  0.00 0.00 0.10  0.00
Crit Vol:               232         0                560          0
Crit Moves:            ****                         ****        ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #89 La CIENEGA BLVD. @ LENNOX BLVD
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.478
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):    xxxxxx
Optimal Cycle:       36              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    LENNOX BLVD
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted       Permit+Prot      Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1  1  0    1  0  2  1  0    0  0  0  0  0    1  1  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  594   191   218  858     1     0     0     0    82     0    70
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:    0  594   191   218  858     1     0     0     0    82     0    70
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  594   191   218  858     1     0     0     0    82     0    70
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol:    0  594   191   218  858     1     0     0     0    82     0    70
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  1.10 1.00  1.00
Final Vol.:     0  594   191   218  858     1     0     0     0    90     0    70
------------|---------------||---------------||---------------||---------------|
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 1.51  0.49  1.00 2.99  0.01  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 2157   693  1425 4270     5     0     0     0  2850     0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.28  0.28  0.15 0.20  0.20  0.00 0.00  0.00  0.03 0.00  0.05
Crit Vol:          392         218                      0                     70
Crit Moves:       ****        ****                                          ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #94 La CIENEGA BLVD. @ 111TH STREET
********************************************************************************
Cycle (sec):        100             Critical Vol./Cap. (X):        0.439
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       33             Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  / 111TH STREET
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      Split Phase     Split Phase
Rights:          Include          Include         Include         Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  0   0  0  2  1  0   2  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     103  570     0     0  883   121   175    0   188     0    0     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:  103  570     0     0  883   121   175    0   188     0    0     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:   103  570     0     0  883   121   175    0   188     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  103  570     0     0  883   121   175    0   188     0    0     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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   103  570     0     0  883   121   193    0   188     0    0     0
------------|---------------||---------------||---------------||---------------|
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  0.00  0.00 2.64  0.36  2.00 0.00  1.00  0.00 0.00  0.00
Final Sat.:  1425 2850     0     0 3760   515  2850    0  1425     0    0     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.20  0.00  0.00 0.23  0.23  0.07 0.00  0.13  0.00 0.00  0.00
Crit Vol:     103                   335                    188          0
Crit Moves:  ****                  ****                   ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #96 La CIENEGA BLVD. @ 405 S/B RAPM
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.632
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):    xxxxxx
Optimal Cycle:       50              Level Of Service:                  B
********************************************************************************
Street Name:         La CIENEGA BLVD.                   405 N/B RAPM
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      Split Phase      Split Phase
Rights:             Ovl            Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1  1  1   1  0  2  0  0   0  0  0  0  0   1  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  593    72   161  695     0     0    0     0   652    0   168
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:    0  593    72   161  695     0     0    0     0   652    0   168
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  593    72   161  695     0     0    0     0   652    0   168
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  593    72   161  695     0     0    0     0   652    0   168
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  1.10  1.00 1.00  1.00  1.00 1.00  1.00  1.10 1.00  1.00
Final Vol.:     0  593    79   161  695     0     0    0     0   717    0   168
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00  1.00 2.00  0.00  0.00 0.00  0.00  1.62 0.00  0.38
Final Sat.:     0 2850  1425  1425 2850     0     0    0     0  2309    0   541
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.21  0.06  0.11 0.24  0.00  0.00 0.00  0.00  0.31 0.00  0.31
Crit Vol:         297          161                      0                    443
Crit Moves:       ****        ****                                          ****
********************************************************************************
```

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #97 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.503
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       46              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                   405 S/B RAMP
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       Split Phase      Split Phase
Rights:           Include          Include          Include           Ovl
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1  1  0   2  0  1  1  0   0  0  1! 0  0   0  0  0  0  2
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  643    34   643  863     5     0     0     0     0     0   468
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:    0  643    34   643  863     5     0     0     0     0     0   468
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  643    34   643  863     5     0     0     0     0     0   468
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol:    0  643    34   643  863     5     0     0     0     0     0   468
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  1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10
Final Vol.:     0  643    34   707  863     5     0     0     0     0     0   515
------------|---------------||---------------||---------------||---------------|
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:       0.00 1.90  0.10  2.00 1.99  0.01  0.00 1.00  0.00  0.00 0.00  2.00
Final Sat.:     0 2612   138  2750 2734    16     0 1375     0     0     0  2750
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.25  0.25  0.26 0.32  0.32  0.00 0.00  0.00  0.00 0.00  0.19
Crit Vol:          339         354                      0                 0
Crit Moves:       ****        ****                                     ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #98 La CIENEGA BLVD. @ 405 S/B RAMP
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):       0.349
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       29              Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                    405 S/B RAMP
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       Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  0  1   1  0  2  1  0   0  0  0  0  1   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  546    69   108  917     4     0    0    28   160    0    98
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:    0  546    69   108  917     4     0    0    28   160    0    98
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  546    69   108  917     4     0    0    28   160    0    98
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  546    69   108  917     4     0    0    28   160    0    98
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  1.10 1.00  1.00
Final Vol.:     0  546    69   108  917     4     0    0    28   176    0    98
------------|---------------||---------------||---------------||---------------|
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 2.99  0.01  0.00 0.00  1.00  2.00 0.00  1.00
Final Sat.:  1425 2850  1425  1425 4256    19     0    0  1425  2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.19  0.05  0.08 0.22  0.22  0.00 0.00  0.02  0.06 0.00  0.07
Crit Vol:          273         108                              28    88
Crit Moves:       ****        ****                            ****  ****
********************************************************************************

  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #101 SEPULVEDA BLVD. @ LA TIJERA BLVD.
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.740
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       88              Level Of Service:                  C
********************************************************************************
Street Name:        Sepulveda Boulevard              La Tijera Boulevard
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        1  0  2  1  0   1  0  2  1  0   1  0  2  0  1   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     142 1401   176    63 1177    80    70  461    83   199  378    60
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:  142 1401   176    63 1177    80    70  461    83   199  378    60
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:   142 1401   176    63 1177    80    70  461    83   199  378    60
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  142 1401   176    63 1177    80    70  461    83   199  378    60
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
Final Vol.:   142 1401   176    63 1177    80    70  461    83   199  378    60
------------|---------------||---------------||---------------||---------------|
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 2.67  0.33  1.00 2.81  0.19  1.00 2.00  1.00  1.00 1.73  0.27
Final Sat.:  1375 3665   460  1375 3862   263  1375 2750  1375  1375 2373   377
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.38  0.38  0.05 0.30  0.30  0.05 0.17  0.06  0.14 0.16  0.16
Crit Vol:          526          63                    231          199
Crit Moves:       ****        ****                   ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #108 SEPULVEDA BLVD. @ LINCOLN BLVD.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.785
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       86               Level Of Service:                  C
********************************************************************************
Street Name:       SEPULVEDA BOULEVARD              LINCOLN 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
Lanes:        4  0  2  1  0   0  0  3  1  0   0  0  0  0  4   0  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    1329 1806   337     0 1605    13     0     0  1267     0     0     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: 1329 1806   337     0 1605    13     0     0  1267     0     0     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:  1329 1806   337     0 1605    13     0     0  1267     0     0     6
Reduct Vol:     0    0     0     0    0     0     0     0     0     0     0     0
Reduced Vol: 1329 1806   337     0 1605    13     0     0  1267     0     0     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:     1.10 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.10  1.00 1.00  1.00
Final Vol.:  1462 1806   337     0 1605    13     0     0  1394     0     0     6
------------|---------------||---------------||---------------||---------------|
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:       4.00 2.53  0.47  0.00 3.97  0.03  0.00 0.00  4.00  0.00 0.00  1.00
Final Sat.:  5700 3603   672     0 5654    46     0     0  5700     0     0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.26 0.50  0.50  0.00 0.28  0.28  0.00 0.00  0.24  0.00 0.00  0.00
Crit Vol:     365                    404                     348     0
Crit Moves:  ****                   ****                    ****  ****
********************************************************************************
```

```
  Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #114 SEPULVEDA BLVD. @ MANCHESTER AVE.
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.954
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      180               Level Of Service:                  E
********************************************************************************
Street Name:       Sepulveda Boulevard             Manchester Avenue
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  2  1  0   1  0  2  1  0   2  0  2  0  1   1  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     107 1383    84   238 1199   261   209  991    97    89  835   188
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:  107 1383    84   238 1199   261   209  991    97    89  835   188
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 1383    84   238 1199   261   209  991    97    89  835   188
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  107 1383    84   238 1199   261   209  991    97    89  835   188
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:   107 1383    84   238 1199   261   230  991    97    89  835   188
------------|---------------||---------------||---------------||---------------|
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 2.83  0.17  1.00 2.46  0.54  2.00 2.00  1.00  1.00 2.00  1.00
Final Sat.:  1375 3889   236  1375 3388   737  2750 2750  1375  1375 2750  1375
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.08 0.36  0.36  0.17 0.35  0.35  0.08 0.36  0.07  0.06 0.30  0.14
Crit Vol:          489         238                     496         89
Crit Moves:       ****        ****                    ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #123 WESTCHESTER PARKWAY @ PERSHING DRIVE
********************************************************************************
Cycle (sec):       100              Critical Vol./Cap. (X):        0.325
Loss Time (sec):     0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:      28              Level Of Service:                  A
********************************************************************************
Street Name:          Pershing Drive               Westchester Parkway
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Permitted       Protected        Permitted        Permitted
Rights:         Include         Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       0  0  2  0  1   1  0  2  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  547   246   77  478     0    0    0     0  116    0   113
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:   0  547   246   77  478     0    0    0     0  116    0   113
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  547   246   77  478     0    0    0     0  116    0   113
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   0  547   246   77  478     0    0    0     0  116    0   113
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 1.10 1.00  1.00
Final Vol.:    0  547   246   77  478     0    0    0     0  128    0   113
------------|---------------||---------------||---------------||---------------|
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 2.00  1.00 1.00 2.00  0.00 0.00 0.00  0.00 2.00 0.00  1.00
Final Sat.:    0 2850  1425 1425 2850     0    0    0     0 2850    0  1425
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.19  0.17 0.05 0.17  0.00 0.00 0.00  0.00 0.04 0.00  0.08
Crit Vol:         274         77               0                          113
Crit Moves:       ****        ****                                        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #135 SEPULVEDA BLVD. @ WESTCHESTER PARKWAY
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.713
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       79              Level Of Service:                  C
********************************************************************************
Street Name:       Sepulveda Boulevard            Westchester Parkway
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Prot+Permit      Prot+Permit      Prot+Permit      Prot+Permit
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:       1  0  2  1  0   1  0  2  1  0   1  0  1  1  0   1  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    166 1499    61   134 1341    36    53  196   100   178  311   135
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: 166 1499    61   134 1341    36    53  196   100   178  311   135
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:  166 1499    61   134 1341    36    53  196   100   178  311   135
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol: 166 1499    61   134 1341    36    53  196   100   178  311   135
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
Final Vol.:  166 1499    61   134 1341    36    53  196   100   178  311   135
------------|---------------||---------------||---------------||---------------|
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 2.88  0.12  1.00 2.92  0.08  1.00 1.32  0.68  1.00 1.39  0.61
Final Sat.: 1375 3964   161  1375 4017   108  1375 1821   929  1375 1918   832
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.12 0.38  0.38  0.10 0.33  0.33  0.04 0.11  0.11  0.13 0.16  0.16
Crit Vol:         520         134                      148         178
Crit Moves:       ****        ****                     ****        ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #136 SEPULVEDA @ 76th/77th STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.622
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       38              Level Of Service:                  B
********************************************************************************
Street Name:       Sepulveda Boulevard              76th/77th Street
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
Lanes:       1  0  2  1  0    1  0  2  1  0    2  0  1  0  1    1  0  1  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      36 1684    33   110 1848   289   200   54    70    35   57    75
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 1684    33   110 1848   289   200   54    70    35   57    75
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 1684    33   110 1848   289   200   54    70    35   57    75
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   36 1684    33   110 1848   289   200   54    70    35   57    75
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  1.10 1.00  1.00  1.00 1.00  1.00
Final Vol.:    36 1684    33   110 1848   289   220   54    70    35   57    75
------------|---------------||---------------||---------------||---------------|
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 2.94  0.06  1.00 2.59  0.41  2.00 1.00  1.00  1.00 1.00  1.00
Final Sat.:  1500 4414    86  1500 3891   609  3000 1500  1500  1500 1500  1500
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.02 0.38  0.38  0.07 0.47  0.47  0.07 0.04  0.05  0.02 0.04  0.05
Crit Vol:      36                     712        110                          75
Crit Moves:  ****                   ****       ****                         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #137 SEPULVEDA BLVD. @ 79th/80th STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.578
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       34              Level Of Service:                  A
********************************************************************************
Street Name:       Sepulveda Boulevard                79th/80th Street
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
Lanes:        1  0  2  1  0   1  0  3  0  1   1  0  1  0  1   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      91 1668    26    60 1684   193   112   87    58    22   75    28
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:   91 1668    26    60 1684   193   112   87    58    22   75    28
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:    91 1668    26    60 1684   193   112   87    58    22   75    28
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   91 1668    26    60 1684   193   112   87    58    22   75    28
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
Final Vol.:    91 1668    26    60 1684   193   112   87    58    22   75    28
------------|---------------||---------------||---------------||---------------|
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 2.95  0.05  1.00 3.00  1.00  1.00 1.00  1.00  1.00 0.73  0.27
Final Sat.:  1500 4431    69  1500 4500  1500  1500 1500  1500  1500 1092   408
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.38  0.38  0.04 0.37  0.13  0.07 0.06  0.04  0.01 0.07  0.07
Crit Vol:      91                  561          112                     103
Crit Moves:  ****                 ****        ****                     ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #138 SEPULVEDA BLVD. @ 83rd STREET
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap. (X):        0.529
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):      xxxxxx
Optimal Cycle:       31              Level Of Service:                  A
********************************************************************************
Street Name:      Sepulveda Boulevard                83rd Street
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
Lanes:       1  0  2  1  0   1  0  2  1  0   0  0  1! 0  0   1  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      65 1669   13    35 1597   71    57   70   36     9   39   25
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:   65 1669   13    35 1597   71    57   70   36     9   39   25
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 1669   13    35 1597   71    57   70   36     9   39   25
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   65 1669   13    35 1597   71    57   70   36     9   39   25
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
Final Vol.:    65 1669   13    35 1597   71    57   70   36     9   39   25
------------|---------------||---------------||---------------||---------------|
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 2.98  0.02  1.00 2.87  0.13  0.35 0.43  0.22  1.00 0.61  0.39
Final Sat.:  1500 4465    35  1500 4308   192   525  644   331  1500  914   586
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.37  0.37  0.02 0.37  0.37  0.11 0.11  0.11  0.01 0.04  0.04
Crit Vol:      65                   556              163          9
Crit Moves:  ****                  ****             ****         ****
********************************************************************************
```

Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA

```
Baseline 2008 plus Project-PM Peak
--------------------------------------------------------------------------------
                      Central Utility Plant Project
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            Circular 212 Planning Method (Base Volume Alternative)
********************************************************************************
Intersection #1000 La CIENEGA BLVD. @ 104 TH STREET
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.432
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):     xxxxxx
Optimal Cycle:       33               Level Of Service:                  A
********************************************************************************
Street Name:         La CIENEGA BLVD.                  104 TH STREET
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Prot+Permit       Permitted         Permitted         Permitted
Rights:           Include          Include           Include           Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        1  0  1  1  0   1  0  2  1  0    1  0  1  0  1    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     101  528    21    21  819    20   111    3   235     0    0     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:  101  528    21    21  819    20   111    3   235     0    0     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:   101  528    21    21  819    20   111    3   235     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  101  528    21    21  819    20   111    3   235     0    0     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
Final Vol.:   101  528    21    21  819    20   111    3   235     0    0     0
------------|---------------||---------------||---------------||---------------|
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 1.92  0.08  1.00 2.93  0.07  1.00 1.00  1.00  0.00 1.00  0.00
Final Sat.:  1425 2741   109  1425 4173   102  1425 1425  1425     0 1425     0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.07 0.19  0.19  0.01 0.20  0.20  0.08 0.00  0.16  0.00 0.00  0.00
Crit Vol:     101                    280                     235     0
Crit Moves:  ****                   ****                    ****
********************************************************************************
```

```
Traffix 7.7.0715 (c) 2004 Dowling Assoc. Licensed to RICONDO, ALEXANDRIA
```