Draft Environmental Impact Report (Draft EIR)

[State Clearinghouse No. 2008041058]

for

Los Angeles International Airport (LAX) Crossfield Taxiway Project

Volume 1

Main Document

City of Los Angeles
Los Angeles City File No. AD 034-08

September 2008

CFTP

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Los Angeles World Airports (LAWA) has prepared this project-level draft environmental impact report (Draft EIR) for the Crossfield Taxiway Project (CFTP), pursuant to the California Environmental Quality Act (CEQA). The CFTP is a project component of the LAX Master Plan Program approved by the Los Angeles City Council in December of 2004. The LAX Master Plan was the subject of a certified program-level environmental impact report (LAX Master Plan Final EIR) and an approved environmental impact statement (LAX Master Plan Final EIS), which were prepared by LAWA and the Federal Aviation Administration, respectively.

The CFTP Draft EIR is "tiered" from, and incorporates by reference, the LAX Master Plan Final EIR. This means that this Draft EIR builds on the work contained in the LAX Master Plan Final EIR, and provides additional project-level information and analysis as necessary for public agencies, decision makers, and interested parties to evaluate the CFTP under CEQA. CEQA encourages public agencies to tier environmental analyses for individual projects from program-level environmental impact reports to eliminate repetitive discussions and to focus later EIRs (such as this Draft EIR) on issues that may have not been fully addressed at a project-level of detail.

The LAX Master Plan Final EIR dealt with many of the specific issues associated with the individual projects encompassed within the Master Plan, such as the improvements currently proposed for the CFTP. This "tiered" Draft EIR supplements the information and analysis provided in the LAX Master Plan EIR with further detailed information and analysis at the project level, and it focuses on those effects not previously considered in the Master Plan EIR. For this reason, much of the information related to the CFTP improvements contained in the LAX Master Plan EIR is not repeated in this Draft EIR. However, a brief summary of each of the areas covered in the LAX Master Plan Final EIR has been provided in this project level Draft EIR, along with the location where the reader can locate the prior treatment of those areas.

This Draft EIR is prepared in accordance with all requirements of CEQA. This Draft EIR incorporates and responds to comments received on the Notice of Preparation for the EIR. LAWA will accept written comments on this Draft EIR during the 45-day public comment period, which expires on November 10, 2008. LAWA will then prepare written responses to all comments received on issues pertinent to the Draft EIR during the comment period. Those responses, along with a copy of the comments received, will be published in a Final EIR. LAWA, the Los Angeles Board of Airport Commissioners, and other decision-makers will use the Final EIR to inform their decisions on the CFTP, as CEQA requires.

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1. INTRODUCTION

This document is a project-level tiered Draft Environmental Impact Report (Draft EIR) for the proposed Crossfield Taxiway Project (CFTP) 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 Ontario International Airport, Van Nuys Airport, and 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 CFTP is located within the boundaries of LAX. **Figure 1-1** shows the regional location of LAX and **Figure 1-2** shows the local setting of the airport. The CFTP involves certain airfield improvements that are included within the LAX Master Plan, which was approved by the Los Angeles City Council in December 2004. **Figure 1-3** shows the location of the CFTP relative to the approved Master Plan. The LAX Master Plan provides a conceptual strategic framework for a variety of improvements to occur throughout the airport in light of specific existing and anticipated needs at LAX. Concurrent with the approval of the LAX Master Plan was the certification of the LAX Master Plan Final EIR, which addresses the environmental impacts associated with the LAX Master Plan improvements. As a programmatic level EIR, the LAX Master Plan Final EIR was prepared and certified by LAWA for the entire LAX Master Plan. In accordance with CEQA, subsequent activities occurring within the program (i.e., the Master Plan) are examined in light of the program EIR to determine whether an additional environmental document must be prepared. As further described later in this section, LAWA determined that detailed design, engineering, and construction plan information recently developed for the CFTP provides the ability to address certain impacts, particularly construction-related impacts, that are not otherwise addressed in the LAX Master Plan EIR. As such, this Draft EIR provides additional project-specific information on the environmental effects of the CFTP, focusing on potentially significant environmental effects of the CFTP that may not have been fully addressed in the LAX Master Plan Final EIR, and summarizing where and how other environmental impacts associated with the CFTP are addressed in the LAX Master Plan Final EIR. Pursuant to the CEQA Guidelines,[2] the information presented in this EIR is "tiered" off of the information presented in the LAX Master Plan Final EIR and provides the new or revised information necessary to describe the specific environmental effects associated with the CFTP that were not otherwise addressed in the LAX Master Plan Final EIR.

In addition to addressing the environmental impacts associated with the CFTP, this Draft EIR describes the relationship of the CFTP to other LAX Master Plan improvement projects nearby that are currently being advanced into implementation, such as the reconfiguration of the Tom Bradley International Terminal (TBIT), including development of new aircraft gates on the west side of TBIT, and the development of the Midfield Satellite Concourse. It also describes the LAX Specific Plan Amendment Study (SPAS), for which a separate EIR is currently being prepared by LAWA, and explains how that study applies to certain improvements within the LAX Master Plan, but not the CFTP.

1.1 Summary of Proposed Project

This chapter provides a summary of the CFTP. The project construction and scheduling are described in greater detail in Chapter 2 of this EIR.

The approved LAX Master Plan includes, among other things, the proposed construction of a crossfield taxiway between the north runway complex (i.e., Runways 6L/24R and 6R/24L) and the south runway complex (i.e., Runways 7L/25R and 7R/25L) and an associated connection to, and extension of, the existing Taxiway D. As part of the CFTP, a new vehicle service road would be constructed parallel to and

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[1] California Environmental Quality Act, Public Resources Code Section 21000, et seq.

[2] California Environmental Quality Act Guidelines, California Code of Regulations, Title 14, Section 15000, et seq.

immediately west of the new crossfield taxiway, identified as Taxiway C13. Construction of these proposed improvements would require removal and potential relocation of certain ancillary and support facilities. To facilitate construction and operation of Taxiway C13, World Way West would need to be realigned and suppressed below grade at the intersection with Taxiway C13 and the proposed adjacent service road, requiring construction of two bridge facilities (i.e., one bridge structure for the new taxiway and one bridge structure for the new adjacent service road). A utility corridor (utilidor) would be constructed adjacent to the World Way West alignment. Existing "remain overnight" (RON) aircraft parking locations within the proposed alignment of Taxiway C13 would be resituated to a new location adjacent to Taxiway C13. 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 RON. Also occurring in conjunction with the aforementioned taxiway improvements would be the construction of a new fire station/aircraft rescue and fire fighting (ARFF) facility.

Additional information regarding the characteristics of the CFTP, along with figures depicting the project and the proposed construction phasing, are provided in Chapter 2, *Project Description*, of this Draft EIR.

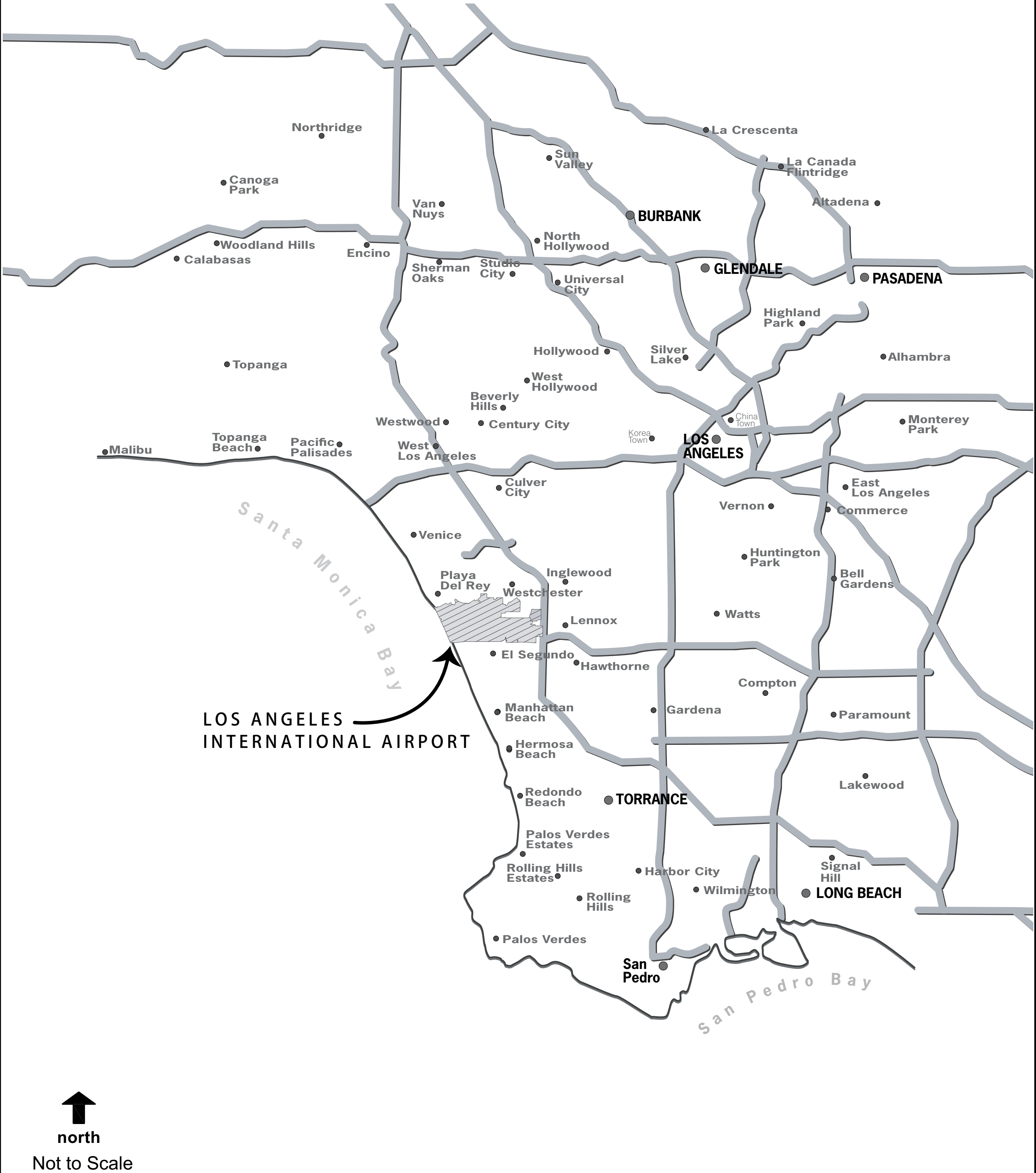
1.2 Relationship to LAX Master Plan

1.2.1 LAX Master Plan and EIR

In December 2004, the Los Angeles City Council approved the LAX Master Plan and related entitlements for the future development of LAX. The LAX Master Plan provides the first major new facilities for, and improvements to, the airport since 1984, and plans how projected growth in passengers and cargo at LAX can be accommodated, in part, through the year 2015. The approved LAX Master Plan includes airfield modifications, development of new terminals, and new landside facilities to accommodate passenger and employee traffic, parking, and circulation. The LAX Master Plan serves as a broad policy statement regarding the conceptual strategic planning framework for future improvements at LAX and working guidelines to be consulted by LAWA as it formulates and processes site-specific projects under the LAX Master Plan program.

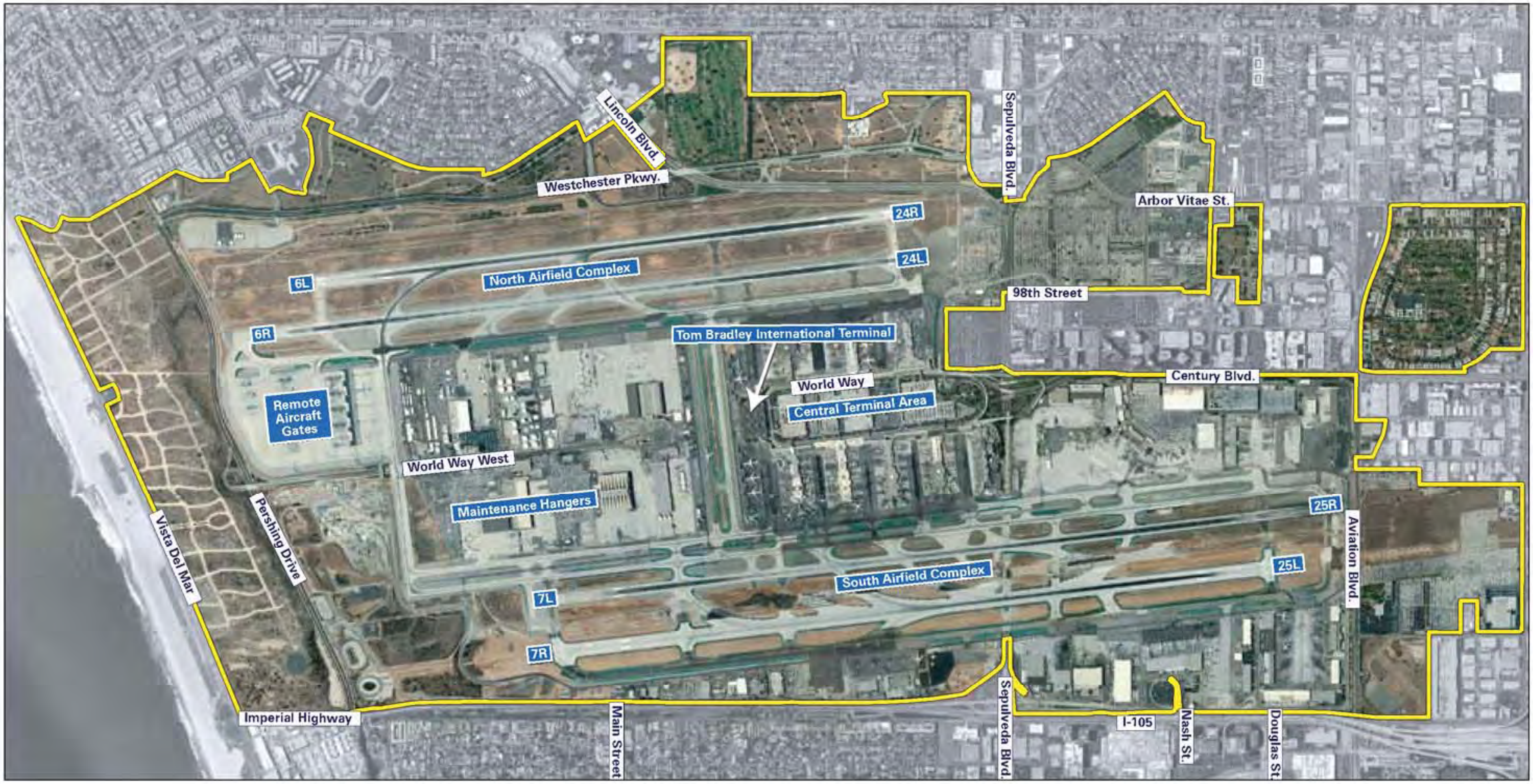
The development of the LAX Master Plan was completed in three main phases and included an exhaustive iterative process during which LAWA reviewed a wide range of alternatives before selecting a preferred development program known as Alternative D. A brief summary of each of the three main phases is provided below.

- Research (Phase I): During this phase of the study, completed in December 1995, existing airport conditions at that time were defined, future demand was estimated, and the public consultation process was initiated. It was estimated that the unconstrained demand for air service at LAX by 2015 would be 98 million annual passengers and 4.2 million annual tons of cargo. During this phase, the Master Plan preparation process extensively analyzed existing and projected future activity levels at the airport. (Please also see Chapter 2 of the LAX Master Plan Final EIR and Chapter 3 of the Draft LAX Master Plan.)
- Concept Development (Phase II): This study phase was initiated in the fall of 1995 to evaluate facility requirements and to develop an airport layout for LAX to serve, in whole or in part, the forecast passenger and cargo demand. The concept development process involved policy decisions and design tradeoffs that spanned over five years and included dozens of options in order to achieve the best balance possible to serve the airport needs of the region and those of the differing stakeholders. As the process progressed, agency and public meetings and workshops were held to inform concerned parties of the progress and findings of the study and encourage participation in the process. As a result of public input, two of the initial four concepts were eliminated, and others were put forward. Three build alternatives and the No Action/No Project Alternative were initially moved forward to the third and final phase of the LAX Master Plan process and a fourth build alternative was later added to the process, following the events of September 11, 2001.



Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Regional Location Map	Figure 1-1



north

Not to Scale

Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Existing Airport	Figure 1-2

Legend

- Airport Property Boundary Line
- El Segundo Blue Butterfly Preserve
- Airfield/Airport Open Space
- Runways
- Taxiways/Aircraft Aprons
- Existing Terminal Buildings
- Existing Cargo Building
- Existing Maintenance Facility
- Existing Light Rail Transit
- Existing Ancillary Facility
- Existing Roadways
- Existing Commercial Use
- Existing Off-Airport Use
- Existing Employee Parking
- Existing Fuel Farm
- Proposed Terminals
- Existing MTA Right-of-Way
- Proposed Cargo Building
- Proposed Maintenance Facility
- Proposed Ancillary Facility
- Proposed Airside Service Roads
- Proposed Public Parking
- Proposed Commercial Vehicle Staging Area
- Proposed Employee Parking
- Airport Landside
- Proposed People Mover
- Proposed Rental Car Facility
- High Density Mixed Use (Hotel, Office, Retail)
- Medium Density Commercial (Hotel, Office, Retail)
- R/D Business Park
- Airport Related
- Golf Course/Open Space/Recreation
- ANMP Acquisition Area

north

Not to Scale

Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR

LAX Master Plan

Figure

1-3

- Environmental Review and Approval (Phase III): Phase III of the LAX Master Plan Study included a thorough evaluation of the potential environmental effects associated with the four build alternatives, in accordance with federal and State of California environmental review procedures. The environmental review process was conducted as a joint Environmental Impact Statement (EIS), under federal environmental law, and Environmental Impact Report (EIR), under California law. The EIS/EIR provided descriptions of the environmental conditions in and around LAX, analyzed the potential impacts of the improvements associated with each alternative on the physical environment, and recommended mitigation measures to address potential impacts. The Draft EIS/EIR addressing three build alternatives and the No Action/No Project Alternative was released for public and agency review in January 2001, and the Supplement to the Draft EIS/EIR, addressing the fourth build alternative, was released for public and agency review in July 2003. All four of the build alternatives included new crossfield taxiways and associated taxiway improvements, with the locations and designs of those taxiway improvements being tailored to the overall airfield configuration of each alternative. The currently proposed CFTP is reflected in the airfield plan for Alternative D, which was ultimately selected as the approved LAX Master Plan.

The LAX Master Plan Final EIR, which addressed four build alternatives and the No Action/No Project Alternative, was then developed on the basis of the Draft EIS/EIR, the Supplement to the Draft EIS/EIR, public and agency comments received on both documents, and written responses to those comments. The LAX Master Plan Final EIR, as well as the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP) identifying LAX Master Plan mitigation measures and commitments, were published in April 2004. A revised MMRP and an Addendum to the LAX Master Plan Final EIR were published in September 2004. Three additional LAX Master Plan addenda were published in early December 2004, prior to certification of the LAX Master Plan Final EIR by the Los Angeles City Council on December 7, 2004.

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 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[3] 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.

1.2.2 LAX Master Plan Implementation

As indicated above, the LAX Master Plan provides a comprehensive long-term plan for a variety of major improvements throughout the airport, including airside facilities (i.e., the airfield area) and landside facilities (i.e., roads, parking areas, terminals, etc.). The LAX Master Plan EIR addresses the environmental impacts associated with those improvements, both in terms of impacts specific to particular improvements, such as noise impacts to hotels along the route of the proposed Automated People Mover, as well as impacts resulting from a combination of improvements, such as traffic impacts resulting from a combination of roadway system changes and project-related changes in passenger activity levels, as appropriate. As such, the public, agencies, surrounding jurisdictions, and decision-makers have been provided with a comprehensive look at the long-term plan for improvements at LAX and the environmental impacts associated with those improvements. As is the case for most, if not all, large-scale long-term improvement plans, implementation of the LAX Master Plan will occur in increments over many years, with the nature and timing of each improvement or set of improvements to be determined based on a number of considerations including, but not limited to, funding considerations, relationship to existing facilities, and relationship to future facilities identified in the plan. The first improvement to be

[3] As further discussed in Section 3.3.2, "Yellow Light Projects" are a subset of the LAX Master Plan projects that are subject to special approval procedures. The Yellow Light Projects include: the Ground Transportation Center (GTC); Automated People Mover (APM) 2 from the GTC to the Central Terminal Area (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.

implemented under the LAX Master Plan was the South Airfield Improvement Project (SAIP), which started construction in March 2006 and was completed in June 2008. The SAIP provided for much needed improvements to the runway and taxiway system in the south airfield to address high-priority safety and efficiency issues in that portion of the LAX airfield, consistent with approved LAX Master Plan. The CFTP is the second airport improvement project to be processed under the LAX Master Plan. Similar to the SAIP, implementation of the proposed CFTP improvements both addresses an existing need and is an integral part of the approved LAX Master Plan that was addressed in the LAX Master Plan EIR and is now being implemented.

The SAIP and the CFTP are only two of many airfield improvements contemplated in the approved LAX Master Plan. As noted above, the nature, scope, and timing of implementing the various improvements at LAX take into account a number of considerations including the relationship of a proposed improvement to existing and future facilities at LAX. In the case of the CFTP, the subject improvements will occur in an active portion of the existing airfield that is primarily occupied by a variety of airside and non-airside related structures, service roads, and aircraft apron and taxilane/way areas. The midfield portion of the airport, within which the CFTP is situated, is identified in the LAX Master Plan as the location of several major improvements including development of the future Midfield Satellite Concourse (referred to as the "West Satellite Concourse" in the LAX Master Plan EIR) and adjacent dual crossfield taxiways, and the development of aircraft contact gates on the west side of TBIT and additional passenger holdroom area within TBIT. In light of the existing and planned facilities within the midfield area, LAWA is proceeding with the detailed planning, engineering, and design of the CFTP for immediate implementation and is coordinating that improvement project with the other Master Plan improvements planned to occur in the midfield area in the next few years. The specifics of the CFTP are presented in Chapter 2, *Project Description*, of this EIR and the characteristics and relationship of the other midfield improvements are described in Chapter 3, *Overview of Project Setting*. As described therein, these major improvements to the midfield area have long been contemplated as part of the approved LAX Master Plan and the environmental impacts associated with such improvements were addressed in the LAX Master Plan Final EIR.

While the major improvements planned for the midfield area are currently being advanced into more detailed planning, engineering, design, and construction, consistent with the approved LAX Master Plan, certain elements of the LAX Master Plan are currently being reevaluated as part of the SPAS. The SPAS will identify and evaluate alternatives to certain elements of the LAX Master Plan that are referred to as "Yellow Light Projects." Based on input from the public and the LAX SPAS Advisory Committee, several alternative concepts for the Yellow Light Projects have been formulated and LAWA is currently preparing an EIR to address the potential impacts associated with each alternative. The CFTP is not, however, a Yellow Light Project and it is not anticipated that the SPAS will materially affect, or be affected by, the CFTP, as further explained in Section 3.3.2, *LAX Specific Plan Amendment Study*.

1.2.3 Environmental Review in Light of LAX Master Plan EIR

Section 15168(a) of the CEQA Guidelines provides for the use of a program EIR to address a series of actions that can be characterized as one large project and are related either: (1) geographically; (2) as logical parts in the chain of contemplated actions; (3) in connection with rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or (4) as individual activities carried out under the same regulatory authority and having generally similar environmental effects which can be mitigated in similar ways. The LAX Master Plan, which provides for a variety of related actions within LAX that are under the authority of LAWA and are governed by a common set of criteria (i.e., the LAX Specific Plan and LAX Plan), is particularly well suited to the CEQA construct for use of a program EIR.

In the processing of subsequent activities in the program, Section 15168(b) of the CEQA Guidelines requires that the activities be reviewed in light of the program EIR to determine whether an additional environmental document must be prepared. In conducting such a review, Section 15162 of the CEQA Guidelines sets forth several criteria for determining whether a subsequent EIR needs to be prepared. One of the criteria pertains to the question of whether new information of substantial importance, which was not known at the time of the previous EIR, indicates that: (1) the project will have one or more significant effects not discussed in the previous EIR; (2) significant effects previously examined will be substantially more severe than shown in the previous EIR; (3) mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt them; or (4) mitigation measures or alternatives considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt them. As described in greater detail below, the recent development of detailed design, engineering, and construction plans for the CFTP provides information that was not available at the time of the LAX Master Plan EIR. Such new information now allows for a more detailed evaluation of certain impacts, particularly those that are construction-related, and the relatively new practice of addressing impacts associated with greenhouse gases. These considerations provide the bases for LAWA's determination that an additional EIR is required for the CFTP.

Where a program-level environmental document has been prepared, such as in the case of the LAX Master Plan EIR, CEQA encourages the public agency to "tier" subsequent project-level environmental analyses from that document.[4] Section 15152(a) of the CEQA Guidelines describes the tiering approach as follows:

> "Tiering" refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.

Additionally, Section 15168(d)(3) of the CEQA Guidelines provides that a program EIR can be used to simplify the task of preparing environmental documents for later activities by having the EIR focus solely on new effects that had not been considered before.

Based on the above, this Draft EIR for the CFTP is "tiered" from, and incorporates by reference, the LAX Master Plan Final EIR and focuses on those effects not previously considered in the Master Plan EIR. The LAX Master Plan Final EIR is available for public review at Los Angeles World Airports, Facilities and Environmental Planning Department, One World Way, Los Angeles, CA 90045 or via the internet at www.laxmasterplan.org.

As identified in the August 7, 2008, Revised Notice of Preparation (NOP) for this project-level EIR, LAWA initially determined, based on an preliminary review of the CFTP, that five categories of environmental resources could potentially be affected by construction of the project and require additional review that was not otherwise provided in the LAX Master Plan Final EIR.[5] These five categories of environmental resources included traffic, air quality (including human health risks), noise, surface water quality, and hazardous materials/waste. Additional review conducted in conjunction with the preparation of this Draft EIR determined that minimal additional analysis was required for the noise, surface water quality, and hazardous materials/waste environmental topics, beyond that provided in the LAX Master Plan Final EIR. This additional review identified one new area of analysis not included in the NOP, biotic communities. **Table 1-1** summarizes the results of LAWA's review of the CFTP in light of the LAX Master Plan EIR. The subject table briefly summarizes: (1) where within the Master Plan EIR the environmental impacts of relevance to the CFTP are considered; (2) whether the CFTP as currently proposed poses the potential to result in new significant impacts that were not considered in the Master Plan EIR, result in a substantial increase in the severity of previously disclosed significant impacts, or be subject to new or substantially different mitigation measures or alternatives that the project proponents decline to adopt; and (3) where within the CFTP Draft EIR the subject impact area is discussed. With regard to the last column,

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4 California Public Resources Code Section 21093.

5 A Notice of Preparation (NOP) for the CFTP EIR was originally published on April 10, 2008. In conjunction with continuing planning and engineering refinement for the project, the development of a new ARFF and a replacement parking lot was identified. A Revised NOP describing those additional elements of the project was subsequently published.

environmental disciplines that warrant new analysis are included in Chapter 4, *Setting, Environmental Impacts, and Mitigation Measures,* of the CFTP EIR. For those environmental disciplines that did not warrant new analysis, a summary discussion of the findings of the LAX Master Plan EIR, and their relevance to the CFTP, is provided in Chapter 5, *Other Environmental Resources*.

As a result of the preliminary review, this EIR for the CFTP focuses primarily on the construction-related impacts related to surface transportation, air quality, and human health risks. In addition, based on field surveys of the undeveloped portions of the CFTP site conducted after the preliminary review, construction related impacts to sensitive plant species are also addressed. For the most part, operations-related impacts associated with the project have been addressed in the LAX Master Plan EIR, although some additional discussion of certain operational impacts is provided in this EIR. The one notable example is an analysis of changes in greenhouse gas emissions that are attributable to operation of the CFTP.

1.3 Organization of this EIR

This EIR follows the preparation and content guidance provided in CEQA and the State CEQA Guidelines. Chapters 1 through 6 are provided in Volume 1. Appendices are included in Volume 2. Listed below is a summary of the contents of each chapter of the report.

Chapter 1 -- Introduction

This chapter provides a summary of the proposed project components and the relationship of the project to the LAX Master Plan. Also included is a summary of the environmental analysis.

Chapter 2 -- Project Description

This chapter presents detailed information pertaining to the description of the project, including the results of a ground movement analysis that characterizes existing conditions and describes how those conditions would be addressed by the taxiway improvements proposed in the CFTP; the objectives of the proposed project; and the specific characteristics of the CFTP. Also provided in this chapter is a description of the intended uses of this EIR as related to specific approvals needed for implementation of the proposed project.

Chapter 3 -- Overview of Project Setting

This chapter provides an overview of the existing land use and environmental setting relevant to the CFTP. This chapter also describes other projects proposed in the nearby area that may, in conjunction with the CFTP, result in cumulative impacts on that existing setting.

Chapter 4 -- Setting, Environmental Impacts, and Mitigation Measures

The introductory portion of Chapter 4 describes the analytical framework for the environmental review of the CFTP. The remainder of the chapter includes detailed analysis of the environmental impacts of the project on surface transportation, air quality, human health risk, global climate change, and biotic communities.

Chapter 5 -- Other Environmental Resources

Chapter 5 provides an assessment of environmental impacts associated with the development of the CFTP related to those environmental topics not addressed in Chapter 4. In accordance with Sections 15152 and 15168 of the CEQA Guidelines, the information presented in this chapter is primarily for disclosure and informational purposes, because the construction impacts of the CFTP on these environmental resources were accounted for and addressed in the LAX Master Plan Final EIR and Addenda to the Final EIR.

Table 1-1

Initial Review of the Crossfield Taxiway Project in Light of the LAX Master Plan EIR

Environmental Issue	What analysis is provided in the LAX Master Plan EIR for each environmental issue and how does the LAX Crossfield Taxiway Project (CFTP) relate to that issue and analysis?	Would the CFTP result in a new significant impact, a substantial increase in the severity of a significant impact, or in a new or substantially different mitigation measure or alternative not adopted by the project proponents?	CFTP EIR - Relevant Section
Noise	4.1, 4.2: Noise impacts from aircraft, roadway vehicles, the Automated People Mover (APM), and construction were addressed; significant or potentially significant impacts were identified for each type of noise source; and mitigation measures were recommended. Unavoidable significant impacts were identified relative to aircraft noise (i.e., outdoor living areas within the 65+ CNEL contour) and construction near sensitive receptors. CFTP site is not near any sensitive noise receptors and implementation of the CFTP would not change existing airport operations relative to the aircraft flights that define the CNEL contours.	No	5.1
Land Use	4.2: Land use impacts addressed in LAX Master Plan EIR included noise compatibility, which is generally described above in Noise, and consistency with relevant land use plans. The CFTP is consistent with the approved LAX Master Plan. The potential for short-term construction-related lane closures and detours was identified as an unavoidable significant impact, even with mitigation. Such lane closures are not expected to occur for the CFTP.	No	5.2
On-Airport Surface Transportation	4.3.1: Impacts to on-airport roadway system were addressed. Temporary construction-related traffic disruptions were identified as an unavoidable significant impact, even with mitigation.	Potentially Yes. Additional details regarding CFTP construction timing and activity levels provide basis for further evaluation of construction-related traffic impacts at west end of airport.	4.1
Off-Airport Surface Transportation	4.3.2: Impacts to off-airport roadways system addressed; several road/intersections significantly impacted by traffic from future increased activity levels at LAX; mitigation measures recommended but some unavoidable significant impacts remain. Temporary construction-related traffic disruptions identified as an unavoidable significant impact, even with mitigation.	Potentially Yes. Additional details regarding CFTP construction timing and activity levels provide basis for further evaluation of construction-related traffic impacts at west end of airport and on nearby off-airport streets.	4.1

Table 1-1

Initial Review of the Crossfield Taxiway Project in Light of the LAX Master Plan EIR

Environmental Issue	What analysis is provided in the LAX Master Plan EIR for each environmental issue and how does the LAX Crossfield Taxiway Project (CFTP) relate to that issue and analysis?	Would the CFTP result in a new significant impact, a substantial increase in the severity of a significant impact, or in a new or substantially different mitigation measure or alternative not adopted by the project proponents?	CFTP EIR - Relevant Section
Population, Housing, Employment and Growth-Inducement	4.4.1, 4.4.2, 4.5: Direct and indirect impacts associated with population, housing, and employment were addressed. No significant impacts were identified and no mitigation measures were required. Based on the nature of the CFTP, no direct or indirect growth impacts are anticipated.	No	5.3
Air Quality	4.6: Air quality impacts from aircraft operations, airport operations (e.g., stationary sources, energy consumption), roadway traffic vehicles, and construction were addressed; significant or potentially significant impacts were identified for each type of air pollutant source; and mitigation measures were recommended. Unavoidable significant impacts were identified for construction-related and operations-related emissions.	Potentially Yes. Additional details regarding CFTP construction timing and activity levels provide basis for further evaluation of construction-related air quality impacts.	4.2
Hydrology/Water Quality	4.7: Impacts related to the conversion of pervious/vacant area to paved/developed area were addressed, and provisions for development and implementation of a Conceptual Drainage Plan for hydrology and water quality were delineated to avoid significant hydrology/water quality impacts. Mitigation was also recommended to address a deficient regional drainage system facility. The CFTP site is a relatively flat, largely developed airfield area. Implementation of the proposed project would not substantially change the existing hydrology and would provide for improved water quality through the incorporation of short-term and permanent Best Management Practices (BMPs), consistent with the analysis in the Master Plan EIR.	No	5.4

Table 1-1

Initial Review of the Crossfield Taxiway Project in Light of the LAX Master Plan EIR

Environmental Issue	What analysis is provided in the LAX Master Plan EIR for each environmental issue and how does the LAX Crossfield Taxiway Project (CFTP) relate to that issue and analysis?	Would the CFTP result in a new significant impact, a substantial increase in the severity of a significant impact, or in a new or substantially different mitigation measure or alternative not adopted by the project proponents?	CFTP EIR - Relevant Section
Cultural Resources	4.9: Potentially significant historical and archaeological resources were identified, none of which are at the CFTP site; potential significant impacts were identified; mitigation included preparation of an archaeological treatment plan and paleontological resources management plan to address the possibility of unexpectedly encountering cultural resources during construction. No unavoidable significant impacts are expected. The CFTP site is not occupied by any historic resources and is underlain mostly by artificial fill. No significant impacts to cultural resources are expected to occur from the CFTP.	No	5.5
Biotic Communities	4.10: Sensitive and non-sensitive flora and fauna were evaluated, with the most notable resources being found to occur in the undeveloped western portion of the airport, well-removed from the CFTP site, and mitigation measures were recommended relative to sensitive resources. No unavoidable significant impacts to biotic resources would occur.[1]	No[1]	4.5
Endangered and Threatened Species of Flora and Fauna	4.11: Potential impacts to listed species, particularly the El Segundo blue (ESB) butterfly and the Riverside fairy shrimp were evaluated; formal consultation with U.S. Fish and Wildlife Service was completed pursuant to Section 7 of the federal Endangered Species Act; and mitigation measures were recommended. Subsequent to certification of the Final EIR, the Riverside fairy shrimp at LAX were removed in accordance with the federal Biological Opinion. ESB butterfly habitat is west of and well-removed from, the CFTP site. The construction staging area is closer to, but still removed from, the ESB habitat.	No	5.6
Wetlands	4.12: The presence of state and federal wetlands at LAX, including Argo Ditch and ephemerally wetted areas such as those associated with the Riverside fairy shrimp, was evaluated and a mitigation measure was identified for jurisdictional wetlands. The CFTP site is fully developed, with no wetlands nearby. The construction staging area for the CFTP is currently used for the same purpose for the SAIP; there are no wetlands at this site.	No	5.7

Table 1-1

Initial Review of the Crossfield Taxiway Project in Light of the LAX Master Plan EIR

Environmental Issue	What analysis is provided in the LAX Master Plan EIR for each environmental issue and how does the LAX Crossfield Taxiway Project (CFTP) relate to that issue and analysis?	Would the CFTP result in a new significant impact, a substantial increase in the severity of a significant impact, or in a new or substantially different mitigation measure or alternative not adopted by the project proponents?	CFTP EIR - Relevant Section
Energy Supply and Natural Resources	4.17: Potential impacts to energy supply, including fuel and power consumption, and to natural resources, such as construction materials, were evaluated, and energy conservation measures were recommended. No significant impacts related to energy consumption and distribution, or access to, and use of, natural resources were identified. Based on increased efficiencies in aircraft taxiing with implementation of the CFTP, it is anticipated that aircraft fuel consumption would be reduced.	No	5.8
Solid Waste	4.19: Impacts associated with generation of solid waste from construction and operation of the Master Plan projects were addressed, and waste reduction measures were recommended. No significant impacts related to construction solid waste generation and disposal were identified. Consistent with the Master Plan EIR, the CFTP includes reduction measures for construction waste such as reuse of demolished pavement material.	No	5.9
Light Emissions and Aesthetics	4.18, 4.21: Potential impacts associated with new/increased lighting at the airport were addressed, as were visual/aesthetic impacts. Master Plan commitments from the Land Use section were referenced to address potential light impacts; other commitments, included those related to construction screening, were provided for visual/aesthetic impacts. No unavoidable significant light emissions or visual/aesthetic impacts were identified. The CFTP site is in a fully-developed active part of the airport that already has substantial lighting and does not have, or block views of, visual/aesthetic resources.	No	5.10
Earth and Geology	4.22: Potential impacts related to geotechnical issues, such as earthquakes and other seismic-related hazards, ground failure, and landslides, were evaluated. No significant impacts related to adverse geologic conditions and hazards were identified. The LAX Master Plan EIR analysis fully addresses potential effects of the CFTP relative to earth/geology.	No	5.11

Table 1-1

Initial Review of the Crossfield Taxiway Project in Light of the LAX Master Plan EIR

Environmental Issue	What analysis is provided in the LAX Master Plan EIR for each environmental issue and how does the LAX Crossfield Taxiway Project (CFTP) relate to that issue and analysis?	Would the CFTP result in a new significant impact, a substantial increase in the severity of a significant impact, or in a new or substantially different mitigation measure or alternative not adopted by the project proponents?	CFTP EIR - Relevant Section
Hazards and Hazardous Materials	4.23, 4.24: Potential impacts related to hazards and hazardous materials, including potential conflicts with ongoing remediation activities, were evaluated and a number of Master Plan commitments were identified to address potential impacts. No significant impacts were identified. Given the nature and location of the CFTP, the proposed project falls within the scope of the Master Plan EIR analysis and no new significant impacts are expected to occur.	No	5.12
Human Health Risks	4.24: Potential human health risk impacts associated with toxic air contaminants, primarily as related to aircraft operations, were addressed. Air quality mitigation measures were identified as a means to reduce potential health risk levels. No unavoidable significant impacts were identified.	Potentially Yes. Additional details regarding CFTP construction timing and activity levels provide basis for further evaluation of construction-related toxic air contaminant emissions, particularly diesel particulate emissions from construction equipment exhaust.	4.3
Public Utilities	4.25: The Master Plan EIR addresses potential impacts related to water consumption and wastewater generation, and identifies water conservation measures. No significant impacts were identified. In light of the basic nature of the CFTP, the proposed project falls within the scope of the Master Plan analysis and no notable impacts related to water or wastewater are expected to occur.	No	5.13
Public Services	4.26, 4.27: The Master Plan EIR addresses potential impacts related to fire, police, parks and recreation, schools, and libraries, and identifies a number of measures to reduce potential impacts to those services. Other than aircraft noise impacts on schools, no unavoidable significant impacts were identified. Based on the nature of the CFTP, including the construction of a new ARFF as a replacement for the existing Fire Station No. 80.ARFF, no significant impacts to public services are expected to occur.	No	5.14, 5.15

Table 1-1

Initial Review of the Crossfield Taxiway Project in Light of the LAX Master Plan EIR

Environmental Issue	What analysis is provided in the LAX Master Plan EIR for each environmental issue and how does the LAX Crossfield Taxiway Project (CFTP) relate to that issue and analysis?	Would the CFTP result in a new significant impact, a substantial increase in the severity of a significant impact, or in a new or substantially different mitigation measure or alternative not adopted by the project proponents?	CFTP EIR - Relevant Section
Climate Change/Greenhouse Gas	The need to address climate change and greenhouse gas issues within an EIR is something that has become more prominent in just the past few years. As was common practice at the time, this issue was not addressed within the LAX Master Plan EIR.	Potentially Yes	4.4

[1] These findings are based on the initial review of the CFTP, which was conducted in conjunction with the project's Notice of Preparation. Subsequent to the initial review, and as part of surveys conducted pursuant to preparation of this EIR, one sensitive floral resource was discovered on a portion of the project site, resulting in the potential for a new significant impact. These impacts are addressed in Section 4.5 and summarized in Table 1-2.

Source: CDM, May 2008.

Chapter 6 -- Alternatives

As required by CEQA, Chapter 6 evaluates the potential for alternatives to the proposed CFTP that can avoid or substantially lessen any significant effects of the project, while also meeting most of the basic objectives of the project.

Chapter 7 -- List of Preparers, Parties to Whom NOP Was 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 that performed key roles in the preparation and development of this Draft EIR; a list of the parties to whom the EIR Notice of Preparation (NOP) was sent; a list containing a bibliography of documents used in the preparation of the Draft EIR; a list of agencies, organizations and individuals who provided comments on the EIR NOP; and a list of acronyms used in the Draft EIR.

1.4 Summary of Environmental Impacts Related to the Crossfield Taxiway Project

Table 1-2 summarizes the environmental impacts of the CFTP in terms of surface transportation, air quality, human health risks, global climate change, and biotic communities related to the CFTP as identified in Chapter 4 of this EIR. **Table 1-3** summarizes the potential environmental impacts of the CFTP for all other environmental categories for which no, or minimal, additional analysis was required beyond that provided in the LAX Master Plan Final EIR. **Tables 1-2** and **1-3** include specific references to the applicable LAX Master Plan commitments and mitigation measures, as well as new mitigation measures that are proposed to reduce or avoid potential environmental impacts associated with the CFTP. The level of significance following mitigation is also listed.

1.5 Areas of Known Controversy

Based on comments on the Notice of Preparation that were received by LAWA, the areas of known controversy are related primarily to how the CFTP relates to other projects and aspects of the LAX Master Plan. In particular, comments were expressed suggesting that the environmental review, processing, and implementation of the CFTP should be combined with that of other improvements included in the LAX Master Plan. As described in Section 2.2 of this EIR, the need for and utility of the CFTP is independent of other Master Plan projects, and implementation of the CFTP is appropriate under the approved LAX Master Plan; is consistent with common practice for the phased development of large, long-term master plan infrastructure projects; and is in accordance with the provisions of CEQA.

NOP comments were also received suggesting that the environmental review, processing, and implementation of the CFTP should await, and be based upon, the outcome of the LAX SPAS process. The CFTP is not dependent on implementation of any of the Yellow Light Projects or alternatives to the Yellow Light Projects that will be evaluated in the SPAS. Nor does construction of the CFTP commit LAWA to proceeding with any of the projects that will be evaluated in the SPAS. Therefore, consideration of the CFTP may proceed prior to completion of the SPAS process.

These concerns are fully addressed in this Draft EIR, but are, nevertheless, likely to remain an area of controversy.

1.6 Issues to be Resolved

The issues to be resolved are primarily those summarized above relative to areas of controversy.

Table 1-2

Summary of Environmental Impacts Related to the Crossfield Taxiway Project for Which Additional Analysis is Required

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures/ Commitments	Level of Significance After Mitigation
Surface Transportation Construction of the CFTP would increase traffic volumes on the surrounding area roadway network.	C-1. Establishment of a Ground Transportation/Construction Coordination Office C-2. Construction Personnel Airport Orientation ST-9. Construction Deliveries ST-12. Designated Truck Delivery Hours ST-14. Construction Employee Shift Hours ST-16. Designated Haul Routes ST-17. Maintenance of Haul Routes ST-18. Construction Traffic Management Plan ST-22. Designated Truck Routes	None applicable.	None required.	Less than significant.
Air Quality: Construction activities would cause air pollutant emissions. Operation of the new Taxiway C13 and Taxiway D extension would improve aircraft ground movement in the midfield area, which would reduce air pollutant emissions that otherwise occur under existing congested conditions.	None applicable.	MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality MM-AQ-2. Construction-Related Measure Community Benefits Agreement, Section X.F.1, Construction Equipment.[1]	None required.	Construction-related impacts remain significant after mitigation. Operations-related reduction of air pollutant emissions would be a beneficial impact.

Table 1-2

Summary of Environmental Impacts Related to the Crossfield Taxiway Project for Which Additional Analysis is Required

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures/ Commitments	Level of Significance After Mitigation
Human Health Risks: People living, working, recreating, or attending school in communities near the airport would not experience increased incremental cancer risks, increased incremental non-cancer chronic health hazards, or increased incremental non-cancer acute health hazards from exposure to toxic air contaminants (TACs) above established thresholds of significance during construction of the CFTP. People working at the airport would not be exposed to concentrations of TACs in the air in excess of occupational standards as defined by PEL-TWA during construction of the CFTP.	None applicable.	MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality MM-AQ-2. Construction-Related Measure	None required.	Less than significant.

Table 1-2

Summary of Environmental Impacts Related to the Crossfield Taxiway Project for Which Additional Analysis is Required

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures/ Commitments	Level of Significance After Mitigation
Global Climate Change: Construction of the CFTP would generate greenhouse gases, primarily in the form of CO_2, which would contribute to climate change. The amount of greenhouse gases generated by construction activity is considered to be a significant impact. Operation of the new fire station/ARFF would generate greenhouse gases relative to energy consumption and operation of vehicles. The generation of greenhouse gases from this new facility and from lighting for outdoor areas would be offset by the reduction or elimination of greenhouse gases from the existing ARFF, which would be closed, and various existing buildings and lighting that would be demolished. With implementation of the CFTP, there would be a slight net reduction in greenhouse gas generation associated with buildings and lighting. Operation of the new Taxiway C13 and Taxiway D extension would improve aircraft ground movement in the midfield area, which would reduce greenhouse gas emissions that otherwise occur under existing congested conditions.	None specific to global climate change; however, the following commitment would contribute to reductions in greenhouse gases:[2] SW-3. Requirements for the Recycling of Construction and Demolition Waste	None specific to global climate change; however, the following measures would contribute to reductions in greenhouse gases:[1] MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality MM-AQ-2. Construction-Related Measure	None required.	Construction-related emissions of greenhouse gases would be a temporary unavoidable significant impact. Operations-related reduction of greenhouse gases would be a beneficial impact.

Table 1-2

Summary of Environmental Impacts Related to the Crossfield Taxiway Project for Which Additional Analysis is Required

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures/ Commitments	Level of Significance After Mitigation
Biotic Communities: There are no sensitive biotic resources within the primary CFTP project area or within the construction staging area. One special status plant species, southern tarplant (*Centromadia parryi ssp. australis*), a CNPS List 1B.1 species, was observed on the American Airlines employee parking lot relocation site. Construction of the CFTP would directly impact 29 southern tarplant individuals, which would be a significant impact. In addition, CFTP construction staging and stockpiling of materials in close proximity to the Los Angeles/El Segundo Dunes and the El Segundo Blue Butterfly Habitat Restoration Area would have the potential to deposit fugitive dust within State-designated sensitive habitats, which would be considered a significant impact.	None applicable.	MM-BC-1. Conservation of State-Designated Sensitive Habitat within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area MM-ET-3. El Segundo Blue Butterfly Conservation: Dust Control	MM-BC (CFTP)-1. Conservation of Floral Resources: Southern Tarplant	Less than significant with mitigation.

[1] LAWA and the LAX Coalition for Economic, Environmental and Educational Justice (LAX Coalition) have developed and entered into an agreement, the Community Benefits Agreement (CBA), to ensure that communities adversely affected by the LAX Master Plan Program also receive benefits as a result of the implementation of the Program. The benefits and mitigations included in the CBA were negotiated independently from, and are not a part of, the LAX Master Plan MMRP. The CBA contains a number of air quality mitigation measures, of which Section X.F.1 is applicable to the CFTP.

[2] At the time of preparation of the LAX Master Plan EIR, global climate change was not commonly addressed in EIRs. Therefore, there are no Master Plan commitments or mitigation measures that were developed specifically to address global climate change.

Source: CDM, 2008.

Table 1-3

Summary of Other Environmental Impacts Related to the Crossfield Taxiway Project for Which No, or Minimal, Additional Analysis is Required Beyond that Provided in the LAX Master Plan Final EIR

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures	Level of Significance After Mitigation
Noise: The LAX Master Plan Final EIR adequately addressed potential construction traffic and equipment noise impacts due to CFTP construction activities. The CFTP site and staging area are not located within 600 feet of noise-sensitive land uses (the closest sensitive land use is approximately .47 mile from the closest point of the construction site) and, therefore, no significant impacts on noise-sensitive uses from CFTP construction equipment operation would occur.	ST-16. Designated Haul Routes ST-22. Designated Truck Routes	MN-N-7. Construction Noise Control Plan MM-N-8. Construction Staging MM-N-9. Equipment Replacement MN-N-10. Construction Scheduling	None required.	Less than significant.
Land Use: Construction effects associated with traffic, noise and views have the potential to affect land uses along the southern boundary of LAX.	C-1. Establishment of a Ground Transportation/ Construction Coordination Office C-2. Construction Personnel Airport Orientation ST-9. Construction Deliveries ST-12. Designated Truck Delivery Hours ST-14. Construction Employee Shift Hours ST-16. Designated Haul Routes ST-17. Maintenance of Haul Routes ST-18. Construction Traffic Management Plan ST-22. Designated Truck Routes	MN-N-7. Construction Noise Control Plan MM-N-8. Construction Staging MN-N-10. Construction Scheduling	None required.	Less than significant.

Table 1-3

Summary of Other Environmental Impacts Related to the Crossfield Taxiway Project for Which No, or Minimal, Additional Analysis is Required Beyond that Provided in the LAX Master Plan Final EIR

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures	Level of Significance After Mitigation
Population, Housing, Employment and Growth Inducement: No property acquisition would be required for the CFTP and construction-related employment would not induce growth in the area. On-airport tenants and uses affected by the CFTP would be relocated within the airport.	EJ-1. Aviation Curriculum EJ-2. Aviation Academy EJ-3. Job Outreach Center EJ-4. Community Mitigation Monitoring	None applicable.	None required.	Less than significant.
Hydrology/Water Quality: Excavation and grading associated with the CFTP would result in an alteration to existing drainage facilities. The new storm drain facilities would be designed to accommodate larger storm events than the existing facilities. Existing drainage patterns would not be altered.	HWQ-1. Conceptual Drainage Plan	None applicable.	None required.	Less than significant.
Implementation of the relocated American Airlines employee parking lot would result in the conversion of an 8-acre parcel from a pervious condition to an impervious condition, resulting in a negligible decrease in surface recharge within the regional groundwater basin. No groundwater production occurs at LAX and beneficial uses of the basin would not be adversely affected.	None applicable.	None applicable.	None required.	Less than significant.
Total impervious area would be increased by approximately 8 acres. LAWA would prepare a Standard Urban Storm Water Mitigation Plan (SUSMP) to address long-term impacts to water quality and a Storm Water Pollution Prevention Plan to address construction-related impacts. The addition of permanent Best Management Practices to the on-site drainage system would improve water quality compared to existing conditions.	HWQ-1. Conceptual Drainage Plan	None applicable.	None required.	Beneficial.

Table 1-3

Summary of Other Environmental Impacts Related to the Crossfield Taxiway Project for Which No, or Minimal, Additional Analysis is Required Beyond that Provided in the LAX Master Plan Final EIR

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures	Level of Significance After Mitigation
Cultural Resources: The CFTP would not affect the one historic property, the International Airport Industrial District, that would be affected by the LAX Master Plan. However, construction activities could potentially disturb or destroy potentially significant, undiscovered archaeological resources. This impact would be significant.	None applicable.	MM-HA-4. Discovery MM-HA-5. Monitoring MM-HA-6. Excavation and Recovery MM-HA-7. Administration MM-HA-8. Archaeological/ Cultural Monitor Report MM-HA-9. Artifact Curation MM-HA-10. Archaeological Notification	MM-HA (CFTP)-1. Conformance with LAX Master Plan Archaeological Treatment Plan	Less than significant with mitigation.
As the CFTP would involve grading and excavation greater than 6 feet in depth, it is possible that potentially important paleontological resources could be exposed and/or damaged. In addition, CFTP construction could make paleontological resources accessible for unauthorized fossil collection.	None applicable.	MM-PA-1. Paleontological Qualification and Treatment Plan MM-PA-2. Paleontological Authorization MM-PA-3. Paleontological Monitoring Specifications MM-PA-4. Paleontological Resources Collection MM-PA-5. Fossil Preparation MM-PA-6. Fossil Donation MM-PA-7. Paleontological Reporting	MM-PA (CFTP)-1. Conformance with LAX Master Plan Paleontological Management Treatment Plan MM-PA (CFTP)-2. Construction Personnel Briefing	Less than significant with mitigation.

Table 1-3

Summary of Other Environmental Impacts Related to the Crossfield Taxiway Project for Which No, or Minimal, Additional Analysis is Required Beyond that Provided in the LAX Master Plan Final EIR

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures	Level of Significance After Mitigation
Endangered and Threatened Species of Flora and Fauna: The CFTP project site, staging area, and parking lot relocation site do not contain suitable habitat for any threatened or endangered species. The proposed CFTP construction staging area is currently being used for construction staging for other LAX projects. Construction avoidance measures have been implemented at sites that are in close proximity to the staging area. Continued use of this site for construction staging would not directly affect any endangered or threatened species. However, CFTP construction staging and stockpiling of materials in close proximity to the Habitat Restoration Area would have the potential to deposit fugitive dust within habitat for the El Segundo blue butterfly, which is considered a significant impact.	None applicable.	MM-ET-1. Riverside Fairy Shrimp Habitat Restoration MM-ET-3. El Segundo Blue Butterfly Conservation: Dust Control	None required.	Less than significant.
Wetlands: The CFTP would not have any direct impacts on wetlands. The CFTP project site is not located in proximity to any wetland areas. No jurisdictional wetlands are located within the parking lot relocation site. The CFTP construction staging area is currently being used for construction staging for other LAX projects. Continued implementation of construction avoidance measures would prevent impacts to nearby jurisdictional wetlands.	None applicable.	MM-ET-1. Riverside Fairy Shrimp Habitat Restoration	None required.	Less than significant.
Energy Supply and Natural Resources: Construction of the CFTP would require relocation of existing electrical, natural gas and aviation fuel distribution lines. Adequate energy and aggregate supplies would be available for construction of the CFTP.	E-1. Energy Conservation and Efficiency Program E-2. Coordination with Utility Providers PU-1. Develop a Utility Relocation Program	None applicable.	None required.	Less than significant.

Table 1-3

Summary of Other Environmental Impacts Related to the Crossfield Taxiway Project for Which No, or Minimal, Additional Analysis is Required Beyond that Provided in the LAX Master Plan Final EIR

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures	Level of Significance After Mitigation
Solid Waste: The primary source of solid waste generation from the CFTP would be demolition of existing facilities. Debris will also be generated from new construction. Construction bid documents for the CFTP would specify that a minimum of 20 percent of construction waste materials would be required to be recycled.	SW-2. Requirements for the Use of Recycled Materials During Construction SW-3. Requirements for the Recycling of Construction and Demolition Waste	None applicable.	None required.	Less than significant.
Aesthetics: Construction activities and construction staging would be visible from I-105, the upper stories of hotels and office buildings to the south and east, some residences south of Imperial Avenue, and to travelers along Imperial Highway.	None applicable.	None applicable.	None required.	Less than significant.
Light Emissions: The CFTP would result in operational changes to lighting, including new airfield lighting systems, new airfield signage, and aircraft parking apron lighting. The aircraft parking apron lighting would include tall, bright lights. However, these lights would be distant from the nearest sensitive receptors.	LI-2. Use of Non-Glare Generating Building Materials LI-3. Lighting Controls	None applicable.	None required.	Less than significant.
Earth and Geology: Construction of the CFTP would require grading and excavation. A site-specific geotechnical investigation would be prepared, and provide the basis for the grading plan. Project design would include remedial and protective construction methods, as warranted.	None applicable.	None applicable.	None required.	Less than significant.

Table 1-3

Summary of Other Environmental Impacts Related to the Crossfield Taxiway Project for Which No, or Minimal, Additional Analysis is Required Beyond that Provided in the LAX Master Plan Final EIR

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures	Level of Significance After Mitigation
Hazards and Hazardous Materials: During construction, ground access on the airport and in the vicinity would be altered. With implementation of Master Plan commitments, emergency access would be adequately maintained.	C-1. Establishment of a Ground Transportation/Construction Coordination Office C-2. Construction Personnel Airport Orientation ST-9. Construction Deliveries ST-12. Designated Truck Delivery Hours ST-14. Construction Employee Shift Hours ST-16. Designated Haul Routes ST-17. Maintenance of Haul Routes ST-18. Construction Traffic Management Plan ST-22. Designated Truck Routes	None applicable.	None required.	Less than significant.
Construction of the relocated American Airlines employee parking lot would conflict with ongoing remediation activities associated with the Continental (CAL) Maintenance Facility. Existing CAL monitoring wells are clearly marked and access to the majority of the 220 wells would be maintained during construction. It is anticipated that 50 wells would be taken off-line for a 6-week period during construction, after which they would be reinstated. No long-term impacts would occur as a result of this temporary disruption.	HM-1. Ensure Continued Implementation of Existing Remediation Efforts	None applicable.	None required.	Less than significant.
Due to the presence of sites with potential contamination in proximity to the CFTP site, the potential exists that contamination could be encountered during construction.	HM-2. Handling of Contaminated Materials Encountered During Construction	None applicable.	None required.	Less than significant.

Table 1-3

Summary of Other Environmental Impacts Related to the Crossfield Taxiway Project for Which No, or Minimal, Additional Analysis is Required Beyond that Provided in the LAX Master Plan Final EIR

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures	Level of Significance After Mitigation
Public Utilities: Adequate water supply would be available for construction of the CFTP. Reclaimed water would be used to the extent feasible for dust suppression in accordance with Master Plan Commitment W-1.	W-1. Maximize Use of Reclaimed Water	None applicable.	None required.	Less than significant.
Construction of the CFTP would require the relocation of existing water transmission lines and wastewater collection facilities.	PU-1. Develop a Utility Relocation Program	None applicable.	None required.	Less than significant.
Public Services: During construction, ground access on the airport and in the vicinity would be altered, with the potential for affecting emergency response times.	C-1. Establishment of a Ground Transportation/ Construction Coordination Office C-2. Construction Personnel Airport Orientation ST-9. Construction Deliveries ST-12. Designated Truck Delivery Hours ST-14. Construction Employee Shift Hours ST-16. Designated Haul Routes ST-17. Maintenance of Haul Routes ST-18. Construction Traffic Management Plan ST-22. Designated Truck Routes FP-1. LAFD Design Recommendations LE-2. Plan Review	None applicable.	None required.	Less than significant.

Table 1-3

Summary of Other Environmental Impacts Related to the Crossfield Taxiway Project for Which No, or Minimal, Additional Analysis is Required Beyond that Provided in the LAX Master Plan Final EIR

Impact by Discipline	Master Plan Commitments	Master Plan Mitigation Measures	New Mitigation Measures	Level of Significance After Mitigation
LAPD Bomb Squad offices would need to be relocated.	PS-1. Fire and Police Facility Relocation Plan PS-2. Fire and Police Facility Space and Siting Requirements	None applicable.	None required.	Less than significant.
A new fire station/aircraft rescue and firefighting facility (ARFF) would be constructed as a replacement for the existing Fire Station No. 80/ARFF.	FP-1. LAFD Design Recommendations PS-1. Fire and Police Facility Relocation Plan PS-2. Fire and Police Facility Space and Siting Requirements	None applicable.	None required.	Less than significant.
The CFTP would not adversely affect libraries or parks and recreational facilities.	None applicable.	None applicable.	None required.	Less than significant.
Schools: CFTP construction would not affect student enrollment.	None applicable.	None applicable.	None required.	Less than significant.

Source: CDM, 2008.

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2. PROJECT DESCRIPTION

The proposed project is located near the center of LAX, as shown in Figures 1-1 and 1-2 in Chapter 1. As one of the airfield improvements included in the LAX Master Plan, the LAX CFTP encompasses improvements to a portion of the existing taxiway system that supports aircraft access between the north runway complex (i.e., Runways 6L/24R and 6R/24L) and the south runway complex (i.e., Runways 7L/25R and 7R/25L). In particular, the proposed project would provide a new crossfield taxiway, identified as Taxiway C13, and an associated connection to, and extension of, the existing Taxiway D. In addition, a new parallel service road along Taxiway C13 would be built and the existing aircraft parking location would be relocated alongside the south end of Taxiway C13. A new fire station/aircraft rescue and fire fighting facility (ARFF) would also be constructed as part of the project. The subject taxiway improvements are proposed in light of airfield congestion that occurs periodically at and near the existing midfield taxiways relative to movement of aircraft on the ground, and also reflect the phased implementation of improvements that are included in the approved LAX Master Plan. The proposed ARFF would replace an existing station that is severely undersized and, similar to the taxiway improvements, would be developed consistent with the phased implementation of the LAX Master Plan. The following further describes the aforementioned aircraft ground movement considerations, the relationship of the CFTP to the LAX Master Plan, the objectives of the proposed project, and the specific characteristics of the CFTP. Also provided in this chapter is a description of the intended uses of this EIR, including as related to specific approvals needed for implementation of the proposed project.

2.1 Aircraft Ground Movement in Midfield Area

As indicated above, LAX currently experiences periodic aircraft ground movement congestion at and near the existing midfield taxiways, specifically Taxiways S and Q, which connect the north and south runway complexes. The following presents the results of a ground movement analysis completed by Ricondo & Associates, in consultation with LAWA and a representative of the LAX Air Traffic Control Tower (ATCT), which characterizes the pertinent existing conditions and describes how those conditions would be addressed by the taxiway improvements proposed in the CFTP.

2.1.1 Introduction

Discussions were held with ATCT Traffic Management personnel on May 6, 2008 to review the aircraft ground movement characteristics in the midfield area and discuss the implications of the proposed taxiway improvements.[6] The discussion, and subsequent analysis results presented herein, focused on taxiway queuing during west flow operations (i.e., aircraft arrive and depart towards the west), which account for approximately 94 percent of annual operational patterns at LAX.

The meeting with ATCT personnel led to discussions related to the analysis of peak operating conditions during which queuing is used to manage taxiway movement. While the effects of the queuing operations will change, the need for these operations will remain due to other airfield limitations including, but not limited to, operational throughput and gate availability.

2.1.2 Existing Conditions

The current queuing areas (i.e., taxiing aircraft waiting areas) and taxipaths are depicted graphically in **Figures 2-1** and **2-2**. It should be noted that other queuing areas do exist on the airfield but are not considered to be impacted by the potential development of Taxiway C13. The queuing areas are designed to control airfield movements to manage congestion in the airfield operating environment. The major queuing areas include the departure queues for all runways, of which Runway 24L and Runway 25R are the primary departure runways. Taxiway movement queues include the intersection of

[6] Meeting participants included Kurt Rammelsburg, STMC, LAX Air Traffic Control Tower; Jake Adams P.E., Program Manager, Los Angeles World Airports; Tony Fermelia, Vice President, HNTB Corporation; and Steve Smith, Director, Ricondo & Associates.

Taxiway Q and Taxiway E, and the intersection of Taxiway S and Taxiway C. Runway crossing queues are located at the arrival runway exits; the primary exits include Taxiways M, P, T, Y, Z, and AA. Lastly, two additional queues called "gate-occupied queues" are used for arriving aircraft that are holding due to an occupied gate; these queues are located at the intersections of Taxiways E and E10 and Taxiway B and B16.

The aforementioned queues are used during peak operating conditions or heavy traffic interactions to allow for continued movement of operations on the airfield by limiting the movements of some aircraft until all conflicting traffic has been mitigated.

Currently, ATCT staff use the Taxiway S queuing area to hold aircraft that arrive on the north runway complex and are heading to a gate located on the south side of the Central Terminal Area (CTA), or leave a gate located on the north side of the CTA and are departing from the south runway complex. These aircraft proceed south on Taxiway S. Conflicts arise when aircraft that arrive on Runway 25L and cross Runway 25R are exiting the south runway complex at Taxiway P or Taxiway T and head east along Taxiway B to the assigned gate on the south side of the CTA. Aircraft destined for a gate on the north side of the CTA head north via Taxiway Q. Congestion is also caused by aircraft departing the south terminal complex via Taxiway C. Taxi routes are illustrated in **Figures 2-1** and **2-2**. During peak periods there is the increased potential and occasional need to hold aircraft on Taxiway S to allow for aircraft exiting the south runway complex to clear the runway environment and allow aircraft departing from the south terminal complex to begin taxiing. The resultant queuing may be necessary to avoid aircraft backing up onto the runway environment from Taxiway P and Taxiway T, and to prevent aircraft from backing up into the taxilanes between the terminals located on the south side of the CTA.

Similarly, the aircraft queue located on Taxiway Q is used to control the flow of aircraft traveling from the south and continuing to the north terminal and runway complex. If the departure queue for the north runway complex inhibits movements for aircraft traveling to a gate on the north complex, aircraft will be held on Taxiway Q rather than mixing them into the departure stream. Additionally, if the departure queue length for Runway 24L extends beyond Taxiway D9, aircraft will be held on Taxiway Q until the departure queue for Runway 24L is shorter.

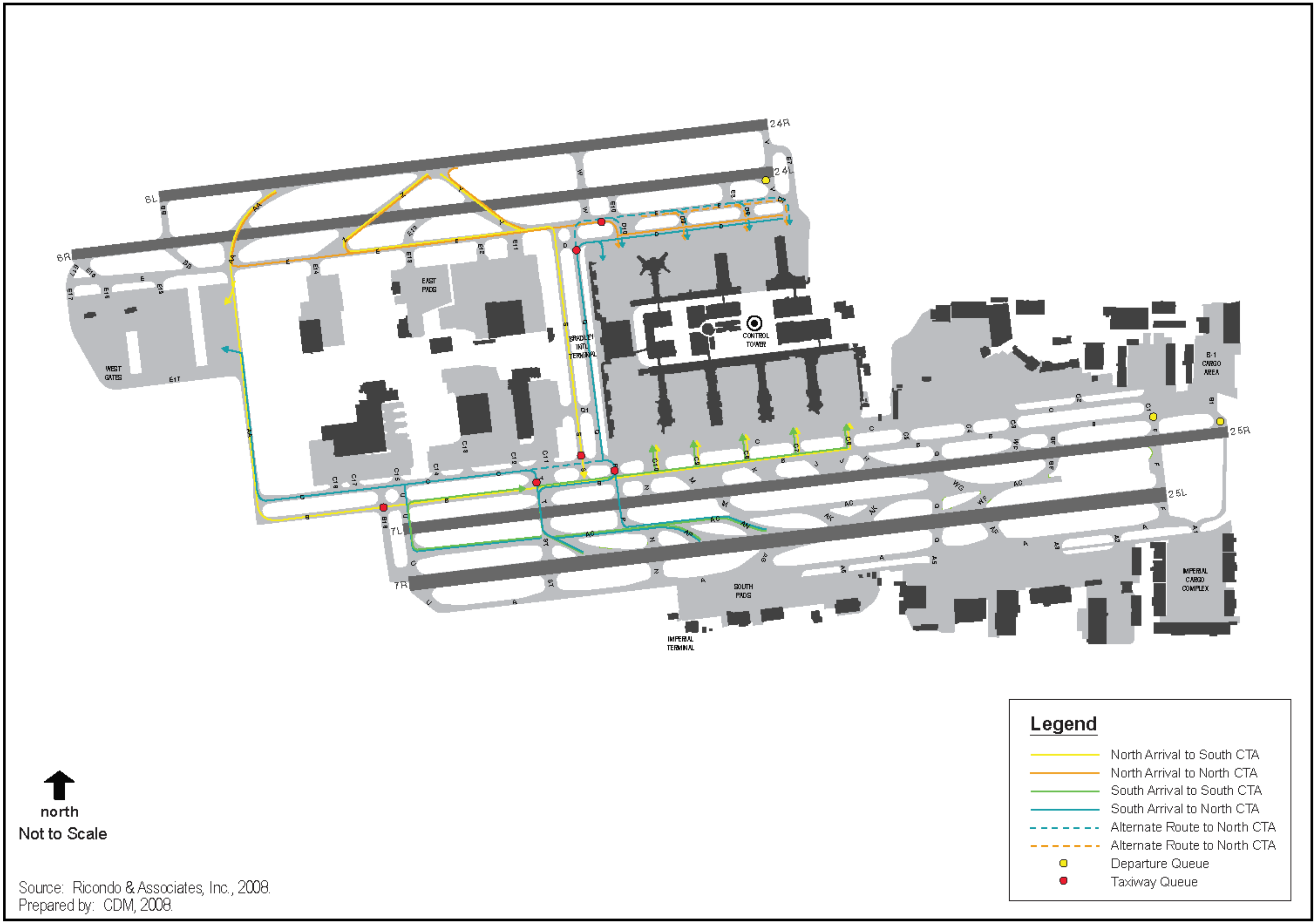
An additional queue is located at the intersection of Taxiways E and E10. This queue is used for aircraft that are waiting for their assigned gate to become available.

2.1.3 Conditions With CFTP Improvements

The addition of Taxiway C13 and the extension of Taxiway D are expected to improve the queuing options available to ATCT personnel, as depicted in **Figures 2-3** and **2-4** and described below.

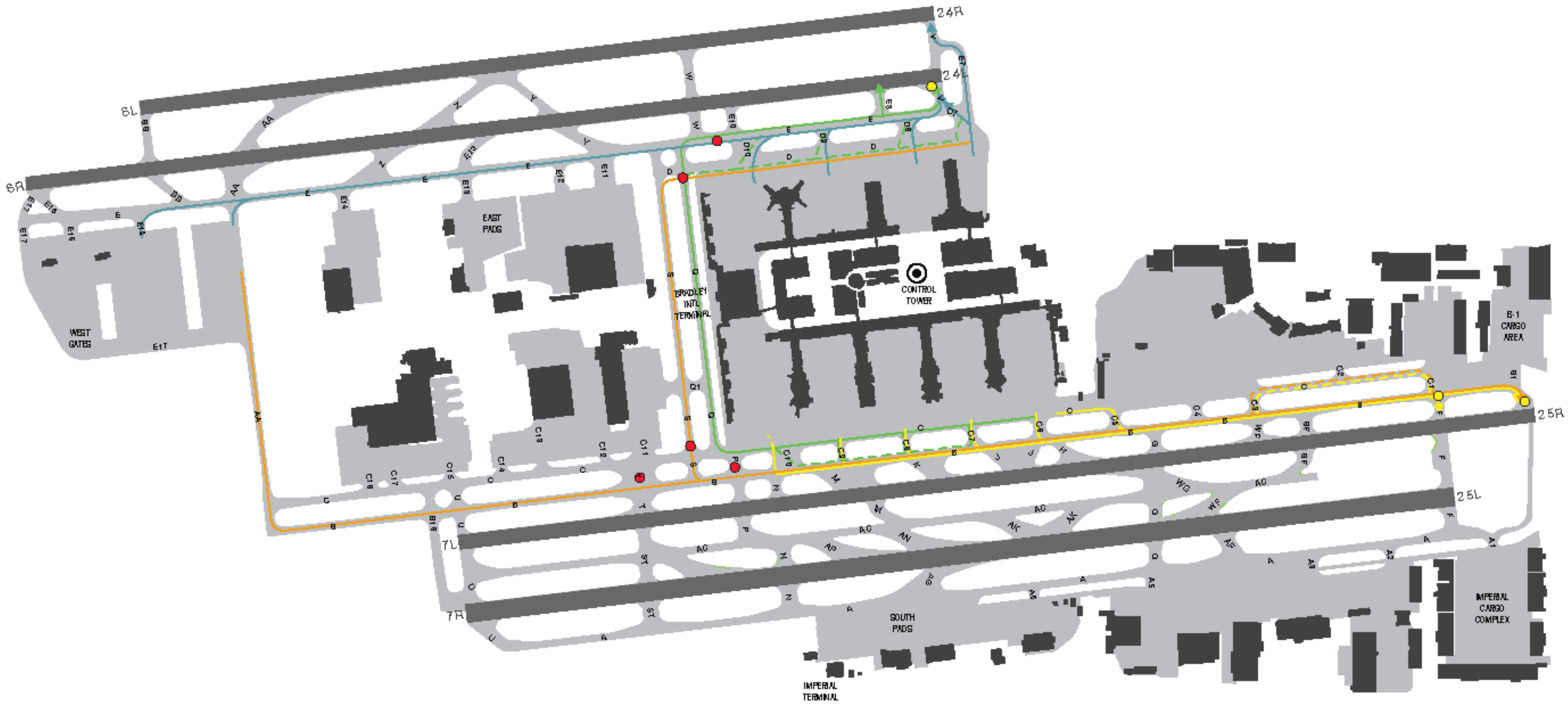
According to LAX ATCT traffic management personnel, arrivals from the north runway complex (primarily Runway 24L) exiting at Taxiway Z could be assigned to Taxiway C13 to transition to the south terminal complex, allowing for an additional queuing point at the intersection of Taxiway B and Taxiway T. The additional taxiway (C13) will also allow ATCT personnel the ability to keep traffic flowing and reduce congestion on Taxiway S, which can occur when there are aircraft transitioning from Taxiway P to Taxiway B heading east. Additionally, the flow of traffic will be consistent with aircraft exiting the south runway complex from both Taxiway T and Taxiway P along Taxiway B, which heads in an easterly direction.

The Taxiway D extension will reduce the potential for congestion on Taxiway E, which is currently the only available east/west taxiway for the north runway complex. Bidirectional flows along Taxiway E during peak operational periods cause congestion west of Taxiway Q. The Taxiway D extension will also be used by ATCT staff to stage aircraft waiting for an available gate. Currently aircraft waiting for a gate hold at the intersection of Taxiways E and E10, which can potentially lead to aircraft waiting behind the queued aircraft on Taxiway E or cause congestion on Taxiway D as aircraft transition to their gate.



Source: Ricondo & Associates, Inc., 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Existing Arrival Taxipaths	Figure 2-1



Legend

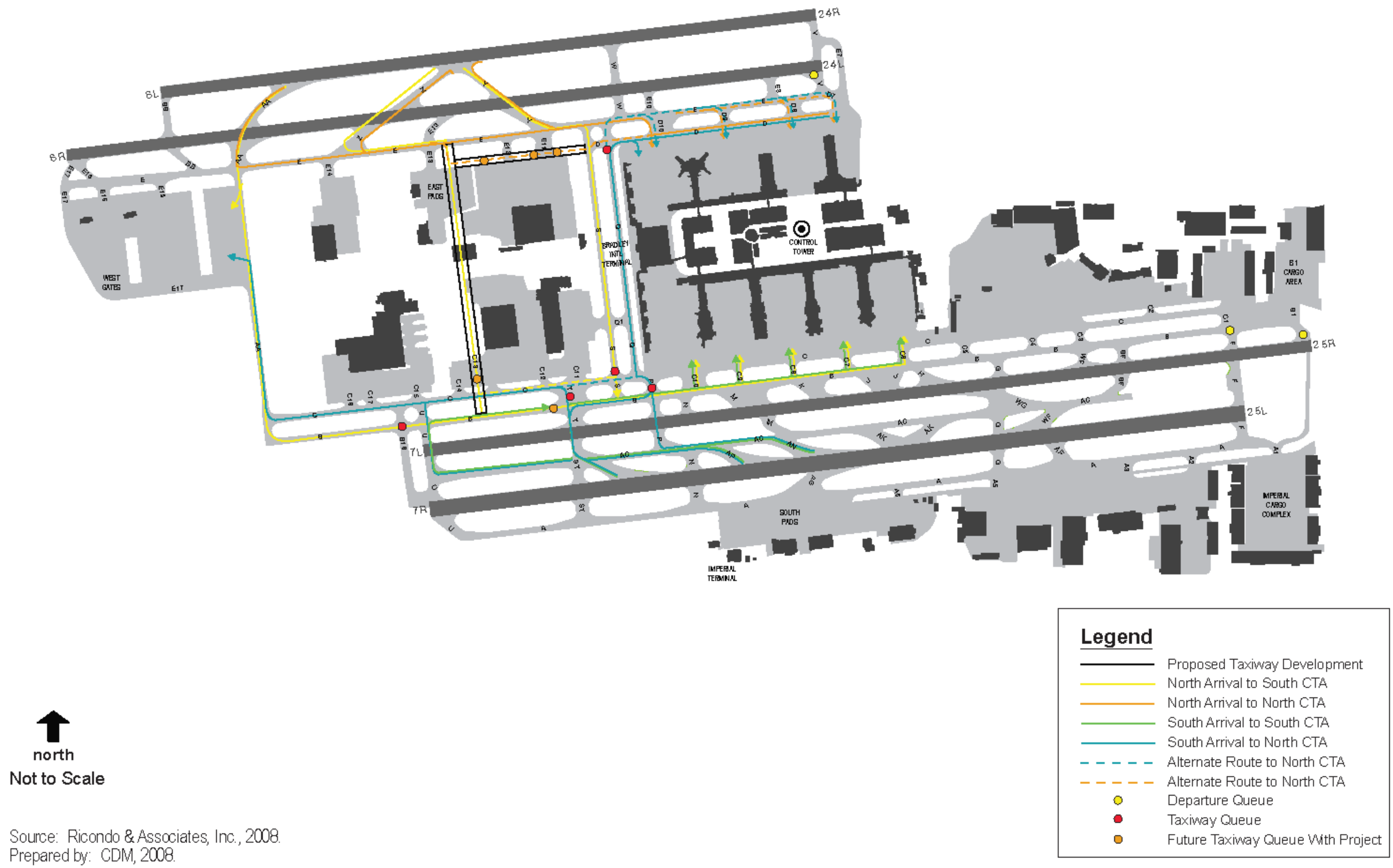
- South CTA to South Departure
- Alternate Route to South Departure
- North CTA to South Departure
- Alternate Route to South Departure
- South CTA to North Departure
- Alternate Route to North Departure
- North CTA to North Departure
- Departure Queue
- Taxiway Queue

north

Not to Scale

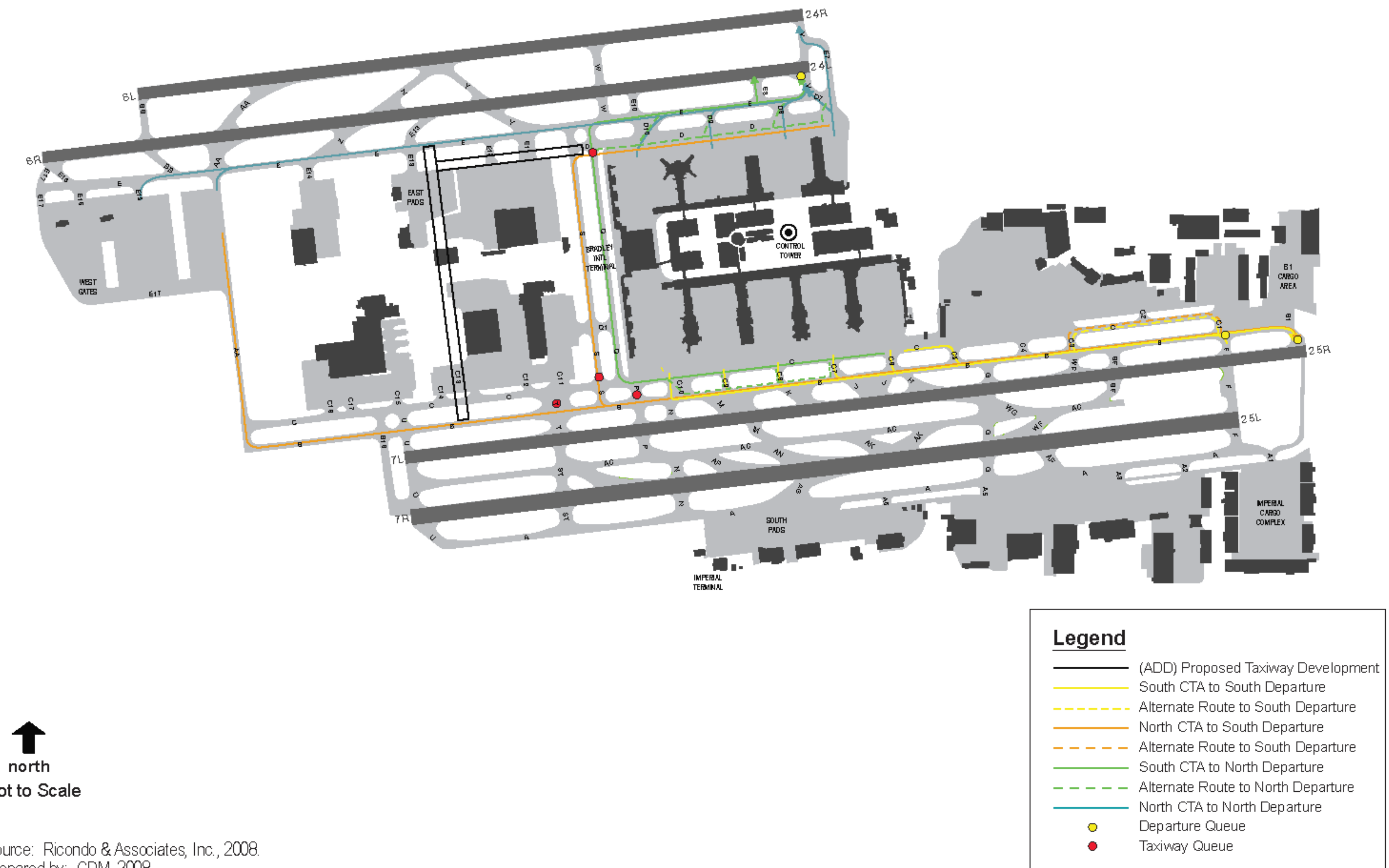
Source: Ricondo & Associates, Inc., 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Existing Departure Taxipaths	Figure 2-2



Source: Ricondo & Associates, Inc., 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Future Arrival Taxipaths	Figure 2- 3



Source: Ricondo & Associates, Inc., 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Future Departure Taxipaths	Figure 2- 4

Airfield ground operations at LAX were modeled using the SIMMOD™ simulation model for conditions with- and without-CFTP taxiway improvements. The results of the modeling found that the west flow average daily ground taxi delay time for arriving aircraft decreased from 2.11 minutes to 1.95 minutes, and for departing aircraft decreased from 2.39 minutes to 2.07 minutes. While this increment of reduction may appear to be minor, indicative of the fact that the taxiway congestion described above is episodic in nature and does not occur regularly or in a consistent manner throughout the average day, these average daily reductions multiplied by the average number of daily aircraft operations (1,864) will result in substantial reductions in the total daily aircraft taxi/idle times at LAX. This overall reduction provides for substantial benefits related to the safety and efficiency of aircraft ground movement at LAX, including reduced aircraft fuel burn and associated air pollutant and noise emissions.

While the results of the airfield operations simulation modeling described above found that there will be a reduction in the taxi delay times for aircraft movement on the ground at LAX, the model results indicated that there will be no change in the number and overall temporal distribution of aircraft arriving at, and departing from, LAX. In other words, the CFTP improvements do not directly affect the throughput of the runways at LAX or change the scheduled times for arrivals and departures. The most notable change in the operational characteristics of the airfield, with completion of the CFTP, will be that the LAX ATCT would have less need to assign arriving and departing aircraft to temporary "hold" areas between the gate and the runway during occasional periods of congestion around the midfield area. A secondary benefit of the CFTP will be that, by providing additional improved aircraft access between the north runway complex and the south runway complex, the LAX ATCT will be better able to maintain a balance in aircraft arrival operations between the two runway complexes throughout the day as designated as part of the airport's safety program. During periodic occasions of aircraft ground movement congestion in the midfield area, an aircraft arriving on one side of the airfield that is normally assigned to a gate or runway on the other side of the airfield may be reassigned by the LAX ATCT to remain on its original side. However, due to the occasional episodic nature of the midfield congestion, implementation of the CFTP will not substantially change the existing overall daily split in operations between the north and south runway complexes, nor will it materially change the existing imbalance in the number of heavy aircraft operating on the north and south runway complexes. The assignment of departing heavy aircraft to a particular runway is based primarily on runway length; Runway 7L/25R in the south complex is currently the longest runway at LAX and is the primary runway used for the departure of heavy aircraft. LAWA is currently evaluating options for improvements to the north runway complex, within the SPAS process, including the lengthening of runways to address that imbalance issue.

2.1.4 New Large Aircraft (NLA) Operations

New Large Aircraft (NLA) are expected to enter the market in the near future and include the Airbus A380 and Boeing 747-8. These aircraft are considered by the FAA to be Airplane Design Group (ADG) VI aircraft and require additional separation standards to operate on the airfield environment.

Figures 2-5 and **2-6** depict the forecasted taxipaths that are expected to be used given the current airfield, according to interviews with the FAA ATCT. The depicted routes are preliminary in nature and are subject to adjustments by the FAA after the proposed improvements are implemented. There are two available taxipaths forecasted for NLA aircraft arriving from the south and proceeding to the north terminal complex; the first is via Taxiway AA and the second is using Taxiway S in an opposite direction flow. Taxiway S is used due to restrictions that do not allow NLAs to utilize the northbound Taxiway Q. Use of Taxiway S by NLA will create an additional queuing point on Taxiway E, just west of Taxiway S. This queue will be used to hold aircraft that are traveling to the south terminal complex via Taxiway S. All aircraft will be held there until the NLA has traversed the taxiway to reach the north terminal complex. Because this could involve significant delays and further congest Taxiway E, ATCT personnel have advised that under the existing conditions every effort will be made to have the NLA arrivals land on the runway complex nearest their gate. The secondary route available would require NLAs arriving on Runway 25L to taxi west to Taxiway AA along Taxiway C before turning north onto Taxiway AA, then east on Taxiway E to proceed to the north complex gates (i.e., Gate 123 at TBIT and one planned NLA gate on the north end of Terminal 2). Additionally, NLA leaving the north terminal complex and departing from the south airfield on Runway 25L,[7] as well as NLAs arriving on the north airfield (Runway 24R) and proceeding to the south terminal complex (i.e., Gate 101 at TBIT), are expected to utilize Taxiway S; use of this taxiway is subject to taxiing speed limitations and places additional restrictions on Taxiway Q for other aircraft (e.g., speed restrictions). The existing queuing locations for aircraft that have arrived and are awaiting a gate at the intersections of Taxiway E and E-10 and Taxiway B and B-16 are not available to NLA due to their proximity to the inboard runways; therefore NLA are assumed to be given the highest priority with regard to available gates.

Figures 2-7 and **2-8** depict the potential arrival and departure taxipaths indicated by ATCT personnel for the NLA with implementation of the CFTP. Under the proposed plan, NLA will be allowed to taxi on Taxiway C13, a Design Group VI taxiway as a secondary route if needed. For arriving aircraft taxiing from the north runway complex to the south terminal complex to get to the NLA gate at TBIT (Gate 101), NLA will be able to utilize both the existing routes or the Taxiway D extension while taxiing west, which will eliminate disruptions of Runway 24L, and then proceed south on Taxiway C13. As noted above, the existing route, Taxiway S has limited use as it has taxi speed restrictions for NLA and limits the taxiing speed for Design Group V aircraft utilizing Taxiway Q. In addition, other aircraft arriving on Runway 24R and proceeding to a gate located within the south terminal complex may be assigned Taxiway C-13 in lieu of Taxiway S, especially when an NLA is proceeding either south or north on Taxiway S. In summary, Taxiway C-13 will provide the ATCT additional ground movement management options and will reduce the need to queue aircraft at key taxiway intersections. NLA arriving on the south runway complex will be able to access the north terminal complex via existing routes or Taxiway C13, eliminating the need to proceed to Taxiway AA, reducing roundtrip travel distance by 5,780 feet as well as the associated travel time to cover the distance.

2.2 CFTP as Part of the LAX Master Plan

The approved LAX Master Plan provides for an extensive array of improvements at LAX, including a variety of improvements throughout the airfield area. As a practical matter, the LAX Master Plan and Master Plan EIR do not identify by name each individual improvement contemplated therein; however, the basic location, nature, and function of various Master Plan improvements, including the CFTP, can be determined in reviewing the LAX Master Plan and Master Plan EIR text, graphics, and supporting documentation. Additionally, it is important to note that, as the name implies, a "master plan" typically delineates the key features and aspects of a comprehensive improvement program, while the specific details of various improvements are defined in the preparation of construction-level planning, engineering, and design.

The main elements of the CFTP, including Taxiway C13 and the portion of Taxiway D that is being extended, are evident on the airfield plan associated with the approved LAX Master Plan. Figure 1-3, presented earlier, delineates where Taxiway C13 and the Taxiway D extension are located within the airport concept plan for Alternative D, which was addressed in the LAX Master Plan and ultimately selected as the approved LAX Master Plan. Airfield improvements related to the CFTP are also noted in Section 3.2.9 of the LAX Master Plan Final EIR and Section 2.1 of the Final LAX Master Plan text, as presented below:

- Construct, light and mark new cross-field taxiways west of the new satellite building/West Satellite Concourse[8] (LAX Master Plan Final EIR page 3-82 and Final LAX Master Plan page 2-123).
- Taxiway D would be extended approximately 7,105 feet from the intersection of Taxiway S west to Taxiway E-17, and would be 100 feet wide (Final LAX Master Plan page 2-10).

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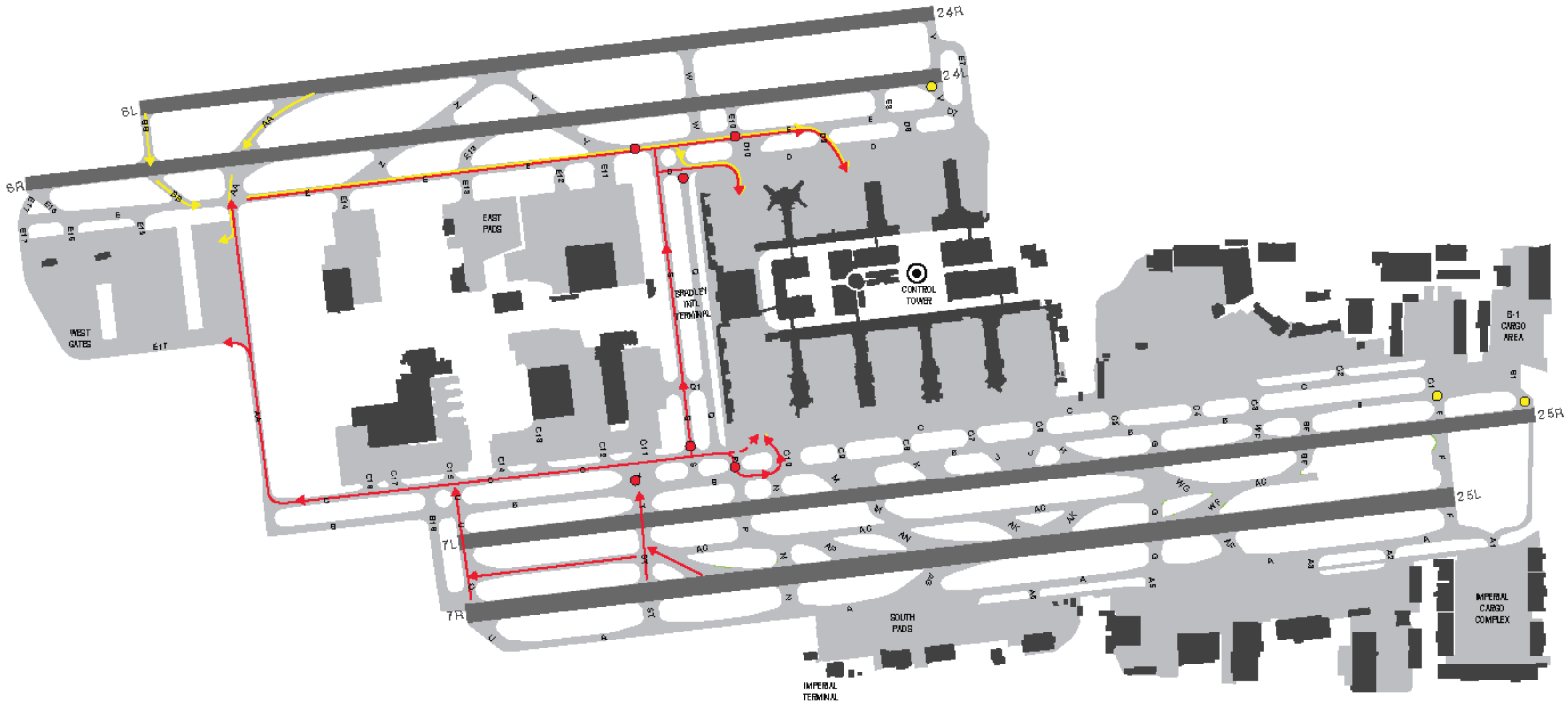
7 As assumed in the Master Plan, NLA will depart only from Runway 25L, as Runway 25R does not meet separation standards between the runway and Taxiway B/C for NLA.

8 The West Satellite Concourse referenced in the LAX Master Plan is the same as the Midfield Satellite Concourse.



Legend

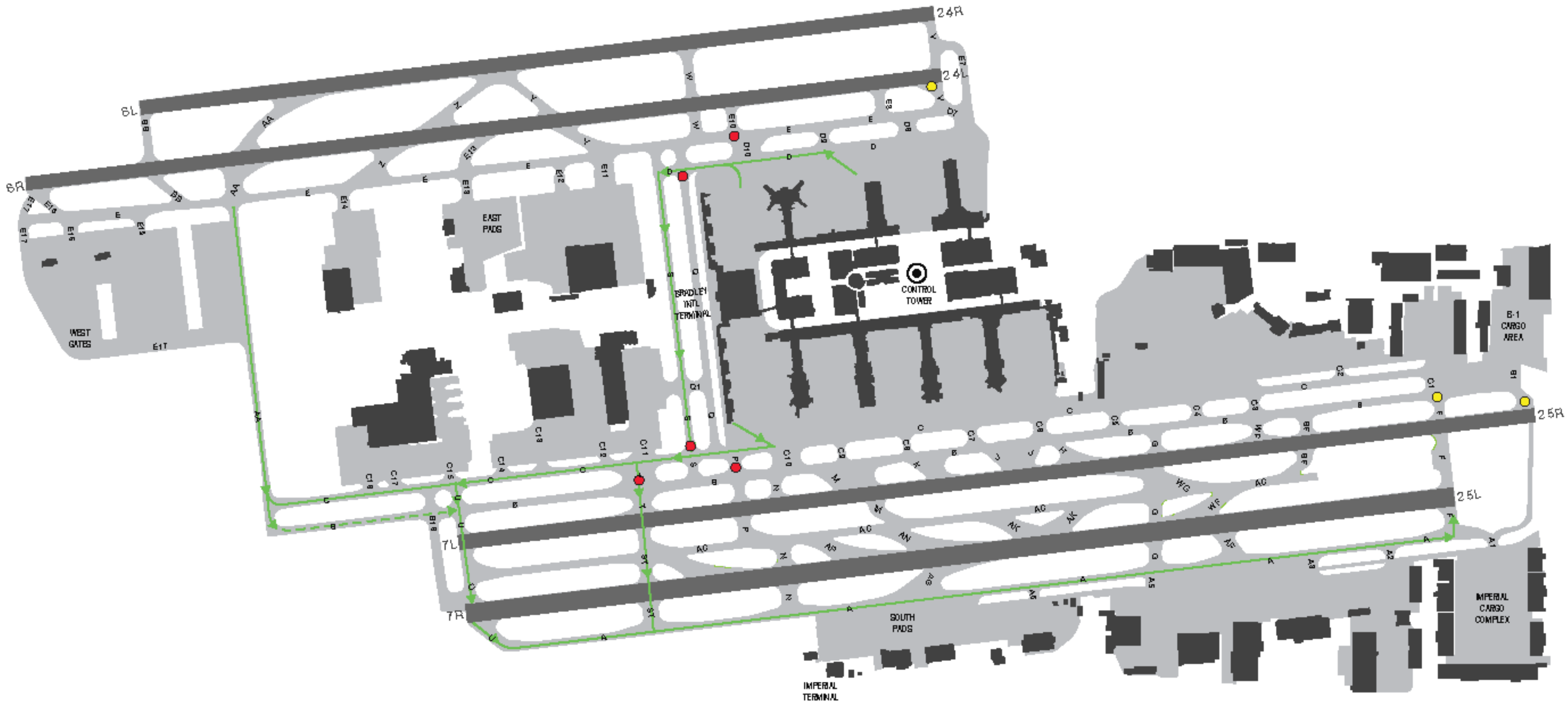
- North Arrival NLA Taxipaths
- Alternate North Arrival NLA Taxipath
- South Arrival NLA Taxipaths
- Departure Queue
- Taxiway Queue

north

Not to Scale

Source: Ricondo & Associates, Inc., 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Future NLA Arrival Taxipaths - No Project	Figure 2- 5



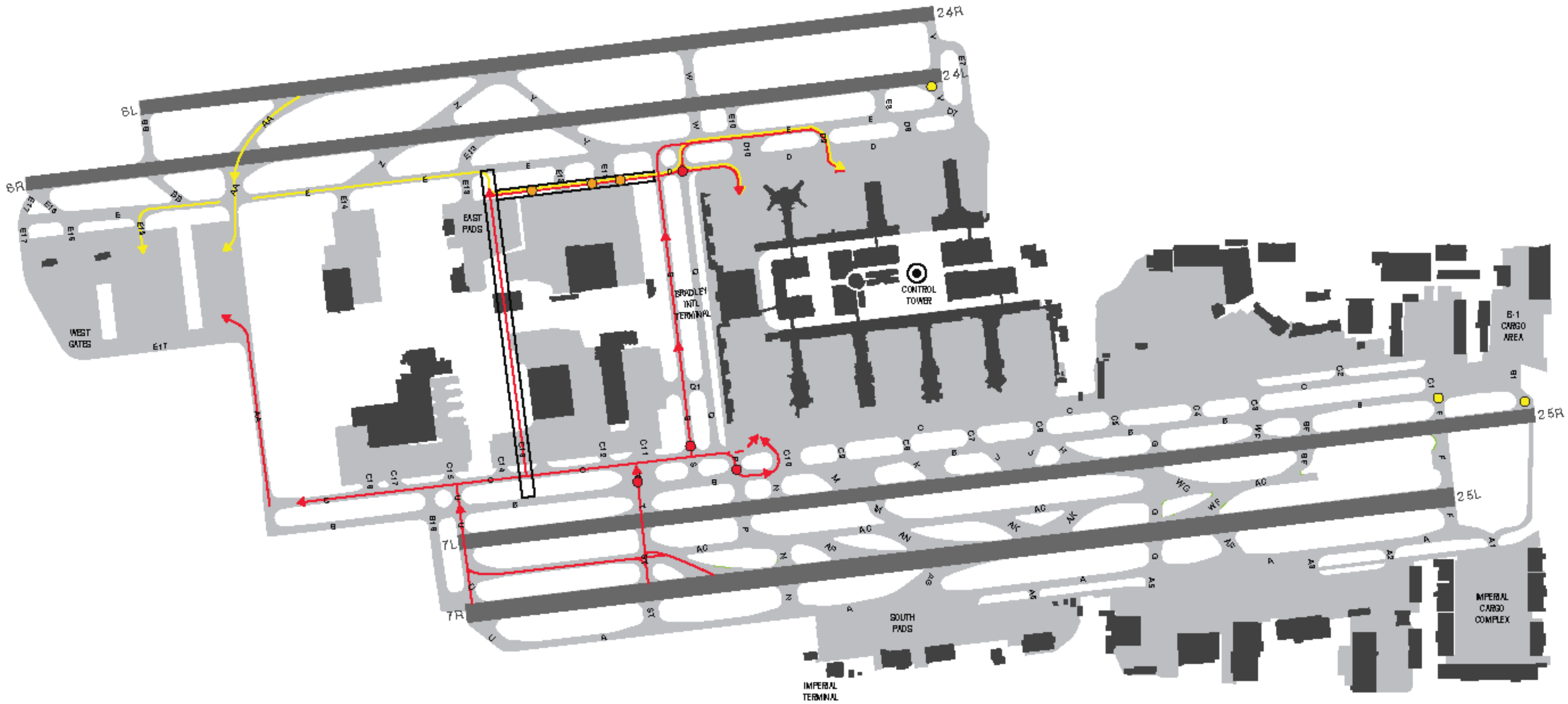
north
Not to Scale

Legend

- NLA Departure Taxipaths
- Alternate NLA Departure Taxipath
- Departure Queue
- Taxiway Queue

Source: Ricondo & Associates, Inc., 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Future NLA Departure Taxipaths - No Project	Figure 2-6

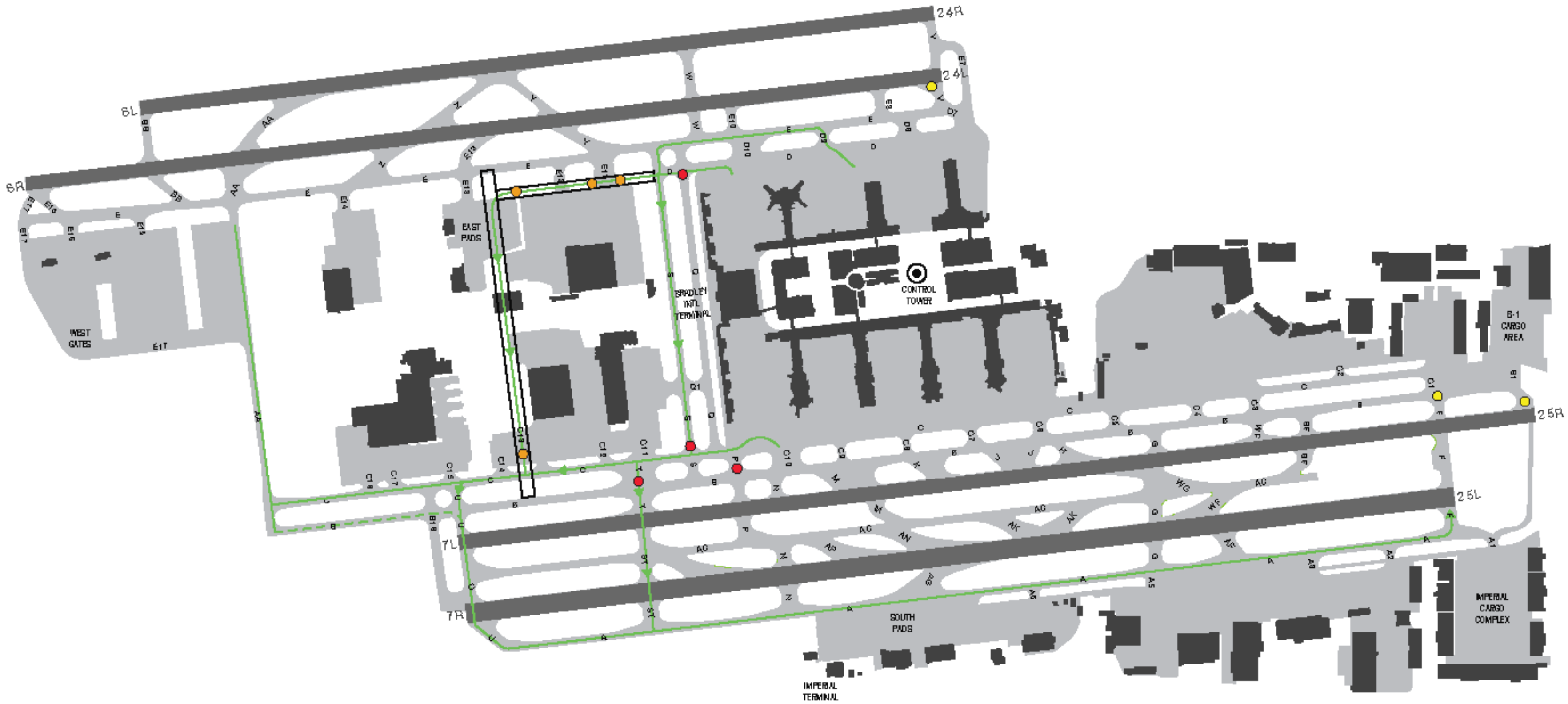


Legend

- Proposed Taxiway Development
- North Arrival NLA Taxipaths
- South Arrival NLA Taxipaths
- Alternate South Arrival NLA Taxipath
- Departure Queue
- Taxiway Queue
- Future Taxiway Queue With Project

Source: Ricondo & Associates, Inc., 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Future NLA Arrival Taxipaths	Figure 2-7



north

Not to Scale

Source: Ricondo & Associates, Inc., 2008.
Prepared by: CDM, 2008.

Legend

- Proposed Taxiway Development
- NLA Departure Taxipaths
- Alternate NLA Departure Taxipaths
- Departure Queue
- Taxiway Queue
- Future Taxiway Queue With Project

LAX Crossfield Taxiway Project Draft EIR

Future NLA Departure Taxipaths

Figure
2- 8

Midfield taxiway improvements are also contemplated in the 2015 Alternative D Conceptual Summary Schedule presented as Figure F3-20 of the LAX Master Plan Final EIR, including references to *Clear Midfield Area (Phased)* and *Midfield Aprons & Taxiways*.

Additionally, the subject taxiway improvements are accounted for in the technical airside analysis that was completed for Alternative D, which is the basis for the approved Master Plan. Specifically, Appendix E of the Final LAX Master Plan presents the assumptions for, and analysis of, the airfield operational characteristics of Alternative D. Figures E-11 and E-13 in Appendix E depict the primary airfield taxi routes simulated for west flow and east flow operations, respectively. The subject figures include two new crossfield taxiways occurring west of the Midfield Satellite Concourse, the westernmost taxiway being Taxiway C13, and the future east-west taxiway system south of Runway 6R/24L, which includes the alignment of the Taxiway D extension. The airfield improvements assumed for the airside analysis in Appendix E of the Final LAX Master Plan, including the subject taxiway improvements, provide the details for the airside simulation modeling that supported noise, airfield efficiency, safety, capacity, air quality, and human health risk analyses incorporated into the LAX Master Plan EIR.

The new ARFF proposed as part of the CFTP is generally acknowledged in Section 3.2.9 of the LAX Master Plan Final EIR and Section 2.6 of the Final LAX Master Plan text, as presented below:

- The presence of law enforcement and emergency response teams would be enhanced with Alternative D. The project would include two new Aircraft Rescue and Firefighting (ARFF) facilities to increase fire response capabilities . . . (LAX Master Plan Final EIR page 3-67).
- This new ARFF would be located east of the fuel farm and north of the U.S. Coast Guard Facility. (Final LAX Master Plan page 2-101).

As further described below in Section 2.4.1, the location and size of the subject ARFF was refined from the concept originally envisioned for the LAX Master Plan, based on consultation with the City of Los Angeles Fire Department (LAFD) and the development of engineering, design, and construction plans for the CFTP.

As an integral part of the LAX Master Plan, along with the many other improvements that are represented in **Figure 2-9**, the environmental impacts associated of the CFTP and all the elements of the Master Plan are addressed directly and indirectly throughout the LAX Master Plan Final EIR.

2.3 CFTP Objectives

The objectives of the CFTP include the following:

- To provide taxiway improvements, including a new taxiway, which will help alleviate periodic congestion that currently occurs at or near existing crossfield Taxiways Q and S, improve the safety and efficiency of aircraft ground movement during such times, and reduce aircraft taxi time and delay.
- To provide a new crossfield taxiway designed to accommodate ADG VI aircraft (i.e., NLA such as the Airbus A380 and Boeing 747-8), recognizing that limited commercial operation of the A380 at LAX is scheduled to begin in October 2008 and is anticipated to increase substantially by early 2012.
- To implement taxiway improvements and other related airfield operations area (AOA) improvements consistent with the design and intent of the approved LAX Master Plan, in a manner that is complementary to the systematic phased implementation of the Master Plan.
- To provide for both near-term and long-term environmental benefits, particularly as related to reduced air quality pollution, including greenhouse gas emissions, and reduced fuel consumption.

2.4 CFTP Characteristics

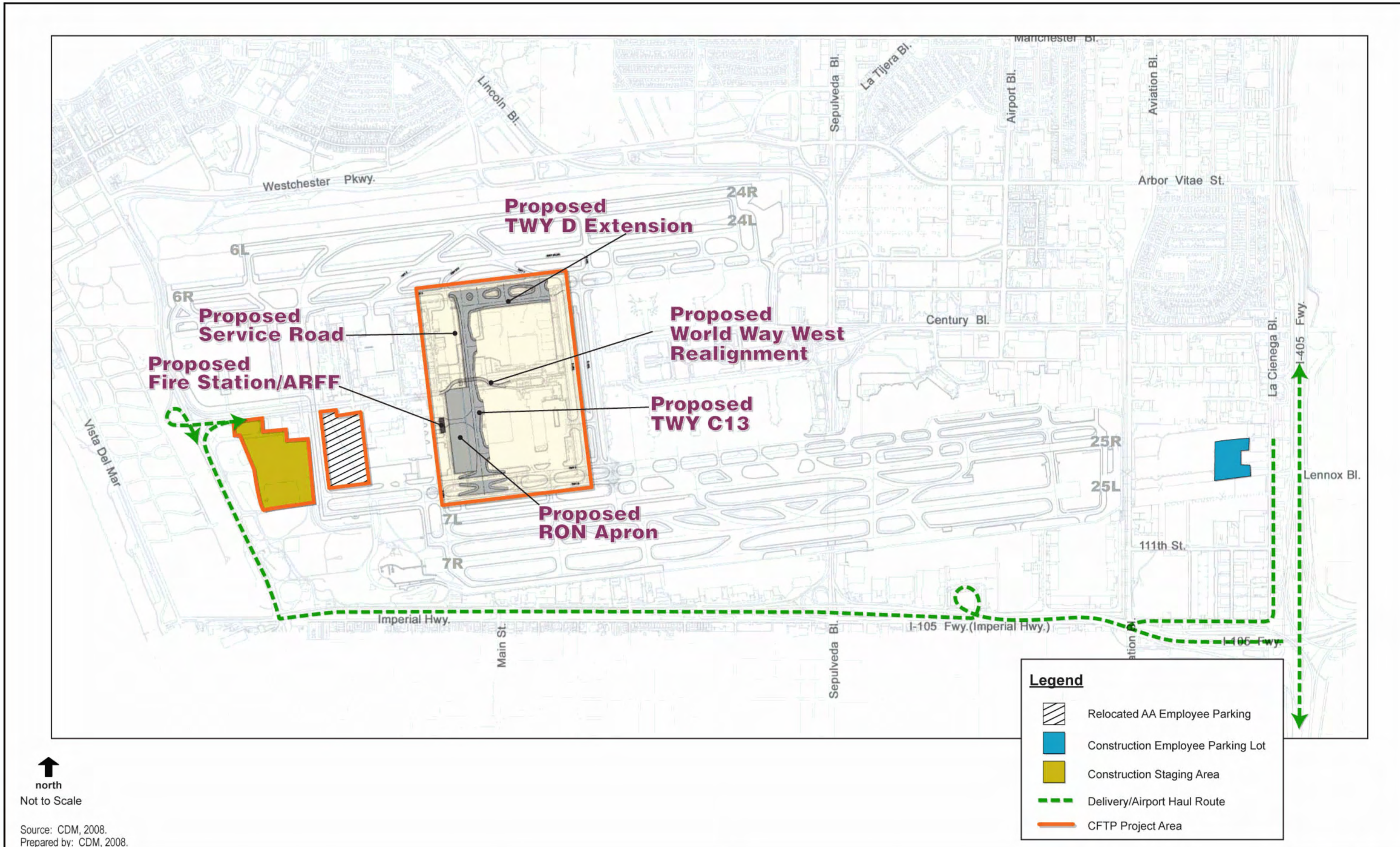
Consistent with the LAX Master Plan, LAWA proposes to construct a new crossfield taxiway between the north runway complex (i.e., Runways 6L/24R and 6R/24L) and the south runway complex (i.e., Runways 7L/25R and 7R/25L) at LAX. As reflected in the CFTP Objectives presented above, the new crossfield taxiway and associated improvements will help relieve existing aircraft traffic congestion and reduce delays that periodically occur on the existing crossfield taxiway system and on adjacent taxiways, and will help the airfield taxiway system accommodate NLA that will soon be operating at LAX. The CFTP is located on airport property and encompasses approximately 82 acres within the central portion of the airfield at LAX. The proposed project site is currently paved and contains various airfield and ancillary/support facilities.

2.4.1 Proposed Improvements

The CFTP consists of the following components described below and presented in **Figures 2-9** through **2-11.**

- **New Crossfield Taxiway**. A new crossfield (i.e., north-south) taxiway, Taxiway C13, would be constructed between existing Taxiway E in the north airfield and Taxiway C in the south airfield. Taxiway C13 would be 3,437 feet in length and 100 feet in width (full strength pavement) with 40-foot asphalt shoulders on either side. The centerline of Taxiway C13 is proposed to be 167 feet from the west edge of the existing American Airlines High-Bay Hangar. This new taxiway would be designed with a pavement cross-section intended to handle aircraft with a maximum gross weight of 1.5 million pounds. The taxiway pavement would include a 12-inch econocrete base and 18- to 19-inch Portland Cement Concrete (PCC) surface, and generally be designed with a 1 percent crown from the centerline to the edge. Taxiway lighting would be installed along the length of Taxiway C13 and on the centerline.
- **Taxiway D Extension**. Existing Taxiway D, which is 316 feet south of existing Taxiway E (centerline to centerline), would be extended westward approximately 1,900 feet from Taxiway S to the proposed crossfield Taxiway C13, with a cross-taxiway connection to Taxiway E. The Taxiway D extension would be 100 feet wide with 40-foot shoulders and structurally capable of handling 1.5 million pound design aircraft. Taxiway pavement design would generally be the same as above for Taxiway C13. Taxiway lighting would be installed along the length of the Taxiway D extension.
- **Connector Taxiways**. The airside components of this project include three connector taxiways between Taxiway E and Taxiway D as shown in **Figure 2-10**. The connector taxiways are 100 feet in pavement width, with 40-foot wide shoulders.
- **New Parallel Service Road**. A new two-lane 25-foot wide vehicle service road parallel to and 169 feet west of Taxiway C13 would be constructed to provide access between the north and south airfields, and ensure separation of vehicular and aircraft movements.
- **Realignment of World Way West**. To facilitate construction and operation of Taxiway C13, World Way West would need to be realigned and suppressed below grade at the intersection with Taxiway C13 and the proposed adjacent service road, requiring construction of two bridge facilities (i.e., one bridge structure for the new taxiway and one bridge structure for the new adjacent service road). Each of the two bridge structures would include construction of wing walls (i.e., retaining walls) to support the embankment on all corners of the bridge. In addition, a utilidor would be constructed adjacent to the World Way West alignment.

  The existing alignment of World Way West within the project limits is a four-lane divided arterial road with a two-lane roundabout system at the easternmost end of the roadway. The project site is signalized at Coast Guard Road, Hangar Road and at Sky Chefs Drive just before the roundabout. The existing road consists of 12-foot wide through lanes with curb and gutter along the outside lanes. It has a posted speed limit of 35 miles per hour with no on-street parking allowed. On-street parallel parking is not permitted, however drive approaches connecting parking facilities currently exist and would be maintained as needed. The preliminary alignment for the relocated World Way West consists of a four-lane road, with two lanes in each direction, that would curve north immediately east of Coast Guard Road and then extend east parallel to the existing road for a distance of approximately 900 feet, at which point it would curve south and connect back into the existing road. The total length of the roadway realignment would be approximately 1,200 feet.

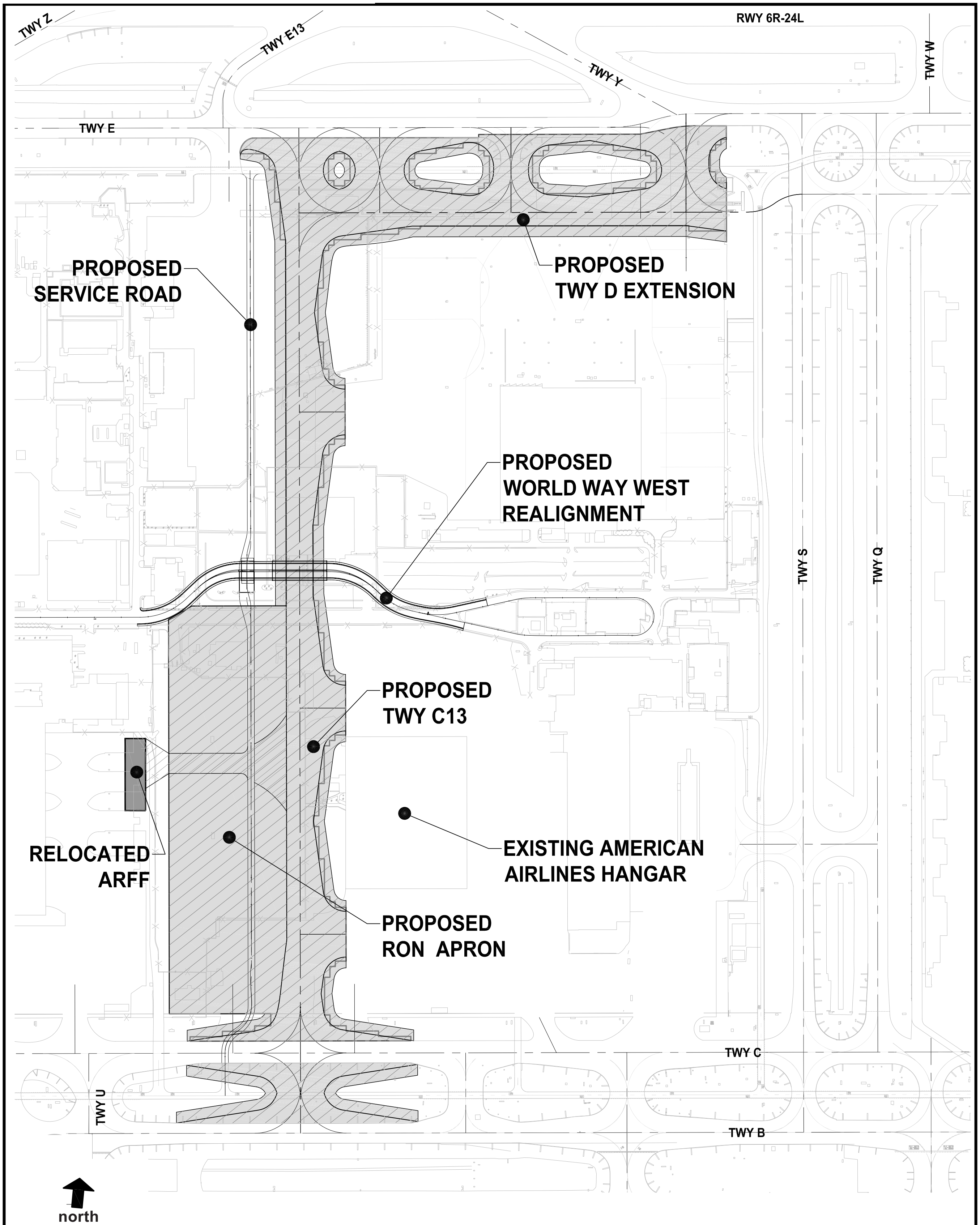


Source: CDM, 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR

Proposed Crossfield Taxiway Project

Figure 2-9



Not to Scale

Source: LAX IPMT, 2008.
Prepared by: CDM, 2008.

Proposed CFTP Improvements

Figure 2-10

north
Not to Scale

Note: Due to the oblique aerial angle of the photograph, the objects in the exhibit, including the proposed CFTP improvements do not appear at scale (i.e., Taxiway D Extension appears larger than TWY C13). Please refer to Figure 2.2 for a scaled-drawing of the proposed improvements.

Source: HNTB, as modified by LAX IPMT, 2008.
Prepared by: CDM, 2008.

For the proposed depression of World Way West, a 5 percent grade would be applied at both ends of the vertical alignment to allow a rapid depression and recovery beneath the airfield service road and Taxiway C13 tunnels. A minimum vertical clearance of 16'-6" would be provided between the roadway and tunnels to prevent damage to the roof of the tunnels. Pavement grinding and asphalt overlays would be required where the proposed alignment meets the existing alignment to provide a seamless transition between pavements. In addition, the proposed roadway would require a raised concrete island at the median to protect oncoming traffic from the mid span tunnel box support.

The planned World Way West would provide enhanced pedestrian features that would improve pedestrian connectivity and safety by providing a 6-foot wide sidewalk along both sides of the roadway. A 5 percent maximum longitudinal grade would help provide access to the end of the roadway for disabled pedestrians on the sidewalk. Accessibility to public pedestrian transit facilities, including sidewalks and curb ramps, need to be evaluated for compliance with the requirements of the Americans with Disabilities Act (ADA) where future connecting driveways are proposed.

- **Relocation of Existing Remain-Over-Night (RON) Aircraft Parking**. Existing RON aircraft parking currently located within the proposed alignment of the new Taxiway C13 would be resituated to a new location adjacent to and west of Taxiway C13. The existing RON aircraft parking includes four spots that can each accommodate ADG V aircraft (i.e., Boeing 747-400). The existing RON aircraft parking spots are currently subleased from American Airlines by Qantas. The relocated RON aircraft apron would be approximately 1,500 feet in length and 300 feet in width, and would contain up to five parking spots, three of which would be sized for ADG VI aircraft (i.e., A380, Boeing 747-8) and two which would be sized for ADG V aircraft. The RON layout is illustrated in **Figure 2-12**. The new parking spots would be equipped with 400 hertz (Hz) power systems to provide aircraft with an alternative to the use of on-board auxiliary power units, preconditioned air (PCA) to help ventilate aircraft without having to use on-board power units, and potable water hook-ups. Lighting for the RON apron area would be provided by metal halide floodlights atop twelve 70-foot tall poles. The new RON area would be for aircraft parking only, with some limited maintenance activities, and would not be used for passenger loading and/or unloading.

  As part of the new (relocated) RON area, the southernmost aircraft parking spot would be designated as being available for construction of a 90,000--square-foot aircraft ground run-up enclosure (GRE; see **Figure 2-12**). A GRE is a "U"-shaped enclosure designed to provide a noise barrier during "run-up" testing[9] of aircraft engines, completed as part of servicing and maintenance activities. Presently aircraft ground run-ups are conducted at unenclosed blast-fence/wall areas situated near the maintenance operations for Federal Express, Continental Airlines, American Airlines, Delta Airlines, and at the former TWA Hangar area. The LAX Master Plan includes the future development of two GREs as replacement ancillary facilities displaced in conjunction with the future Midfield Satellite Concourse (see page 3-82 of the LAX Master Plan Final EIR). Based on refinements made in conjunction with the more detailed planning and design of Taxiway C13, the currently proposed alignment of Taxiway C13 extends through the location designated in the Master Plan for the future west GRE (see Figure 2.6-1 of the Final Master Plan). None of the improvements proposed to be constructed as part of the CFTP would eliminate any of the existing ground run-up facilities or affect their current need and operation. The designation of one of the five new parking spots within the relocated RON area as a future GRE area preserves the functional intent of the Master Plan relative to replacement of ancillary facilities displaced by the future Midfield Satellite Concourse. Development of a GRE within the subject portion of the RON area would still allow periodic use of the affected aircraft parking spot for smaller gauge aircraft when not needed for ground run-up operations.

- **New Airfield Fire Station/Aircraft Rescue and Firefighting Facility**. In conjunction with the modifications and improvements proposed within the project site, including the provision of a new

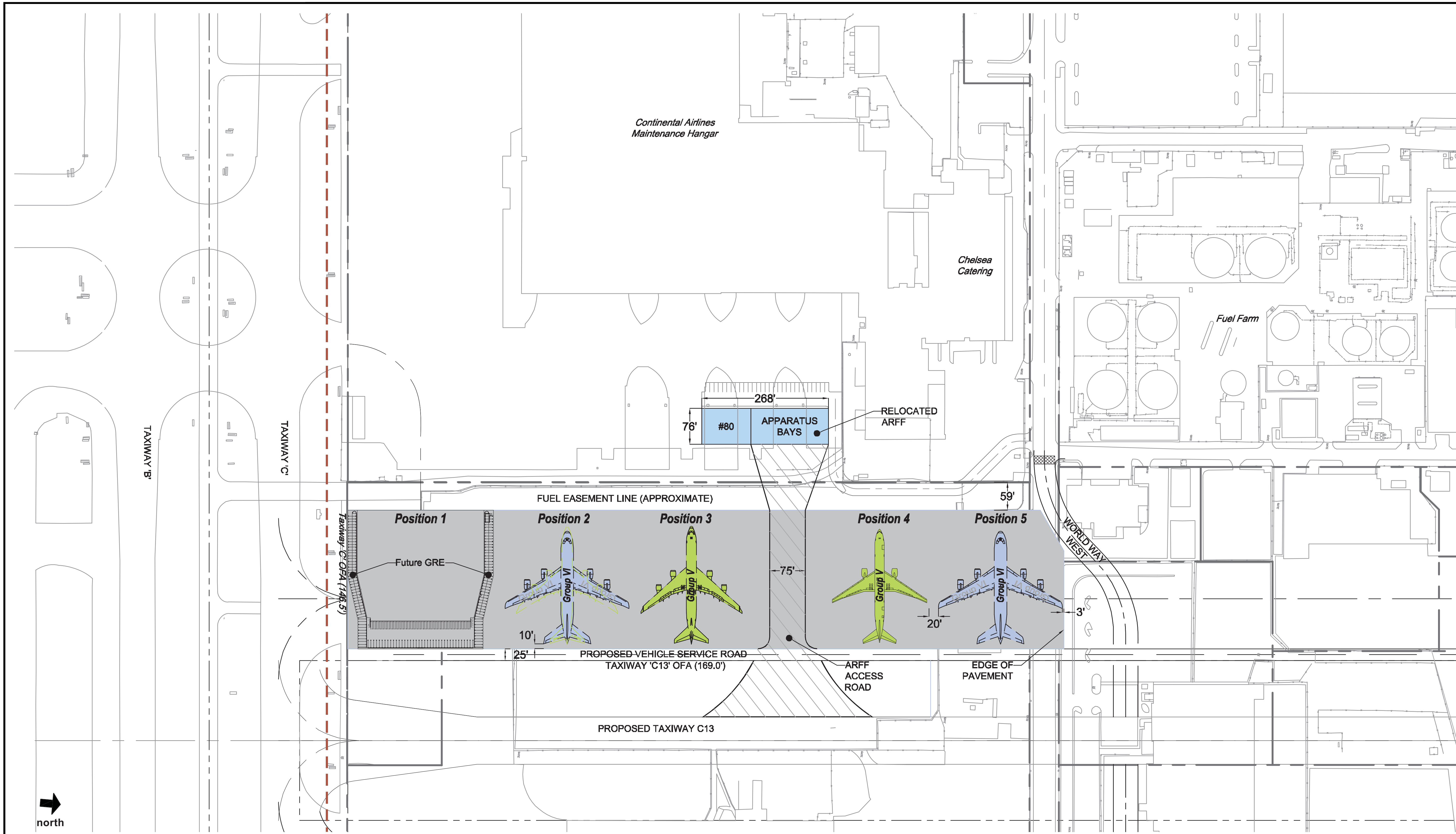
[9] A run-up is a procedure used to test aircraft engines after maintenance to check the safe operation prior to returning the aircraft to service. The power settings tested range from idle to full power and may vary in duration.

crossfield taxiway in the midfield area (i.e., Taxiway C13), a new ARFF is proposed to be constructed as a replacement for the existing Fire Station No. 80/ARFF located on the airfield adjacent to Taxiway S. The proposed ARFF would provide approximately 27,895 square feet of administrative office area and station living quarters within a 2-story structure, six bays for emergency vehicles along with a service bay, storage area for various emergency response equipment, and briefing and training rooms. The proposed location of the new ARFF is illustrated in **Figure 2-12**. **Figure 2-13** presents a floor plan for the new facility. The new ARFF would be designed and constructed to provide for energy and water conservation, waste minimization, and sustainability benefits associated with a LEED-certified (Silver) building. By comparison, the existing ARFF is approximately 14,000 square feet in size with four equipment bays, no notable storage capabilities, very limited briefing and training areas, and, having been constructed almost 30 years ago, has no notable water/energy conservation of sustainability features. The existing station has 14 firefighters (12 crewman and 2 officers) assigned to each 24-hour shift. Upon completion of the new ARFF, the station crew would transfer to the new facility and the existing ARFF would be vacated, to possibly be used for storage.

The size, layout, and facilities proposed for the new ARFF were determined through consultation and coordination between LAWA, the LAFD, and the design team, which is consistent with the provisions of Master Plan Commitments PS-1: Fire and Police Facility Relocation Plan and PS-2: Fire and Police Facility Space and Siting Requirements from the LAX Master Plan EIR. The LAX Master Plan originally anticipated the new ARFF to be approximately 18,000 square feet in size and would be located at the northeast edge of the fuel farm. More recent planning, engineering, and design efforts associated with the CFTP, which included consultation with the LAFD, identified the need for a larger facility in order to accommodate the size, volume, and nature of emergency response equipment at the ARFF, particularly with regard to equipment storage area, and to provide appropriate living, administrative, and training areas for station personnel. Also, the location proposed for the new ARFF was moved south of the originally envisioned site, becoming better situated relative to the mid-points of the outermost runways (Runway 6L/24R on the north and Runway 7R/25L on the south), consequently being more centralized relative to responding to emergencies on the airfield, and allowing construction of the ARFF to be better integrated with surrounding land uses and the infrastructure improvements and design plans of the overall CFTP.

The planning and design for the new ARFF to be completed as part of the CFTP initially identified a development site at the northeast corner of World Way West and Coast Guard Road. As indicated in the Revised Notice of Preparation issued for the CFTP EIR, this site would become available for development of the new ARFF due to the proposed realignment of World Way West, which requires the demolition and removal of the LAWA Records Center building that currently occupies the subject site. Further planning and engineering design efforts associated with the CFTP, as well as ongoing coordination and consultation with the LAFD pursuant to Master Plan Commitments PS-1 and PS-2, identified a more suitable site for the new ARFF, approximately 750 feet to the south. The new ARFF would be constructed at the western edge of the proposed (relocated) RON area described earlier in this section. **Figure 2-9** shows the location of the site for the new ARFF.

- **Drainage System**. The majority of the project area--including the improvements to World Way West, the new taxiways and service road, and the relocated ARFF--currently drains to the center of the site from the north and south. There are no flooding problems in or near the project area. A main drainage trunk line running east to west located in the middle of the site collects runoff via a piped network. This main line flows west continuing along World Way West. The trunk line increases in size from a 42-inch diameter pipe at the east side of the project area to a 72-inch diameter pipe at World Way West. A second drainage trunk is located along the southern edge of the westerly portion of the project area. Runoff from the relocated parking site flows to this line. There are minor underground sub-systems scattered throughout the project area. There are no flooding problems in or near the project area.



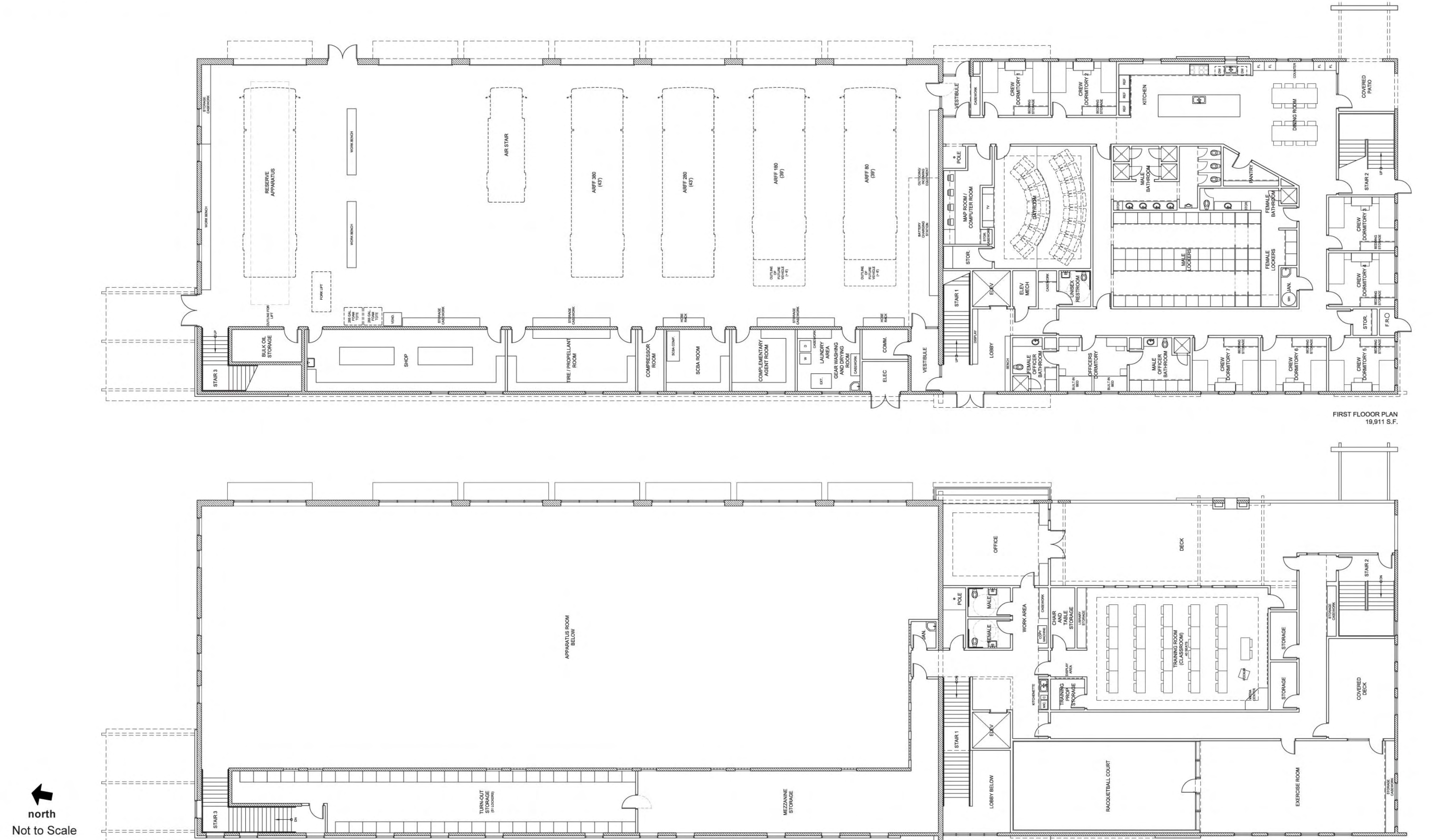
Not to Scale

Source: LAX IPMT, 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR

RON Layout

Figure 2-12



Source: LAX IPMT, 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	ARFF Floor Plan	Figure 2-13

Since the existing site is flat and covered with impervious surface, which would remain the case with implementation of the CFTP, the proposed surface drainage patterns are similar to the existing patterns. The proposed drainage system is generally designed to route surface runoff to a piped system with an alignment similar to the existing drainage system that would eventually connect to the existing trunk line in World Way West. The one notable exception is that some of the main lines would need to be relocated to the north or south of the future Midfield Satellite Concourse due to the location, depth, and orientation of the building's foundation and the underground pedestrian tunnel/people mover proposed as part of that project. Runoff would be collected via a system of swales, catch basins, and underground pipes.

A pump station would be required to drain runoff flowing into the portion of World Way West that is proposed to be depressed. The drainage system for the depressed roadway would be designed for a 100-year flow, and include total redundancy based on a detention time of 10 minutes. The project design would conform to the Best Management Practices approved by the City of Los Angeles Bureau of Sanitation. Where required, oil/water separators or other equivalent means (bioswales, detention ponds, or storm water treatment systems) would be implemented to treat runoff prior to discharging into the public storm drain system. Fueling stations would be designed to contain runoff, thus allowing treatment prior to entering the storm drain system.

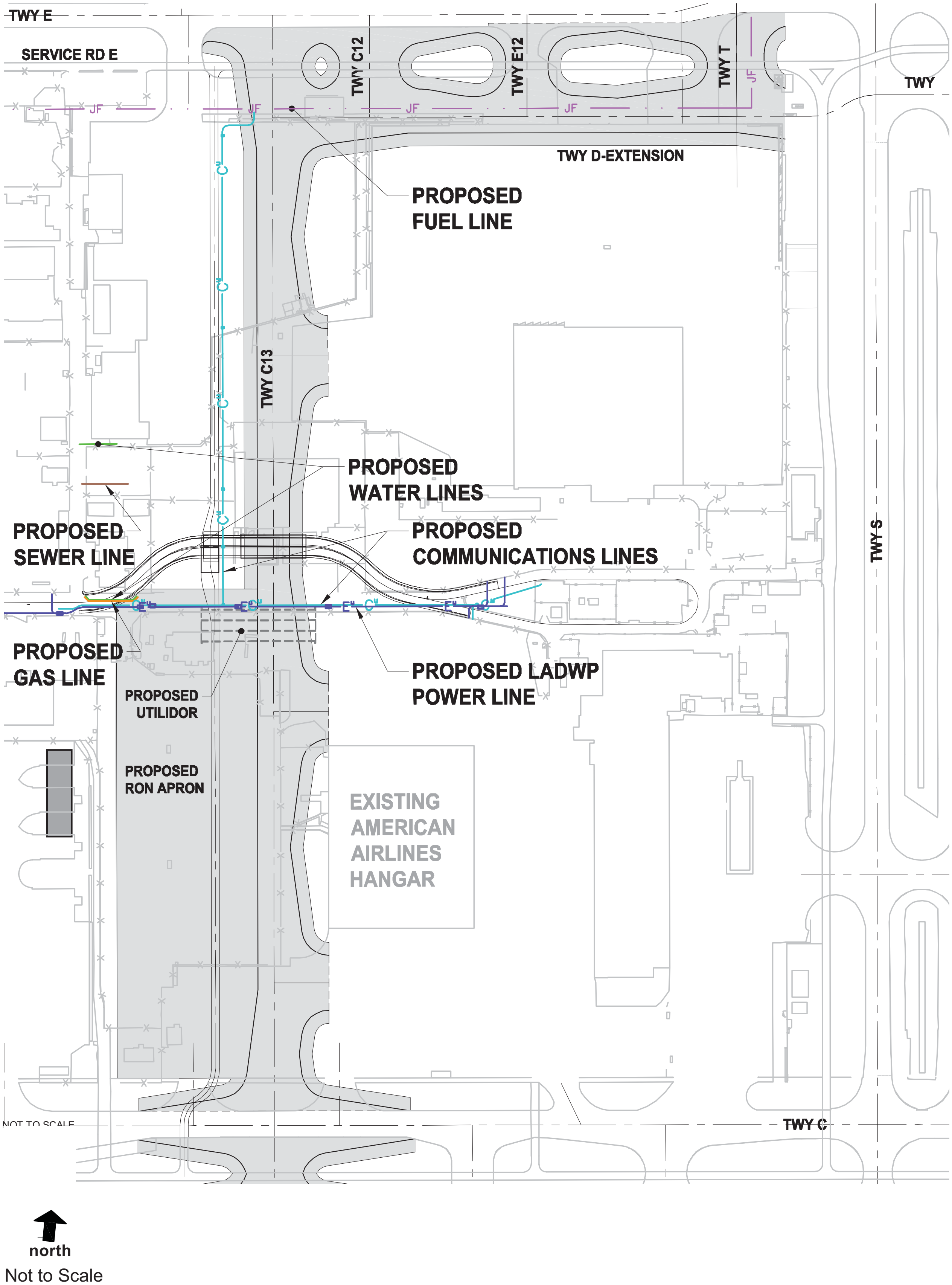
- **Utilities**. There are several utility lines located at the project site, including lines that extend beneath and across the affected airfield areas and lines beneath and along World Way West. Such utilities include FAA, AT&T, and LAWA fiber optic lines, fuel lines ranging in diameter from 6 to 20 inches, sanitary sewer lines ranging in diameter from 4 to 15 inches, the 150-inch-diameter North Outfall Replacement Sewer (approximately 60 feet below surface), electrical lines, water lines, and natural gas lines. The following highlights the notable aspects of the utility line relocations proposed as part of the project.
  - <u>Water Line Relocation</u> - Preliminary engineering for the project shows that water lines that cross beneath World Way West may need to be relocated to allow the construction of realigned and depressed road. In addition, construction of the proposed Taxiway C13 and associated vehicle service road would interrupt an existing north-south fire water loop north of World Way West. A new connection is proposed to maintain the fire water service loop north of World Way West. South of World Way West another fire water loop would be protected in-place and existing hydrants would be replaced with flush-mounted types to meet FAA clearance requirements. The proposed water line relocations are shown in **Figure 2-14**.
  - <u>Sewer Line Relocation</u> - A sewer line is proposed that would connect a new oil/water separator to the existing sewer line in Coast Guard Road. The proposed sewer line is shown in **Figure 2-14**.
  - <u>Fuel Line Relocation</u> - Preliminary engineering shows that an existing 18" major jet fuel is located under the proposed Taxiway D extension. It is proposed that the subject line be replaced with a new line at a greater depth north of the existing alignment to allow the proposed improvements. The proposed jet fuel line relocation is shown in **Figure 2-14**.
  - <u>Gas Line Relocation</u> - A 6-inch diameter natural gas line that crosses the location proposed for the depressed World Way West would need to be relocated. The proposed gas line relocation is shown in **Figure 2-14**.
  - <u>Communication Line Relocation</u> - Existing underground communications cables that run underneath World Way West would need to be relocated. In addition, a new north-south communication duct bank would be provided. Proposed telephone and data communication lines are shown in **Figure 2-14**.
  - <u>Electrical Line Relocation</u> - The overhead electrical lines that run along existing World Way West would be relocated underground, as shown in **Figure 2-14**. In addition, development of the CFTP would include the installation of electrical lines along the lengths of Taxiway C13 and Taxiway D

extension. **Figure 2-15** shows the location of those electrical facilities within the airfield operations area.

2.4.2 Removal/Relocation of Existing Facilities

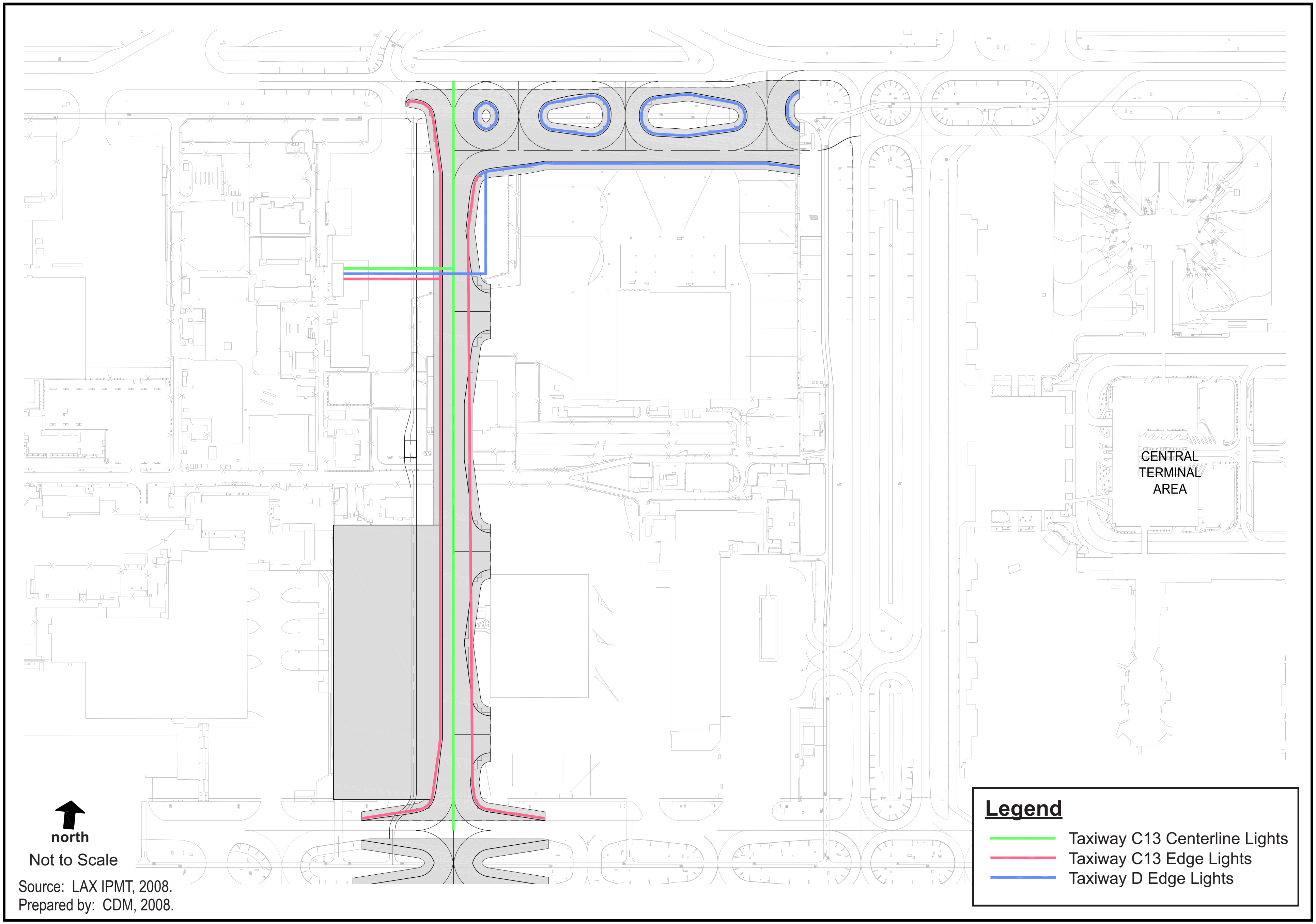
Construction of the proposed CFTP improvements would require removal and potential relocation of the following ancillary and support facilities. The affected facilities are shown in **Figure 2-16**.

- **GSE Facilities**. Ground Service Equipment (GSE) maintenance facilities operated by Mercury Air Services and Evergreen Aviation are located in the southwest corner of the project area, east of Taxiway C15. The Mercury operations is proposed to be relocated to, and consolidated within, another existing Mercury GSE maintenance facility at LAX, while the Evergreen operations is proposed to be relocated to the American Airlines cargo operations area. The American Airlines GSE maintenance operations located at the end of the High-Bay Hangar would be relocated to an existing building at the United Airlines Cargo Complex.
- **American Airlines Employee Parking**. The existing parking lot located directly west of the High-Bay Hangar is currently used by American Airlines employees, including approximately 20-80 aircraft mechanics, depending on the shift, that work in the immediate area, and by American Airlines flight crews that operate out of the CTA. The existing vehicle parking lot is situated in the area proposed for the proposed RON described above. Replacement parking would be provided by improving and expanding an existing parking area located approximately 1,500 feet to the west, immediately southeast of where Taxiway AA crosses World Way West. **Figure 2-17** provides an aerial view of the location proposed for the replacement parking and **Figure 2-18** delineates the concept for how the 1,600 replacement parking spaces would be laid out within the subject site. The eastern portion of the site is currently paved and mostly vacant with the exception of equipment associated with an existing groundwater remediation system (i.e., well heads spaced evenly throughout the area and a free product recovery compound at the center of the site) and the western portion of the site is unpaved and mostly vacant with the exception of well heads associated with the groundwater remediation system. Development of the parking lot would include modifications to the groundwater remediation system such as system pipeline and well head modifications as necessary to allow the system to continue to operate. Access in to and out of the parking lot would be via World Way West, which is also the case for the existing parking lot.
- **American Airlines High-Bay Hangar Canopy**. The west side entrance canopy of the American Airlines High-Bay Hangar located south of Taxiway E and west of Taxiway S would be removed in order to provide the necessary ADG VI Taxiway Object Free Area along Taxiway C13. The canopy is primarily an architectural feature of the building and is not essential to the basic function and operation of the hangar. Because the operational aspects of the building would not be materially affected by removal of the canopy, no replacement facility is required.
- **LSG Sky Chefs Flight Kitchen**. The LSG Sky Chefs flight kitchen located just north of World Way West would require relocation outside the project area. The subject flight kitchen would be consolidated within another existing LSG Sky Chefs flight kitchen, located adjacent to the American Airlines Low-Bay Hangar.
- **LAWA Records Center Building**. The LAWA Records Center building located on the north side of World Way West at Coast Guard Road would be demolished in conjunction with the proposed realignment of World Way West. The records retention function of this building would be relocated to an existing warehouse at the Delta Airlines complex in the northeastern part of the airport.
- **Qantas Maintenance Office**. The Qantas maintenance office, which is housed within a temporary building located north of the LSG Flight Kitchen, would be relocated to the 2,200 square foot building at 7001 World Way West made available by the DHL Air Freight relocation, or to an existing American Airlines facility.



Source: LAX IPMT, 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Proposed Utilities	Figure 2-14

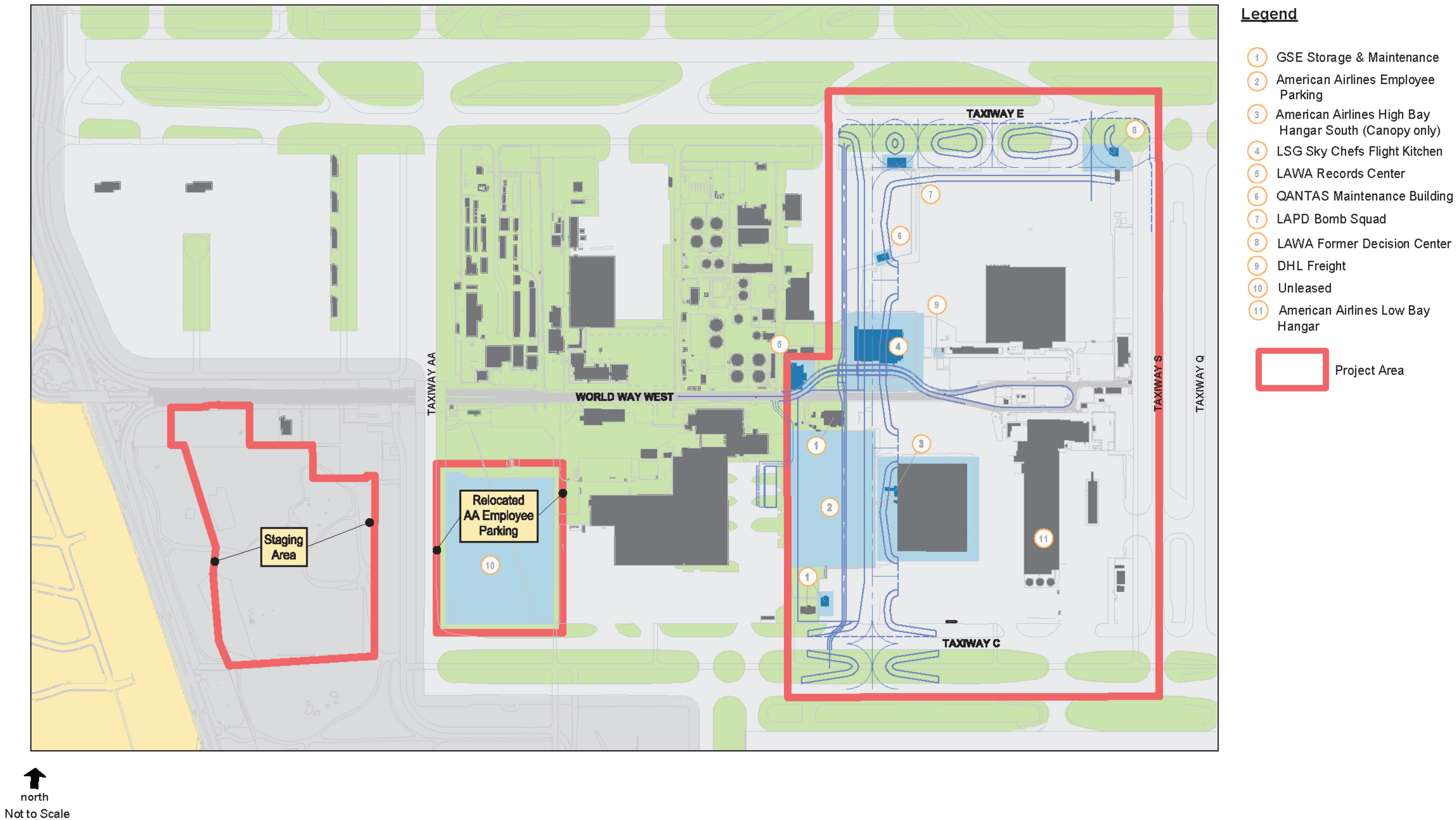


Source: LAX IPMT, 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR

Proposed Electrical Facilities

Figure
2-15

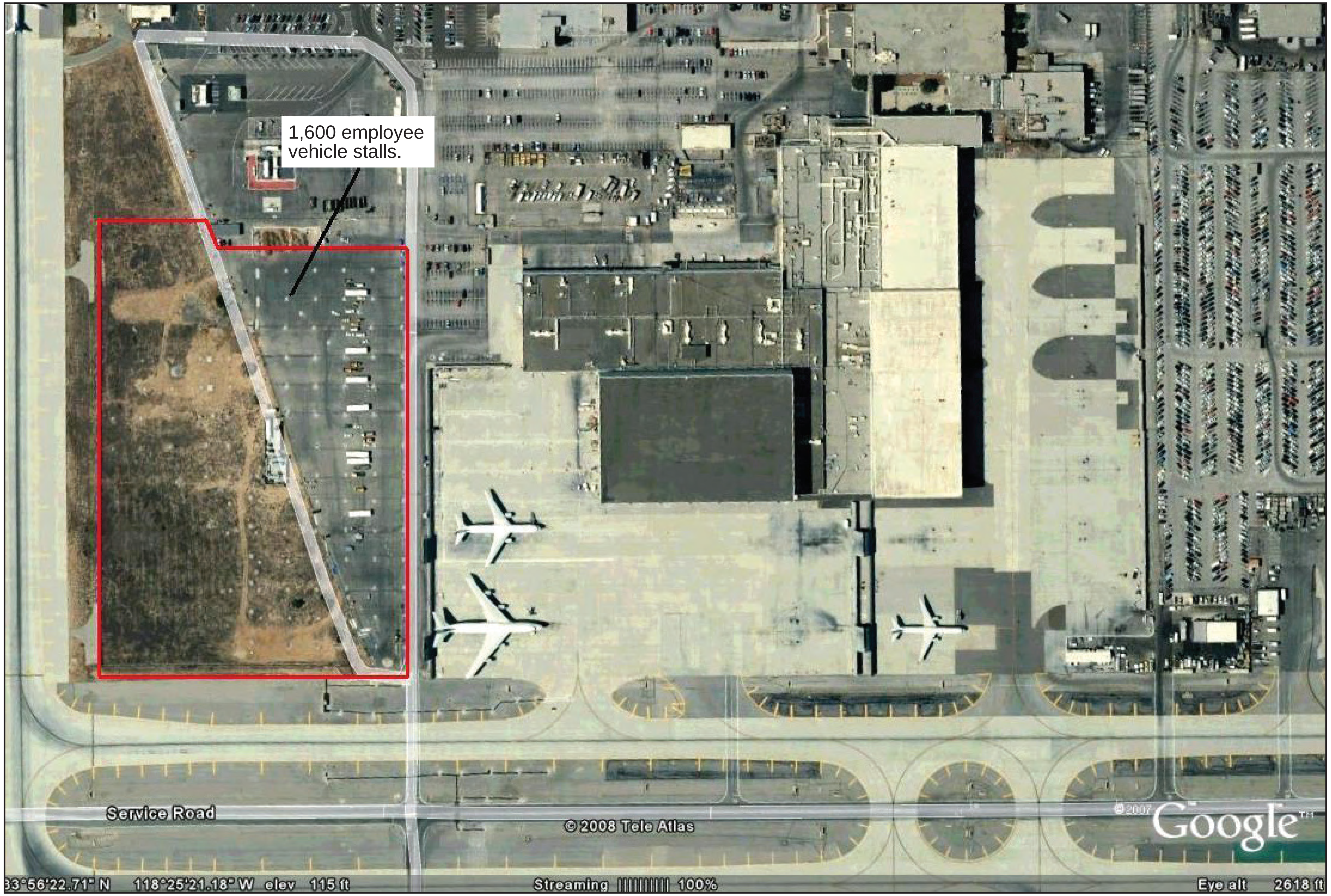


Source: HNTB as modified by CDM, 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR

Existing Facilities Affected by CFTP

Figure 2-16

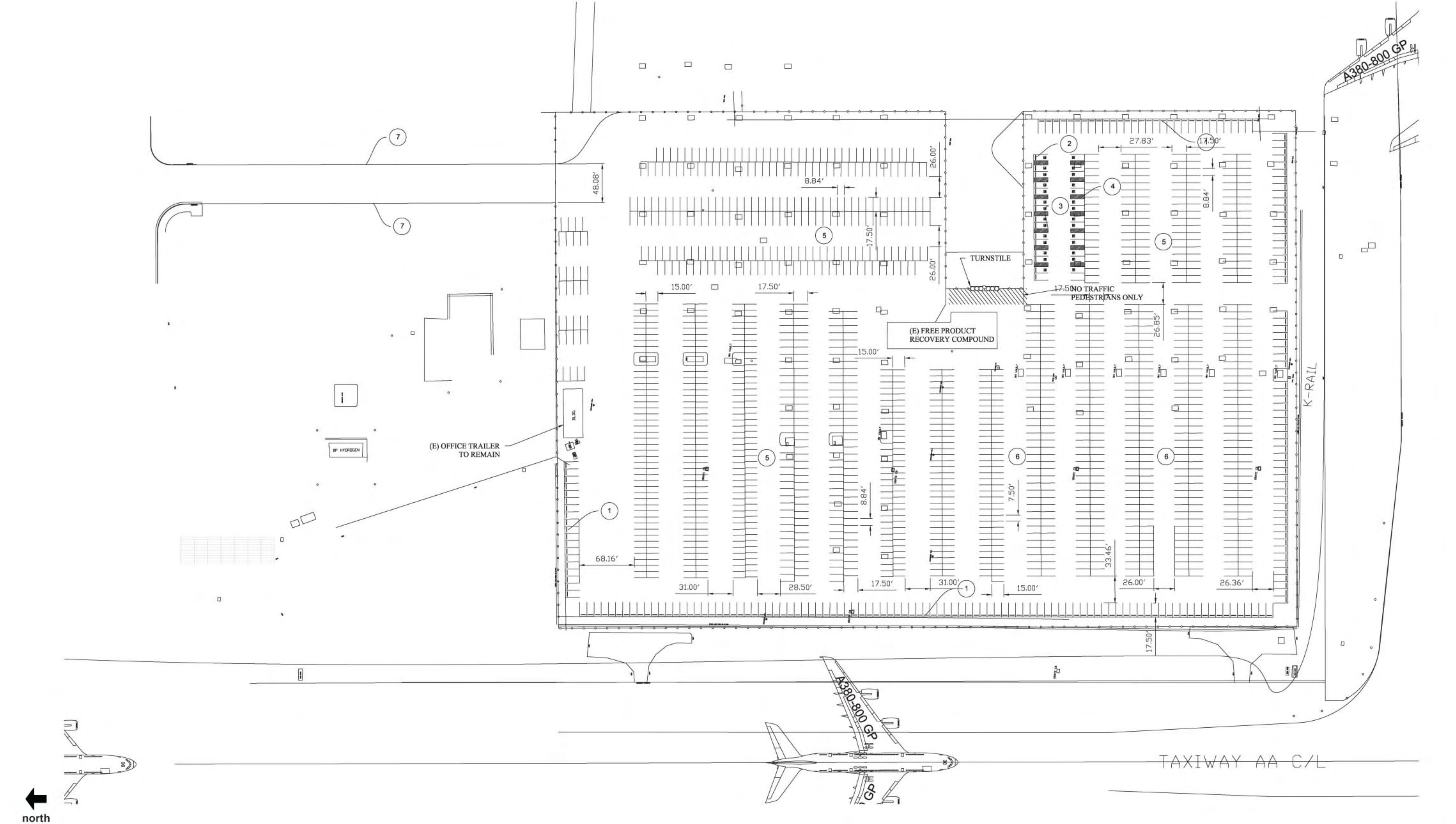


north
Not to Scale

Source: LAX IPMT, 2008.
Prepared by: CDM, 2008.

Replacement Parking Lot - Aerial View

Figure
2-17



Not to Scale

Source: LAWA, 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Replacement Parking Lot - Layout	Figure 2-18

- **LAPD Bomb Squad**. The LAPD Bomb Squad offices are currently located in several trailers south of Taxiway E, west of the American Airlines High-Bay Hangar. The LAPD Bomb Squad operations would be relocated to an existing building at 8100 Westchester Parkway, a location with immediate access to the airfield through an adjacent guard gate. This building is largely vacant; no existing uses would be displaced as a result of this relocation. Emergency response supplies currently stored in the existing Bomb Squad building would be relocated to an existing United Airlines warehouse adjacent to the airfield.
- **Former LAWA Police Department Decision Center**. The LAWA Police Department formerly used a small building located adjacent to Taxiway D and west of Taxiway S as an airfield command post for special emergencies. The subject building, referred to as the LAWA Police Department Decision Center, is no longer used or needed for that purpose and is, for the most part, vacant and only occasionally used for miscellaneous purposes (i.e., storage, impromptu meetings, etc.). It would be removed as part of the CFTP and not replaced.
- **DHL Air Freight**. DHL utilizes a 2,200 square foot building at 7001 World Way West for air freight processing. The subject operation is proposed to be relocated to the LAX Air Freight 8 Building to the west.

Table 2-1 provides an overview of the name, size, existing use, and disposition characteristics of the existing facilities described above, as would be affected by the proposed CFTP. The areas and facilities identified for relocation of existing uses are considered to be compatible with each of the subject uses, being generally similar and/or compatible in nature.

Table 2-1

Summary of Existing Facilities to be Removed/Relocated

Facility	Approximate Size (Sq. Ft.)	Current Use	Disposition of Facility/Use
Mercury GSE Maintenance Building	2,000	Equipment Service/Repair	Building would be demolished. Operation would be consolidated into another existing GSE maintenance facility.
Evergreen GSE Maintenance Building	4,500	Vehicle Service/Repair	Building would be demolished and current operation would be relocated to, and reestablished in, existing cargo warehouse.
American Airlines GSE Maintenance Building	11,000 2,000	Vehicle Service/Repair Office	Building would be demolished and existing operation would be relocated to, and reestablished in, existing cargo warehouse.
American Airlines Employee Parking Lot	610,000+/- (14 acres)	Vehicle Parking	Replacement parking lot to be constructed on an unleased area approximately 1,500 feet west of existing lot.
American Airlines High-Bay Hangar Canopy	5,600	Building Canopy	Canopy to be removed. Not essential to hangar's function and operation. Would not be relocated or replaced.
LSG Sky Chefs Flight Kitchen	68,000	Food Preparation	Building would be demolished and current operation would be consolidated within another existing LSG Sky Chefs flight kitchen, located adjacent to the American Airlines Low-Bay Hangar.
LAWA Records Center	12,000 1,500	Storage Office	Building would be demolished and current operation would be moved to another existing building located in Delta Airlines complex.

Table 2-1

Summary of Existing Facilities to be Removed/Relocated

Facility	Approximate Size (Sq. Ft.)	Current Use	Disposition of Facility/Use
Qantas Maintenance Office	3,500	Office	Building would be demolished and operation would be relocated to a building at 7001 World Way West.
LAPD Bomb Squad Building	5,760	Office	Building would be demolished. Current operation would be relocated in Delta Airlines complex.
Former LAWA Police Department Decision Center	800	Storage	Building would be removed. Would not be relocated or replaced.
DHL Freight	2,160	Office	Building would remain and only operation would be relocated to existing building in freight area.

Source: CDM, 2008.

With regard to the area proposed for the new ARFF, it is apron area for aircraft parking and maintenance across from (east of) the Continental Airlines maintenance hangar. Development of a new ARFF at this site would eliminate a portion of apron available for aircraft, but would not represent a notable reduction in area still available for aircraft. As such, no replacement of the affected apron area is proposed or warranted.

In addition to the specific facilities described above, various utilities located within the project area, including the local portions of the airfield drainage system, airfield lighting and signage, water, sewer, electrical, natural gas, fuel, and fiber optics, would require relocation and other minor modifications. This includes utilities occurring along the existing alignment of World Way West that would be relocated into the new utilidor adjacent to the realigned road.

2.4.3 Construction Phasing

Construction of the CFTP is anticipated to occur over approximately 16 months. The construction phasing schedule was developed with the objective of achieving a balance between minimizing the nature, extent, and duration of disruption to airport operations in and near the project area, and managing the costs and logistics of completing substantial amounts of work during the nighttime, weekends, holidays, and extended work shifts. Taking into account these considerations, and with input from the LAX ACTC, a construction phasing schedule was developed that, for the most part, would not require any notable temporary closures of existing runways or taxiways at LAX during construction of the CFTP. The only exception would be partial nighttime closures of local taxiway areas where endpoints of the new taxiways are being tied into the existing taxiways. The sequence, approach, and duration of individual construction activities have also been programmed to reduce, where possible, impacts to the existing airline tenants operating in the project vicinity. For example, efforts would be made to maintain at least one mode of access at all times for airline tenant RON parking in the project vicinity.

The general sequence of construction activities that is currently anticipated for the proposed project is summarized below.

- ♦ The initial phase of construction will focus primarily on removal of existing structures/uses, particularly in area proposed for Taxiway C13 north of World Way West. This includes removal of the LAWA

Records Center, the LSG Sky Chefs Flight Kitchen, the Qantas Maintenance Building, and the LAPD Bomb Squad Building. Removal of the former LAWA Police Department Decision Center may also occur in this initial phase, and operations in the DHL Freight Building will be moved to another building nearby. South of World Way West, removal of the west entrance canopy at the American Airlines High Bay Hangar, and the GSE facilities operated by Mercury Air Services and Evergreen Aviation would occur. Following that, removal of the American Airlines GSE Maintenance Building would occur.

- The first improvement to occur during the initial phase of construction would be the completion of the American Airlines employee parking lot replacement, followed immediately by the clearing and removal of the existing parking lot. Also occurring in the initial phase of construction would be development of the realigned/suppressed segment of World Way West and adjacent utilidor.
- Development of Taxiway C13 would occur in two major phases, with construction of the segment north of World Way West proceeding first, along with construction of the adjacent segment of the proposed vehicle service road. Within a few months following start of construction on the northern segment of Taxiway C13, work on the southern segment and the bridge structures over realigned World Way West would begin. Construction of the new RON area would also commence immediately after start of work on the southern segment of Taxiway C13. Construction of the connections between Taxiway C13 and the existing taxiways at its north and south ends would occur in the final phase leading to commencement of operations on the subject new taxiway.
- Construction of the Taxiway D extension would begin while construction of the northern portion of Taxiway C13 is underway and would be completed shortly after the commencement of operations on Taxiway C13.
- Construction of the proposed ARFF would commence in fall 2009 and be completed in the final phase of the CFTP

In summary, work on the aforementioned program elements is proposed to begin in the second quarter of 2009 and be completed by the third quarter 2010. The schedule for implementation of the CFTP is fully consistent with the conceptual schedule included in the LAX Master Plan EIR,[10] which shows the same start and end dates for construction of midfield aprons and taxiways. However, the LAX Master Plan anticipated substantial additional Master Plan-related construction activity in this timeframe, including clearing of all of the midfield area, construction of all midfield taxiways and aprons (whereas the proposed project only includes the partial extension of Taxiway D and construction of Taxiway C13), construction of a tunnel from the CTA to the Midfield Satellite Concourse, construction of the Midfield Satellite Concourse, and construction of replacement parking for Lot C. As currently planned, the only project on the LAX Master Plan conceptual schedule that would occur concurrently with the CFTP is the addition of gates to the west side of TBIT, which the Master Plan conceptual schedule shows as being constructed between the fourth quarter of 2010 and the third quarter of 2012, Therefore, cumulative Master Plan-related construction activity would be substantially less than that anticipated in the LAX Master Plan EIR.

The proposed CFTP construction staging area is the same as currently used for the SAIP, and is located to the west of the project site, at Pershing Drive and World Way West (see **Figures 2-1** and **2-2**). Construction-related vehicle access and parking for the CFTP would be similar to that of the LAX SAIP. During the construction period for the CFTP, ground traffic (cars, trucks, and construction equipment) would enter and exit the project site from the existing SAIP construction staging area. The SAIP contractor parking area located at a site north of LAX Parking Lot B on La Cienega Boulevard, to the east of the project site, would be used for project workers, with a shuttle to transport workers between the parking area and the job site. Similar to the SAIP, delivery and haul routes for the LAX CFTP would occur on the perimeter of the airport, along Imperial Highway, Pershing Drive, Westchester Parkway, and Aviation Boulevard.

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[10] City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Figure F3-20.

Similar to the SAIP, existing pavement, including from existing airfield apron areas that are to be demolished as part of the project, would be recycled on-site through the use of a rock crusher and aggregate processing facility within the construction staging area.

Additionally, the development, application, and enforcement of construction-related mitigation plans required by the LAX Master Plan Mitigation Monitoring and Reporting Program and refined through the SAIP experience would be implemented throughout the construction period. Those measures are described in Chapters 4 and 5 of this Draft EIR, and are also noted in the Tables 1-2 and 1-3 in Chapter 1.

2.4.4 Airport Operational Characteristics Before and After Completion of Construction

As described above in Section 2.1.3, implementation of the CFTP will help to address periodic congestion in aircraft ground movement in the midfield area, and will provide an improved taxiway route between the north runway complex and the south runway complex for NLA once scheduled service starts at LAX. The subject improvements will not, however, increase or otherwise affect the overall operational capacity of the airport. The LAX Master Plan evaluated the overall capacity constraints of LAX as a whole. The primary constraint on the airport's practical capacity at present is the limited curbside capacity of the CTA at peak hour, which causes the practical capacity[11] to be approximately 78.7 MAP.[12] With the LAX Master Plan improvements, the airport's practical capacity in 2015 will be approximately the same, 78.9 MAP, based primarily on the constraints created by reducing the number of aircraft gates at the airport.

The CFTP will not alter airspace traffic, runway operational characteristics, or the practical capacity of the airport. Under existing conditions, LAX's practical capacity is 78.7 MAP based on limited CTA curbside capacity. When the CFTP is completed in 2010, LAX's approximate practical capacity will be the same. The proposed project does not alter this constraint.

The CFTP would not lead to any procedural changes by FAA for LAX airspace operations. LAX operates in a safe and efficient manner and will continue to do so during and after the proposed CFTP airfield modifications. No change in runway utilization is anticipated due to implementation of the proposed CFTP.

2.5 Project Alternatives

CEQA requires that an EIR include a discussion of reasonable project alternatives that would "feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any significant effects of the project, and evaluate the comparative merits of the alternatives" (CEQA Guidelines Section 15126.6). As discussed in Chapter 4, implementation of the CFTP is anticipated to result in significant impacts related to construction activities, particularly as related to air quality and global climate change (i.e., greenhouse gas emissions). Chapter 6 of this EIR addresses several alternatives including an alternative site, an alternative design, an alternative construction approach, and a "no project" alternative.

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 potential environmental impacts of the CFTP in taking action on the project. Certification of the CFTP would complete the project-level CEQA compliance review for the CFTP as described in this Draft EIR. Project-level approvals for other future components of the LAX Master Plan

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11 Practical capacity is the maximum activity that can be processed by the facility over a specific period at a specified level of delay. (LAX Master Plan Final EIR, Section 2.3.1, Page 2-8.)

12 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Executive Summary, page ES-4.

will be subject to the appropriate levels of environmental review. 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 use of this EIR by the City of Los Angeles, implementation of the proposed CFTP may require various federal, state, and local approvals, for which the approving agencies may use this EIR in their respective decision-making and approval processes. Provided below is an overview of the actions and permits anticipated to be required for the project.

2.6.1 Federal Actions

U.S. Department of Transportation Federal Aviation Administration (FAA)

The FAA issued a Record of Decision (ROD) on the Environmental Impact Statement for Proposed LAX Master Plan Improvements. The specific federal actions that are the subject of the ROD and that relate to the CFTP and have therefore received federal environmental approval, include the following:

- Unconditional approval of the Airport Layout Plan (ALP), as depicted for Alternative D, with the exception of the collateral development project referred to as "LAX Northside." The components of the ALP related to the CFTP are included in the unconditional approval.
- A determination that the airport development is reasonably necessary for use in air commerce or in the interests of national defense.
- Airfield improvements included under Alternative D, including the new crossfield taxiway and an associated connection to, and extension of, the existing Taxiway D, as addressed in this project-level EIR.
- Approval of appropriate amendments to the airport certification manual pursuant to 14 CFR Part 139 and any required modifications to the airport security plan pursuant to 14 CFR Part 107. This approval would include any such amendments or modifications specifically required for the construction or operation of the CFTP.
- Approval of the appropriate amendments to the airport certification manual, to maintain aviation and airfield safety pursuant to 14 CFR Part 139.
- Potential eligibility of the Master Plan projects for federal assistance through grants-in-aid authorized by the Airport and Airway Improvement Act of 1982, as amended, and/or for use of revenues collected through passenger facility charges at the airport, pursuant to 49 U.S.C. § 47101 and 49 U.S.C. § 47117.

The ROD documents FAA's finding that the Final General Conformity Determination for Alternative D demonstrates that Alternative D conforms to the State Implementation Plan, because it includes a number of mitigation measures required under CEQA.

Additional FAA actions specific to the CFTP would be needed for either construction activities or for funding approvals and the FAA may consider the EIR in taking these actions. These include:

- Approval of a FAA Notice of Construction or Alteration, to ensure safe and efficient operations during the construction of the CFTP. LAWA and its selected contractor would submit a FAA Form 7460-1, "Notice of Proposed Construction or Alteration," which includes information related to the construction location; duration; type, height, and location of construction; and any other information needed for FAA to make its determination.
- Approval of requests for federal funding. In order for federal funding to be used for the CFTP, FAA would approve grant requests from LAWA and provide grant funding as authorized by the airport and Airway Improvement Act of 1982, as amended. As described above, the ROD indicates that federal environmental requirements have been met to make LAWA eligible to apply for grant-in-aid funding for those components of the CFTP to which grant funding can be applied. The FAA would also certify plans and specifications prior to the award of grants. FAA's approval and provision of grants-in-aid for the CFTP is subject to availability of funding.

- Approval of requests to use passenger facility charge revenue for project funding. In order for LAWA to apply revenues collected through passenger facility charges at the airport, FAA would be required to approve an application from LAWA to impose and use passenger facility charge revenue for the project. As described above, the ROD indicates that federal environmental requirements have been met to make LAWA eligible to apply for approval to use passenger facility charge revenue for those components of the CFTP to which such revenue can be applied.

Other Federal Agencies

In the ROD, the FAA specifies that consultations with other federal agencies have been completed through the EIS process. With the implementation of the commitments and mitigation measures included in the LAX Master Plan MMRP and the LAX Master Plan Final EIR and the EIS, mitigation requirements would be satisfied. Other than the FAA approvals described above, no other federal agency approvals are anticipated to be required for the CFTP.

2.6.2 State and Regional Actions

California Department of Transportation (Caltrans)

Permits from or actions by Caltrans required for implementation of the CFTP include, but may not be limited to:

- Amended/Corrected Airport Permit. In accordance with California Code of Regulations, Title 21 § 3530, LAWA must submit to Caltrans an Amended/Corrected Airport Permit Application (DOA-0103 [Rev. 04/01]) for approval. The airfield improvements associated with the CFTP would be reflected on the application.

California State Historic Preservation Officer (SHPO)

The FAA completed its consultation with the SHPO, which included the development of treatment plans in the event that historic, archaeological, or paleontological resources are discovered during CFTP construction activities. If such resources were discovered, the appropriate measures involving SHPO would be followed.

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 for the CFTP include, but may 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 and has been involved throughout the development of the LAX Master Plan Final EIR, the Final General Conformity Determination for the LAX Master Plan, and this EIR. No new permanent stationary sources would be added as a result of the CFTP; therefore no additional permits for permanent facilities would be needed. A permit to Construct and Operate is required for each piece of equipment to be used for construction that is not specifically exempt from the permit requirement.

2.6.3 Local Actions

A number of actions to be taken by departments of the City of Los Angeles were identified in the LAX Master Plan Final EIR relating to the certification of that document, as well as approval of the LAX Master Plan, LAX Specific Plan, and the LAX Plan. A number of those actions have been completed in the context of the LAX Master Plan. Local actions and approvals that may be required for the CFTP 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 project-level tiered Final EIR for the CFTP.
- Submittal of the following to the FAA:
  - Form 7460-1 "Notice of Proposed Construction or Alteration" for FAA approval. (The selected contractor would also be required to submit Form 7460-1.)
  - Applications for grants-in-aid, if such funding is to be sought.
  - Applications to apply passenger facility charge revenue to the project, if such funding is to be used for the project.
  - Plans and specifications for the CFTP for certification by the FAA.
- 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.

2.6.4 Miscellaneous Actions and Permits

A number of other actions and permits may be required for the implementation of the CFTP. 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
- Possible modification or condemnation of certain existing on-airport leases

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3. OVERVIEW OF PROJECT SETTING

This chapter provides an overview of the existing land use and environmental setting relevant to the CFTP. More detailed descriptions of the existing setting in the project vicinity related to specific environmental issues are provided in Chapters 4 and 5. In addition to providing an overview of the existing physical setting at and around the project site, this chapter describes other projects proposed in the nearby area that may, in conjunction with the CFTP, result in cumulative impacts on that existing setting. The description of those other projects focuses, in particular, on other development projects proposed at LAX and explains the relationship between the CFTP and each project in order to provide the basis for the evaluation of cumulative impacts. Additionally, the subject discussion addresses how the projects proposed at LAX, including the CFTP, relate to the LAX Master Plan.

3.1 Land Use Setting

As indicated in Chapters 1 and 2, and depicted in Figure 1-2, the CFTP site is located near the center of LAX, within the midfield portion of the airport. The subject area is, and has long been, actively used for airport operations and is completely occupied and surrounded by airport facilities. On-site land uses include airline tenant apron areas, aircraft parking areas, an aircraft hangar, maintenance facilities, and various airport/airfield operations buildings.

Surrounding land uses include the following:

- The north runway complex to the north;
- Taxiways S and Q, Tom Bradley International Terminal, and the CTA to the east;
- The south runway complex to the south; and
- A variety of airport/airfield buildings and facilities to the west.

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

- The community of Westchester north of LAX (over 0.75 mile between the center of the CFTP site and the nearest point in Westchester);
- A mix of commercial, hotel, office, and residential uses east of LAX (over 1.25 miles between the center of the CFTP site and the nearest hotel on Century Boulevard and over 2.5 miles to the western edge of Inglewood);
- Residential, commercial, office, and institutional uses to the south (approximately 0.75 of a mile between the center of the CFTP site and the northern edge of El Segundo); and
- Dockweiler State Beach and Santa Monica Bay to the west (over 1.25 miles between the center of the CFTP site and Vista Del Mar).

Compatibility and consistency with applicable federal, state, and local regulations, plans and policies from operation of the airport after completion of the CFTP was fully addressed as part of the LAX Master Plan Final EIR.

3.2 Environmental Setting

The following provides an overview of the existing environmental setting at the project site, noting the environmental issues most relevant to the site. Additional information regarding the environmental setting is provided in the discussion of each resource area in Chapters 4 and 5.

- <u>Noise</u> - Being located near the center of the very active midfield area, the existing noise setting is dominated by aircraft activities, primarily commercial jets, occurring throughout the day and evening. This includes noise from aircraft arriving and departing on the north and south runway complexes at each end of the project site, from crossfield aircraft movements on Taxiways S and Q, from aircraft taxiing to and from the existing RON and parking areas within the site, and from aircraft undergoing maintenance activities that require engine testing (i.e., engine "run-ups"). Average daily noise levels, characterized in terms of Community Noise Equivalent Level (CNEL), at the construction site and staging area range from 70 to 75 dBA CNEL. There are no noise sensitive receptors at or near the project site; the closest receptors are located in the communities described in the Land Use Setting above and in Section 5.1.2.

- Air Quality - Similar to the noise setting, the existing air quality setting immediate to the project site is dominated by the aircraft activities described above. Other sources of existing air pollutants near the project site include ground support equipment (GSE) operations and maintenance, and vehicle traffic on and off the airfield; however, those pollutant sources are relatively minor compared to the aircraft emissions. There are no sensitive receptors at or near the project site; the closest receptors are located in the communities described in the Land Use Setting above.
- Traffic - The existing traffic setting at the project site is characterized primarily by vehicles permitted within the Airfield Operations Area (AOA). Operation of those vehicles is strictly regulated and only drivers that have satisfactorily completed specialized training and have the appropriate clearances from LAWA are allowed to operate vehicles on the airfield. Non-airfield traffic in the project vicinity occurs on World Way West, which connects with Pershing Drive to the west. Relative to the existing street system surrounding LAX, the traffic volumes on World Way West and Pershing Drive are relatively low and operating conditions are relatively good.
- Hydrology/Water Quality - With the exception of some very small unpaved pockets near Taxiways E and C at the north and south ends of the CFTP site, and a 8-acre disturbed area proposed for a replacement parking lot, the entire project site consists of impervious surfaces including airfield apron area, buildings, roads, and the like. The site is relatively flat and surface stormwater runoff drains to an existing storm drain system that flows to Santa Monica Bay. Dry weather flows from the project site, as well as the first surge from a storm event, are captured by a retention basin and pumped to the Hyperion Treatment Plant. Due to its largely impervious nature, the project site provides a negligible amount of recharge to the regional groundwater basin. Existing water quality pollutants typically include total suspended solids, oil and grease, metals, and fuel hydrocarbons, as associated with airfield activities and aircraft maintenance.
- Historical/Archaeological Resources - None of the buildings at or near the CFTP meet the typical criteria for historic structures (i.e., 50 years old, possessing significance in American history and culture, architecture, or archaeology at the national, state or local level). The project site is developed and the underlying materials are primarily artificial fill and some alluvium. It is not expected that significant archaeological resources underlie the site.
- Biotic Resources - The project site is entirely developed. With the exception of limited ornamental landscaping near the buildings along World Way West, pockets of disturbed ruderal grasslands near the existing taxiways to the north and south, and an 8-acre disturbed area southwest of the crossing of Taxiway AA over World Way West, the area is largely devoid of vegetation and related biotic resources. However, one special status plant species, southern tarplant (*Centromadia parryi ssp. australis*), a California Native Plant Society List 1B.1 species, was observed on the American Airlines employee parking lot relocation site.
- Visual/Aesthetic Resources - As noted above, the CFTP site is located within the midfield area of the airport and is characterized by a variety of airport-related facilities and uses. The subject area is not considered to be a scenic resource and is not amidst any designated scenic corridors.

3.3 Development Setting

This section identifies 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 CFTP, result in cumulative impacts to the environment.

3.3.1 LAX Master Plan Development Projects

As described earlier in Chapters 1 and 2, the LAX Master Plan provides a comprehensive plan for a number of improvement projects planned to be implemented over many years throughout the airport. The LAX Master Plan Final EIR addresses the overall effects of all of the improvements, essentially providing a cumulative impacts analysis of all the improvements that comprise the LAX Master Plan, while also identifying the more notable impacts that are attributable to specific components, where appropriate.

The following describes the LAX Master Plan improvement projects that, similar to the CFTP, are being advanced into implementation and for which more specific design and construction details are currently being developed or contemplated.

- **TBIT Reconfiguration Project**: This project proposes the development of new contact gates on the west side of TBIT that will be designed to accommodate Group VI aircraft including NLA such as the A380 and the 747-8. The placement of those gates will require the westward relocation of existing crossfield Taxiways Q and S as proposed in the approved LAX Master Plan. This project also proposes improvements to certain interior portions of TBIT, 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. Earlier in 2008, LAWA selected various consultant teams for architectural services, engineering services, and program management services for the detailed planning, engineering, design, and preparation of construction bid documents for various projects in the midfield area including the TBIT Reconfiguration Project. LAWA is proceeding immediately with the development of design and construction information for this project in support of the preparation of a focused EIR tiered from the LAX Master Plan EIR. It is anticipated that the Final EIR for the TBIT Reconfiguration Project will be completed in fall 2009. The construction program for this project will be designed to have Group VI contact gates on the west side of TBIT ready for use by 2012 and, if approved, is currently anticipated to start construction in fall 2009. The initial phase of this project, which would overlap with the completion of the CFTP, involves the proposed westerly relocation of Taxiway S and would include demolition/removal of existing structures and apron area within the taxiway work area. Construction of a portion of the new (relocated) taxiway may also overlap with completion of the CFTP construction activities.
- **Midfield Satellite Concourse Project**: This project is currently anticipated to include construction of the Midfield Satellite Concourse identified in the approved LAX Master Plan and the associated connector between the Midfield Satellite Concourse and TBIT/CTA as well as construction of Taxiway C12, and a new Central Terminal Processor (CTP) in the CTA. As indicated above, LAWA has recently retained a number of consultants to assist in the detailed engineering and design of projects in the midfield portion of LAX, which would include this project. It is anticipated that a focused EIR tiered from the LAX Master Plan EIR will be completed for this project; however, the specifics of when the more detailed information for this project will be ready, in order to prepare the EIR, are still being determined. Construction of this project is not anticipated to occur until after completion of the CFTP.
- **Consolidated Rental Car (RAC) Facility**: This project will 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. Similar to above, it is anticipated that a focused EIR tiered from the LAX Master Plan EIR will be completed for this project; however, the specifics of when the necessary project details will be defined for use in the EIR analysis have not yet been determined. Construction of this project is not anticipated to begin until after completion of the CFTP.

As indicated above, two of these three projects would not be under construction at LAX during construction of the CFTP; hence, those projects, specifically the Midfield Satellite Concourse Project and the Consolidated Rental Car Facility, are not expected to contribute to cumulative construction-related impacts. The only project that is currently anticipated to start construction while the development of the CFTP is underway would be the TBIT Reconfiguration Project. Construction of the TBIT Reconfiguration

Project is projected to begin in fall 2009, which would result in a several month overlap with the CFTP that is projected to finish in mid-2010. The resultant potential cumulative impacts are addressed in this EIR.

As indicated earlier, all of the above projects are part of the LAX Master Plan and the environmental impacts of the Master Plan projects are addressed in the LAX Master Plan Final EIR. To the extent it is reasonably foreseeable that implementation of each of the above projects may follow implementation of the CFTP, the combined impacts of all the subject projects, along with other Master Plan projects, have already been addressed and disclosed in the LAX Master Plan Final 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:[13]

- 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 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.

Section V.F of the Stipulated Settlement provides that, while the LAX SPAS is being processed, LAWA may continue to process and develop projects that are not Yellow Light Projects, consistent with the LAX Specific Plan Compliance Review procedures. The CFTP is not a Yellow Light Project as identified in the LAX Specific Plan. Additionally, the location and design of the CFTP as currently proposed are not dependent on implementation of any of the Yellow Light projects or alternatives to the Yellow Light projects that will be evaluated in the SPAS. Construction of the CFTP does not commit LAWA to proceeding with any of the projects that are currently being evaluated for SPAS. The CFTP will provide a new north-south taxiway connection between the north runway complex and the south runway complex. The point of connection with the north runway complex is with the current Runway 6R/24L; however, that point of connection could be moved to coincide with any potential relocation of that runway, based on the outcome of the SPAS, without any material change to the basic purpose and function of the subject taxiway.

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13 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

It is anticipated that a number of other, stand-alone construction activities at LAX that were not part of the LAX Master Plan would likely be underway concurrent with the construction of the CFTP, including both LAWA and tenant projects. These projects include:

- **Tom Bradley International Terminal (TBIT) 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.
- **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 August 2007 and are anticipated to be complete by January 2010. Similar projects within Terminals 1, 2, 4, 5 and 6 will be implemented by tenants. It is anticipated that improvements within Terminal 4 could be underway in early 2009, followed sometime thereafter by Terminal 1. In order to provide a conservative analysis, it was assumed that work in all of these terminals would occur within the timeframe of the CFTP construction.
- **Airfield Intersection Improvements -- Phase 2**: This project provides for improvements at various airfield intersections and associated modifications to certain service road locations in order to provide safe taxiing routes for current large aircraft and future NLA. In particular, this phase of airfield intersections includes widening of several intersections in the north airfield complex and the south airfield complex, specifically in the vicinity of Taxiways E and C and Runways 24L and 25R. The project includes intersection pavement and shoulder reconstruction and associated relocation of affected taxiway lighting and signage. Construction activities for this project began in July 2008 and are anticipated to be complete by August 2009. The subject improvements will be conducted on an intersection-by-intersection basis within limited working hours in order to minimize the number and dispersion of construction equipment on the airfield at any given time. As such, the intensity and physical extent of construction activity associated with this project would typically be very limited on any given day during its overall construction duration.
- **Airfield Operating Area (AOA) Perimeter Fence Enhancements -- Phase III (World Way West)**: This project is a continuation of the LAX Perimeter Security Enhancement Program and includes enhancing approximately 6 miles of AOA perimeter fence along World Way West. Fence improvements include the construction/placement of a concrete "K-rail" at the fence base, above which is a green tight-mesh metal section for a minimum height of eight feet, with a V-shaped barbed-wire top. Construction activities for this project are anticipated to occur between October 2008 and October 2009. Similar to the airfield intersection improvements described above, the nature of this project substantially limits the intensity and location of construction activity typical for any given day during the 1-year construction duration. This is due to the fact construction and placement of the new fence sections will occur directly adjacent to the existing fence, which limits the area of active construction and requires certain measures be taken at the beginning and end of each day's construction activities in order to constantly maintain TSA security requirements for LAX.
- **AOA Perimeter Fence Replacements -- Phase IV**: This project is a continuation of the LAX Perimeter Security Enhancement Program and includes approximately 5 miles of heavy-duty chain link fencing within a 9.12-mile section of the perimeter around the cargo areas along Imperial

Highway, Aviation Boulevard and Century Boulevard. The fence will include a concrete foundation, perimeter lighting, and heavy duty crash gates and access control. Construction is anticipated to occur from July 2009 to July 2011. As with the Phase III (World Way West) project, the intensity and location of construction activity typical for any given day during the construction duration will be focused. Because construction and placement of the new fence will occur directly adjacent to the existing fence, the area of active construction will be limited and will require certain measures be taken at the beginning and end of each day's construction activities in order to constantly maintain TSA security requirements for LAX.

- **Terminal 1 Finish Upgrades Project**: This project provides for interior design concepts and theme design at individual passenger terminals within Terminal 1.
- **North Airfield Waterline Repair**: This project involves the replacement of a 12-inch diameter water line beneath the north airfield runways (Runways 24R-6L and 24L-6R) just west of Taxiway AA. In order to maintain airfield operations on nearby runways and taxiways, installation of the line would occur by "jacking" (i.e., pushing) segments of pipe (12-inch diameter pipe within 30-inch diameter casing) through the ground beneath the paved surfaces. As such, the construction activities would be generally limited to the jacking/receiving pit at each end of the pipeline route and the needs for, and use of, construction equipment would be very limited (i.e., jacking machine, pickup trucks for small work crew, periodic delivery of pipe segments, periodic removal of accumulated soil, etc.). The work on this project is anticipated to begin in early 2009 and take approximately 8-10 weeks to complete.
- **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 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.
- **Korean Air Cargo Terminal Improvement Project**: This project would include 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. Upon completion, the facility would have a square footage of 183,506, a net increase of 25,150 square feet. In addition, the project would include the remodel of the existing truck docking area. At this time, it is estimated that construction would begin in early to mid-2009 and extend for approximately one year.
- **Westchester Golf Course Three-Hole Expansion 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 would begin in early 2009. 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. These activities are generally anticipated to occur prior to the start of the CFTP construction. The balance of the construction period for the Westchester Golf Course Three-Hole Expansion Project will be used for hydroseeding and placement of sod, growth and maturation of the course, and for finish work, such as lighting installation. Based on the nature, location, and timing of the Westchester Golf Course Three-Hole Expansion Project construction activities, relative to those of the CFTP, it is not anticipated that the project would contribute to cumulative construction-related impacts.

- **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. 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 May 2009 and extend until approximately March 2010.
- **Metro Bus Maintenance and Operations Facility**: The Metro Bus Maintenance and Operations Facility is proposed to be located on a 24-acre parcel within the boundaries of LAX. The parcel is on the west side of La Cienega Boulevard near Lennox Boulevard. The facility will house a bus division with approximately 234 standard and 106 articulated buses, a dispatch center and maintenance shop. It will also support bus storage, fueling and related routine maintenance operations activity. In addition, approximately 525 parking spaces will be provided for employees, non-revenue vehicles and visitors. Construction of the project is not anticipated to begin until Spring 2011 and, as such, would not contribute to cumulative construction-related impacts.
- **OceanWay Secure Energy Project**: Woodside Natural Gas Inc. is proposing to bring natural gas into Southern California using specially designed Liquefied Natural Gas carriers and undersea and land-based pipelines. Natural gas would be shipped to an offshore facility, regasified at sea, and delivered to land through subsea pipelines. Once onshore, the natural gas would be transferred to two onshore pipelines, which would run approximately 4 miles from a location on LAWA-owned property within the Los Angeles/El Segundo Dunes, beneath the north airfield and city streets, to a receiving and custody transfer location located several miles north of the airport. This project has not received approval. Moreover, if it were to be approved, it is not anticipated that construction of this project would coincide with construction of the CFTP; therefore, the project would not contribute to cumulative construction-related impacts.

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 CFTP. Specifically, the Van Nuys Airport Noisier Aircraft Phaseout Project proposes to prohibit certain operations at Van Nuys Airport by aircraft that exceed specified takeoff noise levels. Van Nuys Airport is a general aviation municipal airport 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; hence, it does not pose the potential to contribute to cumulative construction-related impacts when combined with the CFTP and the other projects described above. It does, however, present the potential for operations-related impacts at LAX that may relate to those of the CFTP, specifically as related to aircraft operations. As described in Section 2.1, implementation of the proposed CFTP will, by intent and design, modify certain aircraft ground movement operations at LAX. The changes in aircraft taxiing operations will affect the amount of air pollutant emissions from aircraft engines. Inasmuch as the Van Nuys Airport Noisier Aircraft Phaseout Project could also affect air pollutant emissions associated with future aircraft operations at LAX (i.e., additional flights at LAX), there is a potential cumulative relationship between the two projects relative to air quality. This potential cumulative relationship is discussed in Section 4.2 of this EIR.

3.3.4 Non-LAX Planned Development

Planned development projects in the City of Los Angeles and neighboring communities within the vicinity of the 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 CFTP study area. The list is based on consultation with representatives of the Los Angeles Department of Transportation (LADOT), Culver City, El Segundo, Hawthorne, Inglewood, Los Angeles County, and Manhattan Beach. The construction schedules and specific dates of occupancy for most of the developments were not provided.

Table 3-1

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
1	Baldwin Hills Scenic Overlook Park	Hetzler Road	10,300 sq. ft. visitor center, passive recreation area	CC / CO	265	3	12	Under construction
2	Condominiums	3846 Bentley Avenue	4 units	CC	23	2	2	Anticipated completion 2009
3	Condominiums	3873 Bentley Avenue	2 units	CC	12	1	1	Existing abandoned home per field visit 8/7/08
4	Condominiums	3823 / 3388 Huron Avenue	15 units, with 3 existing units to be removed	CC	70	6	6	Under construction as of 8/7/08
5	Condominiums	3862 Huron Avenue	5 units	CC	30	3	3	Existing home per field visit of 8/7/08
6	Condominiums	4067/ 4073 Lincoln Boulevard	8-units and 20 parking spaces	CC	47	4	4	Construction complete per field visit 8/7/08
7	Condominiums	9650 Lucerne Avenue	6 units	CC	35	3	3	Entitlements approved
8	Condominiums	4058 Madison Avenue	4 units	CC	23	2	2	Anticipated completion 2009
9	Condominiums	4228 Madison Avenue	2 units	CC	12	1	1	Existing homes; no such address per field visit 8/7/08
10	Condominiums	3838 Tilden Avenue	4 units	CC	23	2	2	Nearing end of construction per field visit 8/7/08
11	Condominiums	3968/ 3972 Tilden Avenue	8 units	CC	46	4	4	Under construction as of 8/7/08
12	Condominiums	4014 Van Buren Place	4 units	CC	23	2	2	Building permit
13	Condominiums	4025 Wade Street	4 units	CC	23	2	2	Anticipated completion 2009
14	Condominiums	13340 Washington Boulevard	41 unit condominium development with 6 live/work condominium units in Culver City and 35 Units in LA	CC/ LA	240	18	21	No construction per field visit 8/7/08
15	Condominium Conversion	3910 Girard Avenue	7 units	CC	41	3	4	Existing structure per field visit 8/7/08; possibly completed?
16	Distribution & Warehouse	3434 Wesley Street	10,500 sq. ft. office, warehouse and distribution	CC	137	16	86	Entitlements; no building permit
17	Entrada Office Tower	6161 Centinela Avenue	342,409 sq. ft. office tower and 9-level parking structure	CC	3,442	502	462	EIR under review by City
18	FAYNSOD Family Trust	11501-11509 Washington Boulevard	Mixed Use: 2,359 sq. ft. retail; 937 sq. ft. office, and 2 apartments	CC	155	9	87	Entitlement stage
19	Fire Station No. 3	6030 Bristol Parkway	Two-story, 12,156 sq. ft. fire station	CC	67	9	9	Building permit
20	Glencoe/Washington Mixed Use	13365 Washington Boulevard	5,000 sq. ft. retail and 19 condominium units	CC	333	14	24	Existing closed restaurant per field visit 8/7/08
21	Hampton Inn	3954 Sepulveda Boulevard	77-unit hotel	CC	629	43	45	No construction per field visit 8/7/08
22	Live/ Work Lofts	10839 Washington Boulevard	3 Live/ Work units and 12 parking spaces	CC	33	5	4	Anticipated completion 2009
23	Max Leather AUP	8533 Washington Boulevard	An additional 3,763 sq. ft. of manufacturing	CC	14	3	3	No construction per field visit 8/7/08; possibly completed?
24	Mixed Use Development	11281 Washington Place	5,340 sq. ft. retail and 8 units of residential	CC	284	10	18	Existing abandoned gas station per field visit 8/7/08
25	Office & Retail Bldg.	700-701 Corporate Pointe	240,612 sq. ft. of office and 4,242 sq. ft. of retail	CC	2,811	384	359	No construction per field visit 8/7/08
26	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	6,340	461	627	Building permit
27	Park Century School	3939 Landmark Street	Conversion of industrial space to school use and additional 6,950 sq. ft.	CC	365	162	-25	Nearing end of completion per field visit 8/7/08
28	Public Storage Expansion	8512 National Boulevard	Addition of 71,570 sq. ft. to an existing public storage facility	CC	355	32	34	No construction per field visit 8/7/08; possibly completed?
29	Sony	10202 Washington Boulevard	Approved to build net new 100,000 sq. ft. of office, post-production, stage, and support uses.	CC				Unsure of status per field visit 8/7/08; gated lot
30	Turning Point School (K through 8)	8794 National Boulevard	Addition/remodel of net 9,000 sq. ft.	CC	N/A	107	61	Building permit
31	Union 76	10638 Culver Boulevard	Gas station and convenience store with new car wash; 2,500 sq. ft.	CC	N/A	N/A	N/A	No construction per field visit 8/7/08; no car wash
32	Uptown Lofts	9900 Culver Boulevard	5,500 sq. ft. of office and 18 condominium units	CC	248	26	94	Anticipated completion 2009
33	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				Anticipated completion 2009
34	Washington/National Specific Plan and EIR - Phase 1	Washington Boulevard/National Boulevard	638 dwelling units; 206,608 sq. ft. retail; 154,361 sq. ft. office; 485,996 sq, ft. light industrial	CC	19,874	1,235	2,071	EIR in preparation
35	Westfield Fox Hills Mall Expansion	200 Fox Hills Mall	293,786 sq. ft. of retail and 427 parking spaces	CC	13,682	299	1,275	Anticipated completion 10/2009
36	West Los Angeles Community College Master Plan	Overland Avenue at Freshman Drive	8,592 additional students	CC/ CO	10,034	669	664	Parking lot and math/science bldg. under construction; Anticipated completion of the Master Plan is 2011
37	Admiralty Apartments (Parcel 140)	4160 Admiralty Way	179 Apartments, with removal of 64 existing apartments	CO	417	40	37	No construction per field visit 8/5/08
38	Best Western Jamaica Bay Inn (Parcel 27R)	4175 Admiralty Way	Renovation & Expansion 42-room hotel by an additional 69 rooms.	CO	564	38	24	No construction per field visit 8/5/08
39	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	1,081	47	51	No construction per field visit 8/5/08

Table 3-1

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
40	Del Rey Shores Apartments (Parcels 100 and 101)	4247-4275 Via Marina	544 apartments (202 existing units to be removed)	CO	800	120	111	No construction per field visit 8/5/08
41	Diner (Parcel 33)	4211 Admiralty Way	351 Apartments; 24,500 sq. ft. retail; 10,000 sq. ft restaurant (existing restaurant to be removed)	CO	1,145	184	22	Existing Panifico's Restaurant per field visit 8/5/08
42	Esprit Phase 1 (Parcel 12)	13900 Marquesas Way	35 town homes; 2,000 sq. ft. of specialty retail; 2,000 sq. ft. of restaurant	CO	548	40	56	Construction complete per field visit 8/5/08; also at 13924 Marquesas Way
43	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	2,375	98	209	No construction per field visit 8/5/08
44	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	199	-36	128	No construction per field visit 8/5/08; Existing Islands restaurant and Caldwell Bank
45	Government Office Building	Panay Way and Via Marina	26,000 sq. ft.	CO	286	40	57	No construction per field visit 8/5/08
46	Holiday Harbor Courts (Parcels 21 and OT)	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				Nearing end of construction per field visit 8/5/08
47	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	3,104	253	228	No construction per field visit 8/5/08
48	Lloyd Taber Marina del Rey Library (Parcel 40)	4533 Admiralty Way	Library	CO				Existing Library. No construction per field visit 8/5/08
49	Marina City Club Towers Marina del Rey	4333 Admiralty Way	600 units	CO	3,516	264	196	No construction per field visit 8/5/08
50	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	1,785	171	152	No construction per field visit 8/5/08
51	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	18	1	2	No construction per field visit 8/5/08
52	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 8/5/08
53	Marina del Rey Tower Project	4363 Lincoln Boulevard	158 high-rise residential condominium units; 3,180 sq. ft. of specialty retail; parking structure with 409 parking spaces	CO	386	47	71	Existing Beverly Hills Rent-a-Car per field visit 8/5/08
54	Marina Expressway Homes	Marina Expressway Eastbound & Mindanao Way	28 Single family condominiums	CO				No construction per field visit 8/5/08
55	Marriott Residence Inn (Parcel IR)	Admiralty Way and Via Marina	149-room hotel	CO	1,201	82	52	No construction per field visit 8/5/08
56	Sea Glass Town Homes	6719 Pacific Avenue	36 condominiums	CO				No construction per field visit 8/5/08
57	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	1,106	93	88	No construction per field visit 8/5/08
58	Waterside Shopping Center (Parcel 50)	13555 Fiji Way	4,880 sq. ft. of specialty retail, with removal of 2,400 sq. ft.	CO	208	6	21	Existing West Marine Boats appears to be a new facility.
59	1950 Grand Avenue Office	1950 Grand Avenue	93,569 sq. ft. Office Building	ES				Construction complete per field visit 8/5/08; not fully occupied
60	2151 East Grand Avenue Office	2151 East Grand Avenue	125,000 sq. ft. Office Building	ES				Construction complete per field visit 8/5/08; not fully occupied
61	Commercial Buildings	126, 130, 134 & 138 Lomita Street	4 new commercial buildings	ES				Nearing end of construction per field visit 8/5/08
62	Condominiums	347 Concord Street	3 units	ES	20	3	3	Existing apartments per field visit 8/5/08
63	Condominiums	505 W. Grand Avenue	4 units	ES	27	4	4	Construction complete per field visit 8/5/08
64	Condominiums	425 & 429 Indiana Street	8 units	ES	54	8	8	No construction per field visit 8/5/08
65	Condominiums	1700 Mariposa Avenue	11 units	ES	74	11	11	Empty lot per field visit of 8/5/08
66	Condominiums	215-223 Penn Street	8 units	ES	54	8	8	Construction complete per field visit 8/5/08; not fully occupied
67	Condominiums	412 Richmond Street	4 units	ES	27	4	4	No construction per field visit 8/5/08
68	Condominiums	712 Virginia Street	4 units	ES	27	4	4	Construction complete per field visit of 8/5/08
69	Condominiums	203 Whiting Street	4 units	ES	27	4	4	Under construction as of 8/5/08
70	Corporate Headquarters Office	455 / 475 Continental Boulevard	330,000 sq. ft. office; 22,500 sq. ft. Research and Development	ES		664	632	No construction per field visit of 8/5/08
71	El Segundo Athletic Field	2201 E. Mariposa Avenue	Public Recreation Facility (Soccer Field)	ES				Construction complete per field visit 8/5/08; possibly incorrect address?
72	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	21,366	2,267	2,795	Construction appears to be complete on Phase I, but no construction on Phase II per field visit 8/5/08

Table 3-1

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
73	El Segundo Plaza	307-331 N. Sepulveda Boulevard	commercial	ES				Construction complete per field visit 8/5/08; not fully occupied
74	Electronics Superstore	Aviation Boulevard and Utah Avenue/ 135th Street	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 vacant office building per field visit 8/5/08
75	Equinox	445 N. Douglas Street	314,000 sq. ft computer Data Center	ES				Construction complete per field visit 8/5/08
76	Grand Park Plaza	Grand Ave between Arena and Eucalyptus		ES				Construction complete per field visit 8/5/08 if this project is the strip mall on south side.
77	High Bay Lab	901 N Nash Street	55,772 sq. ft.	ES		69	60	Existing Boeing facility per field visit 8/5/08
78	LA Air Force Base – Area A	SE corner of El Segundo Boulevard and Aviation Boulevard	625 condominiums	ES		330	405	Under construction as of 8/5/08
79	LA Air Force Base – Area B	NW corner of El Segundo Boulevard and Aviation Boulevard	63,000 sf warehouse; 560,000 sf office park; 93,750 sf base exchange; 43,125 sf health club; 34,463 sf medical office	ES	7,499	815	711	Existing surface parking lot per field visit of 8/5/08
80	Northrup-Grumman	SE corner of Mariposa Avenue and Douglas Street	190,000 sq ft. industrial uses	ES	1,324	175	186	Existing facility per field visit 8/5/08; no construction
81	Office	888 N Sepulveda Boulevard	120,000 sq. ft.	ES		217	214	Existing retail per field visit 8/5/08
82	Office	141 Main Street	commercial	ES				Existing closed restaurant per field visit 8/5/08
83	Plaza El Segundo, Phase 1B	NE Corner of Sepulveda Boulevard and Rosecrans Avenue	70,000 sq. ft. retail shopping center	ES	2,108	60	197	No construction per field visit 8/5/08
84	Plaza El Segundo Phase 2A	NE Corner of Sepulveda Boulevard and Rosecrans Avenue	commercial	ES				No construction per field visit 8/5/08
85	Self Storage Facility (Pacific Planning Group)	Southern California Edison Property at Hughes Way		ES				Could not locate
86	The Aerospace Corp. (Office and Laboratory)	2350 E El Segundo Boulevard	150,000 sq. ft. office and 15,000 sq. ft lab	ES				Existing Aerospace Corp. facility per field visit 8/5/08; no construction
87	Xerox Phase IV	1951-1961 El Segundo Boulevard	255,242 sq. ft office; 350-room hotel	ES		629	614	Existing office building per field visit 8/5/08; no construction
88	Condominiums	13429-31 Kornblum Avenue	6 units	HA				Existing single family home per field visit 8/6/08
89	Condominiums	14629 Lemoli Avenue	3 units	HA				Under construction per field visit 8/6/08
90	Condominiums	11533 Freeman Avenue	5 unit conversion	HA				Existing apartment building per field visit 8/6/08
91	Condominiums	11975 Manor Drive	3 units	HA				Vacant lot per field visit 8/6/08
92	Condominiums/Office	13806 Hawthorne Boulevard	171 units and 32,500 sq. ft of office space	HA	80	213		Closed mortuary per field visit 8/6/08
93	Condominiums	13632 Cerise Avenue	6 unit conversion	HA				Completed per field visit 8/6/08
94	Condominiums	11418 Grevillea Avenue	7 units	HA				Existing lawn mower business per field visit 8/6/08
95	Hotel Extensions	4334 W. Imperial Highway	165 rooms	HA				Under review by City, per the City's website on 8/6/08
96	L.A. Air Force Base - Lawndale Annex	East of Aviation Boulevard and South of Rosecrans Avenue	285 condominium units	HA	122	142		Fusion Development at Aviation Boulevard and 149th Place is completed per field visit 8/6/08. No other condominium projects seen.
97	Prestige Villas	4500 116th Street	116 condominium units	HA	72	85		
98	Recycling Center at Ralph's Grocery Store	11873 Hawthorne Boulevard	Recycling center	HA				Status listed as "continued" per City's website on 8/6/08
99	Single Family Homes	14000 Yukon Avenue	6 units	HA				Four existing single family homes per field visit 8/6/08
100	Wiseburn School District	5403 W. 138th St and 5309 W. 135th St and 13500 Aviation Boulevard	School Renovation. Existing Peter Burnett School at 5403 W. 138th Street	HA				Juan Cabrillo Elementary School under construction at 5309 W. 135th Street per field visit 8/6/08
101	Adult School and Day Care	106 East Manchester Boulevard	27,477 sq. ft.; office conversion	IN				Existing adult school under renovation per field visit of 8/6/08
102	Auto Sales and Retail	Prairie Avenue and Imperial Highway, NE Cor	49,000 sq. ft.	IN				Under construction per field visit of 8/6/08

Table 3-1

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
103	Commercial Building Addition	234 W. Manchester Boulevard	12,029 sq. ft.	IN				Construction nearing completion per field visit of 8/6/08
104	Condominiums	501 East 99th Street	12 units	IN				Existing home per field visit of 8/6/08
105	Condominiums	940 North Cedar Street	14 units	IN				Existing apartments per field visit 8/6/08
106	Condominiums	448 North Edgewood Street	6 units	IN				Existing home per field visit of 8/6/08
107	Condominium	417- 420 N. Market Street	12 units	IN				Existing home per field visit of 8/6/08
108	Condominiums	450 N. Market Street	12 units	IN				Not started per field visit of 8/7/08
109	Condominiums	912 S. Myrtle Avenue	7 units	IN				Existing apartments per field visit 8/6/08
110	Condominium	546 - 568 W. Olive Street	12 units	IN				Completed, but not fully occupied per field visit of 8/6/08
111	Condominiums	927 South Osage Avenue	7 units	IN				Existing home per field visit of 8/6/08
112	Condominium	222 W. Spruce Avenue	10 units	IN				Vacant lot per field visit of 8/6/08
113	Condominium	311 W. Queen Street	8 units	IN				Completed, but not fully occupied per field visit of 8/6/08
114	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; 10,000 sq. ft. of civic use; 120,000 sq ft. casino	IN				Final EIR scheduled for August 2008
115	Mixed retail/restaurant	Florence Avenue and La Brea Avenue, SE corner	49,800 sq. ft.	IN				Vacant lot per field visit of 8/6/08
116	Mixed retail/restaurant	Southwest corner of Century/Prairie (Haagen)	97,490 sq. ft.	IN				Existing Taco Bell per field visit of 8/6/08
117	Residential	704 N. Market Street	6 units	IN				Vacant lot per field visit of 8/6/08
118	Retail and Office	10318 S. Prairie Avenue	10,000 sq. ft.	IN				Under construction per field visit of 8/6/08
119	Senior Center and Housing	111 N. Locust Street	95,188 sq. ft.	IN				Vacant lot per field visit of 8/6/08
120	Shopping Center	11441 S. Crenshaw Boulevard	101,323 sq. ft.	IN				Burlington Coat Factory store complete; further construction pending per field visit 8/6/08
121	Shopping Center	433 North Centinela Avenue	7,384 sq. ft.	IN				Vacant lot per field visit of 8/6/08
122	Shopping Center	10922 South Prairie Avenue	8,416 sq. ft.	IN				Vacant paved lot per field visit of 8/6/08
123	Single Family Homes	11901 S. Yukon Avenue	9 units	IN				Existing housing per field visit of 8/6/08
124	Transitional Housing	733 S. Hindry Avenue	232,966 sq. ft.	IN				Existing transitional housing per field visit of 8/6/08
125	Transitional Housing	812 S. Osage Avenue	20 units	IN				Vacant lot per field visit of 8/6/08
126	Ambrose Hotel	901 Abbot Kinney Boulevard	57-room hotel, 1,200 sq. ft. of retail and 4,300 sq. ft. restaurant	LA	723	30	54	No construction per field visit 8/7/08; existing business open
127	Animo High School	841 California Avenue	402-student Charter School	LA	1,470	332	176	Unsure of status per field visit 8/7/08; fenced and screened lot
128	Grosvernor Court	5550 Grosvernor Boulevard	215 condo units	LA	1,260	95	112	New surface lot for church per field check 8/7/08
129	Lincoln Boulevard Mixed Use	4004 S. Lincoln Boulevard	98 unit condos & 6020 sf retail	LA	1,550	108	101	Nearing end of construction per field visit 8/7/08
130	Residential Mixed Use Project	8601 Lincoln Boulevard	527 apartments, 12 live/work units, 22,600 sq. ft. of ground retail uses and 8,000 sq, ft. of restaurant.	LA	899	2	105	Under construction
131	Villa Allegra	Sepulveda Boulevard, W/S, south of Howard Hughes	Townhomes	LA				Under construction with Spring 2009 opening
132	The Village at Playa Vista	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	24,220	1,626	2,302	No construction per field visit 8/7/08
133	Washington Square	300 Washington Boulevard (at Via Dolce)	123 unit condominiums; 6,000 sq. ft. office space. (Existing 176,671 sq. ft. office building to be removed)	LA	-1,194	-222	-250	Under construction per field visit of 8/5/08
134	Hotel	1800 Sepulveda Boulevard	52 room hotel	MB				Existing strip mall per field visit 8/5/08
135	Medical Office	1008 Sepulveda Boulevard	22,790 sq. ft. medical office; 665 sq ft. pharmacy; 1,715 sq. ft coffee shop; (existing 5,400 sq. ft. restaurant to be removed)	MB				Construction complete per field visit 8/5/08
136	Manhattan Village Shopping Center	3200 N. Sepulveda Boulevard	52,000 sq. ft. mall expansion	MB				Existing shopping center per field visit 8/5/08; no construction
137	Medical Office	2200 Sepulveda Boulevard	29, 000 sq. ft. medical office (6,700 sq. ft. existing retail to be removed)	MB				Existing retail per field visit 8/5/08
138	Mixed-Use Project (former Good Stuff restaurant)	1300 Highland Avenue	15,000 sq. ft. commercial/office/condominium	MB				Under construction as of 8/5/08
139	Mixed Use Development	2201 Highland Avenue	1,500 sq. ft. retail/restaurant; 2 condominiums	MB	N/A	25	34	Construction complete per field visit 8/5/08
140	Medical Plaza	222 Sepulveda Boulevard (NE Corner of Sepulveda Boulevard and 2nd Street)	21,000 sq. ft. medical office building. (Existing 4,770 sq. ft. auto repair shop to be removed.)	MB				Existing building closed. No construction per field visit 8/5/08.

Table 3-1

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
141	Office Building	330 S. Sepulveda Boulevard	56,000 sq. ft. office building	MB				Construction complete per field visit 8/5/08
142	Retail	1727 Artesia Boulevard	5,800 sq. ft. retail	MB				In construction as of 8/5/08
143	Rite Aid Store	1100 Manhattan Beach Boulevard	13,000 sq. ft. retail (Existing 8,600 sq. ft. gas station to be removed.)	MB				In construction as of 8/5/08
144	Sketchers Office Building	330 S. Sepulveda Boulevard	56,000 sq. ft. office	MB	N/A	117	142	Construction complete per field visit 8/7/08
145	Walgreens	2400 Sepulveda Boulevard	15,000 sq. ft. retail	MB				Not started per field visit of 8/5/08

[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] Represents peak hour trips during the am commuter peak hour (8:00 am to 9:00 am).
[3] Represents peak hour trips during the pm commuter peak hour (5:00 pm to 6:00 pm).

Source: Projects in Culver City from "Culver City Related Projects List" updated November 2, 2007 and sent by Culver City staff to LAWA. 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. Projects in City of Hawthorne from their website, http://www.cityofhawthorne.com/depts/planningcommdev/pending_applications/default.asp dated August 6, 2008. Projects in Inglewood from "Related Projects" list dated 3/27/08. Projects in Manhattan Beach faxed from Manhattan Beach City staff to LAWA in March 2008. Information regarding Project # 129 from LADOT Revised Traffic Assessment letter dated October 14, 2003. Information regarding Project # 133 provided by Shoko Yoshikawa of LADOT via e-mail on August 6, 2008.

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4. SETTING, ENVIRONMENTAL IMPACTS, AND MITIGATION MEASURES

This chapter describes the analytical framework for the environmental review of the CFTP, including a description of (1) program level versus project level environmental review, (2) the baseline for determining whether the potential impacts of the CFTP would be significant, (3) the method by which mitigation measures and LAX Master Plan commitments have been, and will be, incorporated into this project-level analysis and as conditions of approval to the project to avoid or minimize potential impacts of the CFTP, including potentially significant impacts, (4) the cumulative impacts analysis that was conducted for the CFTP, and (5) the peak period of construction activity that was analyzed for the CFTP.

Program Level versus Project Level Environmental Review

As described in Chapter 1, in April 2004 LAWA published a Final EIR that analyzed the potential environmental effects associated with the implementation of comprehensive long-term plans to modernize LAX (the LAX Master Plan), including the processing of "program level" entitlements, such as a general plan amendment and zoning regulations (the LAX Plan and LAX Specific Plan). The LAX Master Plan included the CFTP as an implementing project of the Plan, and thus the Master Plan EIR analyzed the potential impacts of the CFTP to the extent feasible and appropriate at that time.

As discussed under Section 15146(b) of the State CEQA Guidelines, an EIR prepared for program level entitlements, "need not be as detailed as an EIR on the specific construction projects that might follow." The CEQA Guidelines incorporate the "rule of reason" and advise public agencies to avoid "speculative analysis of environmental consequences for future and unspecified development."

Consequently, the LAX Master Plan Final EIR addresses the more general level of detail that is required for program level entitlements under CEQA. In an effort to be as comprehensive and thorough as possible, the Final EIR nonetheless also contains extensive "project level" analysis that is beyond the level of detail normally found in a program level environmental document.

Where a program level environmental document has been prepared, CEQA encourages the public agency to "tier" subsequent project level environmental analyses. Pub. Res. Code § 21093. Section 15152(a) of the CEQA Guidelines describe this approach as follows:

> "Tiering" refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.

Because the CFTP was analyzed in the Master Plan EIR, this Draft EIR is "tiered" from, and incorporates by reference, the LAX Master Plan Final EIR.[14] To avoid a repetitive discussion of issues, this Draft EIR provides project-specific information on the development of the CFTP, focusing on potentially significant environmental effects that may not have been fully addressed in the prior EIR at the project level of detail. As identified in the August 7, 2008, Revised Notice of Preparation (NOP) for this project-level EIR, LAWA initially determined, based on an preliminary review of the CFTP, that five categories of environmental resources could potentially be affected by construction of the project and require additional review that was not otherwise provided in the LAX Master Plan Final EIR.[15] These five categories of environmental resources included traffic, air quality (including human health risks), noise, surface water quality, and

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14 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004. The Final EIR (State Clearinghouse No. 1997061047) was certified by the Los Angeles City Council on December 7, 2004.

15 A Notice of Preparation (NOP) for the CFTP EIR was originally published on April 10, 2008. In conjunction with continuing planning and engineering refinement for the project, the development of a new ARFF and a replacement parking lot was identified. A Revised NOP describing those additional elements of the project was subsequently published.

hazardous materials/waste. Additional review conducted in conjunction with the preparation of this Draft EIR determined that minimal additional analysis was required for the noise, surface water quality, and hazardous materials/waste environmental topics, beyond that provided in the LAX Master Plan Final EIR. This determination is confirmed by the assessment of the CFTP's construction-related impacts from noise, hydrology/water quality, and hazardous materials provided in Chapter 5 of this EIR. This additional review identified one new area of analysis not included in the NOP, biotic communities. This resource category is evaluated in Chapter 4 of this EIR, along with an evaluation of the environmental impacts of the project on surface transportation, air quality, human health risk, and global climate change.

Table 4-1 identifies in which document the analyses of each environmental impact from CFTP construction and operation can be found. Supplementary information and analysis may be found in the LAX Master Plan Final EIR even when not specifically called out below.

Table 4-1

Impact Assessment by Document: CFTP Draft EIR and LAX Master Plan Final EIR

Impact Assessment	Construction - Related	Operations - Related
Surface Transportation	MP[1] and CFTP[2]	MP
Air Quality	MP and CFTP	MP
Human Health Risks	CFTP	MP
Global Climate Change/Greenhouse Gas Emissions	CFTP	CFTP
Biotic Communities	MP and CFTP	MP
Noise	MP	MP
Land Use	MP	MP
Population, Housing, Employment and Growth-Inducement	MP	MP
Hydrology/Water Quality	MP	MP
Cultural Resources	MP	MP
Endangered and Threatened Species of Flora and Fauna	MP	MP
Wetlands	MP	MP
Energy Supply and Natural Resources	MP	MP
Solid Waste	MP	MP
Aesthetics	MP	MP
Earth and Geology	MP	MP
Hazards and Hazardous Materials	MP	MP
Public Utilities	MP	MP
Public Services	MP	MP
Schools	MP	MP

1 MP = LAX Master Plan Final EIR
2 CFTP = Crossfield Taxiway Project EIR

Source: CDM, May 2008.

An assessment of impacts to surface transportation, air quality, human health risk, global climate change, and biotic resources from CFTP construction activities is provided in Sections 4.1, 4.2, 4.3, 4.4, and 4.5 of this chapter, respectively. Effects related to the operation of the airport following the completion of the CFTP, with the exception of effects related to global climate change from greenhouse gas emissions, are addressed in the LAX Master Plan Final EIR and are not evaluated further in this document. Effects related to global climate change are addressed in Section 4.4.

In accordance with Sections 15152(a) and 15168 of the CEQA Guidelines, for disclosure and informational purposes, Chapter 5 of this Draft EIR addresses environmental resources for which further review confirms that the construction impacts of the CFTP were accounted for and addressed in the LAX Master Plan Final EIR and Addenda to the Final EIR. Resource categories addressed in Chapter 5 include noise, land use, socioeconomics, hydrology/water quality, cultural resources, endangered and threatened species, wetlands, energy supply and natural resources, solid waste, aesthetics, earth and geology, hazards and hazardous materials, public utilities, public services, and schools.

Baseline for Determining Significant Environmental Impacts

In accordance with Section 15125 of the State CEQA Guidelines, the affected environment (referred to in the Guidelines as the "environmental setting") typically constitutes the baseline physical conditions against which project impacts are compared to determine whether an impact would be significant.

For this Draft EIR, the environmental baseline consists of the physical conditions that existed when the NOP was published.[16,17] Although the environmental baseline conditions described in this Draft EIR are sometimes the same as, or similar to, the environmental baseline conditions analyzed in the LAX Master Plan Final EIR, where circumstances have changed, this EIR provides updated information for 2008. In addition, a second baseline, the adjusted environmental baseline, was used, for informational purposes, in evaluating surface transportation impacts, to ensure that background events (i.e., changes/growth in background traffic) that would occur regardless of the CFTP do not incorrectly appear as project-induced effects. Please see Section 4.1, *Surface Transportation*, for additional discussion of the adjusted environmental baseline.

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

In conjunction with approval of the LAX Master Plan and certification of the Final EIR, in December 2004, the Los Angeles City Council adopted a Mitigation Monitoring and Reporting Program (MMRP) to ensure that mitigation measures and LAX Master Plan commitments identified in the Final EIR are implemented.[18]

Mitigation measures are activities, policies or practices designed to avoid or minimize significant environmental impacts. Due to the programmatic nature of the LAX Master Plan Final EIR, in some cases, mitigation features could not be identified with specificity until additional design work was undertaken. In these situations, performance standards were established and a range of options for meeting the standard provided.

Besides mitigation measures, the MMRP for the LAX Master Plan includes Master Plan commitments. LAX Master Plan commitments were determined to be more appropriate than mitigation measures where: (1) standards and regulations exist with which compliance is already required by the applicable regulatory agency; (2) potential impacts would be adverse but not significant; and (3) design refinements could be incorporated into the project to reduce or avoid potential impacts. In some cases, Master Plan commitments also include performance standards and a range of options for meeting the standard.

The timing of implementation of mitigation measures and Master Plan commitments is set forth in the MMRP. This Draft EIR describes the mitigation measures and Master Plan commitments that are applicable to the CFTP and provides project level information when necessary to evaluate the potentially significant environmental effects of this project.

All MMRP mitigation measures and Master Plan commitments that are applicable to the CFTP are described in the text, along with project specific information as necessary. The environmental analysis

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16 Section 15125(a) of the CEQA Guidelines states that "[a]n EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published." Furthermore, the Guidelines state that "[t]his environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant."

17 The NOP for the CFTP EIR was originally circulated in April 2008. A Revised NOP was subsequently distributed in August 2008, providing additional information with respect to the AARF and replacement parking lot.

18 *See* Cal. Pub. Res. Code Section 21081.6; *see also* Cal. Code Regs. Title 14, Sections 15091(d), 15097. In addition, the LAX Specific Plan, approved by the City Council to establish zoning and development regulations, requires in each specific project approval a finding that appropriate mitigation measures are being adopted as a condition of approval. Further, the LAX Specific Plan requires that LAWA prepare and submit to the City Council, among others, annual reports indicating the status of implementation of the MMRP. FAA also requires, as a condition of its final approval in the Record of Decision, that LAWA and the City implement the mitigation measures as contemplated in the MMRP. Mitigation measures and LAX Master Plan commitments are applicable to the extent that the use of airport revenue to fund such measure is permissible under federal law and policies, or the ability of LAWA to develop other state or federal funding sources.

assumes that these measures will be implemented in conjunction with the CFTP as required in the MMRP. To the extent that these measures would not reduce significant environmental effects to a less than significant level, and project level information has revealed additional feasible mitigation measures, new mitigation measures are separately identified after the various impact conclusions and proposed for adoption as conditions of approval.

Description of Cumulative Impacts

Cumulative impacts are the impacts of the project in conjunction with past, present, and reasonably foreseeable future projects. The environmental impacts of the project may be individually minor, but collectively significant when considered in conjunction with other projects. In accordance with the State CEQA Guidelines, the LAX Master Plan Final EIR evaluated the contributions of the LAX Master Plan to cumulative impacts for each environmental discipline to determine if they would be significant. The CFTP is consistent with the entitlements approved for the LAX Master Plan, and thus, the cumulative effect of this project has been adequately addressed in the LAX Master Plan Final EIR.[19] Pursuant to sections 15130(d) and 15152(f) of the CEQA Guidelines, no further evaluation is required.

Although a cumulative impacts analysis is not required, this Draft EIR includes information related to past, present, and reasonably foreseeable future projects in its analysis of construction impacts related to surface transportation, air quality, human health risks, global climate change, and biotic communities. For example, to accurately assess the potential traffic impact that may result during construction of the CFTP, the traffic analysis takes into account the background traffic conditions that would result from past, present, and reasonably foreseeable future projects in the study area during the peak month of construction activity.

As described in Chapter 3, *Overview of Project Setting,* construction of several non-Master Plan LAX development projects and one non-LAWA project on airport property is likely to occur simultaneously with the CFTP construction. These projects, considered in this EIR's cumulative impact analysis, include the Tom Bradley International Terminal (TBIT) Interior Improvements Program, In-Line Baggage Screening Systems, Airfield Intersection Improvements - Phase 2, the Airfield Operating Area (AOA) Perimeter Fence Enhancements - Phases III and IV, Terminal 1 Finish Upgrades Project, North Airfield Waterline Repair, Airport Operations Center/Emergency Operation Center, Korean Air Cargo Terminal Improvement Project, miscellaneous routine construction and maintenance projects, and the Bureau of Engineering's Westchester Rainwater Improvement Project. These projects are described in Section 3.3.3. Non-LAX planned development is identified in Section 3.3.4.

As described in Chapter 3, in addition to the CFTP, several other LAX Master Plan improvement projects are currently undergoing project design. These projects include the TBIT Reconfiguration Project, the Midfield Satellite Concourse Project, and the Consolidated Rental Car (RAC) Facility. As indicated in Chapter 3, the Midfield Satellite Concourse Project and the Consolidated (RAC) Facility would not be under construction at LAX during the approximately 16 month CFTP construction period anticipated to start around the beginning of April 2009. Hence, these projects are not expected to contribute to cumulative construction-related impacts. The only LAX Master Plan project that is anticipated to be under construction concurrent with construction of the CFTP is the TBIT Reconfiguration Project. Construction of the TBIT Reconfiguration Project is projected to begin in fall 2009, which would result in a several month overlap with the CFTP that is projected to finish by mid-2010. The resultant potential cumulative impacts are addressed in this chapter.

Peak Period of Construction Activity

The peak period of construction for the CFTP is anticipated to occur in late fall 2009, and the evaluation of potential environmental effects was conducted accordingly.

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[19] The environmental impacts expected to occur during construction of the LAX Master Plan are described in Section 4.20 of the LAX Master Plan Final EIR.

4.1 Surface Transportation

4.1.1 Introduction

By way of background, the LAX Master Plan Final EIR analyzed future roadway traffic impacts for the entirety of the Master Plan including a peak construction year of 2008, when it was originally anticipated that many of the Master Plan projects would be under construction, and for operational conditions at Master Plan buildout, originally anticipated to be in 2015. The Master Plan EIR analyzed traffic impacts associated with several alternatives considered for the Master Plan, including Alternative D, which was selected for approval. In conjunction with the evaluation of traffic impacts, the Final EIR proposed numerous Master Plan commitments and mitigation measures to address potential traffic impacts associated with construction and operation of the Master Plan. The LAX Master Plan Final EIR provides a programmatic evaluation of the overall impacts of the Master Plan, understanding that a more detailed analysis of impacts particular to individual projects within the Master Plan can be better evaluated at the more detailed levels of project planning. That is the case here relative to the CFTP. The traffic analysis presented in this section addresses the impacts specific to the CFTP that were not otherwise covered in the Master Plan Final EIR. The analysis presented herein focuses on construction-related traffic that would impact off-airport roadways along the west and south sides of LAX, as described in greater detail below.

The information provided in this project-level tiered EIR was prepared to examine, at a greater level of detail, the potential surface transportation impacts specifically associated with development of the CFTP. This CFTP analysis "tiers" from the LAX Master Plan Final EIR's analysis and findings. This CFTP analysis incorporates current traffic data and information obtained subsequent to LAX Master Plan EIR publication. For example, procedures and certain assumptions used for this analysis are based on the traffic study prepared for the South Airfield Improvement Project (SAIP) EIR, which was published in 2005. The SAIP was the first Master Plan project to be constructed and the EIR for the SAIP was tiered from the Master Plan Final EIR. Given the many similarities between the SAIP and the CFTP, in terms of both of them being airfield improvement projects anticipated in the Master Plan and both having the same locations for construction staging area and employee parking area, some of the assumptions and methodologies used for the SAIP study were also applied to the CFTP traffic analysis. Updated data and assumptions have been developed as necessary and appropriate for the CFTP based on current conditions and the particular characteristics of the project.

This surface transportation analysis assesses the anticipated traffic impacts at intersections that would experience traffic from construction employee vehicles, construction delivery trucks, and other construction-related roadway traffic activity (e.g., employee shuttles and transfer trucks). As necessary, LAX Master Plan commitments and mitigation measures consistent with the Master Plan Mitigation Monitoring and Reporting Program (MMRP) have been incorporated to mitigate potential construction-related impacts. Applicable Master Plan commitments are incorporated into the CFTP and thus analyzed as part of the project.

This analysis addresses, in particular, the impacts from construction-related traffic that would occur during the peak period of project construction. This is considered to provide a conservative impact analysis, in that project-related traffic during periods when construction activities are not as intensive would result in lesser traffic impacts than presented herein. The analysis focuses on construction-related impacts because completion of the improvements proposed under the CFTP would not materially affect the operational characteristics of LAX as related to surface vehicle traffic. The proposed taxiway improvements would change the taxiing characteristics of existing aircraft ground movements, but that does not generate any new vehicle trips or alter the traffic patterns outside of the airfield. While the proposed project includes development of a new fire station/ARFF, completion of that new facility would be accompanied by closure of an existing station/ARFF nearby and transfer of the existing staff from the old station to the new station. Similarly, construction of a new vehicle parking lot is proposed as part of the project, but this would only be a replacement for an existing parking lot nearby which would not alter vehicle traffic patterns within the off-airport roadway system. Again, as further described below, the focus of the CFTP traffic impacts analysis presented herein is on construction-related traffic, particularly during the peak construction period.

4.1.2 Methodology

4.1.2.1 Overview

As noted above, this study focuses on construction impacts related to the CFTP. The analysis methodology is based largely on the approach used for the SAIP, which is generally similar in nature, scope, and location to the CFTP. New data were collected for the CFTP study, however, many of the assumptions used for the CFTP and documented herein were assumed to be the same as those used for the SAIP traffic study. Key assumptions used for the SAIP pertaining to construction period peak hours and vehicle circulation routes were considered valid for this study because of the close similarities between the projects, including use of the same construction staging and employee parking locations and the same time of day limitations on employee and construction vehicle arrivals and departures.

The CFTP study area is comprised of a focused area that includes those intersections and roadways that are anticipated to be directly or indirectly affected by the construction of the CFTP. Given the similarities between the CFTP and the SAIP, the geographic limits of the CFTP study area and the potentially affected intersections are the same as the geographic limits used for the SAIP, which were determined through consultation with LAWA and LADOT. During the scoping of the SAIP traffic study, LADOT indicated that no traffic study was required because there was "no requirement to assess the temporary impacts of a project resulting from construction activities. Thus, the proposal to prepare a traffic study is voluntary."[20] However, LAWA determined at that time and continues to believe that the preparation of a traffic study is useful in order to provide a full assessment and documentation of the potential impacts that may be generated by the construction of the CFTP. Furthermore, under CEQA and NEPA, even temporary traffic impacts may be considered significant. Therefore, LAWA provides this CFTP traffic study to determine the significance of the proposed project's traffic impacts. The study area is comprised of those facilities that would be most likely affected by employee and truck traffic associated with construction of the CFTP. The methodology used for this study is based on data and procedures used for the LAX Master Plan Final EIR traffic study and, subsequently, the SAIP traffic study. The procedures are also consistent with the information and requirements defined in the document, *Los Angeles Department of Transportation (LADOT) Traffic Study Policies and Procedures*, Revised March 2002.

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

- The study area (explained in detail below in Section 4.1.3.1), was defined according to the travel paths that would be used by construction traffic to access the project site and equipment staging area. Construction delivery vehicle travel paths would be regulated according to a construction traffic management plan. The proposed CFTP improvements are located in the central and western portions of the airport and construction vehicle access would be strictly to and from the west via off-airport roads adjacent to, and south of, the airport. CFTP construction vehicles would not access the Central Terminal Area (CTA) roadways; therefore, the CTA roadways and connecting off-airport roads to the north and east were not analyzed.
- Intersection traffic volume data were collected at the key study intersections in August 2008 during the a.m. commuter peak hours (7:00 to 9:00 a.m.) and p.m. commuter peak hours (4:30 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 through the LAX Master Plan Final EIR, construction truck delivery and construction employee traffic activity would not be scheduled to occur during the morning commuter peak and the afternoon commuter peak 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

[20] Email from LADOT (Tom Carranza) to LAWA (Patrick Tomcheck) on July 29, 2004.

determined to be 5:00 to 6:00 a.m. and the p.m. peak construction period was determined to be 3:30 to 4:30 p.m.

- The study analyzed key off-airport intersections, including intersections with freeway ramps in the proposed study area. Analyses of roadway segments and freeway[21] links, typically required to be conducted relative to impacts during peak commute periods, were not performed because peak construction-related traffic activity is anticipated to occur during periods that do not coincide with peak commute periods.

In general, the analysis prepared for this study tiers from, and or complements, the assumptions and analyses included in the LAX Master Plan EIR and the SAIP EIR; however, additional data were collected in order to prepare technical analyses that (a) incorporate the most current available data, (b) accommodate a more focused study area, and (c) analyze alternative peak hours that were not specifically modeled or analyzed in the LAX Master Plan EIR (i.e., construction peak hours specific to the CFTP construction).

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

4.1.2.2 Determination of Baseline (2008) Traffic Conditions

The Baseline describes and documents the existing conditions within the project traffic study area at the time the Notice of Preparation (NOP) was filed for the CFTP EIR. For purposes of this study, intersection turning movement volumes collected in August 2008, which represent the most current comprehensive set of traffic counts completed by LAWA, were used as a basis for preparing the traffic analysis and assessing potential project-related traffic impacts, in accordance with CEQA requirements. The following steps were taken to develop the Baseline (2008) 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., quantitative delineation of capacity and operational characteristics of intersections likely to be impacted by project traffic). The model was developed using TRAFFIX,[22] a commercially available traffic analysis program designed for preparing traffic forecasts and analyzing intersection and roadway capacity. The model uses widely accepted traffic engineering methodologies and procedures, including the Transportation Research Board Critical Movement Analysis (CMA) Circular 212 Planning Method,[23] which is the required intersection analysis methodology for traffic impact studies conducted within the City of Los Angeles.

Off-Airport Traffic Data Collected in 2008--The intersection turning movement counts for Baseline conditions were collected during a.m. and p.m. peak commuter hours in August 2008, which is considered to be the peak month for airport-related traffic around LAX; therefore, additional seasonal adjustments were not required to convert volumes to peak month conditions. However, in order to obtain an estimate of background traffic activity during the peak construction periods, it was necessary to convert this data to represent traffic that would occur during the clock hour that directly precedes the peak commuter hours. This adjustment to the peak commuter hour data reflects the fact that, as a result of the LAX Master Plan Final EIR, the scheduling of construction work hours is required to avoid peak commute

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21 During a review of the proposed analysis methodology and study area for the SAIP project, LADOT staff indicated in their July 29, 2004 communication that "intersection analysis for this type of study is more than sufficient" and that roadway and freeway link analyses would not be required. A Congestion Management Program (CMP) analysis is not required for construction-related activity because it is not anticipated that the CFTP would generate traffic during the a.m. or p.m. peak commute periods. Additionally, because the CFTP would not alter roadway circulation patterns or increase traffic volumes subsequent to construction, a CMP analysis is not required for post-construction traffic operations.

22 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.

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

hours. An adjustment factor was developed using 24-hour automatic traffic recorder (ATR) counts[24] that were 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 commuter peak period (see Section 4.1.3.3 for discussion of the data used to develop the adjustment factor). It is anticipated that these volumes collected in June 2008 provide a representative profile of the hourly peaking pattern of background traffic using the study area roadway network during the summer 2008 season and will, therefore, be representative of hourly peaking patterns in August 2008.

Baseline (2008) Traffic Volumes--Baseline (2008) traffic volumes are comprised of the data collected in August 2008 during the a.m. and p.m. commuter peaks adjusted using the ratio described in the previous paragraph to represent estimated traffic volumes during the construction-related peak hour. The intersection levels of service calculated using these volumes serve as a basis of comparison for assessing potential impacts generated by the construction of the CFTP.

4.1.2.3 Determination of Baseline (2008) Plus Peak CFTP Traffic Conditions

The analysis conducted for this traffic study is designed to assess direct impacts associated with the project, as well as the effects of future cumulative conditions as described in the next section below. For purposes of determining the direct project-related impacts in accordance with CEQA, a traffic scenario was developed comprised of the Baseline (2008) traffic described above plus the additional traffic generated by the CFTP during the peak construction period. The Baseline (2008) Plus Peak CFTP traffic condition is somewhat hypothetical in nature, inasmuch as it combines the project-related traffic estimated to occur during a future peak period of construction (fourth quarter 2009) with the Baseline (2008) traffic volumes identified for current (August 2008) conditions. As described in Section 4.1.2.5 below, this condition is used to satisfy the CEQA requirement for a project's impacts to be measured against the conditions that exist at the time of the NOP.

The following steps were conducted to develop the project traffic for purposes of determining the Baseline (2008) Plus Peak CFTP traffic volumes:

Analyze Peak CFTP Construction Activity--Vehicle trips associated with the construction of the CFTP during peak construction activity were estimated and distributed throughout the study area network. The trips were estimated based on a review of the construction schedule, and associated equipment crews and equipment including trucks and other construction vehicles, for the CFTP summarized to delineate peak month inbound and outbound construction employee trips, delivery truck trips, and shuttle bus trips by hour of the day. The trip distribution patterns were based on regional patterns developed for the SAIP project 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 (2008) Plus Peak CFTP Traffic Volumes--The Estimated Baseline (2008) Plus Peak CFTP traffic volumes were calculated by adding the project volumes from peak project activity period anticipated to occur in the fourth quarter of 2009 to the Baseline (2008) traffic volumes.

4.1.2.4 Delineation of Future Cumulative Traffic Conditions

For this study, future cumulative traffic conditions were also analyzed in addition to the Baseline Plus Project condition described above. As defined in 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 study, analyses were prepared to assess cumulative traffic conditions for two future scenarios as follows:

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

- Cumulative Traffic at CFTP Peak (Q4 2009)--This condition represents the anticipated traffic activity when the CFTP construction is at peak traffic activity levels and the construction of several other known LAX projects and non-LAX construction projects are underway. The traffic condition also includes growth from background traffic and other projects. It is anticipated that the CFTP would reach maximum construction traffic levels during the fourth quarter of 2009.
- Cumulative Traffic at Overall Peak (Q2 2010)--This condition represents the anticipated traffic activity when the CFTP is not at its peak construction activity levels (but is under construction) and other known projects are combining with the CFTP to produce a cumulative peak condition that exceeds the CFTP peak. This traffic condition also includes growth from background traffic and other projects. It is anticipated that maximum peak cumulative construction traffic levels (concurrent with the overall CFTP construction schedule) will occur during the second quarter of 2010.

In other words, the cumulative impacts analysis conducted for the project traffic analysis accounts for two points in time during the approximately 16 months of construction activities when the combined effect of CFTP-related traffic and traffic from other projects may differ; one point being when construction activities specific to the CFTP are at their peak and other projects' construction is at a certain level (Q4 2009); and the other point in time being when CFTP construction levels are lower than peak, but the construction activity levels of other projects may be higher than before (Q2 2010). The latter scenario is intended, in particular, to address the potential for cumulative traffic impacts to occur in the final phases of the CFTP when construction activities may begin "winding down" following the peak period, but construction activities for other major projects, such as the TBIT Reconfiguration Project, is ramping up, with the overlap creating a second cumulative peak condition.

Per CEQA Guidelines Section 15130(b)(1), there are essentially two ways to delineate cumulative development for evaluating potential impacts. They include the following:

A. A list of 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. A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

For the purpose of the CFTP EIR, the first of the two options, commonly referred to as "the list approach" was used to delineate cumulative projects - see Section 3.3 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 of those projects would overlap with that of the CFTP. Notwithstanding, background traffic was increased to reflect additional growth from non-specific projects, which adds an element of the second approach to make the cumulative impacts analysis more conservative.

The determination of cumulative impacts was prepared using a process that requires the development of four sets of future cumulative traffic volume conditions described below.

Cumulative Traffic at CFTP Peak (Q4 2009) Without Project

This is a hypothetical scenario that combines Baseline (2008) volumes with the growth from all sources other than the project during the peak construction period for the CFTP. The following steps were taken to develop the traffic volumes for this condition:

Prepare Q4 2009 Focused Study Area Roadway Network--The TRAFFIX model was updated, as necessary, to reflect any committed study area transportation improvements that would be in place by the fourth quarter of 2009.

Estimate Q4 2009 Cumulative Traffic Volumes--Cumulative (Q4 2009) traffic volumes were estimated through the following process:

- The 2008 Baseline volumes defined previously were multiplied by a growth factor of 2 percent per year to account for local background traffic growth through 2009. This assumption was deemed to be conservative given that roadway traffic in the study area has generally decreased between 2004 and 2008 (refer to the Annual Growth Patterns discussion in Section 4.1.3.3).
- The location and trip generation characteristics of approved "non-airport" development projects that would be in place by Q4 2009 were reviewed and incorporated (refer to Section 4.1.5.3). The trips associated with the construction of the Westchester Rainwater Improvement Project were included in the analyses. Given that the other "non-airport" projects are not in the immediate vicinity of the study area, it was determined that the effects of traffic generated by associated traffic activity would be indirectly included as part of the assumed 2 percent growth factor.
- LAX projects that were underway during traffic data collection used for this project are included in the 2008 Baseline traffic volumes and were conservatively assumed to increase in proportion with the "non-airport" growth rate described above. These projects include the TBIT Interior Improvements Program and the In-Line Baggage Screening Systems. In addition, estimated construction-related trips generated by the TBIT Reconfiguration Project and the Korean Air Cargo Terminal Improvement Project which will be underway in 2009 were also included.

Cumulative Traffic at CFTP Peak (Q4 2009) With Project

The project-related (2009) traffic volumes described in Section 4.1.2.3 were added to the "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 (comprised of background traffic, ambient growth, other projects, and CFTP construction traffic) that would use the study area intersections during the peak period of CFTP construction during the fourth quarter of 2009.

Cumulative Traffic at Overall Peak (Q2 2010) Without Project

The TBIT Reconfiguration Project is scheduled to commence in late 2009 and is expected to overlap the final phases of the CFTP construction period. This necessitated an analysis to confirm that the cumulative effect of the concurrent construction of both projects would not result in additional impacts other than that which could potentially occur during the peak construction period for the CFTP. Upon review of the schedules and construction activities for both projects, it was determined that maximum combined construction activity will take place during the second quarter of 2010. In order to analyze activity at this point in time, the Cumulative Traffic at Overall Peak (Q2 2010) Without Project were developed to provide for this additional basis of comparison. The traffic volumes generated by the TBIT Reconfiguration Project included in this traffic condition represent approximately 54 percent of the maximum traffic volume generated by the TBIT Reconfiguration Project at its peak construction period. The demands generated by the TBIT Reconfiguration Project were determined by analyzing a resource loaded schedule for that project identifying estimated employee demands by week over the course of construction. The general methodology is similar to the process described previously for the CFTP peak construction period.

Cumulative Traffic at Overall Peak (Q2 2010) With Project

The Cumulative Traffic at Overall Peak (Q2 2010) With Project traffic condition was developed to measure the traffic impacts due to the combined effects of the CFTP and the TBIT Reconfiguration Project on the study area roadways during the peak period of construction activity. This maximum activity was found to be occurring in the second quarter of 2010. The estimated traffic generated by the TBIT Reconfiguration Project was already included as a part of the (Q2 2010) "Without Project" Volumes. Based on a review of the resource loaded schedule for the CFTP, the traffic generated by CFTP during the second quarter of 2010 was estimated to be approximately 10 percent less than the traffic generated during the CFTP project peak in the fourth quarter of 2009. This project traffic was then added to the (Q2 2010) "Without Project" traffic to produce the Overall Peak (Q2 2010) With Project traffic volumes.

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:

Prepare Level of Service Analysis--Level of service analyses for the study area intersections and roadways were prepared using TRAFFIX. Intersection level of service was estimated using the Critical Movements Analysis (CMA) planning level methodology as defined in Transportation Research Board Circular 212, in accordance with the *LADOT Traffic Studies Policies and Procedures Guidelines,* Revised March 2002, and the *L.A. CEQA Thresholds Guide*, 2006. Intersection level of service was analyzed for the following conditions:

- 2008 Baseline
- Baseline (2008) Plus Peak CFTP
- Cumulative Traffic at CFTP Peak (Q4 2009) Without Project
- Cumulative Traffic at CFTP Peak (Q4 2009) With Project
- Cumulative Traffic at Overall Peak (Q2 2010) Without Project
- Cumulative Traffic at Overall Peak (Q4 2010) With Project

Identify Project Impacts--Project-related impacts associated with construction of the CFTP were identified. Intersections that were anticipated to be significantly impacted by project-related construction were identified according to the criteria established in the *L.A. CEQA Thresholds Guide*, 2006. Impacts were determined by comparing the level of service results for the following conditions:

- Baseline (2008) Plus Peak CFTP compared with Baseline (2008)--This is a measure of comparison required under CEQA to isolate the potential impacts of the project.
- Cumulative Impacts--Cumulative impacts were determined using a two-step process. An initial comparison was made comparing the cumulative "With Project" condition against the 2008 Baseline condition to determine if a cumulative impact would occur relative to the Baseline. An impact was deemed significant it if exceeded the allowable threshold of significance defined by LADOT in their Guidelines. If a cumulative impact was determined, then a second comparison of the "With Project" vs. the "Without Project" level of service conditions was conducted to determine if a cumulatively considerable contribution was resulting from the CFTP.

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

4.1.3 Baseline Conditions

As indicated in the Methodology discussion above, the Baseline describes the facilities and general conditions that existed the month in which the NOP was published.

4.1.3.1 Study Area

The 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 the CFTP construction site and construction employees accessing construction parking areas. The study area is generally bounded by the I-405 freeway to the east, the I-105 freeway and Imperial Highway to the south, Pershing Drive to the west, and Century Boulevard to the north. The study area includes the CFTP construction site, which would be accessed via a gate located on World Way West. Construction employees would park in a dedicated parking lot located east of the project site that would be accessed via a driveway from La Cienega Boulevard located north of the intersection with Lennox Boulevard. Airport Public Parking Lot B and the Airport Employee Parking Lot E are located south of the proposed employee construction parking lot and are accessed via driveways located on 111th Street between Aviation Boulevard and La Cienega Boulevard. These existing public and employee lots would remain operational during the construction of the CFTP.

4.1.3.2 Study Area Roadways

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

- **I-405 (San Diego Freeway)** - This north-south freeway generally forms the eastern boundary of the traffic analysis study area and provides regional access to the airport and the study area. Access to the study area is provided via ramps at 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 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.
- **Aviation Boulevard** - Aviation Boulevard is a north-south, four-lane roadway that bisects the study area.
- **Century Boulevard** - Century Boulevard is an eight-lane divided roadway that serves as the primary entry to the LAX central terminal area (CTA). The roadway also serves as access to off-airport businesses and hotels and on-airport aviation-related uses (e.g., air cargo facilities) located between the airport CTA and I-405.
- **Imperial Highway** - Imperial Highway is an east-west roadway that is located at-grade and beneath much of the elevated I-105 freeway. The facility varies in lane width from six-lanes east of the merge with I-105 to four-lanes west of the merge with I-105.
- **La Cienega Boulevard** - La Cienega Boulevard is a north-south roadway that would serve as the primary access route to the proposed construction employee parking lot. The facility varies from four to six lanes.
- **Pershing Drive** - Pershing Drive is a north-south, four-lane divided roadway that forms the western boundary of the traffic analysis study area. This roadway would serve as the access route for construction-related traffic accessing the CFTP site via World Way West.
- **Sepulveda Boulevard (State Route 1)** - Sepulveda Boulevard is a major north-south, six-lane arterial providing direct access to the airport and CFTP study area via I-105 on the south. Sepulveda 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 painted median. This roadway provides access to the airport's Public Parking Lot B, Airport Employee Parking Lot E, and other businesses in the study area.

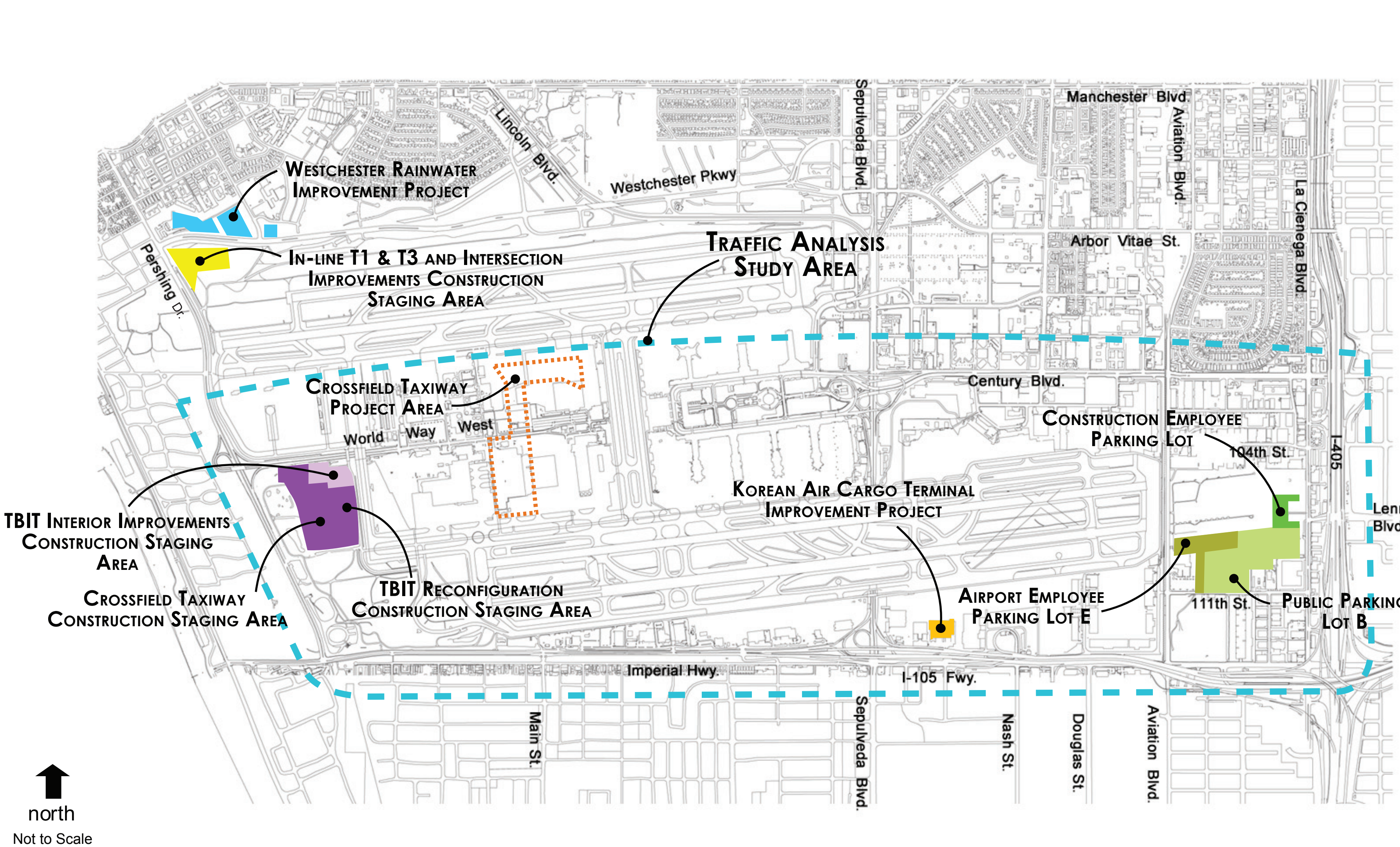
4.1.3.3 Existing Traffic Conditions

<u>Study Area Intersections</u>

Intersection Locations

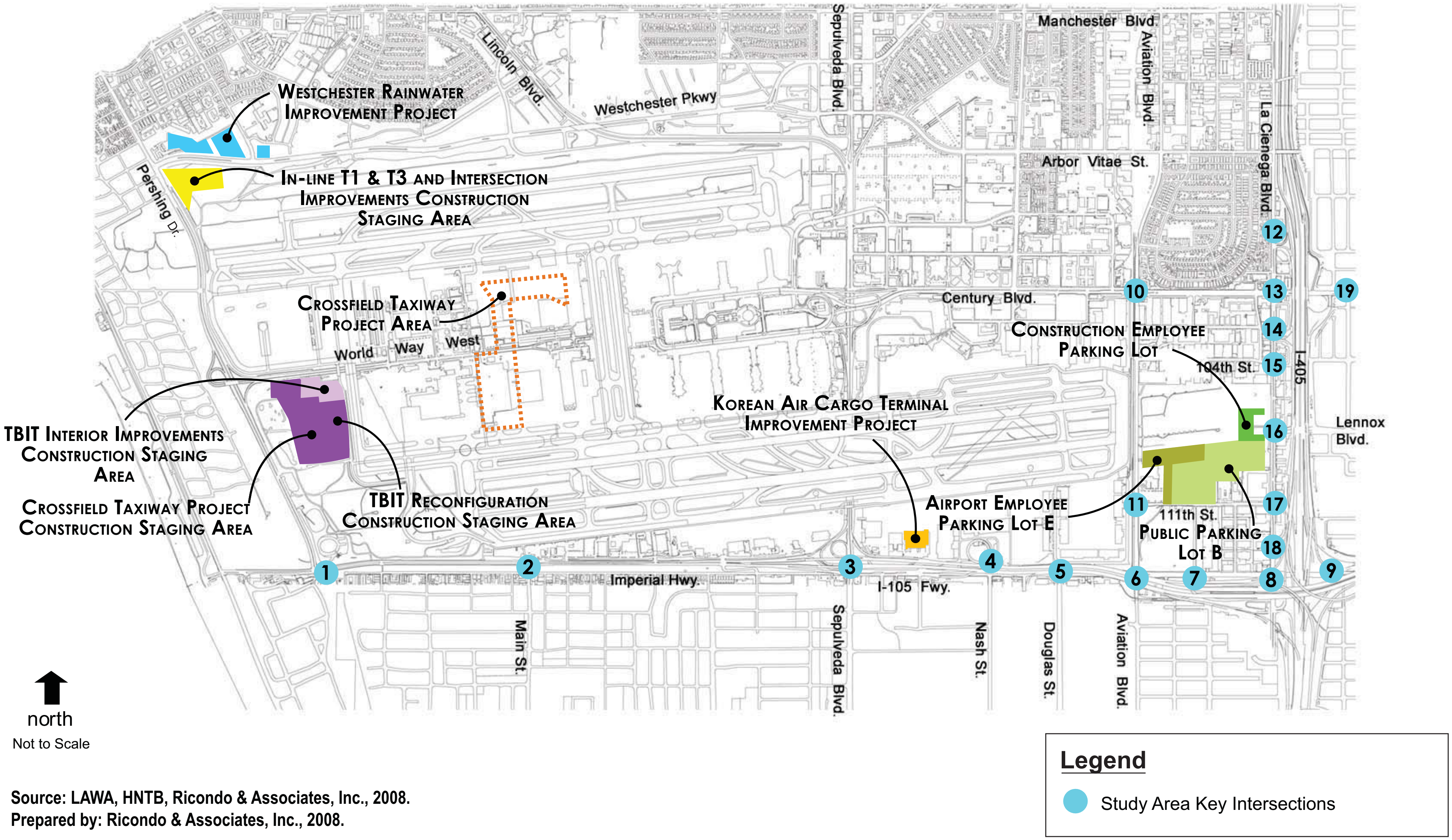
The anticipated routes used by construction-related vehicles were reviewed to identify the intersections likely to be used by vehicles accessing the project construction site or the construction employee parking lot off of La Cienega Boulevard. Based on this review, the key intersections to be analyzed for this study are depicted in **Figure 4.1-2** and are summarized as follows:

1. Imperial Hwy. and Pershing Drive
2. Imperial Hwy. and Main Street
3. Imperial Hwy. and Sepulveda Blvd.
4. Imperial Hwy. and Nash Street
5. Imperial Hwy. and Douglas Street
6. Imperial Hwy. and Aviation Blvd.
7. Imperial Hwy. and I-105 ramps east of Aviation Blvd.
8. Imperial Hwy. and La Cienega Blvd.
9. Imperial Hwy. and I-405 northbound ramps east of La Cienega Blvd.
10. Aviation Blvd. and Century Blvd.
11. Aviation Blvd. and 111th Street
12. La Cienega Blvd. and I-405 southbound ramps north of Century Blvd.



Source: LAWA, HNTB, Ricondo & Associates, Inc., 2008.
Prepared by: Ricondo & Associates, Inc., 2008.

LAX Crossfield Taxiway Project Draft EIR	Traffic Analysis Area	Figure 4.1-1



Source: LAWA, HNTB, Ricondo & Associates, Inc., 2008.
Prepared by: Ricondo & Associates, Inc., 2008.

LAX Crossfield Taxiway Project Draft EIR | **Study Area Intersections** | Figure 4.1-2

13. La Cienega Blvd. and Century Blvd.
14. La Cienega Blvd. and I-405 southbound ramps south of Century Blvd.
15. La Cienega Blvd. and 104th Street
16. La Cienega Blvd. and Lennox Blvd.
17. La Cienega Blvd. and 111th Street
18. La Cienega Blvd. and I-405 southbound ramps north of Imperial Hwy.
19. Century Blvd. and I-405 northbound ramps east of La Cienega Blvd.

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 the Automated Traffic Surveillance and Control (ATSAC) system, except Imperial Highway and I-405 northbound ramps east of La Cienega Boulevard (#9) and Century Boulevard and I-405 northbound ramps east of La Cienega Boulevard (#19). The ATSAC system operated by LADOT provides for monitoring of traffic conditions at intersections and the flexibility to adjust the traffic signal timing to react to current conditions.

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

Traffic Activity

Traffic data collected to support the traffic analyses required for the CFTP are summarized below.

Peak Month Activity

A review of monthly traffic data at LAX over the past eight years was conducted 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 the period January 2000 through December 2007 are provided in **Table 4.1-1**. As indicated by the Average Daily Traffic Volume values shown in bold type, CTA traffic reaches peak activity during the summer months of July and August. August is typically the peak month for airport roadway traffic activity followed closely by July. Given the influence of airport activity on the study area roadways and intersections, it was determined that the analysis of background traffic should be based on peak August conditions.

Table 4.1-1

CTA Average Daily Traffic Volume

Month	2000[1]	2001	2002	2003	2004	2005	2006	2007
January	82,136	90,683	65,135	66,039	61,775	69,554	67,727	66,999
February	79,791	87,509	61,148	60,808	59,802	60,930	63,715	65,339
March	86,627	93,186	66,794	59,921	64,431	63,748	69,034	68,380
April	92,863	96,566	68,164	60,434	68,164	64,771	69,230	70,268
May	98,052	96,341	70,867	64,306	68,155	68,982	70,303	71,599
June	102,392	101,585	72,282	65,903	74,650	75,699	72,647	73,669
July	106,445	**105,842**	75,433	74,047	**78,674**	75,635	75,895	78,342
August	**108,871**	103,308	**79,427**	**76,556**	77,986	**79,046**	**78,236**	**82,193**
September	95,917	59,987	66,630	60,762	66,276	68,151	67,171	68,316
October	92,169	42,370	65,166	59,904	66,395	66,607	66,981	68,152
November	96,308	56,579	62,264	59,944	65,525	68,200	70,326	72,098
December	94,551	60,649	71,845	68,666	73,107	70,700	71,978	71,900
Annual	1,136,122	994,605	825,155	777,290	824,940	832,023	843,243	857,255
Average Daily Traffic Year	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Average Daily Traffic	94,692	82,884	68,763	64,774	68,901	69,335	70,270	71,438
% Annual Change		-12.5%	-17.0%	-5.8%	6.4%	0.6%	1.3%	1.7%
Million Annual Passengers	67.3	61.6	56.2	55.0	60.7	61.5	61.0	61.9
% Annual Change		-8.5%	-8.8%	-2.1%	10.4%	1.3%	-0.8%	1.5%

[1] CTA traffic peak activity shown in bold type.

Source: City of Los Angeles, Los Angeles World Airports, Ground Transportation Planning and Design Section, Ground Transportation Report, January 24, 2008.

The intersection traffic volumes used for the CFTP traffic study were collected during August 2008. The peak CFTP construction period is anticipated to occur in the latter part of 2009. The project-related traffic analysis is based on the use of August traffic activity combined with peak CFTP construction activity. Using peak August data for background roadway traffic activity combined with peak traffic associated with the CFTP construction produces a conservative analysis representing the peak potential traffic level that would occur in the study area.

Project-Related Peak Hours

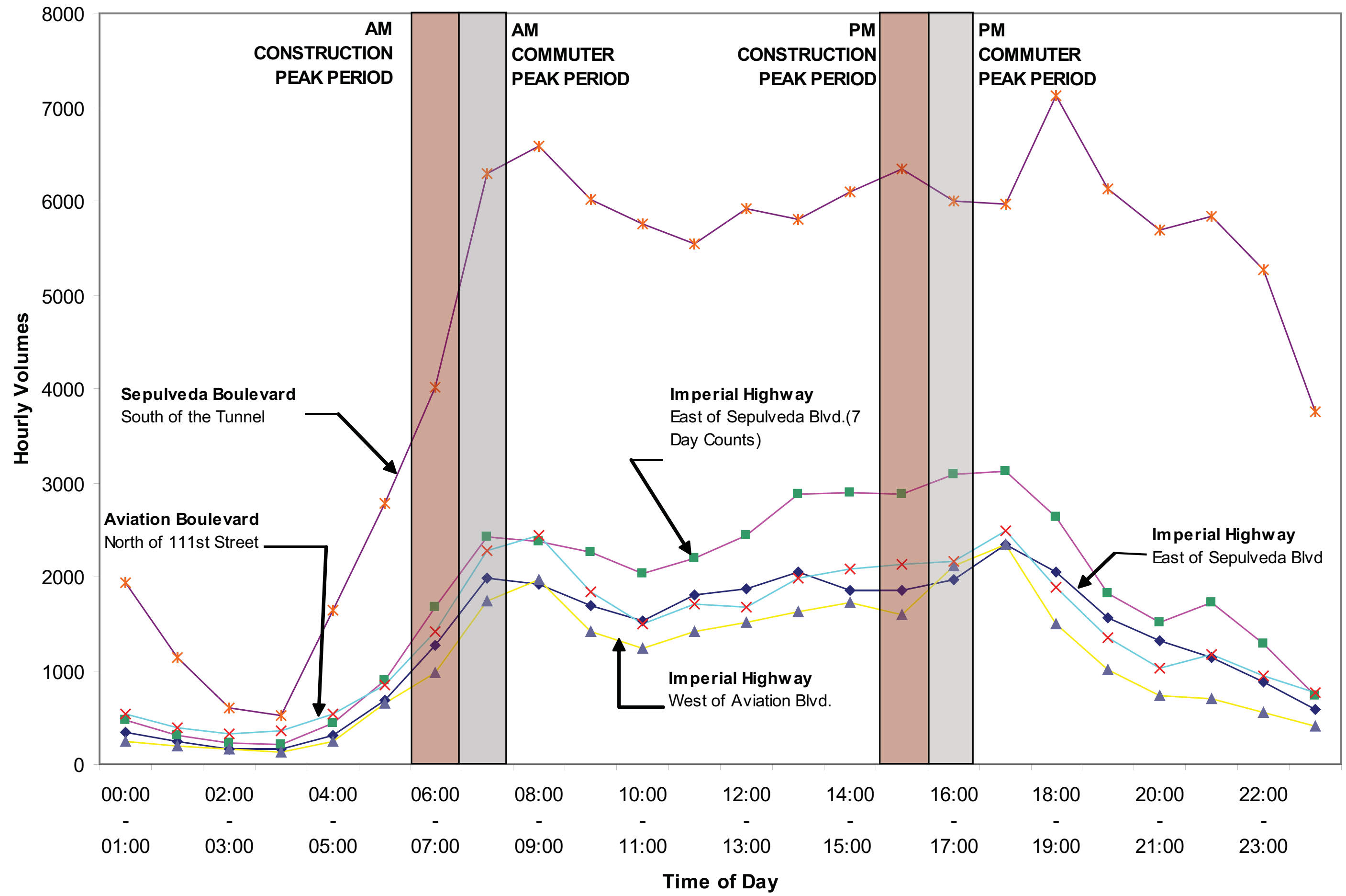
Certain Master Plan commitments identified in the LAX Master Plan Final EIR are required to be implemented in conjunction with LAX Master Plan development projects, and many of these commitments would have a direct effect on the traffic activity generated by the construction of the CFTP. Specifically, 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 commuter a.m. peak period (7:00 to 9:00 a.m.) and the commuter p.m. peak period (4:30 to 6:30 p.m.) and would apply to the CFTP. These commitments, along with other transportation-related commitments relevant to the CFTP, are listed in Section 4.1.7.

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

- **Project Construction Employee A.M. Peak Hour (6:00 a.m. to 7:00 a.m.)** - The project construction employee a.m. peak hour represents the peak period for construction employees arriving to the construction employee parking lot accessed via La Cienega Boulevard. Based on the review of the employee schedule, employees would likely arrive during the 5:00 to 6:00 a.m. period. However, it was determined that analysis of the 6:00 to 7:00 a.m. peak period volumes in combination with the peak employee activity would produce a more conservative estimate of activity in the event that the future construction contractor chooses to allow employee arrivals 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 Employee P.M. Peak Hour (3:30 p.m. to 4:30 p.m.)** - The project construction employee p.m. peak hour represents the peak period when construction employees are leaving from the construction employee parking lot. This period also represents the peak period corresponding with the trucks delivering materials to the project site. The peak period is assumed to end at the "cut-off" time of 4:30 p.m. just prior to the start of the afternoon peak commute period.

Hourly Traffic Patterns

Automatic Traffic Recorder (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. commuter peak hours to corresponding traffic activity during the construction-related peak hours. It is anticipated that these volumes collected in June 2008 will provide a representative profile of the hourly peaking pattern of background traffic using the study area roadway network during the summer 2008 season and will, therefore, be representative of hourly peaking patterns in August 2008. Hourly traffic volume activity counted at five locations within the study area is graphically depicted in **Figure 4.1-3**. The volumes depicted in the figure represent traffic activity 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 the activity occurring on a typical busy weekday (Tuesday through Thursday). There were two significant LAX construction projects underway during the collection of these data (TBIT Interior Improvements Program and In-Line Baggage Screening Systems); therefore, it is anticipated that the peaking patterns depicted in the figure would represent the combined peaking patterns comprised of non-construction background traffic and construction related traffic associated with these projects in June and August 2008. It is assumed these peaking patterns will remain valid for the future Q4 2009 and Q2 2010 conditions; however, this is a conservative assumption given that these projects are scheduled to be complete by the first quarter of 2010.



Source: LAWA, Traffic Survey Conducted in Support of LAWA Air Quality and Source Apportionment Study; Source Group Inc., 2008.
Prepared by: Ricondo & Associates, Inc., 2008.

LAX Crossfield Taxiway Project Draft EIR	Automatic Traffic Recorder Hourly Volumes (June 2008)	Figure 4.1-3

As shown in the figure, 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 and 9:00 a.m. The afternoon peak period generally occurs between 5:00 and 6:00 p.m., which falls within the commuter p.m. peak period from 4:30 to 6:30 p.m.

Table 4.1-2 shows the percentage difference between the commuter peak and construction peak hours at five locations within the project study area during June 2008. As depicted in the table and previous figure, the traffic volumes using the study area roadways during the project construction peak hours are lower than the traffic volume levels during the adjacent a.m. and p.m. commuter peak periods. During the construction-related a.m. peak hour (6:00 to 7:00 a.m.), the roadway volumes are about 36 percent lower on average than the volumes during the adjacent a.m. commuter peak hour (7:00 to 8:00 a.m.). During the construction-related p.m. peak hour (3:30 to 4:30 p.m.), traffic volumes are approximately 11 percent lower on average than during the typical evening commuter peak (4:30 to 5:30 p.m.). For purposes of this study, and as a conservative assumption, background volumes during the construction peak periods were calculated by reducing the volumes collected during the commuter peak periods by a factor obtained from the ATR location reflecting the least amount of reduction. As such, the a.m. construction peak hour volumes were estimated by reducing all of the a.m. commuter peak volumes by 28 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. commuter peak volumes (i.e., no reduction was applied based on the p.m. percentage change at Sepulveda Boulevard south of the tunnel).

Table 4.1-2

Comparison of Traffic Volumes during the Commuter Peak Hour and Construction Peak Hour

	AM Peak Hour			PM Peak Hour		
	Construction Peak Hour 6:00 am-7:00 am	**Commuter Peak Hour 7:00 am-8:00 am**	**Percentage Change**	**Construction Peak Hour 3:30 pm-4:30 pm**	**Commuter Peak Hour 4:30 pm-5:30 pm**	**Percentage Change**
Imperial Highway, East of Sepulveda Blvd.[1]	1,263	1,990	-36.5%	1,890	2,257	-16.3%
Imperial Highway, West of Sepulveda Blvd.[2]	1,450	2,027	-28.5%	2,611	3,218	-18.9%
Imperial Highway, West of Aviation Blvd.[3]	971	1,741	-44.2%	1,864	2,537	-26.5%
Aviation Blvd., North of 111th Street[4]	1,411	2,270	-37.8%	2,144	2,369	-9.5%
Sepulveda Blvd., South of Tunnel[5]	4,018	6,293	-36.2%	6,070	6,071	0%
Total	**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 Traffic Survey conducted in support of LAX Air Quality and Source Apportionment Study, SGI Group Inc., July 30, 2008.

Annual Growth Patterns

Historical traffic data collected during the a.m. and p.m. commuter peak hours were analyzed to assess historical growth patterns within the study area. As shown in **Table 4.1-3**, it was calculated that traffic volumes for the study area intersections decreased by approximately 1.5 percent pear year, on average, between 2004 and 2006. Study area traffic volumes continued to decrease on an average of approximately 0.4 percent per year between 2006 and 2008.

Although the traffic volumes using the study area intersections has experienced an average annual decline, as shown in **Table 4.1-1**, average daily traffic accessing the CTA increased on a yearly basis from 2004 to 2007. However, the average annual increases were nominal ranging from 0.6 percent to 1.7

Table 4.1-3

Historical Traffic Volumes

Study Area Intersections[1]		Peak Hour[1]	Intersection Total (August 2004)	Intersection Total (August 2006)	Intersection Total (August 2008)	Annual Growth Rate (2004 to 2006)	Annual Growth Rate (2006 to 2008)
1.	Imperial Hwy. & Pershing Dr.	AM	2,720	2,601	2,567	-2.2%	-1%
		PM	2,612	2,510	2,608	-2.0%	2%
2.	Imperial Hwy. & Main St.	AM	3,114	2,789	3,147	-5.4%	6%
		PM	3,238	2,907	3,229	-5.2%	5%
3.	Imperial Hwy. & Sepulveda Blvd.	AM	7,003	7,627	5,873	4.4%	-12%
		PM	7,818	7,236	6,897	-3.8%	-2%
4.	Imperial Hwy. & Nash St.	AM	4,232	4,229	3,658	0.0%	-7%
		PM	2,577	2,676	2,491	1.9%	-4%
5.	Imperial Hwy. & Douglas St.	AM	1,833	2,235	2,076	10.4%	-4%
		PM	2,566	2,665	2,499	1.9%	-3%
6.	Imperial Hwy. & Aviation Blvd.	AM	3,840	3,779	3,941	-0.8%	2%
		PM	4,841	4,516	4,634	-3.4%	1%
7.	Imperial Hwy. & I-105 EB Ramps	AM	3,027	3,230	3,355	3.3%	2%
		PM	3,321	3,138	3,469	-2.8%	5%
8.	Imperial Hwy. & La Cienega Blvd.	AM	2,975	3,213	2,863	3.9%	-6%
		PM	4,057	3,930	4,138	-1.6%	3%
9.	Imperial Hwy. & I-405 NB Ramps	AM	1,951	2,298	1,852	8.5%	-10%
		PM	2,732	2,822	2,944	1.6%	2%
10.	Century Blvd. & Aviation Blvd.	AM	5,670	5,159	5,125	-4.6%	0%
		PM	6,367	5,084	5,512	-10.6%	4%
11.	Aviation Blvd. & 111th St.	AM	2,470	2,004	2,435	-9.9%	10%
		PM	2,848	2,349	2,714	-9.2%	7%
12.	La Cienega Blvd. & I-405 SB Ramps	AM	2,341	2,316	2,106	-0.5%	-5%
		PM	2,573	2,615	2,365	0.8%	-5%
13.	La Cienega Blvd. & Century Blvd.	AM	5,409	5,022	4,792	-3.6%	-2%
		PM	5,947	5,576	5,621	-3.2%	0%
14.	La Cienega Blvd. & I-405 SB Ramps	AM	1,687	1,714	1,878	0.8%	5%
		PM	2,700	2,726	2,682	0.5%	-1%
16.	La Cienega Blvd. & Lennox Blvd.	AM	1,569	1,452	1,349	-3.8%	-4%
		PM	1,986	2,031	1,875	1.1%	-4%
17.	La Cienega Blvd. & 111th St.	AM	1,601	1,579	1,505	-0.7%	-2%
		PM	2,140	2,052	2,037	-2.1%	0%
18.	La Cienega Blvd. & I-405 SB Ramps	AM	1,690	1,524	1,550	-5.0%	1%
		PM	2,124	1,834	1,993	-7.1%	4%
19.	Century Blvd. & I-405 NB Ramps	AM	4,033	3,633	3,215	-5.1%	-6%
		PM	3,618	3,592	3,812	-0.4%	3%
					Average	**-1.5%**	**-0.383%**

[1] AM Peak Hour refers to traffic volumes collected between 8:00 AM and 9:00 AM; PM Peak Hour refers to traffic volumes collected between 5:00 PM and 6:00 PM.

Source: Ricondo & Associates, Inc., using data collected by Wiltec on August 3 to 5, 2004; August 1 to 9, 2006 and July 22 to August 6, 2008 percent per year. Average daily traffic during the peak month of August has continued to increase at a higher rate.

In summary, traffic volume activity within the study area roadway during the peak month of August has declined even during a period when airport activity has continued to experience growth in traffic activity on an average daily basis. However, rather than assuming that traffic activity will continue to decrease through the 2009 study period, a conservative positive growth assumption of 2 percent annual growth rate was used to adjust these volumes to represent future traffic conditions. This annual growth rate assumption is consistent with previous direction provided by LADOT for use in the SAIP study.[25]

4.1.3.4 Baseline (2008) Intersection Volumes

Baseline (2008) traffic volumes are comprised of the traffic volumes at the time of the NOP for the EIR (August 2008). The Baseline (2008) volumes were estimated based on actual data collected during the 2008 a.m. and p.m. commuter peak hours that had been adjusted using factors derived from ATR counts within the study area to reflect 2008 conditions during the a.m. and p.m. construction peak hours.

Baseline (2008) intersection traffic volumes are provided in Appendix B-2.

4.1.3.5 Baseline (2008) Intersection Analyses

A level of service analysis was prepared using the Critical Movement Analysis (CMA) methodology to assess the estimated operating conditions during the Baseline (2008) period for the a.m. and p.m. construction peak hours. Level of service is a qualitative measure that describes traffic operating conditions (e.g., delay, queue lengths, congestion). Intersection level of service ranges from LOS A (i.e., excellent conditions with little or no vehicle delay) to LOS F (i.e., excessive vehicle delays and queue lengths). Level of service definitions for the CMA methodology are presented in **Table 4.1-4**.

Table 4.1-4

Level of Service Threshold and Definitions for Signalized Intersections

Level of Service	Volume/Capacity Ratio	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 utilized; 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	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	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 v/c (volume/capacity) value calculated using the CMA methodology is further reduced by 0.07 for those intersections that are included within the ATSAC

[25] 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.

system (previously discussed 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.

The estimated intersection level of service for the Baseline (2008) condition is provided in **Table 4.1-5**. As shown in the table, it was estimated that most of the intersections operated at LOS C or better in 2008 during the peak periods analyzed for the project. The two exceptions occurred at: (1) the intersection of Imperial Highway and Sepulveda Boulevard (Intersection No. 3), which was estimated to operate at LOS F during the construction employee p.m. peak period; and, (2) the intersection of La Cienega Boulevard and Century Boulevard (Intersection No. 13), which was estimated to operate at LOS E during the construction employee p.m. peak period.

Table 4.1-5

Baseline (2008) Intersection Analysis Results

	Intersection	Peak Hour[1]	V/C[2]	LOS[3]
1.	Imperial Hwy. & Pershing Dr.	Construction AM	0.501	A
		Construction PM	0.461	A
2.	Imperial Hwy. & Main St.	Construction AM	0.405	A
		Construction PM	0.716	C
3.	Imperial Hwy. & Sepulveda Blvd.	Construction AM	0.509	A
		Construction PM	1.185	F
4.	Imperial Hwy. & Nash St.	Construction AM	0.377	A
		Construction PM	0.300	A
5.	Imperial Hwy. & Douglas St.	Construction AM	0.147	A
		Construction PM	0.524	A
6.	Imperial Hwy. & Aviation Blvd.	Construction AM	0.523	A
		Construction PM	0.667	B
7.	Imperial Hwy. & I-105 EB Ramps	Construction AM	0.492	A
		Construction PM	0.529	A
8.	Imperial Hwy. & La Cienega Blvd.	Construction AM	0.22	A
		Construction PM	0.568	A
9.	Imperial Hwy. & I-405 NB Ramps	Construction AM	0.246	A
		Construction PM	0.554	A
10.	Century Blvd. & Aviation Blvd.	Construction AM	0.469	A
		Construction PM	0.757	C
11.	Aviation Blvd. & 111th St.	Construction AM	0.344	A
		Construction PM	0.463	A
12.	La Cienega Blvd. & I-405 SB Ramps	Construction AM	0.442	A
		Construction PM	0.56	A
13.	La Cienega Blvd. & Century Blvd.	Construction AM	0.392	A
		Construction PM	0.910	E
14.	La Cienega Blvd. & I-405 SB Ramps	Construction AM	0.238	A
		Construction PM	0.424	A
15.	La Cienega Blvd. & 104th St.	Construction AM	0.154	A
		Construction PM	0.356	A
16.	La Cienega Blvd. & Lennox Blvd.	Construction AM	0.224	A
		Construction PM	0.408	A
17.	La Cienega Blvd. & 111th St.	Construction AM	0.122	A
		Construction PM	0.363	A
18.	La Cienega Blvd. & I-405 SB Ramps	Construction AM	0.173	A
		Construction PM	0.279	A
19.	Century Blvd. & I-405 NB Ramps	Construction AM	0.541	A
		Construction PM	0.577	A

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

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

Appendix B-3 provides the level of service results from the TRAFFIX program including the volume, geometry and other inputs used to produce these analyses.

4.1.4 Project Traffic

Project traffic generated by the CFTP is defined for two future conditions representing the peak traffic generated by the project and the CFTP generated during the anticipated peak cumulative activity period.

4.1.4.1 CFTP Construction Traffic During Project Peak (Fourth Quarter 2009)

The locations of the CFTP construction site, construction employee parking lot, and other relevant features of the project are depicted in **Figure 4.1-4**. As shown in the figure, delivery trucks are anticipated to use the regional freeway system to Imperial Highway to access the project site located on World Way West. Project-related construction employees are anticipated to park in the construction employee parking lot located off of La Cienega Boulevard. The estimated flow paths used by the employees are documented in Appendix B-4.

Peak construction for the CFTP is anticipated to occur during the fourth quarter of 2009. Employee and delivery vehicle trips were estimated for all anticipated categories of construction employee during the peak construction period. Based on the resource loaded schedule developed for the project,[26] it was estimated that the following numbers of employees, summarized by category, would access the construction site during the peak day of construction for the CFTP:

Classification	Number of Employees
Administration	12
AC Paving	0
Batch	6
Backfill	0
Bridge	11
Building Systems	0
PCC Paving	37
Structural Concrete Placement	3
Clear and Grub	0
Crusher	4
Demo and Utilities	46
Drainage	20
Electrical	0
Environmental	2
Excavation	0
Exterior	0
Fencing	2
Fuel Line	33
Foundation	0
Grading	0
Installation	0
Interior Concrete Flooring	0
Interior Finishes Work	0
Interior Rough	15
Misc. Labor	5
QC Team	5
SawCut	0
Sealing	0
Striping	0
Structural Steel	0
Survey	8
Total	**208**

26 HNTB Corporation, 2008.

As shown, it is estimated that 208 construction employees would access the CFTP construction site on a daily basis during the peak period of construction. Using an assumed vehicle occupancy factor of 1.15 employees per vehicle, it was estimated that 181 construction employee vehicles per day would access the study area.

In addition to employee vehicle trips, it was estimated that approximately 153 construction-related truck delivery trips would enter and exit the site during the peak day. Using an assumed passenger car equivalency (PCE) factor of 2.5 per vehicle and distributing these volumes in accordance with the anticipated delivery schedule, it was estimated that an equivalent 383 equivalent passenger car vehicles per day would enter and exit the study area during the peak construction period.

For purposes of the intersection analyses, all trips have been converted to a "passenger car equivalent" (PCE) to account for the additional impact that large vehicles such as delivery 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 from the LAX Master Plan Final EIR:

Vehicle Type	PCE Factor
Construction employees[27]	1.0
Construction delivery trucks	2.5
Employee shuttle buses	2.0

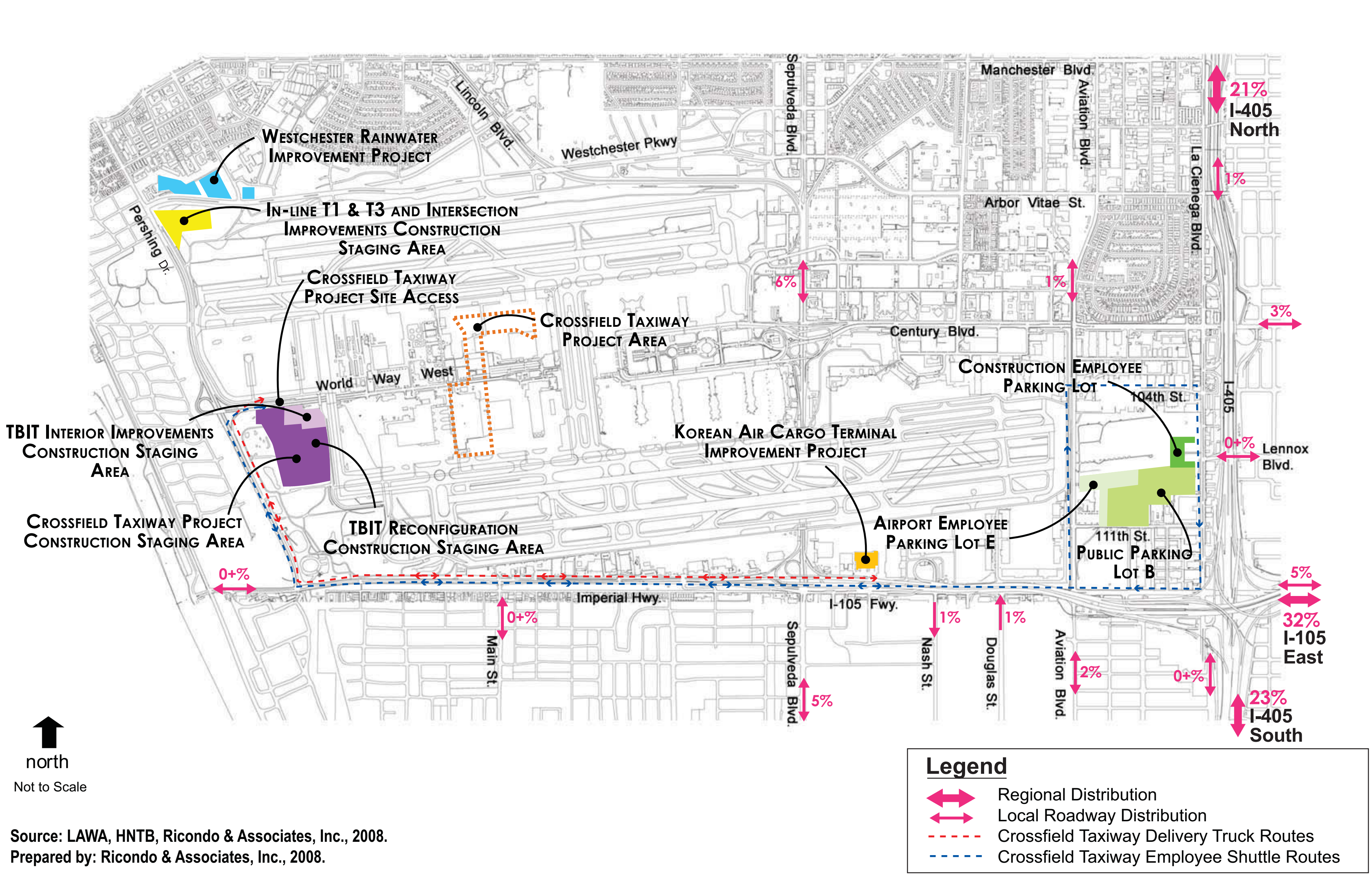
The estimated project-related construction trips (in PCEs) CFTP construction peak during the fourth quarter of 2009 are summarized by hour in **Table 4.1-6**. This table includes construction employee vehicle trips, employee shuttle bus trips, and construction delivery truck trips. As shown, during the morning, construction employees are assumed to arrive during the 5:00 to 6:00 a.m. time period to begin work at 6:00 a.m. However, these volumes have been added to the 6:00 to 7:00 a.m. hour traffic volumes to produce a conservative construction employee a.m. peak hour that would be higher than would occur if the peak construction traffic was added to the 5:00 to 6:00 a.m. "background" traffic activity. During the afternoon, the second-shift employees are assumed to arrive during a half-hour period from 3:30 to 4:00 p.m. to begin the second shift at 4:00 p.m. The first shift is 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 to 4:30 p.m.

The summary of volumes during the construction a.m. and construction p.m. peak hours are summarized at the bottom of the table. During the construction a.m. peak hour approximately 208 equivalent passenger car trips were estimated to use the study area roadway network. During the construction p.m. peak hour (3:30 to 4:30 p.m.) approximately 247 equivalent passenger car trips would use the study area intersections.

4.1.4.2 CFTP Construction Traffic During Cumulative Peak (Second Quarter 2010)

Based on the currently proposed construction schedules for the cumulative projects, the cumulative peak is expected to occur during the second quarter of 2010. It is anticipated that the cumulative peak construction activity would encompass an approximate two-week period, with a peak weekly demand of 1,756 employees. Of this, CFTP construction employees would comprise 1,120 employees with the remaining 636 employees generated by the TBIT Reconfiguration Project. Assuming a 6-day work week, it is estimated that 187 CFTP construction employees would access the CFTP construction site on a daily basis during the peak period of construction. Using an assumed vehicle occupancy factor of 1.15

[27] It should be noted that a different conversion factor was applied in Section 4.1.4.1 to determine the number of construction employee vehicles that would access the project area. The previous section assumed a vehicle occupancy factor of 1.15 employees per vehicle to convert from employees to vehicles. This is different than the PCE factor discussed here, which adjusts for the additional impact that large vehicles have on roadway traffic operations.



Source: LAWA, HNTB, Ricondo & Associates, Inc., 2008.
Prepared by: Ricondo & Associates, Inc., 2008.

LAX Crossfield Taxiway Project Draft EIR

Project Construction
Vehicle Routes & Trip Distribution

Figure
4.1-4

Table 4.1-6

CFTP Peak (Fourth Quarter 2009) - 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]	Total Construction
0:00 - 1:00	0	0	0	0	0	0	0
1:00 - 2:00	0	0	0	0	0	0	0
2:00 - 3:00	0	37	12	12	0	0	61
3:00 - 4:00	0	0	0	0	20	20	40
4:00 - 5:00	0	0	0	0	20	20	40
5:00 - 6:00	144	0	12	12	20	20	208
6:00 - 7:00	0	0	0	0	0	0	0
7:00 - 8:00	0	0	0	0	0	0	0
8:00 - 9:00	0	0	0	0	0	0	0
9:00 - 10:00	0	0	0	0	38	38	76
10:00 - 11:00	0	0	0	0	38	38	76
11:00 - 12:00	0	0	0	0	38	38	76
12:00 - 13:00	0	0	0	0	38	38	76
13:00 - 14:00	0	0	0	0	38	38	76
14:00 - 15:00	0	0	0	0	38	38	76
15:00 - 16:00	37	0	6	6	38	38	125
16:00 - 17:00	0	144	8	8	0	0	160
17:00 - 18:00	0	0	0	0	0	0	0
18:00 - 19:00	0	0	0	0	0	0	0
19:00 - 20:00	0	0	0	0	20	20	40
20:00 - 21:00	0	0	0	0	20	20	40
21:00 - 22:00	0	0	0	0	20	20	40
22:00 - 23:00	0	0	0	0	0	0	0
23:00 - 0:00	0	0	0	0	0	0	0
Total	**181**	**181**	**38**	**38**	**386**	**386**	**1,210**
Summary of Analysis Hours							
Construction AM (5:00-6:00 a.m.)	144	0	12	12	20	20	208
Construction PM (3:30-4:30 p.m.)[4]	37	144	14	14	19	19	247

1 An occupancy of 1.15 employees per vehicle is included in the employee trip calculations.

2 Shuttles with maximum 40 person capacity or smaller will transport employees between the construction parking lot and the construction site with 6 trips in the 30 minutes before and after each shift. Shuttle trips converted at a rate of 2 to passenger car equivalent trips.

3 Truck trips converted at a rate of 2.5 to passenger car equivalents trips.

4 Construction employee trips are not permitted during the commuter peak periods of 7:00 - 9:00 a.m. and 4:30 - 6:30 p.m. Therefore, the employee trips during the p.m. construction peak hour were assumed to occur between 3:30 and 4:30 p.m.

Source: HNTB Corporation, 2008.

employees per vehicle, it was estimated that 163 construction employee vehicles per day would access the study area. During the cumulative peak condition, there is estimated to be approximately 10 percent less CFTP construction activity than during the peak CFTP construction period.

The estimated CFTP project-related construction trips (in PCEs) by hour during the cumulative peak are summarized in **Table 4.1-7**. As summarized at the bottom of the table, during the construction employee a.m. peak hour approximately 190 equivalent passenger car trips were estimated to use the study area roadway network. During the construction employee p.m. peak hour (3:30 to 4:30 p.m.) approximately 225 equivalent passenger car trips would use the study area intersections.

4.1.5 Future Cumulative Traffic

This section describes the components of traffic comprising the future cumulative traffic condition. The future cumulative condition includes growth in ambient background traffic and non-airport developments in the vicinity of the airport. This section describes known development projects in the airport vicinity that may contribute traffic to the project study area roadway system during the CFTP peak construction month resulting from either the construction or the ultimate operation of those development projects. The list of local area development projects presented later in this section represents 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 local area developments is represented in the traffic volume data that was collected for the CFTP study in 2008 and used as a basis for the traffic study. In addition to this ambient volume associated with construction and operation of local area development projects, it is important to review the development schedule and traffic characteristics of larger projects within close proximity to the CFTP study area and incorporate the effects of these development projects, as necessary.

The cumulative traffic impacts analysis provided in this section supplements the impacts discussion contained in the LAX Master Plan Final EIR. The analysis in the Master Plan Final EIR acknowledges the potential for construction traffic from Master Plan projects to share the same roads and haul routes as construction traffic for other projects in the general vicinity of LAX. The construction-related cumulative impacts analysis presented in the Master Plan Final EIR is qualitative in nature. The cumulative traffic impacts analysis presented in this CFTP Draft EIR provides a detailed quantitative evaluation of construction-related impacts based on more complete and precise information, than was available at the time of the Master Plan Final EIR, regarding the nature, location, and timing of construction projects occurring while the CFTP is under construction.

4.1.5.1 LAX Development Projects

LAX development includes both project components of the LAX Master Plan as well as other capital improvement projects undertaken by LAWA. The non-Master Plan projects that will likely be under construction concurrent with the CFTP and are of a nature that would contribute to cumulative traffic impacts include the following:

- **Tom Bradley International Terminal Interior Improvements Program (also known as the TBIT Renovation Project)**--The estimated construction cost is $350 million. Construction began February 2007 and is scheduled to be complete by February 2010.

In-Line Baggage Screening Systems--The estimated construction cost is $130 million. Construction of in-line baggage screening systems within Terminal 3 began in January 2008 and is scheduled to be complete by January 2010. Similar projects within Terminals 1, 2, 4, 5 and 6 will be implemented by tenants. It is anticipated that improvements within Terminal 4 could be underway in early 2009, followed sometime thereafter by Terminal 1. In order to provide a conservative analysis, it was assumed that work in all of these terminals would occur within the timeframe of the CFTP construction (i.e., by January 2010).

Table 4.1-7

Overall Peak (Second Quarter 2010) - Project Related Construction Traffic Volumes

	Construction Trips in Passenger Car Equivalents (PCEs)						
Hour	**Employee Trips In[1]**	**Employee Trips Out[1]**	**Shuttle Trips In[2]**	**Shuttle Trips Out[2]**	**Delivery Trips In[3]**	**Delivery Trips Out[3]**	**Total Construction**
0:00 - 1:00	0	0	0	0	0	0	0
1:00 - 2:00	0	0	0	0	0	0	0
2:00 - 3:00	0	33	12	12	0	0	57
3:00 - 4:00	0	0	0	0	18	18	36
4:00 - 5:00	0	0	0	0	18	18	36
5:00 - 6:00	130	0	12	12	18	18	190
6:00 - 7:00	0	0	0	0	0	0	0
7:00 - 8:00	0	0	0	0	0	0	0
8:00 - 9:00	0	0	0	0	0	0	0
9:00 - 10:00	0	0	0	0	34	34	68
10:00 - 11:00	0	0	0	0	34	34	68
11:00 - 12:00	0	0	0	0	34	34	68
12:00 - 13:00	0	0	0	0	34	34	68
13:00 - 14:00	0	0	0	0	34	34	68
14:00 - 15:00	0	0	0	0	34	34	68
15:00 - 16:00	33	0	6	6	34	34	113
16:00 - 17:00	0	130	8	8	0	0	146
17:00 - 18:00	0	0	0	0	0	0	0
18:00 - 19:00	0	0	0	0	0	0	0
19:00 - 20:00	0	0	0	0	17	17	34
20:00 - 21:00	0	0	0	0	17	17	34
21:00 - 22:00	0	0	0	0	17	17	34
22:00 - 23:00	0	0	0	0	0	0	0
23:00 - 0:00	0	0	0	0	0	0	0
Total	**163**	**163**	**38**	**38**	**343**	**343**	**1,088**
Summary of Analysis Hours							
Construction AM (5:00-6:00 a.m.)	130	0	12	12	18	18	190
Construction PM (3:30-4:30 p.m.)[4]	33	130	14	14	17	17	225

1 An occupancy of 1.15 employees per vehicle is included in the employee trip calculations.

2 Shuttles with maximum 40 person capacity or smaller will transport employees between the construction parking lot and the construction site with 6 trips in the 30 minutes before and after each shift. Shuttle trips converted at a rate of 2 to passenger car equivalent trips.

3 Truck trips converted at a rate of 2.5 to passenger car equivalents trips.

4 Construction employee trips are not permitted during the commuter peak periods of 7:00 - 9:00 a.m. and 4:30 - 6:30 p.m. Therefore, the employee trips during the p.m. construction peak hour were assumed to occur between 3:30 and 4:30 p.m.

Source: HNTB Corporation, 2008.

- **Airfield Intersection Improvements, Phase II--**The estimated construction cost is $30 million. Construction began in July 2008 with completion anticipated by August 2009.
- **Airfield Operating Area (AOA) Perimeter Fence Enhancements - Phases III & VI**--Phase III is a continuation of the LAX Perimeter Security Enhancement Program and includes enhancing approximately 6 miles of AOA perimeter fence along World Way West. Construction activities for this project are anticipated to occur between October 2008 and October 2009. Phase IV provides an additional 5 miles along Imperial Highway, Aviation Boulevard, and Century Boulevard, to be constructed from July 2009 to July 2011. For both phases, the intensity and location of construction activity typical for any given day during the construction duration will be very limited due to the fact construction and placement of the new fence sections will occur directly adjacent to the existing fence, which limits the area of active construction and requires certain measures be taken at the beginning and end of each day's construction activities in order to constantly maintain TSA security requirements for LAX.
- **Korean Air Cargo Terminal Improvement Project--**This project will include the construction of additional warehouse and office space, among other improvements. It was assumed that construction would begin in mid-2009 and extend for approximately one year. It was estimated that this project would generate 13 worker trips per day and 12 delivery truck trips per day.

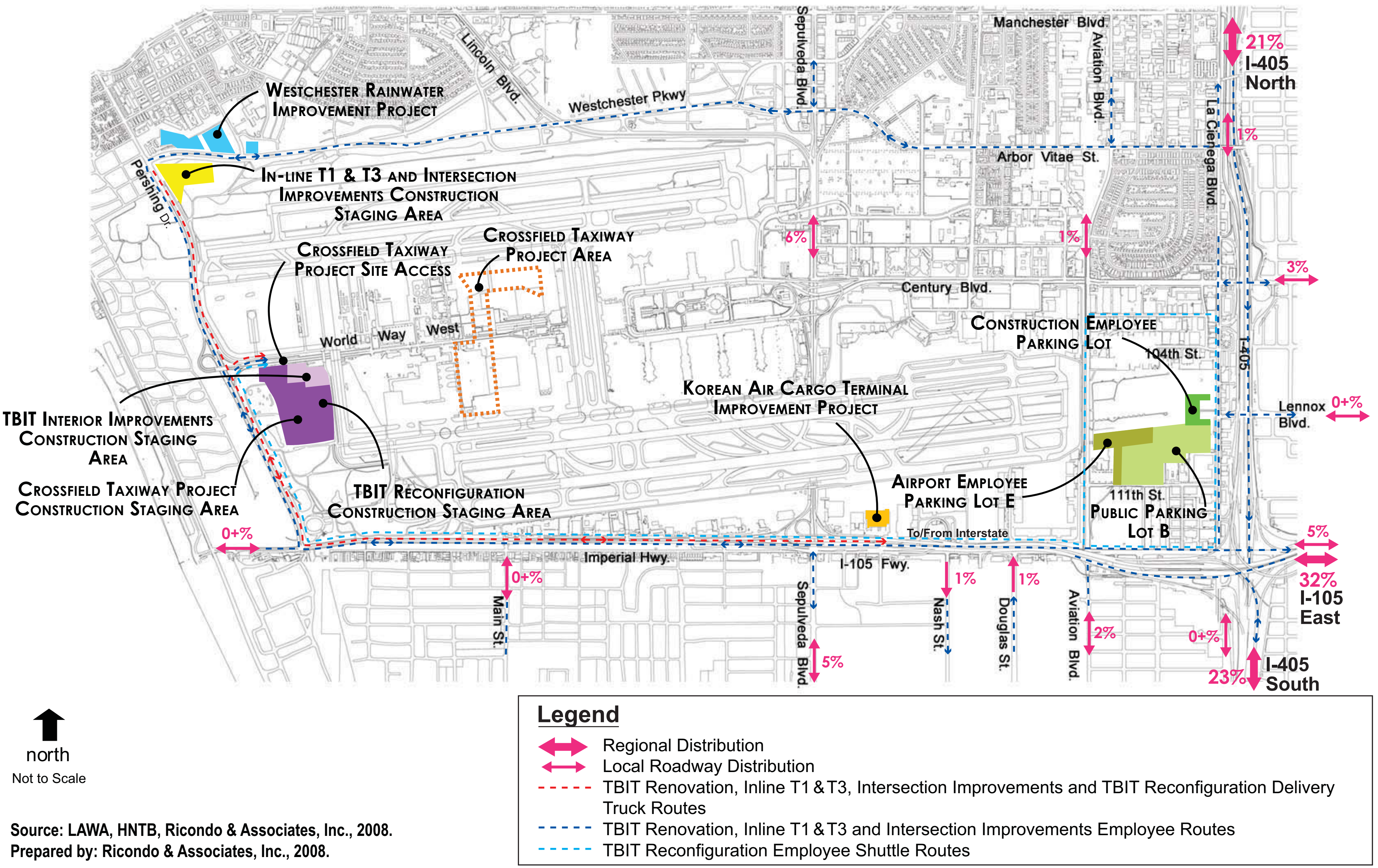
In addition, it is anticipated that the following LAX Master Plan project would also be under construction:

- **TBIT Reconfiguration Project** - Construction is scheduled to begin in the fourth quarter of 2009 and extend beyond the completion of the CFTP.

The construction of the first two non-Master Plan projects listed above (TBIT Interior Improvements Program and In-Line Baggage Screening Systems) was underway during the data collection for the CFTP. Therefore, construction volumes associated with these projects are directly accounted for within the traffic data collected for this study. The Airfield Intersection Improvements and Perimeter Fence Enhancements construction projects are relatively small as compared to the first two projects. Construction-related trips associated with these two projects would be small and are represented within the general growth rate assumed for background traffic. Estimated construction traffic associated with the Korean Air Cargo Terminal Improvement Project was included in the analysis.

The traffic activity associated with the TBIT Reconfiguration Project has been calculated for this study and has been directly incorporated into this analysis. Based on the current level of planning and the anticipated timing for other Master Plan projects, it is not anticipated that other LAX Master Plan projects would be under construction during the construction period for the CFTP. However, as discussed previously, the assumed conservative growth in background traffic is anticipated to produce a conservative traffic volume scenario that would account for the effects of additional construction-related traffic in the event that additional LAX Master Plan construction projects were to be initiated during the time horizon evaluated for this study.

The locations of construction staging areas and general circulation patterns of construction-related vehicle activity for the TBIT Reconfiguration Project, TBIT Interior Improvements Program (i.e., TBIT Renovations), In-Line Baggage Screening Systems, and Airfield Intersection Improvements projects are depicted in **Figure 4.1-5**. As shown in the figure, the TBIT Interior Improvements Program staging area is located in the same general area as the staging area for the CFTP. The staging area for the TBIT Interior Improvements Program activities is located on the west side of the airport accessed via World Way West (east of the entrance to the CFTP site). Materials would be transported from the staging area to the project site via World Way West and across the secure airside for both the above projects. The staging area for the In-Line Baggage Screening Systems and Airfield Intersection Improvements project components is assumed to be located on adjacent parcels near the northeast quadrant of the intersection of Westchester Boulevard and Pershing Drive. It is assumed that materials would be transported from the staging area to the project site via World Way West.



Source: LAWA, HNTB, Ricondo & Associates, Inc., 2008.
Prepared by: Ricondo & Associates, Inc., 2008.

LAX Crossfield Taxiway Project Draft EIR	Other LAX Construction Projects Vehicle Routes & Trip Distribution	Figure 4.1-5

Based on preliminary construction planning for the TBIT Reconfiguration Project, construction employees for that project are anticipated to park on the east side of the airport in the construction employee parking lot adjacent to La Cienega Boulevard. The employees would use the employee shuttles to access the staging area on the west side. Vehicle trips associated with the construction of the TBIT Reconfiguration Project are presented in tabular form. **Table 4.1-8** represents the vehicle trips associated with the TBIT Reconfiguration Project during the CFTP peak (fourth quarter 2009) and **Table 4.1-9** represents the vehicle trips associated with the TBIT Reconfiguration Project during the cumulative peak (second quarter 2010). The locations of the TBIT Reconfiguration Project construction employee parking lot, and other relevant features of the project are depicted in **Figure 4.1-5**. As shown in the figure, delivery trucks are anticipated to use the regional freeway system to Imperial Highway to access the project site located on World Way West. The estimated flow paths used by the employees are documented in Appendix B-4.

Construction employees for the other three of the non-Master Plan projects are assumed to park in their respective construction staging areas. The TBIT Interior Improvements Program and In-Line Baggage Screening Systems construction projects were already underway during the traffic data collection in August 2008 and are, therefore, considered to be included in the "background" traffic data for the Baseline 2008 condition. All of the listed construction projects are anticipated to be underway during the CFTP construction peak during the fourth quarter of 2009. Furthermore, it is anticipated that the construction of these projects will continue through the cumulative peak in early 2010; however, these projects will be in their ending stages during this period. Therefore, it is assumed that the construction traffic generated by all three projects is not expected to be any higher than during the August 2008 data collection time frame and, therefore, the estimated volumes would be conservative.

As shown in the tables, the peak construction-related morning flow was assumed to occur between 5:00 and 6:00 a.m. with approximately 65 equivalent passenger car trips generated by the TBIT Reconfiguration Project during the CFTP peak, and 118 equivalent passenger car trips generated during the cumulative peak. These peak morning trips will be combined with the 6:00 a.m. to 7:00 a.m. roadway traffic volumes to form the employee a.m. peak hour (6:00 a.m. to 7:00 a.m.). Adding construction-related trips to the construction 6:00 to 7:00 a.m. volumes would provide for a conservative volume estimate that is higher than the traffic volumes that would result from adding the construction-related volumes to the 5:00 to 6:00 a.m. "background" traffic volumes. This assumption is conservative because it would potentially result in more project-related impacts than would evaluation of the 5:00 to 6:00 a.m. time period. It is anticipated that the analysis would be representative of actual conditions in the event that construction scheduling provides employee shift start times closer to 7:00 a.m.

During the construction employee p.m. peak hour (3:30 p.m. to 4:30 p.m.), the TBIT Reconfiguration Project is estimated to generate about 71 equivalent passenger car trips during the CFTP peak and about 137 equivalent passenger car trips during the cumulative peak. Note that it was conservatively assumed that entering and exiting employee trips would overlap during the 3:30 to 4:30 peak hour. Employee trips entering the site would be compressed into a 30-minute period from 3:30 to 4:00 p.m. and employees exiting the site would leave during the 30-minute period from 4:00 to 4:30. Delivery vehicle trips accommodated during the 3:30 to 4:30 p.m. employee peak hour are comprised of half of the trips from 3:00 to 4:00 p.m. period plus all of the trips from 4:00 to 5:00 hour (which are assumed to access the site from 4:00 to 4:30 p.m.).

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 4.1-10**. The regional population distribution is based on information obtained from the LAX Master Plan Final EIR and the 2001 Air Passenger Survey and developed for use during the SAIP traffic study. Subsequently, the 2006 Air Passenger Survey was completed. Based on a review of the survey data, it was determined that the travel patterns and regional population distribution has not materially changed as compared with 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 remains unchanged from the 2005 SAIP EIR.

Table 4.1-8

TBIT Reconfiguration Trips during the CFTP Peak (Fourth Quarter 2009)

	Construction Trips in Passenger Car Equivalents (PCEs)						
Hour	**Employee Trips In[1]**	**Employee Trips Out[1]**	**Shuttle Trips In[2]**	**Shuttle Trips Out[2]**	**Delivery Trips In[3]**	**Delivery Trips Out[3]**	**Total Construction**
0:00 - 1:00	0	0	0	0	0	0	0
1:00 - 2:00	0	0	0	0	0	0	0
2:00 - 3:00	0	8	12	12	0	0	32
3:00 - 4:00	0	0	0	0	4	4	8
4:00 - 5:00	0	0	0	0	5	5	10
5:00 - 6:00	31	0	12	12	5	5	65
6:00 - 7:00	0	0	0	0	0	0	0
7:00 - 8:00	0	0	0	0	0	0	0
8:00 - 9:00	0	0	0	0	0	0	0
9:00 - 10:00	0	0	0	0	8	8	16
10:00 - 11:00	0	0	0	0	8	8	16
11:00 - 12:00	0	0	0	0	8	8	16
12:00 - 13:00	0	0	0	0	8	8	16
13:00 - 14:00	0	0	0	0	8	8	16
14:00 - 15:00	0	0	0	0	8	8	16
15:00 - 16:00	8	0	6	6	8	8	36
16:00 - 17:00	0	31	6	6	0	0	43
17:00 - 18:00	0	0	0	0	0	0	0
18:00 - 19:00	0	0	0	0	0	0	0
19:00 - 20:00	0	0	0	0	5	5	10
20:00 - 21:00	0	0	0	0	5	5	10
21:00 - 22:00	0	0	0	0	5	5	10
22:00 - 23:00	0	0	0	0	0	0	0
23:00 - 0:00	0	0	0	0	0	0	0
Total	**39**	**39**	**36**	**36**	**85**	**85**	**320**
Summary of Analysis Hours							
Construction AM (5:00-6:00 a.m.)	31	0	12	12	5	5	65
Construction PM (3:30-4:30 p.m.)[4]	8	31	12	12	4	4	71

1 An occupancy of 1.15 employees per vehicle is included in the employee trip calculations.
2 Shuttles with maximum 40 person capacity or smaller will transport employees between the construction parking lot and the construction site with 6 trips in the 30 minutes before and after each shift. Shuttle trips converted at a rate of 2 to passenger car equivalent trips.
3 Truck trips converted at a rate of 2.5 to passenger car equivalents trips.
4 Construction employee trips are not permitted during the commuter peak periods of 7:00 - 9:00 a.m. and 4:30 - 6:30 p.m. Therefore, the employee trips during the p.m. construction peak hour were assumed to occur between 3:30 and 4:30 p.m.

Source: HNTB Corporation, 2008.

Table 4.1-9

TBIT Reconfiguration Trips during the Cumulative Peak (Second Quarter 2010)

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]	Total Construction
0:00 - 1:00	0	0	0	0	0	0	0
1:00 - 2:00	0	0	0	0	0	0	0
2:00 - 3:00	0	19	12	12	0	0	43
3:00 - 4:00	0	0	0	0	10	10	20
4:00 - 5:00	0	0	0	0	10	10	20
5:00 - 6:00	74	0	12	12	10	10	118
6:00 - 7:00	0	0	0	0	0	0	0
7:00 - 8:00	0	0	0	0	0	0	0
8:00 - 9:00	0	0	0	0	0	0	0
9:00 - 10:00	0	0	0	0	20	20	40
10:00 - 11:00	0	0	0	0	20	20	40
11:00 - 12:00	0	0	0	0	20	20	40
12:00 - 13:00	0	0	0	0	20	20	40
13:00 - 14:00	0	0	0	0	20	20	40
14:00 - 15:00	0	0	0	0	20	20	40
15:00 - 16:00	19	0	6	6	20	20	71
16:00 - 17:00	0	74	6	6	0	0	86
17:00 - 18:00	0	0	0	0	0	0	0
18:00 - 19:00	0	0	0	0	0	0	0
19:00 - 20:00	0	0	0	0	10	10	20
20:00 - 21:00	0	0	0	0	10	10	20
21:00 - 22:00	0	0	0	0	10	10	20
22:00 - 23:00	0	0	0	0	0	0	0
23:00 - 0:00	0	0	0	0	0	0	0
Total	**93**	**93**	**36**	**36**	**200**	**200**	**658**
Summary of Analysis Hours							
Construction AM 5:00-6:00 a.m.)	74	0	12	12	10	10	118
Construction PM (3:30-4:30 p.m.)[4]	19	74	12	12	10	10	137

1 An occupancy of 1.15 employees per vehicle is included in the employee trip calculations.

2 Shuttles with maximum 40 person capacity or smaller will transport employees between the construction parking lot and the construction site with 6 trips in the 30 minutes before and after each shift. Shuttle trips converted at a rate of 2 to passenger car equivalent trips.

3 Truck trips converted at a rate of 2.5 to passenger car equivalents trips.

4 Construction employee trips are not permitted during the commuter peak periods of 7:00 - 9:00 a.m. and 4:30 - 6:30 p.m. Therefore, the employee trips during the p.m. construction peak hour were assumed to occur between 3:30 and 4:30 p.m.

Source: HNTB Corporation, 2008.

Table 4.1-10

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
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	**16,687,468**	**100%**	**21%**	**23%**	**32%**	**24%**	**100%**

Source: LAX Master Plan Supplement to the Draft EIR, Figure 4.3.2-3 (Existing 1996 Airport Traffic versus Non-Airport Traffic comparison); Applied Management & Planning Group, 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.

As shown in the table and in **Figure 4.1-5**, 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 presented at the roadway level 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 comprised 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 comprising 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 these 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 within 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-4.

4.1.5.2 Transportation Network Improvements

The California Department of Transportation (Caltrans) is currently constructing High Occupancy Vehicle (HOV) lanes northbound and southbound on the I-405 Freeway from the I-10 Freeway to SR-90. According to Caltrans' website (http://www.dot.ca.gov/dist07/travel/projects/?pib=det&id=21#hrule), construction is expected to be completed by Winter 2008. It is not believed that this construction has resulted in traffic diverting from the freeway to local streets comprising the study area.

The westbound I-105 off-ramp to northbound Sepulveda Boulevard began construction in August 2008. This project will widen the off-ramp to install a third lane. Lane closures on the westbound I-105 off-ramp to northbound Sepulveda Boulevard are not expected to take place until the last half of 2009. This off-ramp would not be used by construction vehicles or employees associated with the CFTP. According to an e-mail from Mr. David Njoya, Construction Engineer/Senior Resident Engineer for Caltrans to LAWA on August 18, 2008, the traffic generated by the contractors' work force is very 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. This off-ramp widening project is scheduled for completion by January 2010.

In addition, Lincoln Boulevard (SR-1) is undergoing improvements by Caltrans. In August 2008, Caltrans opened four lanes northbound from LMU Drive to Jefferson Boulevard and four lanes southbound from Jefferson Boulevard, narrowing to three lanes just north of LMU Drive. Phase 2, currently under construction, will widen Lincoln Boulevard from La Tijera Boulevard to LMU Drive to provide an additional northbound lane along with traffic signal modifications. Projected completion for Phase 2 is late-summer 2008. Given that the Lincoln Boulevard project is on the north side of the airport, it is not anticipated that the ongoing construction would have a material effect on traffic accessing the study area intersections.

The City of Los Angeles is currently improving Sepulveda Boulevard from Howard Hughes Parkway to south of 92nd Street. One component of the project will include widening Sepulveda Boulevard south of Manchester Avenue to create three moving lanes of traffic, with parking, for both northbound and southbound directions. Projected completion of the project is in 2009. Since Sepulveda Boulevard is located north of the airport, it is expected that the ongoing construction would not affect traffic accessing the study area intersections.

4.1.5.3 Local Area Construction and Development Projects

The Westchester Rainwater Improvement Project is anticipated to begin construction in 2009 and extend for approximately one-year. 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. For purposes of including construction related traffic in this study, it was estimated that this construction project would generate 48 truck trips per day and 10 worker trips per day.

Planned development projects in the City of Los Angeles and neighboring communities within the vicinity of the study area are listed in **Table 4.1-11**. The list was prepared to document and describe all known local area development projects that may contribute traffic to the CFTP study area. The list is based on consultation with representatives of the Los Angeles Department of Transportation (LADOT), Culver City, El Segundo, Hawthorne, Inglewood, Los Angeles County, and Manhattan Beach. The table 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 commuter periods that do not coincide with the "off-peak" construction peak periods analyzed for the construction of the CFTP. As described in Section 4.1.7, the CFTP construction-related traffic would be managed such that construction-related trips from the project would be negligible during those a.m. and p.m. peak commuter periods. Therefore, it is anticipated that traffic volumes generated by these projects during the peak hours analyzed for construction traffic would be generally lower than the volumes shown in the table.

The construction schedules and specific dates of occupancy for most of the developments were not provided. However, given the locations of these projects, it is reasonable to assume that construction-related traffic would access those projects via freeway ramps and roadways that are outside the CFTP 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 are anticipated to generate relatively few commuter peak hour trips (and even fewer trips during the peak hours analyzed for the project) within the project study area. Given these characteristics, it is anticipated that traffic volumes generated by any of the developments listed in the table that are 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 generated by local developments on the study area intersections would be further reduced given that the peak hours being evaluated for this study do not coincide with the commuter a.m. and p.m. peaks that generally correspond with the peak traffic generation periods for most of these developments.

4.1.6 CEQA Thresholds of Significance

As described in Section 4.1.2.1, for the SAIP, which is similar in nature to the CFTP, LADOT stated that intersection analysis was sufficient and analysis of freeway and roadway links was not required given that the project will not produce traffic volumes during the a.m. and p.m. commuter peak hours; therefore, criteria for determining significant impacts is limited to analysis of intersections. In accordance with LADOT criteria defined in their *Traffic Study Policy and Procedures* (March 2002), a transportation impact at an intersection is determined by conducting a cumulative analysis of traffic conditions that include the project traffic as well as the effects of growth in ambient background traffic and other non-project related traffic. Based on the LADOT definition, 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
- 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 is comprised of the future v/c ratio at an intersection that includes volume from the project, baseline, ambient background growth, and other related projects, but without proposed traffic mitigation 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" project, baseline, ambient background growth, 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 study and in accordance with CEQA, project impacts were determined by comparing the level of service results for the following conditions:

- Project Impacts--In accordance with CEQA, the direct project impacts are determined by calculating the difference in LOS for (a) the Baseline (2008) Plus Peak CFTP LOS and (b) the Baseline (2008) LOS. This is a comparison required to isolate the direct impacts of the project. With this comparison, the difference in LOS is compared to the thresholds identified earlier in this section to determine if the project results in a significant impact.
- Cumulative Impacts--The cumulative impacts analysis is intended to provide a realistic comparison of future traffic conditions comprised of traffic generated by all anticipated sources described previously in this document. Cumulative impacts were analyzed using a two-step process. An initial comparison was made to compare the cumulative "With Project" LOS condition against the Baseline (2008) condition to determine if a cumulative impact would occur relative to the Baseline. A cumulative impact was deemed to occur 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 the "Without Project" levels of service. If the differences in LOS was calculated to exceed the threshold guidelines defined in this section, then it was determined that the project component of the analysis would comprise a cumulatively considerable contribution of the impact.

Table 4.1-11

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
1	Baldwin Hills Scenic Overlook Park	Hetzler Road	10,300 sq. ft. visitor center, passive recreation area	CC / CO	265	3	12	Under construction
2	Condominiums	3846 Bentley Avenue	4 units	CC	23	2	2	Anticipated completion 2009
3	Condominiums	3873 Bentley Avenue	2 units	CC	12	1	1	Existing abandoned home per field visit 8/7/08
4	Condominiums	3823 / 3388 Huron Avenue	15 units, with 3 existing units to be removed	CC	70	6	6	Under construction as of 8/7/08
5	Condominiums	3862 Huron Avenue	5 units	CC	30	3	3	Existing home per field visit of 8/7/08
6	Condominiums	4067/ 4073 Lincoln Boulevard	8-units and 20 parking spaces	CC	47	4	4	Construction complete per field visit 8/7/08
7	Condominiums	9650 Lucerne Avenue	6 units	CC	35	3	3	Entitlements approved
8	Condominiums	4058 Madison Avenue	4 units	CC	23	2	2	Anticipated completion 2009
9	Condominiums	4228 Madison Avenue	2 units	CC	12	1	1	Existing homes; no such address per field visit 8/7/08
10	Condominiums	3838 Tilden Avenue	4 units	CC	23	2	2	Nearing end of construction per field visit 8/7/08
11	Condominiums	3968/ 3972 Tilden Avenue	8 units	CC	46	4	4	Under construction as of 8/7/08
12	Condominiums	4014 Van Buren Place	4 units	CC	23	2	2	Building permit
13	Condominiums	4025 Wade Street	4 units	CC	23	2	2	Anticipated completion 2009
14	Condominiums	13340 Washington Boulevard	41 unit condominium development with 6 live/work condominium units in Culver City and 35 Units in LA	CC/ LA	240	18	21	No construction per field visit 8/7/08
15	Condominium Conversion	3910 Girard Avenue	7 units	CC	41	3	4	Existing structure per field visit 8/7/08; possibly completed?
16	Distribution & Warehouse	3434 Wesley Street	10,500 sq. ft. office, warehouse and distribution	CC	137	16	86	Entitlements; no building permit
17	Entrada Office Tower	6161 Centinela Avenue	342,409 sq. ft. office tower and 9-level parking structure	CC	3,442	502	462	EIR under review by City
18	FAYNSOD Family Trust	11501-11509 Washington Boulevard	Mixed Use: 2,359 sq. ft. retail; 937 sq. ft. office, and 2 apartments	CC	155	9	87	Entitlement stage
19	Fire Station No. 3	6030 Bristol Parkway	Two-story, 12,156 sq. ft. fire station	CC	67	9	9	Building permit
20	Glencoe/Washington Mixed Use	13365 Washington Boulevard	5,000 sq. ft. retail and 19 condominium units	CC	333	14	24	Existing closed restaurant per field visit 8/7/08
21	Hampton Inn	3954 Sepulveda Boulevard	77-unit hotel	CC	629	43	45	No construction per field visit 8/7/08
22	Live/ Work Lofts	10839 Washington Boulevard	3 Live/ Work units and 12 parking spaces	CC	33	5	4	Anticipated completion 2009
23	Max Leather AUP	8533 Washington Boulevard	An additional 3,763 sq. ft. of manufacturing	CC	14	3	3	No construction per field visit 8/7/08; possibly completed?
24	Mixed Use Development	11281 Washington Place	5,340 sq. ft. retail and 8 units of residential	CC	284	10	18	Existing abandoned gas station per field visit 8/7/08
25	Office & Retail Bldg.	700-701 Corporate Pointe	240,612 sq. ft. of office and 4,242 sq. ft. of retail	CC	2,811	384	359	No construction per field visit 8/7/08
26	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	6,340	461	627	Building permit
27	Park Century School	3939 Landmark Street	Conversion of industrial space to school use and additional 6,950 sq. ft.	CC	365	162	-25	Nearing end of completion per field visit 8/7/08
28	Public Storage Expansion	8512 National Boulevard	Addition of 71,570 sq. ft. to an existing public storage facility	CC	355	32	34	No construction per field visit 8/7/08; possibly completed?
29	Sony	10202 Washington Boulevard	Approved to build net new 100,000 sq. ft. of office, post-production, stage, and support uses.	CC				Unsure of status per field visit 8/7/08; gated lot
30	Turning Point School (K through 8)	8794 National Boulevard	Addition/remodel of net 9,000 sq. ft.	CC	N/A	107	61	Building permit
31	Union 76	10638 Culver Boulevard	Gas station and convenience store with new car wash; 2,500 sq. ft.	CC	N/A	N/A	N/A	No construction per field visit 8/7/08; no car wash
32	Uptown Lofts	9900 Culver Boulevard	5,500 sq. ft. of office and 18 condominium units	CC	248	26	94	Anticipated completion 2009
33	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				Anticipated completion 2009
34	Washington/National Specific Plan and EIR - Phase 1	Washington Boulevard/National Boulevard	638 dwelling units; 206,608 sq. ft. retail; 154,361 sq. ft. office; 485,996 sq, ft. light industrial	CC	19,874	1,235	2,071	EIR in preparation
35	Westfield Fox Hills Mall Expansion	200 Fox Hills Mall	293,786 sq. ft. of retail and 427 parking spaces	CC	13,682	299	1,275	Anticipated completion 10/2009
36	West Los Angeles Community College Master Plan	Overland Avenue at Freshman Drive	8,592 additional students	CC/ CO	10,034	669	664	Parking lot and math/science bldg. under construction; Anticipated completion of the Master Plan is 2011
37	Admiralty Apartments (Parcel 140)	4160 Admiralty Way	179 Apartments, with removal of 64 existing apartments	CO	417	40	37	No construction per field visit 8/5/08
38	Best Western Jamaica Bay Inn (Parcel 27R)	4175 Admiralty Way	Renovation & Expansion 42-room hotel by an additional 69 rooms.	CO	564	38	24	No construction per field visit 8/5/08
39	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	1,081	47	51	No construction per field visit 8/5/08

Table 4.1-11

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
40	Del Rey Shores Apartments (Parcels 100 and 101)	4247-4275 Via Marina	544 apartments (202 existing units to be removed)	CO	800	120	111	No construction per field visit 8/5/08
41	Diner (Parcel 33)	4211 Admiralty Way	351 Apartments; 24,500 sq. ft. retail; 10,000 sq. ft restaurant (existing restaurant to be removed)	CO	1,145	184	22	Existing Panifico's Restaurant per field visit 8/5/08
42	Esprit Phase 1 (Parcel 12)	13900 Marquesas Way	35 town homes; 2,000 sq. ft. of specialty retail; 2,000 sq. ft. of restaurant	CO	548	40	56	Construction complete per field visit 8/5/08; also at 13924 Marquesas Way
43	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	2,375	98	209	No construction per field visit 8/5/08
44	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	199	-36	128	No construction per field visit 8/5/08; Existing Islands restaurant and Caldwell Bank
45	Government Office Building	Panay Way and Via Marina	26,000 sq. ft.	CO	286	40	57	No construction per field visit 8/5/08
46	Holiday Harbor Courts (Parcels 21 and OT)	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				Nearing end of construction per field visit 8/5/08
47	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	3,104	253	228	No construction per field visit 8/5/08
48	Lloyd Taber Marina del Rey Library (Parcel 40)	4533 Admiralty Way	Library	CO				Existing Library. No construction per field visit 8/5/08
49	Marina City Club Towers Marina del Rey	4333 Admiralty Way	600 units	CO	3,516	264	196	No construction per field visit 8/5/08
50	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	1,785	171	152	No construction per field visit 8/5/08
51	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	18	1	2	No construction per field visit 8/5/08
52	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 8/5/08
53	Marina del Rey Tower Project	4363 Lincoln Boulevard	158 high-rise residential condominium units; 3,180 sq. ft. of specialty retail; parking structure with 409 parking spaces	CO	386	47	71	Existing Beverly Hills Rent-a-Car per field visit 8/5/08
54	Marina Expressway Homes	Marina Expressway Eastbound & Mindanao Way	28 Single family condominiums	CO				No construction per field visit 8/5/08
55	Marriott Residence Inn (Parcel IR)	Admiralty Way and Via Marina	149-room hotel	CO	1,201	82	52	No construction per field visit 8/5/08
56	Sea Glass Town Homes	6719 Pacific Avenue	36 condominiums	CO				No construction per field visit 8/5/08
57	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	1,106	93	88	No construction per field visit 8/5/08
58	Waterside Shopping Center (Parcel 50)	13555 Fiji Way	4,880 sq. ft. of specialty retail, with removal of 2,400 sq. ft.	CO	208	6	21	Existing West Marine Boats appears to be a new facility.
59	1950 Grand Avenue Office	1950 Grand Avenue	93,569 sq. ft. Office Building	ES				Construction complete per field visit 8/5/08; not fully occupied
60	2151 East Grand Avenue Office	2151 East Grand Avenue	125,000 sq. ft. Office Building	ES				Construction complete per field visit 8/5/08; not fully occupied
61	Commercial Buildings	126, 130, 134 & 138 Lomita Street	4 new commercial buildings	ES				Nearing end of construction per field visit 8/5/08
62	Condominiums	347 Concord Street	3 units	ES	20	3	3	Existing apartments per field visit 8/5/08
63	Condominiums	505 W. Grand Avenue	4 units	ES	27	4	4	Construction complete per field visit 8/5/08
64	Condominiums	425 & 429 Indiana Street	8 units	ES	54	8	8	No construction per field visit 8/5/08
65	Condominiums	1700 Mariposa Avenue	11 units	ES	74	11	11	Empty lot per field visit of 8/5/08
66	Condominiums	215-223 Penn Street	8 units	ES	54	8	8	Construction complete per field visit 8/5/08; not fully occupied
67	Condominiums	412 Richmond Street	4 units	ES	27	4	4	No construction per field visit 8/5/08
68	Condominiums	712 Virginia Street	4 units	ES	27	4	4	Construction complete per field visit of 8/5/08
69	Condominiums	203 Whiting Street	4 units	ES	27	4	4	Under construction as of 8/5/08
70	Corporate Headquarters Office	455 / 475 Continental Boulevard	330,000 sq. ft. office; 22,500 sq. ft. Research and Development	ES		664	632	No construction per field visit of 8/5/08
71	El Segundo Athletic Field	2201 E. Mariposa Avenue	Public Recreation Facility (Soccer Field)	ES				Construction complete per field visit 8/5/08; possibly incorrect address?
72	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	21,366	2,267	2,795	Construction appears to be complete on Phase I, but no construction on Phase II per field visit 8/5/08

Table 4.1-11

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
73	El Segundo Plaza	307-331 N. Sepulveda Boulevard	commercial	ES				Construction complete per field visit 8/5/08; not fully occupied
74	Electronics Superstore	Aviation Boulevard and Utah Avenue/ 135th Street	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 vacant office building per field visit 8/5/08
75	Equinox	445 N. Douglas Street	314,000 sq. ft computer Data Center	ES				Construction complete per field visit 8/5/08
76	Grand Park Plaza	Grand Ave between Arena and Eucalyptus		ES				Construction complete per field visit 8/5/08 if this project is the strip mall on south side.
77	High Bay Lab	901 N Nash Street	55,772 sq. ft.	ES		69	60	Existing Boeing facility per field visit 8/5/08
78	LA Air Force Base – Area A	SE corner of El Segundo Boulevard and Aviation Boulevard	625 condominiums	ES		330	405	Under construction as of 8/5/08
79	LA Air Force Base – Area B	NW corner of El Segundo Boulevard and Aviation Boulevard	63,000 sf warehouse; 560,000 sf office park; 93,750 sf base exchange; 43,125 sf health club; 34,463 sf medical office	ES	7,499	815	711	Existing surface parking lot per field visit of 8/5/08
80	Northrup-Grumman	SE corner of Mariposa Avenue and Douglas Street	190,000 sq ft. industrial uses	ES	1,324	175	186	Existing facility per field visit 8/5/08; no construction
81	Office	888 N Sepulveda Boulevard	120,000 sq. ft.	ES		217	214	Existing retail per field visit 8/5/08
82	Office	141 Main Street	commercial	ES				Existing closed restaurant per field visit 8/5/08
83	Plaza El Segundo, Phase 1B	NE Corner of Sepulveda Boulevard and Rosecrans Avenue	70,000 sq. ft. retail shopping center	ES	2,108	60	197	No construction per field visit 8/5/08
84	Plaza El Segundo Phase 2A	NE Corner of Sepulveda Boulevard and Rosecrans Avenue	commercial	ES				No construction per field visit 8/5/08
85	Self Storage Facility (Pacific Planning Group)	Southern California Edison Property at Hughes Way		ES				Could not locate
86	The Aerospace Corp. (Office and Laboratory)	2350 E El Segundo Boulevard	150,000 sq. ft. office and 15,000 sq. ft lab	ES				Existing Aerospace Corp. facility per field visit 8/5/08; no construction
87	Xerox Phase IV	1951-1961 El Segundo Boulevard	255,242 sq. ft office; 350-room hotel	ES		629	614	Existing office building per field visit 8/5/08; no construction
88	Condominiums	13429-31 Kornblum Avenue	6 units	HA				Existing single family home per field visit 8/6/08
89	Condominiums	14629 Lemoli Avenue	3 units	HA				Under construction per field visit 8/6/08
90	Condominiums	11533 Freeman Avenue	5 unit conversion	HA				Existing apartment building per field visit 8/6/08
91	Condominiums	11975 Manor Drive	3 units	HA				Vacant lot per field visit 8/6/08
92	Condominiums/Office	13806 Hawthorne Boulevard	171 units and 32,500 sq. ft of office space	HA	80	213		Closed mortuary per field visit 8/6/08
93	Condominiums	13632 Cerise Avenue	6 unit conversion	HA				Completed per field visit 8/6/08
94	Condominiums	11418 Grevillea Avenue	7 units	HA				Existing lawn mower business per field visit 8/6/08
95	Hotel Extensions	4334 W. Imperial Highway	165 rooms	HA				Under review by City, per the City's website on 8/6/08
96	L.A. Air Force Base - Lawndale Annex	East of Aviation Boulevard and South of Rosecrans Avenue	285 condominium units	HA	122	142		Fusion Development at Aviation Boulevard and 149th Place is completed per field visit 8/6/08. No other condominium projects seen.
97	Prestige Villas	4500 116th Street	116 condominium units	HA	72	85		
98	Recycling Center at Ralph's Grocery Store	11873 Hawthorne Boulevard	Recycling center	HA				Status listed as "continued" per City's website on 8/6/08
99	Single Family Homes	14000 Yukon Avenue	6 units	HA				Four existing single family homes per field visit 8/6/08
100	Wiseburn School District	5403 W. 138th St and 5309 W. 135th St and 13500 Aviation Boulevard	School Renovation. Existing Peter Burnett School at 5403 W. 138th Street	HA				Juan Cabrillo Elementary School under construction at 5309 W. 135th Street per field visit 8/6/08
101	Adult School and Day Care	106 East Manchester Boulevard	27,477 sq. ft.; office conversion	IN				Existing adult school under renovation per field visit of 8/6/08
102	Auto Sales and Retail	Prairie Avenue and Imperial Highway, NE Cor	49,000 sq. ft.	IN				Under construction per field visit of 8/6/08

Table 4.1-11

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
103	Commercial Building Addition	234 W. Manchester Boulevard	12,029 sq. ft.	IN				Construction nearing completion per field visit of 8/6/08
104	Condominiums	501 East 99th Street	12 units	IN				Existing home per field visit of 8/6/08
105	Condominiums	940 North Cedar Street	14 units	IN				Existing apartments per field visit 8/6/08
106	Condominiums	448 North Edgewood Street	6 units	IN				Existing home per field visit of 8/6/08
107	Condominium	417- 420 N. Market Street	12 units	IN				Existing home per field visit of 8/6/08
108	Condominiums	450 N. Market Street	12 units	IN				Not started per field visit of 8/7/08
109	Condominiums	912 S. Myrtle Avenue	7 units	IN				Existing apartments per field visit 8/6/08
110	Condominium	546 - 568 W. Olive Street	12 units	IN				Completed, but not fully occupied per field visit of 8/6/08
111	Condominiums	927 South Osage Avenue	7 units	IN				Existing home per field visit of 8/6/08
112	Condominium	222 W. Spruce Avenue	10 units	IN				Vacant lot per field visit of 8/6/08
113	Condominium	311 W. Queen Street	8 units	IN				Completed, but not fully occupied per field visit of 8/6/08
114	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; 10,000 sq. ft. of civic use; 120,000 sq ft. casino	IN				Final EIR scheduled for August 2008
115	Mixed retail/restaurant	Florence Avenue and La Brea Avenue, SE corner	49,800 sq. ft.	IN				Vacant lot per field visit of 8/6/08
116	Mixed retail/restaurant	Southwest corner of Century/Prairie (Haagen)	97,490 sq. ft.	IN				Existing Taco Bell per field visit of 8/6/08
117	Residential	704 N. Market Street	6 units	IN				Vacant lot per field visit of 8/6/08
118	Retail and Office	10318 S. Prairie Avenue	10,000 sq. ft.	IN				Under construction per field visit of 8/6/08
119	Senior Center and Housing	111 N. Locust Street	95,188 sq. ft.	IN				Vacant lot per field visit of 8/6/08
120	Shopping Center	11441 S. Crenshaw Boulevard	101,323 sq. ft.	IN				Burlington Coat Factory store complete; further construction pending per field visit 8/6/08
121	Shopping Center	433 North Centinela Avenue	7,384 sq. ft.	IN				Vacant lot per field visit of 8/6/08
122	Shopping Center	10922 South Prairie Avenue	8,416 sq. ft.	IN				Vacant paved lot per field visit of 8/6/08
123	Single Family Homes	11901 S. Yukon Avenue	9 units	IN				Existing housing per field visit of 8/6/08
124	Transitional Housing	733 S. Hindry Avenue	232,966 sq. ft.	IN				Existing transitional housing per field visit of 8/6/08
125	Transitional Housing	812 S. Osage Avenue	20 units	IN				Vacant lot per field visit of 8/6/08
126	Ambrose Hotel	901 Abbot Kinney Boulevard	57-room hotel, 1,200 sq. ft. of retail and 4,300 sq. ft. restaurant	LA	723	30	54	No construction per field visit 8/7/08; existing business open
127	Animo High School	841 California Avenue	402-student Charter School	LA	1,470	332	176	Unsure of status per field visit 8/7/08; fenced and screened lot
128	Grosvernor Court	5550 Grosvernor Boulevard	215 condo units	LA	1,260	95	112	New surface lot for church per field check 8/7/08
129	Lincoln Boulevard Mixed Use	4004 S. Lincoln Boulevard	98 unit condos & 6020 sf retail	LA	1,550	108	101	Nearing end of construction per field visit 8/7/08
130	Residential Mixed Use Project	8601 Lincoln Boulevard	527 apartments, 12 live/work units, 22,600 sq. ft. of ground retail uses and 8,000 sq, ft. of restaurant.	LA	899	2	105	Under construction
131	Villa Allegra	Sepulveda Boulevard, W/S, south of Howard Hughes	Townhomes	LA				Under construction with Spring 2009 opening
132	The Village at Playa Vista	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	24,220	1,626	2,302	No construction per field visit 8/7/08
133	Washington Square	300 Washington Boulevard (at Via Dolce)	123 unit condominiums; 6,000 sq. ft. office space. (Existing 176,671 sq. ft. office building to be removed)	LA	-1,194	-222	-250	Under construction per field visit of 8/5/08
134	Hotel	1800 Sepulveda Boulevard	52 room hotel	MB				Existing strip mall per field visit 8/5/08
135	Medical Office	1008 Sepulveda Boulevard	22,790 sq. ft. medical office; 665 sq ft. pharmacy; 1,715 sq. ft coffee shop; (existing 5,400 sq. ft. restaurant to be removed)	MB				Construction complete per field visit 8/5/08
136	Manhattan Village Shopping Center	3200 N. Sepulveda Boulevard	52,000 sq. ft. mall expansion	MB				Existing shopping center per field visit 8/5/08; no construction
137	Medical Office	2200 Sepulveda Boulevard	29, 000 sq. ft. medical office (6,700 sq. ft. existing retail to be removed)	MB				Existing retail per field visit 8/5/08
138	Mixed-Use Project (former Good Stuff restaurant)	1300 Highland Avenue	15,000 sq. ft. commercial/office/condominium	MB				Under construction as of 8/5/08
139	Mixed Use Development	2201 Highland Avenue	1,500 sq. ft. retail/restaurant; 2 condominiums	MB	N/A	25	34	Construction complete per field visit 8/5/08
140	Medical Plaza	222 Sepulveda Boulevard (NE Corner of Sepulveda Boulevard and 2nd Street)	21,000 sq. ft. medical office building. (Existing 4,770 sq. ft. auto repair shop to be removed.)	MB				Existing building closed. No construction per field visit 8/5/08.

Table 4.1-11

Planned Development Projects

No.	Project Name	Address	Description	City[1]	Net Daily Trips	Net AM Trips[2]	Net PM Trips[3]	Comments
141	Office Building	330 S. Sepulveda Boulevard	56,000 sq. ft. office building	MB				Construction complete per field visit 8/5/08
142	Retail	1727 Artesia Boulevard	5,800 sq. ft. retail	MB				In construction as of 8/5/08
143	Rite Aid Store	1100 Manhattan Beach Boulevard	13,000 sq. ft. retail (Existing 8,600 sq. ft. gas station to be removed.)	MB				In construction as of 8/5/08
144	Sketchers Office Building	330 S. Sepulveda Boulevard	56,000 sq. ft. office	MB	N/A	117	142	Construction complete per field visit 8/7/08
145	Walgreens	2400 Sepulveda Boulevard	15,000 sq. ft. retail	MB				Not started per field visit of 8/5/08

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 Represents peak hour trips during the am commuter peak hour (8:00 am to 9:00 am).
3 Represents peak hour trips during the pm commuter peak hour (5:00 pm to 6:00 pm).

Source: Projects in Culver City from "Culver City Related Projects List" updated November 2, 2007 and sent by Culver City staff to LAWA. 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. Projects in City of Hawthorne from their website, http://www.cityofhawthorne.com/depts/planningcommdev/pending_applications/default.asp dated August 6, 2008. Projects in Inglewood from "Related Projects" list dated 3/27/08. Projects in Manhattan Beach faxed from Manhattan Beach City staff to LAWA in March 2008. Information regarding Project # 129 from LADOT Revised Traffic Assessment letter dated October 14, 2003. Information regarding Project # 133 provided by Shoko Yoshikawa of LADOT via e-mail on August 6, 2008.

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4.1.7 LAX Master Plan Commitments and Mitigation Measures

The following transportation-related Master Plan commitments identified in the LAX Master Plan Mitigation Monitoring and Reporting Program are applicable to the CFTP and thus are included as part of the project for the purposes of environmental review:

- **C-1. Ground Transportation/Construction Coordination Office.** This office will 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.

  The Ground Transportation/Construction Coordination Office, which was used during the SAIP, is located on airport property on World Way West near the construction staging area.
- **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-9. Construction Deliveries.** Construction deliveries requiring lane closures shall receive prior approval from the Ground Transportation/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 nighttime hours and shall avoid the peak periods of 7:00 to 9:00 a.m. and 4:30 to 6:30 p.m.

  This measure provides guidelines for controlling the arrival and departure times of construction related traffic during peak commuter periods, and served as input for developing an estimated schedule of CFTP 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., and 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.

  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 CFTP. 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 weekends.
- **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 for the CFTP are planned to include, but will not necessarily be limited to: Pershing Drive (Imperial Highway to the project site at World Way West); Imperial Highway (Pershing Drive to I-105); I-405; and I-105.

4.1.8 Impact Analysis

In accordance with CEQA Guidelines and as described previously in Section 4.1.2, potential traffic-related impacts pertaining to the construction of the CFTP were assessed by conducting the three impact comparisons described in the following sections.

4.1.8.1 Impact Comparison 1--Peak Project Traffic Plus Baseline (2008) Traffic Measured Against Baseline (2008)

This comparison is required under CEQA and provides the basis for determining project-related impacts. The comparison is based on project specific traffic activity during the Peak CFTP Project (fourth quarter 2009) added to the Baseline (2008) traffic volumes. The resulting levels of service are compared to the levels of service associated with the Baseline (2008) condition. A significant impact would be realized if/when the thresholds of significance defined in Section 4.1.6 are met or exceeded.

The impact comparison for this condition is depicted in **Table 4.1-12**. The associated level of service sheets are provided in Appendix B-3.

As shown in the table, the CFTP would not produce a significant traffic impact at any of the study area intersections.

4.1.8.2 Impact Comparison 2--Cumulative Traffic at CFTP Peak (Q4 2009) Measured Against Baseline (2008)

This comparison is conducted in two steps. An initial comparison is conducted by comparing the level of service associated with cumulative traffic volumes during the peak period of CFTP construction with the Baseline 2008 levels of service. This initial comparison is conducted to determine if there is a significant cumulative impact. If a significant cumulative impact is determined, then an additional comparison is conducted to determine if the project produces a cumulatively considerable share of the impact. This second comparison is conducted by comparing the cumulative conditions both with and without the project. Cumulatively considerable contributions are realized when the thresholds of significance defined in Section 4.1.6 are met or exceeded.

The impact comparison for this condition is depicted in **Table 4.1-13**. As shown in the table, it is anticipated that a significant cumulative impact would occur at Intersection #3 and at Intersection #13 during the construction p.m. peak hour. However, further review indicates that traffic volumes associated with the CFTP are not cumulatively considerable because the change in v/c resulting from the project is smaller than the allowed v/c increase of 0.01 when the intersection is operating at LOS E or F. Specifically, at Intersection #3 the v/c increase from the project was 0.002. Intersection #13 would experience only 0.001 increase in v/c resulting from the CFTP. Consequently, it has been determined that traffic generated by the CFTP would not produce any cumulatively considerable contributions at the study area intersections during the CFTP peak construction period anticipated to occur in the fourth quarter of 2009.

4.1.8.3 Impact Comparison 3--Cumulative Traffic at Overall Peak (Q2 2010) Measured Against Baseline (2008)

This evaluation of the overall cumulative peak during the second quarter of 2010 is conducted using the same process as for the previous comparison.

The impact comparison for this condition is depicted in **Table 4.1-14**. As shown in the table, it is anticipated that a significant cumulative impact would occur at Intersections #2, #3 and #13 during the construction p.m. peak hour. However, further review indicates that traffic volumes associated with the CFTP are not cumulatively considerable because the change in v/c resulting from the project is smaller than the allowed v/c increase as defined by the thresholds. Specifically, at Intersection #2 the v/c increase from the CFTP was 0.011 as compared with an allowable increase of 0.04 at LOS C. At both

Intersection #3 and Intersection #13, the increase was 0.002 as compared with an allowable increase of 0.01 at LOS F. Consequently, it has been determined that traffic generated by the CFTP would not produce any cumulatively considerable contributions at the study area intersections during the overall cumulative peak period anticipated to occur in the second quarter of 2010.

4.1.9 Mitigation Measures

As described in the previous section, the CFTP would not produce significant traffic related impacts or cumulatively considerable contributions within the study area; therefore, no mitigation measures are required. However, implementation of Master Plan Commitments C-1, C-2, ST-9, ST-12, ST-14, ST-16 through ST-18, and ST-22 would help to ensure that impacts to surface transportation from CFTP construction would be less than significant.

Table 4.1-12

Level of Service Analysis Results - Impact Comparison 1 Peak CFTP Plus Baseline (2008) Compared to Baseline (2008)

	Intersection	Peak Hour[1]	Baseline (2008) V/C[2]	Baseline (2008) LOS[3]	Peak CFTP Plus Baseline (2008) V/C[2]	Peak CFTP Plus Baseline (2008) LOS[3]	Change in V/C	Significant Impact
1.	Imperial Hwy. & Pershing Dr.	Construction AM	0.501	A	0.524	A	0.023	No
		Construction PM	0.461	A	0.475	A	0.014	No
2.	Imperial Hwy. & Main St.	Construction AM	0.405	A	0.417	A	0.012	No
		Construction PM	0.716	C	0.727	C	0.011	No
3.	Imperial Hwy. & Sepulveda Blvd.	Construction AM	0.509	A	0.514	A	0.005	No
		Construction PM	1.185	F	1.186	F	0.001	No
4.	Imperial Hwy. & Nash St.	Construction AM	0.377	A	0.382	A	0.005	No
		Construction PM	0.3	A	0.304	A	0.004	No
5.	Imperial Hwy. & Douglas St.	Construction AM	0.147	A	0.15	A	0.003	No
		Construction PM	0.524	A	0.53	A	0.006	No
6.	Imperial Hwy. & Aviation Blvd.	Construction AM	0.523	A	0.571	A	0.048	No
		Construction PM	0.667	B	0.669	B	0.002	No
7.	Imperial Hwy. & I-105 EB Ramps	Construction AM	0.492	A	0.518	A	0.026	No
		Construction PM	0.529	A	0.552	A	0.023	No
8.	Imperial Hwy. & La Cienega Blvd.	Construction AM	0.22	A	0.225	A	0.005	No
		Construction PM	0.568	A	0.583	A	0.015	No
9.	Imperial Hwy. & I-405 NB Ramps	Construction AM	0.246	A	0.248	A	0.002	No
		Construction PM	0.554	A	0.556	A	0.002	No
10.	Century Blvd. & Aviation Blvd.	Construction AM	0.469	A	0.469	A	0.000	No
		Construction PM	0.757	C	0.761	C	0.004	No
11.	Aviation Blvd. & 111th St.	Construction AM	0.344	A	0.37	A	0.026	No
		Construction PM	0.463	A	0.463	A	0.000	No
12.	La Cienega Blvd. & I-405 SB Ramps N of Century	Construction AM	0.442	A	0.454	A	0.012	No
		Construction PM	0.56	A	0.564	A	0.004	No
13.	La Cienega Blvd. & Century Blvd.	Construction AM	0.392	A	0.422	A	0.030	No
		Construction PM	0.910	E	0.912	E	0.002	No
14.	La Cienega Blvd. & I-405 SB Ramps S of Century	Construction AM	0.238	A	0.238	A	0.000	No
		Construction PM	0.424	A	0.424	A	0.000	No
15.	La Cienega Blvd. & 104th St.	Construction AM	0.154	A	0.228	A	0.074	No
		Construction PM	0.356	A	0.382	A	0.026	No
16.	La Cienega Blvd. & Lennox Blvd.	Construction AM	0.224	A	0.224	A	0.000	No
		Construction PM	0.408	A	0.408	A	0.000	No
17.	La Cienega Blvd. & 111th St.	Construction AM	0.122	A	0.124	A	0.002	No
		Construction PM	0.363	A	0.402	A	0.039	No

Table 4.1-12

Level of Service Analysis Results - Impact Comparison 1 Peak CFTP Plus Baseline (2008) Compared to Baseline (2008)

	Intersection	Peak Hour[1]	Baseline (2008) V/C[2]	Baseline (2008) LOS[3]	Peak CFTP Plus Baseline (2008) V/C[2]	Peak CFTP Plus Baseline (2008) LOS[3]	Change in V/C	Significant Impact
18.	La Cienega Blvd. & I-405 SB Ramps N of Imperial	Construction AM	0.173	A	0.173	A	0.000	No
		Construction PM	0.279	A	0.302	A	0.023	No
19.	Century Blvd. & I-405 NB Ramps	Construction AM	0.541	A	0.555	A	0.014	No
		Construction PM	0.577	A	0.581	A	0.004	No

1 The hours of analysis include the Construction a.m. peak (6:00 - 7:00 a.m.), and the Construction p.m. peak (3:30 - 4:30 p.m.).

2 Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection with the exception of intersections #9, and #19, which are not a part of the LADOT system

3 Level of Service: Range: A (excellent) to F (failure).

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

Table 4.1-13

Level of Service Analysis Results - Impact Comparison 2 Cumulative Traffic at CFTP Peak (Fourth Quarter 2009)

Intersection	Peak Hour[1]	Baseline (2008) [A] V/C[2]	Baseline (2008) [A] LOS[3]	CFTP Project Peak (Q4 2009) Without Project [B] V/C[2]	Without Project [B] LOS[3]	CFTP Project Peak (Q4 2009) With Project [C] V/C[2]	With Project [C] LOS[3]	Cumulative Impact Determination [C]-[A] Change in V/C	Cumulative Impact Determination [C]-[A] Cumulative Impact?	Cumulative Considerable Determination/Significant Impact [C]-[B] Change in V/C	Cumulative Considerable Determination/Significant Impact [C]-[B] CFTP Traffic Cumulatively Considerable Contribution?
1 Imperial Hwy. & Pershing Dr.	Construction AM	0.501	A	0.536	A	0.559	A	0.058	--[4]	0.023	--
	Construction PM	0.461	A	0.485	A	0.498	A	0.037	--	0.013	--
2 Imperial Hwy. & Main St.	Construction AM	0.405	A	0.422	A	0.434	A	0.029	--	0.012	--
	Construction PM	0.716	C	0.742	C	0.754	C	0.038	--	0.012	--
3 Imperial Hwy. & Sepulveda Blvd.	Construction AM	0.509	A	0.522	A	0.527	A	0.018	--	0.005	--
	Construction PM	1.185	F	1.210	F	1.212	F	0.027	Yes	0.002	--
4 Imperial Hwy. & Nash St.	Construction AM	0.377	A	0.394	A	0.399	A	0.022	--	0.005	--
	Construction PM	0.300	A	0.309	A	0.314	A	0.014	--	0.005	--
5 Imperial Hwy. & Douglas St.	Construction AM	0.147	A	0.155	A	0.158	A	0.011	--	0.003	--
	Construction PM	0.524	A	0.541	A	0.547	A	0.023	--	0.006	--
6 Imperial Hwy. & Aviation Blvd.	Construction AM	0.523	A	0.549	A	0.597	A	0.074	--	0.048	--
	Construction PM	0.667	B	0.682	B	0.684	B	0.017	--	0.002	--
7 Imperial Hwy. & I-105 EB Ramps	Construction AM	0.492	A	0.512	A	0.538	A	0.046	--	0.026	--
	Construction PM	0.529	A	0.546	A	0.569	A	0.040	--	0.023	--
8 Imperial Hwy. & La Cienega Blvd.	Construction AM	0.220	A	0.229	A	0.232	A	0.012	--	0.003	--
	Construction PM	0.568	A	0.584	A	0.599	A	0.031	--	0.015	--
9 Imperial Hwy. & I-405 NB Ramps	Construction AM	0.246	A	0.252	A	0.253	A	0.007	--	0.001	--
	Construction PM	0.554	A	0.565	A	0.567	A	0.013	--	0.002	--
10 Century Blvd. & Aviation Blvd.	Construction AM	0.469	A	0.481	A	0.481	A	0.012	--	0.000	--
	Construction PM	0.757	C	0.775	C	0.778	C	0.021	--	0.003	--
11 Aviation Blvd. & 111th St.	Construction AM	0.344	A	0.361	A	0.387	A	0.043	--	0.026	--
	Construction PM	0.463	A	0.476	A	0.486	A	0.023	--	0.010	--
12 La Cienega Blvd. & I-405 SB Ramps N of Century	Construction AM	0.442	A	0.455	A	0.467	A	0.025	--	0.012	--
	Construction PM	0.560	A	0.573	A	0.577	A	0.017	--	0.004	--
13 La Cienega Blvd. & Century Blvd.	Construction AM	0.392	A	0.404	A	0.441	A	0.049	--	0.037	--
	Construction PM	0.910	E	0.930	E	0.931	E	0.021	Yes	0.001	--
14 La Cienega Blvd. & I-405 SB Ramps S of Century	Construction AM	0.238	A	0.244	A	0.244	A	0.006	--	0.000	--
	Construction PM	0.424	A	0.434	A	0.434	A	0.010	--	0.000	--
15 La Cienega Blvd. & 104th St.	Construction AM	0.154	A	0.181	A	0.254	A	0.100	--	0.073	--
	Construction PM	0.356	A	0.376	A	0.403	A	0.047	--	0.027	--
16 La Cienega Blvd. & Lennox Blvd.	Construction AM	0.224	A	0.231	A	0.231	A	0.007	--	0.000	--
	Construction PM	0.408	A	0.417	A	0.417	A	0.009	--	0.000	--
17 La Cienega Blvd. & 111th St.	Construction AM	0.122	A	0.128	A	0.131	A	0.009	--	0.003	--
	Construction PM	0.363	A	0.382	A	0.421	A	0.058	--	0.039	--

Table 4.1-13

Level of Service Analysis Results - Impact Comparison 2 Cumulative Traffic at CFTP Peak (Fourth Quarter 2009)

		Baseline (2008) [A]		CFTP Project Peak (Q4 2009) Without Project [B]		CFTP Project Peak (Q4 2009) With Project [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**	**CFTP Traffic Cumulatively Considerable Contribution?**
18 La Cienega Blvd. & I-405 SB Ramps N of Imperial	Construction AM	0.173	A	0.177	A	0.177	A	0.004	--	0.000	--
	Construction PM	0.279	A	0.291	A	0.315	A	0.036	--	0.024	--
19 Century Blvd. & I-405 NB Ramps	Construction AM	0.541	A	0.555	A	0.569	A	0.028	--	0.014	--
	Construction PM	0.577	A	0.590	A	0.594	A	0.017	--	0.004	--

1 The hours of analysis include the Construction a.m. peak (6:00 - 7:00 a.m.), and the Construction p.m. peak (3:30 - 4:30 p.m.).
2 Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection with the exception of intersections #9, and #19, which are not a part of the LADOT system
3 Level of Service: Range: A (excellent) to F (failure).
4 -- Indicates response No

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

Table 4.1-14

Level of Service Analysis Results - Impact Comparison 3 Cumulative Traffic at Overall Peak (Second Quarter 2010)

	Intersection	Peak Hour[1]	Baseline (2008) [A]		Overall Cumulative Peak (Q2 2010) Without Project [B]		With Project[1] [C]		Cumulative Impact Determination [C]-[A]		Cumulative Considerable Determination/Significant Impact [C]-[B]	
			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	CFTP Traffic Cumulatively Considerable Contribution?
1	Imperial Hwy. & Pershing Dr.	Construction AM	0.501	A	0.552	A	0.573	A	0.072	--[4]	0.021	--
		Construction PM	0.461	A	0.497	A	0.510	A	0.049	--	0.013	--
2	Imperial Hwy. & Main St.	Construction AM	0.405	A	0.434	A	0.444	A	0.039	--	0.010	--
		Construction PM	0.716	C	0.761	C	0.772	C	0.056	Yes	0.011	--
3	Imperial Hwy. & Sepulveda Blvd.	Construction AM	0.509	A	0.535	A	0.540	A	0.031	--	0.005	--
		Construction PM	1.185	F	1.236	F	1.238	F	0.053	Yes	0.002	--
4	Imperial Hwy. & Nash St.	Construction AM	0.377	A	0.404	A	0.408	A	0.031	--	0.004	--
		Construction PM	0.300	A	0.318	A	0.322	A	0.022	--	0.004	--
5	Imperial Hwy. & Douglas St.	Construction AM	0.147	A	0.159	A	0.162	A	0.015	--	0.003	--
		Construction PM	0.524	A	0.551	A	0.558	A	0.034	--	0.007	--
6	Imperial Hwy. & Aviation Blvd.	Construction AM	0.523	A	0.573	A	0.617	B	0.094	--	0.044	--
		Construction PM	0.667	B	0.698	B	0.699	B	0.032	--	0.001	--
7	Imperial Hwy. & I-105 EB Ramps	Construction AM	0.492	A	0.530	A	0.553	A	0.061	--	0.023	--
		Construction PM	0.529	A	0.565	A	0.586	A	0.057	--	0.021	--
8	Imperial Hwy. & La Cienega Blvd.	Construction AM	0.220	A	0.235	A	0.239	A	0.019	--	0.004	--
		Construction PM	0.568	A	0.601	B	0.615	B	0.047	--	0.014	--
9	Imperial Hwy. & I-405 NB Ramps	Construction AM	0.246	A	0.257	A	0.259	A	0.013	--	0.002	--
		Construction PM	0.554	A	0.577	A	0.579	A	0.025	--	0.002	--
10	Century Blvd. & Aviation Blvd.	Construction AM	0.469	A	0.491	A	0.491	A	0.022	--	0.000	--
		Construction PM	0.757	C	0.793	C	0.796	C	0.039	--	0.003	--
11	Aviation Blvd. & 111th St.	Construction AM	0.344	A	0.376	A	0.399	A	0.055	--	0.023	--
		Construction PM	0.463	A	0.490	A	0.492	A	0.029	--	0.002	--
12	La Cienega Blvd. & I-405 SB Ramps N of Century	Construction AM	0.442	A	0.469	A	0.479	A	0.037	--	0.010	--
		Construction PM	0.560	A	0.587	A	0.591	A	0.031	--	0.004	--
13	La Cienega Blvd. & Century Blvd.	Construction AM	0.392	A	0.410	A	0.459	A	0.067	--	0.049	--
		Construction PM	0.910	E	0.950	E	0.952	E	0.042	Yes	0.002	--
14	La Cienega Blvd. & I-405 SB Ramps S of Century	Construction AM	0.238	A	0.250	A	0.250	A	0.012	--	0.000	--
		Construction PM	0.424	A	0.444	A	0.444	A	0.020	--	0.000	--
15	La Cienega Blvd. & 104th St.	Construction AM	0.154	A	0.204	A	0.271	A	0.117	--	0.067	--
		Construction PM	0.356	A	0.390	A	0.414	A	0.058	--	0.024	--
16	La Cienega Blvd. & Lennox Blvd.	Construction AM	0.224	A	0.236	A	0.236	A	0.012	--	0.000	--
		Construction PM	0.408	A	0.427	A	0.427	A	0.019	--	0.000	--

Table 4.1-14

Level of Service Analysis Results - Impact Comparison 3 Cumulative Traffic at Overall Peak (Second Quarter 2010)

	Intersection	Peak Hour[1]	Baseline (2008) [A]		Overall Cumulative Peak (Q2 2010) Without Project [B]		Overall Cumulative Peak (Q2 2010) With Project[1] [C]		Cumulative Impact Determination [C]-[A]		Cumulative Considerable Determination/Significant Impact [C]-[B]	
			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	CFTP Traffic Cumulatively Considerable Contribution?
17	La Cienega Blvd. & 111th St.	Construction AM	0.122	A	0.133	A	0.135	A	0.013	--	0.002	--
		Construction PM	0.363	A	0.402	A	0.437	A	0.074	--	0.035	--
18	La Cienega Blvd. & I-405 SB Ramps N of Imperial	Construction AM	0.173	A	0.182	A	0.182	A	0.009	--	0.000	--
		Construction PM	0.279	A	0.304	A	0.325	A	0.046	--	0.021	--
19	Century Blvd. & I-405 NB Ramps	Construction AM	0.541	A	0.570	A	0.583	A	0.042	--	0.013	--
		Construction PM	0.577	A	0.603	B	0.606	B	0.029	--	0.003	--

1 The hours of analysis include the Construction a.m. peak (6:00 - 7:00 a.m.), and the Construction p.m. peak (3:30 - 4:30 p.m.).
2 Volume to capacity ratio. Includes an LADOT ATSAC benefit applied at each intersection with the exception of intersections #9, and #19, which are not a part of the LADOT system
3 Level of Service Range: A (excellent) to F (failure).
4 -- Indicates response No

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

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4.2 Air Quality

4.2.1 Introduction

The LAX Master Plan Final EIR analyzed future air pollutant emissions and proposed mitigation measures to address potential Master Plan-related programmatic air quality impacts. The LAX Master Plan Final EIR documents potential pollutant emissions for the assumed peak construction year for Alternative D (2005), an interim year (2013), and a future operational year (2015). The primary purpose of this air quality analysis is to examine, at a greater level of detail, potential air quality impacts associated specifically with the construction of the CFTP. As described in Section 1.2.3, this EIR for the CFTP tiers from the analysis and findings documented in the LAX Master Plan Final EIR. This analysis has been further refined to incorporate detailed project-related assumptions regarding construction equipment that would be utilized and airport activity levels during the construction of the CFTP.

The air quality analysis conducted for the CFTP addresses emissions from construction activities (e.g., on-site and off-site construction equipment, fugitive dust) that would occur during the temporary construction period. The analysis describes conditions occurring during the 6-quarter construction period. Off-airport ground access vehicle traffic not directly associated with the construction activity was not evaluated as part of this analysis because the CFTP is expected to have a negligible effect on non-construction airport-related vehicle trips. In addition, following construction activities the CFTP is expected to have a slight beneficial effect on airport operational air quality impacts due to reduced taxi and delay times for aircraft movements between the north and south airfields (see Section 2.1.3). The operational benefit for air quality is quantified in terms of criteria pollutant emission reductions listed in Section 4.2.6, and in terms of greenhouse gas reductions discussed in Section 4.4, *Global Climate Change*.

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 and quarterly emissions thresholds established by the South Coast Air Quality Management District (SCAQMD) for the South Coast Air Basin (Basin).[28]

4.2.1.1 Pollutants of Interest

Six criteria pollutants were evaluated for the CFTP, 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 reactive organic gases (ROG) and oxides of nitrogen (NO_x). These pollutants were analyzed because they were shown to have significant impacts in the air quality analysis documented in Section 4.6 of the LAX Master Plan Final EIR. Although lead (Pb) is a criteria pollutant, it was not evaluated in this EIR because construction of the CFTP would have a negligible impact on lead emissions in the Basin.

Following standard industry practice, the evaluation of ozone was conducted by evaluating emissions of ROG 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. Therefore, no photochemical ozone modeling was conducted for the CFTP. Additional information regarding the six criteria pollutants that were evaluated in the air quality analysis is presented below.

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28 South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993; as updated by "SCAQMD Air Quality Significance Thresholds," December 2007 and July 2008, Available: http://www.aqmd.gov/CEQA/handbook/signthres.pdf.

Ozone (O_3)

Ozone, commonly referred to as smog, is formed in the atmosphere rather than being directly emitted from pollutant sources. Ozone forms as a result of ROGs and NO_x reacting in the presence of sunlight in the atmosphere. Ozone levels are highest in warm-weather months. ROGs 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 vehicles. The health effects associated with exposure to carbon monoxide are related to its interaction 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 and PM2.5 refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers. Particulates 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.[29] PM10 and PM2.5 can accumulate in the respiratory system and are associated with a variety of negative health effects. Exposure to particulates 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, factories, and vehicle movement 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. 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 the 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

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

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) includes 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. Large SO_2 concentrations are found in the vicinity of large industrial facilities. 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.

4.2.1.2 Scope of Analysis

As discussed above, the air quality analysis conducted for the CFTP addresses construction-related impacts for the approximately 16-month construction period. The basic steps involved in performing the analysis are listed below.

- Identify construction-related emissions sources.
- Develop annual, quarterly, and peak daily construction emissions inventories.
- Compare emissions inventories with appropriate CEQA thresholds for construction.
- Identify potential construction-related mitigation measures beyond LAX Master Plan commitments and mitigation measures (if required).

4.2.2 Methodology

The air quality assessment for the CFTP was conducted in accordance with Federal Aviation Administrative (FAA) guidelines for assessing environmental impacts and the SCAQMD's 1993 *CEQA Air Quality Handbook*.[30] The details of emission estimating and modeling used in this evaluation are consistent with those used in the preparation of the LAX Master Plan Final EIR, the Final General Conformity Determination,[31] and the Final EIR for the South Airfield Improvement Project (SAIP).[32] The following methodology discussion is designed to supplement the methodology discussions provided in Appendix F-B of the LAX Master Plan Final EIR, Appendix B of the Final General Conformity Determination, and Appendix K of the Final EIR for the SAIP.

4.2.2.1 Construction

Annual, quarterly, and peak daily air pollutant emissions inventories were developed for the CFTP for the construction-related activities. Emissions estimates for CO, ROG, NOx, 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 devices and on-road equipment (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

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

31 U.S. Department of Transportation, Federal Aviation Administration, Clean Air Act Final General Conformity Determination, Los Angeles International Airport Proposed Master Plan Improvements Alternative D, January 2005.

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

piles, rock crushing operations, and dust entrainment from vehicle travel on paved and unpaved roadways were also quantified as part of the construction emissions inventories.

In order to estimate construction emissions, resource requirements and activity schedules were developed by the construction contractor, HNTB Corporation. Daily estimates of equipment usage (in hours) were also developed for specific construction activities and crews (e.g., demolition, earthwork, and pavement).

Annual, quarterly, and peak day emissions estimates were developed for the construction period based on the numbers and types of construction equipment expected to be used each day of the project and the proposed construction schedule. Peak-day emissions estimates were developed for each construction quarter.

Emissions estimates for CFTP 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. 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 and shown in Appendix C. 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 construction contractor, HNTB Corporation. Emission rates were obtained from the CARB off-road emission factor database and were adjusted using load factors from Table A9-8-D of SCAQMD's CEQA Air Quality Handbook. Off-road construction equipment data are presented in Appendix C.

Off-road exhaust emission factors for CO, ROG, NO_x, and PM10 were developed using the CARB OFFROAD2007 Model.[33] PM2.5 emission factors were developed using the 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 Appendix C.

Daily emissions for off-road equipment were calculated by multiplying an emission factor by the horsepower, load factor, and daily operational hours for each type of equipment. Annual and quarterly off-road emissions were derived from the daily emissions estimates and the project's construction schedule. Off-road peak daily emissions were calculated for each quarter.

On-Road On-Site Equipment

On-road on-site equipment emissions are generated from 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.[34] The SCAQMD compiled EMFAC2007 factors[35] were used and the most conservative fleet mix of summer versus winter were used.

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33 California Air Resources Board, OFFROAD2007 Model and South Coast Air Basin Fleet Averages, Available: http://www.aqmd.gov/CEQA/handbook/offroad/offroad.html, April 2008.

34 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.

35 South Coast Air Quality Management District, Available: http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html, April 11, 2008.

On-road on-site equipment types were substituted with vehicle types corresponding to CARB vehicle classes. Emission factors for gasoline-powered vehicles were derived from EMFAC2007 Burden Model peak emissions (winter, annual, summer), taking the weighted average of vehicle types and simplifying into two categories: passenger vehicles and delivery trucks. Emissions factors for heavy duty diesel vehicles were based on the Heavy-Heavy-Duty Diesel Truck (HHDT) emission factors from EMFAC2007 Burden Model.

EMFAC2007 emission factors, expressed in pounds per mile, were used to calculate emissions in pounds per day. The EMFAC factors account for start-up, running, and idling. In addition, the ROG emission factors include diurnal, hot soak, running, and resting emissions, and the PM10 and PM2.5 factors include tire and brake wear.

Annual and quarterly 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 aggregate and cement for the batch plant, taxiway base material, and miscellaneous material; and hauling away of cut material unsuitable for on-site reuse, contaminated soil for disposal, demolition spoils 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. EMFAC2007 was used to calculate emission factors (all six criteria pollutants including PM2.5) 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. Quarterly and annual emissions were then calculated using the proposed construction schedule. Data for on-road off-site vehicle emissions, including vehicle substitutions, VMT and emissions factors, are presented in 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,[36] USEPA's AP-42,[37] 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, quarterly 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).[38] All haul trucks, flatbed trucks and automobiles were assumed to travel on paved roads.

Fugitive dust emissions from on-site construction activities (grading, crushing, loading, hauling, and storage) were calculated from the AP-42 and URBEMIS.

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36 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.

37 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, April 2008.

38 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.

Fugitive dust emissions associated with the operation of a concrete batch plant at the staging area were quantified as part of the air quality analysis. Based on the expected operating hours for the rock crusher, as well as the amount of concrete and asphalt pavement to be crushed, fugitive dust emissions from operation of an on-site rock crusher were calculated using emission factors from AP-42 Section 11.19.2, Table 11.19.2-2. An overall emission factor was derived by summing emission factors for the following crushing activities: tertiary crushing, fines crushing, and screening. Fugitive dust emissions from the on-site concrete batch plant were calculated based on the methodology described in Section 11.12 (Concrete Batching) of AP-42. Emission factors were obtained from Table 11.12-4. The batch plant was assumed to operate using a central mix method.

Paving and Painting

Construction materials that can be sources of ROG emissions include hot-mix asphalt paving and runway/taxiway striping. ROG emissions from asphalt paving operations result from the evaporation of the petroleum distillate solvent, or diluent, used to liquefy asphalt cement. Asphalt paving emissions were calculated using the SCAQMD recommended approach included in the URBEMIS model. The URBEMIS model is recommended by SCAQMD for estimation of construction and operation emissions from land use development projects.

ROG emissions from paint striping were calculated based on the project's maximum daily paint usage of 175 gallons, a worst-case paint ROG content of 100 grams per liter,[39] and the proposed construction schedule.

4.2.2.2 Operations

As described in Section 2.1.3, the completion of the CFTP would have a slight beneficial impact on the taxi/idle times of aircraft that need to move between the north and south airfields at LAX. No other operational source would be affected by the CFTP, and only taxi/idle emissions from aircraft would be impacted (reduced) by this project. Therefore, aircraft emissions during taxi/idle modes on the airport following completion of the project are the only operational emissions analyzed for the CFTP. The aircraft types used in airport simulation modeling with and without the CFTP are listed in **Table 4.2-1**. The simulation codes and activity levels represent the 2005 scenario considered in the LAX Master Plan Final EIR. The aircraft descriptions and engine assignments are based on the defaults provided in EDMS Version 5.0.2, thus are not entirely identical to those used in the Master Plan analysis which was developed using EDMS Version 4.2.

Table 4.2-1

Aircraft Codes, Descriptions and Engines Used in Airport Simulation and EDMS Modeling

Simulation Aircraft Code	EDMS Aircraft Code	EDMS Aircraft Description	EDMS Engine
300	A300B4-2	Airbus A300B4-200 Series	CF6-50C2 Low emissions fuel nozzle
319	A319-1	Airbus A319-100 Series	CFM56-5B6/P
320	A320-2	Airbus A320-200 Series	V2527-A5
321	A321-2	Airbus A321-200 Series	V2530-A5
332	A330-2	Airbus A330-200 Series	PW4168 Talon II
717	B717-2	Boeing 717-200 Series	BR700-715A1-30 Improved fuel injector
727	B727-2	Boeing 727-200 Series	JT8D-217 series
733	B737-3	Boeing 737-300 Series	CFM56-3-B1
734	B737-4	Boeing 737-400 Series	CFM56-5B6/P
735	B737-5	Boeing 737-500 Series	CFM56-3C-1
737	B737-1	Boeing 737-100 Series	JT8D-17A

[39] South Coast Air Quality Management District, Rule 1113 - Architectural Coatings, Amended July 13, 2007.

Table 4.2-1

Aircraft Codes, Descriptions and Engines Used in Airport Simulation and EDMS Modeling

Simulation Aircraft Code	EDMS Aircraft Code	EDMS Aircraft Description	EDMS Engine
739	B737-9	Boeing 737-900 Series	CFM56-7B24
73G	B737-7	Boeing 737-700 Series	CFM56-7B22
73H	B737-8	Boeing 737-800 Series	CFM56-7B26
742	B747-2	Boeing 747-200 Series	CF6-50E2 Low emissions fuel nozzle
744	B747-4	Boeing 747-400 Series	PW4056
752	B757-2	Boeing 757-200 Series	PW2040
753	B757-3	Boeing 757-300 Series	PW2040
762	B767-2	Boeing 767-200 Series	CF6-80A
763	B767-3	Boeing 767-300 Series	CF6-80C2B7F 1862M39
764	B767-4	Boeing 767-400	CF6-80C2B8FA 1862M39
777	B777-2	Boeing 777-200 Series	PW4077
A31	A310-2	Airbus A310-200 Series	CF6-80A3
A34	A340-2	Airbus A340-200 Series	CFM56-5C3
BE5	BEECH99	Raytheon Beech 99	PT6A-36
C21	CNA208	Cessna 208 Caravan	PT6A-114A
C55	CNA550	Cessna 550 Citation II	JT15D-4 series
CL6	CL600	Bombardier Challenger 600	CF34-3B
CAN	CNA500	Cessna 500 Citation I	JT15D-1 series
CR7	CRJ7	Bombardier CRJ-700	CF34-8C1
CRJ	CRJ2	Bombardier CRJ-200	CF34-3B
D9S	DC9-5	Boeing DC-9-50 Series	JT8D-17 Reduced emissions
DC1	DC10-3	Boeing DC-10-30 Series	CF6-50C2 Low emissions fuel nozzle
DC8	DC8-7	Boeing DC-8 Series 70	CFM56-2B
DH4	DHC8Q-4	Bombardier de Havilland Dash 8 Q400	PW150A
EM2	EMB120	Embraer EMB120 Brasilia	PW118
ERD	ERJ145	Embraer ERJ145	AE3007A1E Type 3
FAL	FAL20-C	Dassault Falcon 20-C	CF700-2D
GAS	BEECH200	Raytheon Super King Air 200	PT6A-42
GII	GULF2	Gulfstream II	SPEY Mk511 Transply IIH
GIV	GULF4-SP	Gulfstream IV-SP	TAY Mk611-8
HS1	HS125-1	Hawker HS-125 Series 1	TFE731-3
LEA	LEAR35	Bombardier Learjet 35	TFE731-2-2B
M83	MD83	Boeing MD-83	JT8D-219 Environmental Kit (E_Kit)
M87	MD87	Boeing MD-87	JT8D-219
M88	MD88	Boeing MD-88	JT8D-219 Environmental Kit (E_Kit)
MD1	MD11	Boeing MD-11	CF6-80C2D1F 1862M39
MD9	MD90	Boeing MD-90	V2525-D5
MU3	MU300	Mitsubishi MU-300 Diamond	JT15D-4 series
SD3	SD330	Shorts 330	PT6A-45R
SF3	SAAB340-A	Saab 340-A	CT7-5A2
SW4	SA227	Fairchild SA-227-AC Metro III	TPE331-10

Source: CDM, 2008.

The analysis of aircraft taxi/idle emissions was conducted by estimating taxi/idle times with and without the CFTP using airfield simulation modeling. The resulting taxi/idle times were summarized by aircraft type (fleet mix), and emissions for each scenario were calculated using the Version 5.0.2 of the FAA EDMS model.[40] The incremental change in emissions between with and without the CFTP would be the project's operational impact on criteria pollutant emissions.

[40] U.S. Department of Transportation, Federal Aviation Administration, Emissions and Dispersion Modeling System (EDMS), Version 5.0.2, Available: http://www.faa.gov/about/office_org/headquarters_offices/aep/models/edms_model/, December 2007.

4.2.3 Baseline Conditions

Baseline conditions discussed herein refer to calendar year 2006, the last full calendar year for which existing air quality data was available from SCAQMD when the air quality analysis was prepared. The airport is located within the South Coast Air Basin of California, a 6,745 square-mile area encompassing all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties.

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, 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 of 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, ozone, PM10, PM2.5, and SO_2. **Table 4.2-2** 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 ROG and oxides of nitrogen NO_x.

Table 4.2-2

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 µg/m^3)[4]	0.075 ppm (147 µg/m^3)	Same as Primary
	1-Hour	0.09 ppm (180 µg/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 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1-Hour	0.18 ppm (339 µg/m^3)	N/A	N/A
Sulfur Dioxide (SO_2)	Annual	N/A	0.03 ppm (80 µg/m^3)	N/A
	24-Hour	0.04 ppm (105 µg/m^3)	0.14 ppm (365 µg/m^3)	N/A
	3-Hour	N/A	N/A	0.5 ppm (1300 µg/m^3)
	1-Hour	0.25 ppm (655 µg/m^3)	N/A	N/A
Respirable Particulate Matter (PM10)	AAM[7]	20 µg/m^3	N/A	N/A
	24-Hour	50 µg/m^3	150 µg/m^3	Same as Primary
Fine Particulate Matter (PM2.5)	AAM	12 µg/m^3	15 µg/m^3	Same as Primary
	24-Hour	N/A	35 µg/m^3	Same as Primary
Lead (Pb)	Quarterly	N/A	1.5 µg/m^3	Same as Primary
	Monthly	1.5 µg/m^3	N/A	N/A
Sulfates	24-Hour	25 µg/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] µg/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, 2008.

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 CFTP is included in the South Coast Air Basin (Basin), which is a subregion 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 non-attainment area for ozone, PM10, and PM2.5. Non-attainment 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 pollutant are not exceeded again. **Table 4.2-3** presents the attainment designation for each of the federal criteria air pollutants.

Table 4.2-3

South Coast Air Basin Attainment Status

Pollutant (Status as of May 23, 2008)	National Standards	California Standards
Ozone (O_3)	Nonattainment - Severe 17	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

Source: CDM, 2008.

State

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical 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 4.2-2**. The attainment status with regard to the CAAQS is presented in **Table 4.2-3** for each pollutant.

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 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.

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 subregion 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 ROG, 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 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 metropolitan planning organization (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 for determining conformity of transportation projects, plans, and programs with applicable air quality plans.

In the Basin, the City of Los Angeles, CARB, and the SCAQMD have adopted or proposed additional rules and policies governing the use of cleaner fuels in public vehicle fleets. The City of Los Angeles Policy CF#00-0157 requires that all city-owned or operated diesel-fueled vehicles be equipped with particulate traps and that they use ultra-low-sulfur diesel fuel. 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 the air quality analyses conducted for the LAX Master Plan Final EIR and the 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 CFTP air quality analysis; therefore, the estimate of ground access vehicle emissions is considered conservative.

4.2.3.3 Historical and Existing 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 (Westchester), 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 2003 - 2007 in **Table 4.2-4**. In general, the measured concentrations at these locations are below 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.

Table 4.2-4

Southwest Coastal Los Angeles Monitoring Station Ambient Air Quality Data

Pollutant[1,2]	2003	2004	2005	2006	2007
Ozone (O_3)					
Maximum Concentration 1-hr period, ppm	0.110	0.120	0.086	0.084	0.087
Maximum Concentration 8-hr period, ppm	0.077	0.1	0.076	0.067	0.076
Carbon Monoxide (CO)					
Maximum Concentration 1-hr period, ppm	7	4	3	3	[3]
Maximum Concentration 8-hr period, ppm	5.04	3.03	2.14	2.27	2.39
Nitrogen Dioxide (NO_2)					
Maximum Concentration 1-hr period, ppm	0.120	0.091	0.091	0.099	0.084
Annual Arithmetic Mean (AAM), ppm	0.023	[3]	0.013	0.015	0.014
Sulfur Dioxide (SO_2)					
Maximum Concentration 1-hr period, ppm	0.03	0.02	0.04	0.02	[3]
Maximum Concentration 24-hr period, ppm	0.004	0.007	0.012	0.010	0.009
Annual Arithmetic Mean (AAM), ppm	0.001	0.003	0.006	0.002	0.003
Respirable Particulate Matter (PM10)[4,5]					
Maximum (National) Concentration 24-hr period, µg/m^3	58	47	44	45	128
(Maximum (California) Concentration 24-hr period, µg/m^3)	(58)	(46)	(44)	(45)	(96)
Annual (National) Concentration, µg/m^3	29.8	21.5	22.9	23.5	29.3
Annual (California) Concentration, µg/m^3)	(29.6)	([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.
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 Resource Board, 2008.

4.2.4 CEQA Thresholds of Significance

The SCAQMD has developed operational and construction-related thresholds of significance for air quality impacts of projects proposed in the Basin. These thresholds, which are included in the SCAQMD CEQA Air Quality Handbook, are utilized for purposes of CEQA, and are summarized in **Table 4.2-5**. 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 or quarterly construction emission thresholds presented in **Table 4.2-5**.

Table 4.2-5

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

	Mass Emission Thresholds		
	Construction		Operation
Pollutant	lbs/day	tons/quarter	lbs/day
CO	550	24.75	550
NO_x	100	2.5	55
ROG[1]	75	2.5	55
SO_2	150	6.75	150
PM10	150	6.75	150
PM2.5	55	N/A	55
Lead	3	N/A	3

[1] 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 ROG.

Source: SCAQMD, 1993, 2008.

4.2.5 LAX Master Plan Commitments and Mitigation Measures

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 project.

- **MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality.**[41] 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. The LAX MP-MPAQ process has commenced and LAWA is working with its consultants to define the framework for the overall air quality mitigation program and to define specific measures to be implemented in three categories of emission - construction, transportation, and operations.
- **MM-AQ-2. Construction-Related Measure.**[42] 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 4.2-6**. For the CFTP 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 will be implemented as part of the CFTP. These mitigation strategies,

[41] 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.

[42] 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.

presented in **Table 4.2-7**, are expected to further reduce construction-related emissions associated with the CFTP. Other feasible mitigation measures may be defined in the final LAX MP-MPAQ, which will be complete prior to implementation of the CFTP.

Table 4.2-6

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 on and off-site vehicle trips	
Chemical Stabilizers	63% PM10 and 63% PM2.5
Watering (per SCAQMD Rule 403)	63% PM10 and 63% PM2.5

Source: CDM, 2008.

Table 4.2-7

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
Utilize on-site rock crushing facility, when feasible, during construction to reuse rock/concrete and minimize off-site truck haul trips.	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

Table 4.2-7

Construction-Related Air Quality Mitigation Measures

Measure	Type of Measure
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, December 2004.

Additionally, the LAX Master Plan Community Benefits Agreement (CBA) includes several measures applicable to LAX Master Plan projects. 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.

The estimated compatibility of PM filters for the off-road construction equipment identified for the CFTP was determined by Clean Fuel Connection, Inc.,[43] the third-party environmental inspection firm for the LAX SAIP. 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 a 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 Appendix C.

43 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 Construction

Uncontrolled

Uncontrolled CFTP peak daily, quarterly, and annual construction emissions inventories are presented in **Table 4.2-8**. In this analysis, "uncontrolled" refers to the emissions that would occur *without* application of the fugitive dust controls required by SCAQMD Rule 403, and *without* installation of diesel particulate filters required under the CBA. Details of the construction emission input parameters and results are presented in Appendix C. As shown in **Table 4.2-8**, the peak daily emissions of SO_2 and the peak quarterly emissions of CO, SO_2, and PM2.5 for the CFTP would not exceed the SCAQMD construction emission thresholds presented in **Table 4.2-5**. Peak daily emissions of CO, ROG, NO_x, PM10, and PM2.5; and peak quarterly emissions of ROG, NO_x, and PM10 associated with the CFTP would exceed the SCAQMD construction emissions thresholds. Therefore, uncontrolled CFTP construction emissions of CO, ROG, NO_x, PM10, and PM2.5 are significant.

Table 4.2-8

Uncontrolled CFTP Daily, Quarterly and Annual Construction Emissions

Pollutant	Qrtr. 1	Qrtr. 2	Qrtr. 3	Qrtr. 4	Qrtr. 5	Qrtr. 6	Project Max	SCAQMD Significance Threshold	Emissions Exceed Threshold?
Maximum Daily Emissions, Uncontrolled (lb/day)[1]									
Carbon monoxide, CO	399	486	596	461	502	359	596	550	Yes
Reactive organic gas, ROG	95	130	250	262	278	228	278	75	Yes
Nitrogen oxides, NO_x	714	921	1,146	850	939	630	1,146	100	Yes
Sulfur dioxide, SO_2	0.83	1.04	1.29	0.97	1.10	0.76	1.29	150	No
Respirable particulates, PM10	68	289	310	231	274	73	310	150	Yes
Fine particulates, PM2.5	39	92	106	76	90	37	106	55	Yes
Maximum Quarterly Emissions, Uncontrolled (tons/quarter)[1]									
Carbon monoxide, CO	12.86	18.35	19.52	17.06	18.66	10.21	19.52	24.75	No
Reactive organic gas, ROG	2.89	4.61	5.12	4.39	4.98	2.36	5.12	2.50	Yes
Nitrogen oxides, NO_x	21.84	34.35	36.70	31.31	34.46	16.80	36.70	2.50	Yes
Sulfur dioxide, SO_2	0.03	0.04	0.04	0.04	0.04	0.02	0.04	6.75	No
Respirable particulates, PM10	2.32	10.16	9.95	7.93	10.03	2.10	10.16	6.75	Yes
Fine particulates, PM2.5	1.23	3.34	3.39	2.76	3.30	0.97	3.39	N/A	N/A
Total Emissions (tons)	**Year 1 Total**	**Year 2 Total**	**Project Total**						
Carbon monoxide, CO	67.79	28.87	96.66						
Reactive organic gas, ROG	16.95	7.32	24.27						
Nitrogen oxides, NO_x	124.20	51.25	175.45						
Sulfur dioxide, SO_2	0.14	0.06	0.21						
Respirable particulates, PM10	30.37	12.13	42.49						
Fine particulates, PM2.5	10.70	4.27	14.98						

[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 4.2-9.

Source: CDM, 2008.

Controlled

Controlled CFTP peak daily, quarterly, and annual construction emissions inventories are presented in **Table 4.2-9**. Details of the construction emission input parameters and results are presented in Appendix C. As shown in **Table 4.2-9**, the peak daily emissions of SO_2, PM10, and PM2.5 and the peak quarterly emissions of CO, SO_2, PM10, and PM2.5 for the CFTP would not exceed the SCAQMD construction emission thresholds presented in **Table 4.2-5**. Peak daily emissions of CO, ROG, and NO_x and peak quarterly emissions of ROG and NO_x associated with the CFTP would exceed the SCAQMD construction emissions thresholds. Therefore, controlled CFTP construction emissions of CO, ROG, and NO_x are significant.

Table 4.2-9

Controlled CFTP Daily, Quarterly and Annual Construction Emissions

Pollutant	Qrtr 1	Qrtr 2	Qrtr 3	Qrtr 4	Qrtr 5	Qrtr 6	Project Max	SCAQMD Significance Threshold	Emissions Exceed Threshold?
Maximum Daily Emissions, Controlled (lb/day)[1]									
Carbon monoxide, CO	399	486	596	461	502	359	596	550	Yes
Reactive organic gas, ROG	95	130	250	262	278	228	278	75	Yes
Nitrogen oxides, NO_x	714	921	1,146	850	939	630	1,146	100	Yes
Sulfur dioxide, SO_2	0.83	1.04	1.29	0.97	1.10	0.76	1.29	150	No
Respirable particulates, PM10	50	115	98	72	126	49	126	150	No
Fine particulates, PM2.5	28	46	48	36	47	27	48	55	No
Maximum Quarterly Emissions, Controlled (tons/quarter)[1]									
Carbon monoxide, CO	12.86	18.35	19.52	17.06	18.66	10.20	19.51	24.75	No
Reactive organic gas, ROG	2.89	4.61	5.12	4.39	4.98	2.36	5.12	2.50	Yes
Nitrogen oxides, NO_x	21.84	34.35	36.70	31.31	34.46	16.80	36.70	2.50	Yes
Sulfur dioxide, SO_2	0.03	0.04	0.04	0.04	0.04	0.02	0.04	6.75	No
Respirable particulates, PM10	1.81	4.29	3.40	2.74	4.29	1.57	4.29	6.75	No
Fine particulates, PM2.5	0.96	1.72	1.61	1.38	1.80	0.78	1.79	N/A	N/A
Total Emissions (tons)	**Year 1 Total**	**Year 2 Total**	**Project Total**						
Carbon monoxide, CO	67.79	28.87	96.66						
Reactive organic gas, ROG	16.95	7.32	24.27						
Nitrogen oxides, NO_x	124.20	51.25	175.45						
Sulfur dioxide, SO_2	0.14	0.06	0.21						
Respirable particulates, PM10	10.69	4.38	15.06						
Fine particulates, PM2.5	5.37	2.29	7.66						

[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, 2008.

The emissions presented in **Table 4.2-9** are based on the assumption that controls currently required by SCAQMD Rule 403 would reduce fugitive dust (PM10 and PM2.5) emissions by approximately 63 percent from uncontrolled levels, and that diesel particulate filters will be used on some portion of the construction equipment as noted in Section 4.2.5. The combination of Rule 403 requirements and compliance with CBA Section X.F.1 are anticipated to limit project construction PM10 and PM2.5 emissions to levels less than the significance thresholds listed in **Table 4.2-5**.

4.2.6.2 Operations

Upon completion of the CFTP, aircraft movements around the airfield would see an improvement (reduction) in taxi/idle times. When averaged over 640,000 total operations (2005 operations),[44] this reduction is approximately 50 seconds per landing and takeoff cycle (LTO). Based on the fleet mix listed in Section 4.2.2, *Methodology*, above, the annual emission reductions are summarized in **Table 4.2-10**. Because the project operational impacts are beneficial, no significant adverse air quality impacts are associated with project operations.

Table 4.2-10

Taxi/Idle Emission Reductions with Crossfield Taxiway Project

Pollutant	Reduction, tpy
Carbon monoxide, CO	84.67
Reactive organic gas, ROG	124.27
Nitrogen oxides, NO_x	16.17
Sulfur dioxide, SO_2	5.37
Inhalable particulates, PM10	0.48
Fine particulates, PM2.5	0.48

Source: CDM, 2008.

4.2.7 Cumulative Impacts

The construction of several on-going and anticipated future projects at LAX would potentially occur simultaneously with the CFTP construction. Projects that were considered in the cumulative air quality analysis include: (1) In-Line Baggage Screening System, (2) Tom Bradley International Terminal (TBIT) Interior Improvements Program, (3) Airfield Intersection Improvements -- Phase 2, (4) Airfield Operating Area (AOA) Perimeter Fence -- Phases III and IV, (5) North Airfield Waterline Repair, (6) TBIT Reconfiguration Project, (7) Korean Air Cargo Terminal Improvement Project, (8) Airport Operations Center (AOC)/Emergency Operation Center (EOC), and (9) Westchester Rainwater Improvement Project. Construction emissions from the first two were obtained from the Final Mitigated Negative Declarations prepared for these projects.[45,46] Emissions for the remaining projects were developed from estimated equipment inventories developed by CDM in consultation with LAWA, and calculations for these projects are included in Appendix C. The cumulative impacts from these projects at LAX are summarized in **Table 4.2-11**. From a cumulative standpoint, PM10 and PM2.5 emissions become significant due to the combined emissions from all LAX construction projects. CO, NO_x, and ROG emissions remain significant.

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44 Operations in 2005 were used for this analysis, as that year represents the most recent full year of operations prior to start of the SAIP project, which altered normal operations to varying degrees throughout the SAIP construction period.

45 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.

46 City of Los Angeles, Los Angeles World Airports, Tom Bradley International Terminal Improvements and Baggage Screening Facilities Project, prepared by PCR Services Corporation, November 2004.

Table 4.2-11

Cumulative Construction Projects Emissions Estimates

	Peak Daily Emissions, lbs/day					
Construction Project	**CO**	**ROG**	**NO_x**	**SO_x**	**PM10**	**PM2.5**
In-Line Baggage Screening System[1]	44	5	19	0.00	1	Note 7
TBIT Interior Improvements Program[2]	88	43	46	<1	2	Note 7
Airfield Intersection Improvements Project - Phase 2[3]	41	22	71	0.08	15	7
AOA Perimeter Fence - Phases III and IV[4]	2	1	4	0.00	1	0
North Airfield Waterline Repair[4]	5	1	10	0.01	1	1
TBIT Reconfiguration Project (Taxiway S & ARFF Demolition)[4]	508	126	949	1.09	57	36
Korean Air Cargo Terminal Improvement Project[4]	10	25	13	0.01	5	2
AOC/EOC[4]	9	8	15	0.01	7	2
Westchester Rainwater Improvement Project[4]	27	6	58	0.04	46	12
Total from Other Construction Projects, lbs/day[5]	**734**	**237**	**1,185**	**1.24**	**134**	**59**
CFTP Peak Daily Emissions, lbs/day[5]	596	278	1,146	1.29	126	48
Total Cumulative Construction Project Emissions, lbs/day[6]	**1,330**	**515**	**2,332**	**2.53**	**260**	**106**
SCAQMD Construction Emission Significance Thresholds, lbs/day	550	75	100	150.00	150	55
Emissions Significant?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

1 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.
2 Los Angeles World Airports, Tom Bradley International Terminal Improvements and Baggage Screening Facilities Project, prepared by PCR Services Corporation, November 2004. Project is currently in the Building/Erection Phase, so values are for that phase.
3 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 Sum of peak daily emissions for each individual project; these peaks may not necessarily overlap with the peak daily emissions from the CFTP or from the other cumulative projects.
6 Peak cumulative daily emissions with consideration of project-specific monthly emissions, total of overlapping projects.
7 Reference document did not provide values for these pollutants.

Sources: CDM, 2008.

The nine construction projects included in **Table 4.2-11** represent the planned development projects most relevant and proximate to the CFTP air quality analysis, for which detailed information regarding construction plans, such as the nature and timing of construction activities and the associated construction equipment, was available. While Table 3-1 in Chapter 3 identifies a number of other development projects planned in west Los Angeles and in other cities around LAX, there was not comparable information available for those projects, particularly with regards to the timing, intensity, and duration of construction activities. Notwithstanding the absence of construction program information for the majority of the projects in Table 3-1, it can be reasonably anticipated that construction activities for some of those projects would overlap with those of the CFTP, adding to the cumulative amount of construction-related air pollutant emissions. Such additional emissions would further the cumulative exceedances of the significance thresholds for CO, ROG, and NO_x and, when combined with CFTP controlled emissions, would cause cumulative exceedances of PM10, and PM2.5. It is very unlikely, however, that the cumulative emissions of SO_x would exceed the threshold of significance, based on the fact that existing fuels used in construction equipment in California contain very little sulfur.

The cumulative impacts to air quality resulting from projects at LAX with operational emissions, such as from the In-Line Baggage Screening System, TBIT Interior Improvements Program, TBIT Reconfiguration Program, AOC/EOC, and cargo area improvements, 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 Project, the AOA Perimeter Fence, the North Airfield Waterline Repair, and the Westchester Rainwater Improvement Project, would not have any notable air pollutant emissions associated with operations.

Implementation of the Van Nuys Airport Noisier Aircraft Phaseout Project could result in additional aircraft operations at LAX, and the associated air pollutant emissions, to the extent that affected operators choose to utilize LAX, among other regional airports, instead of Van Nuys Airport. Based on a survey of potentially affected operators at Van Nuys Airport, it is estimated that an annual total of 31 flights (i.e., equivalent to 0.08 flights per day) would go to LAX by 2014. This diversion of flights would add incrementally to the total emissions from aircraft currently operating at LAX. As described above in Section 4.2.6.2 and quantified in Table 4.2-10, implementation of the CFTP would provide certain improvements to aircraft ground movement at LAX, resulting in reductions in air pollutant emissions from aircraft engine operation. As such, implementation of the CFTP would not contribute a cumulative increase in operations-related air pollutant emissions when considered in conjunction with the Van Nuys Airport Noisier Aircraft Phaseout Project. Implementation of the CFTP would not result in a cumulatively considerable impact to air quality from aircraft operations.

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 on the SAIP, and would also be applied to the CFTP. 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 CFTP.

4.2.9 Level of Significance After Mitigation

The maximum daily construction-related emissions associated with the CFTP would be significant for CO, ROG, and NO_x, and the maximum quarterly construction-related emissions associated with the CFTP would be significant for ROG and NO_x. Cumulative construction-related emissions for ROG, NO_x, CO, PM10, and PM2.5 would also be significant. Cumulative airfield operations-related impacts would be less than significant.

4.3 Human Health Risk Assessment

4.3.1 Introduction

The Human Health Risk Assessment (HHRA) addresses potential impacts to people exposed to toxic air contaminants (TACs) anticipated to be released during the construction period for the CFTP.[47] Like other facilities that accommodate vehicles and equipment that consume fuel, activities at LAX may release TACs to the air in the vicinity of the airport. These TACs may come from aircraft, ground support equipment (GSE), construction activities, 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.

The LAX Master Plan Final EIR[48] previously examined incremental health risks due to inhalation of TACs from operational sources associated with four build alternatives and the No Action/No Project Alternative. Incremental impacts were those impacts above the 1996 environmental baseline conditions used in that EIR. Because project level details were not available regarding construction phasing, the program-level LAX Master Plan Final EIR did not address health risk associated with construction activities of any of the individual Master Plan components, including the CFTP. Health risk associated with construction activities were addressed in the Final EIR prepared for the first LAX Master Plan project that was constructed, the South Airfield Improvement Project (SAIP).[49] Because SAIP construction required that Runway 25L be shutdown for an extended period, the HHRA for SAIP also addressed health risks associated with operational changes. Based on the nature and characteristics of the CFTP, releases of TACs during proposed construction activities would occur and need to be evaluated; however, the CFTP would be executed in a manner that would not affect current airport operations. Therefore, no change is anticipated in operations during construction of the CFTP or after completion of the CFTP except that the CFTP is expected to help relieve existing aircraft traffic congestion on the crossfield taxiway system. Thus, only human health risks associated with construction activities associated with the CFTP are evaluated in this EIR.

Possible impacts to human health were assessed through an HHRA, as required under State of California statutes and regulations.[50] The HHRA was conducted in four steps as defined in California Environmental Protection Agency (CalEPA) and U.S. Environmental Protection Agency (USEPA) guidance,[51,52] consisting of:

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47 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.

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

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

50 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.

51 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 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.

- 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)

Specifically, this HHRA addressed the following issues:

- Quantitative assessment of potential chronic human health impacts due to release of TACs associated with CFTP construction activities.
- Quantitative evaluation of possible acute non-cancer hazards due to release of TACs during the approximately 16-month construction period associated with the CFTP.

As indicated in the LAX Master Plan Final EIR, risk assessment is an evolving and uncertain process. Important uncertainties exist in the estimation of emissions of TACs from airport mobile sources (particularly emissions of acrolein from aircraft), 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 much more likely to overestimate than underestimate possible health risks. For example, risks were calculated for individuals at locations 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 incremental risk estimates represent upper-bound predictions of exposure, and therefore health risk, which may be associated with living near, and breathing TACs released during LAX 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 Appendix D, *Human Health Risk Assessment*.

The HHRA for the CFTP also evaluates potential short-term (1-hour) exposures and associated acute, health impacts. These estimates are also intentionally conservative; for example, maximum fenceline concentrations were used to assess possible hazards for receptors that live, work, go to school, or recreate[53] off-airport. 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 increased incremental health risk, if any, associated with construction of the CFTP for people working at the airport, and for people living, recreating, working, or

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52 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.

53 Recreational users were not separately evaluated for the CFTP. Recreational users would not be as exposed with respect to exposure frequency and duration as residents. Thus, conclusions based on the exposure of residents would be health-protective of recreational users in the vicinity of the airport, and further evaluation of recreational users was deemed unnecessary.

attending school in communities near the airport. The methodologies used in this analysis are summarized below. Details of the methodologies are provided in Appendix C, *Air Quality* and Appendix D, *Human Health Risk Assessment*.

4.3.2.1 Methods for Estimating Possible Project Impacts to Human Health

The CFTP would relieve airfield congestion and reduce operational emissions once completed. The cumulative effect on airport operational TAC emissions of this project, taken along with the effects of all LAX Master Plan projects, were addressed in the LAX Master Plan Final EIR, as noted above. Therefore, this HHRA addresses only emissions of TACs from construction sources.

Cancer risk and chronic and acute hazard assessments for this HHRA consisted of two components: (1) estimation of emissions of TACs associated with project construction, and subsequent dispersion of those emissions to downwind receptor locations; and (2) estimation of incremental health risks associated with those emissions. Specifically, this HHRA estimated possible future emission rates associated with CFTP construction. These 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 around the airport.

Because only construction impacts are evaluated, baseline concentrations were assumed to be zero; in other words, if the CFTP did not move forward, no construction emissions would occur, and therefore baseline conditions would not include construction-related TACs in ambient air. Thus, total calculated construction emissions represent the total increment over existing conditions. No baseline concentrations of TACs needed to be identified and subtracted from the TAC concentrations prior to using these concentrations in calculations of exposure, and cancer risk and chronic and acute health hazards. An impact was considered significant[54] if incremental risks and/or hazards for MEI exceeded regulatory thresholds.

For the assessment of possible cancer risks, and chronic and acute non-cancer hazards, 120 grid nodes in the study area were selected for quantitative assessment. These nodes are located on the LAX property line where maximum concentrations of TACs were predicted by the air dispersion modeling (**Figure 4.3-1**). Since the fence-line is the closest location with unrestricted access to CFTP construction emission sources, concentrations at these locations can be used to evaluate exposure to a MEI and thus provide a ceiling for risks and hazards for off-airport residential, commercial and student receptors. Node locations for sensitive receptors (schools near LAX) were also identified for the acute analysis to provide direct information on potential construction impacts on students, faculty and staff at these locations. In addition to fence-line nodes, five representative locations on the airport where on-airport workers might be exposed were also evaluated. Project-related concentrations for TACs from the CFTP associated with construction sources were estimated using the air dispersion model (AERMOD) with the model options for annual and 1-hour maximum concentrations selected. Changes in airport operations are not expected during construction of the CFTP, therefore operational components (e.g., aircraft emissions) were not included in the incremental TAC estimates. Chronic and acute hazards for the CFTP were estimated at each grid point by comparing modeled concentrations with reference exposure levels (RELs) for modeled TACs. RELs for many TACs of concern in emissions from the airport were developed by Cal EPA's Office of Environmental Health Hazard Assessment (OEHHA). Cancer risks were calculated from annual concentrations and the cancer slope factors for each TAC emitted from CFTP construction sources.

As discussed in the LAX Master Plan Final EIR,[55] acrolein is the TAC of concern that is responsible for essentially all predicted chronic non-cancer health hazards associated with LAX operations. This TAC is

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

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

primarily associated with aircraft emissions, although smaller amounts are also found in emissions from internal combustion engines. Acrolein is also the only TAC of concern in emissions from LAX that might be present at concentrations approaching a threshold for acute effects and was therefore the only TAC evaluated for potential acute effects in the LAX Master Plan Final EIR. However, for the CFTP, all TACs with RELs, not just acrolein, were evaluated for potential acute health impacts since aircraft emissions, the major source of acrolein, were not included in emission estimates for the CFTP.

Methods for estimating cumulative impacts followed the approach used for the LAX Master Plan Final EIR, including using data collected for and analyzed in the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-III)[56] completed by the South Coast Air Quality Management District (SCAQMD) to evaluate cumulative cancer risks, and data presented in USEPA's National Air Toxics Assessment to evaluate cumulative chronic, non-cancer health hazards. For cumulative acute risks, conservative (likely to overestimate) approximations of short-term concentrations were made using generic conversion factors and the annual average estimates of TACs in air from USEPA. These estimates can be used to provide a semi-quantitative evaluation of the possible range of cumulative impacts.

In addition, cumulative impacts were assessed for construction impacts for a second Master Plan project, the TBIT Reconfiguration Project, as well as several non-Master Plan projects that are expected to overlap the CFTP construction. Construction emissions for these projects were obtained from environmental documents prepared for these projects, where such documents were available, or were developed based on estimated equipment inventories developed by CDM in consultation with LAWA. Based on these data, it was possible to address the combined impacts relative to toxic air contaminants by a comparison of emission rates during the time when construction of the cumulative projects would be ongoing concurrently.

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 reactive organic gases (ROG) or particulate matter. TACs associated with small particles, those particles less than 10 microns in diameter (PM10), are of concern. PM10 is the focus for particulate emissions, because this size fraction can deposit in the lung and is primarily responsible for inhalation exposure. Emission rates of organic TACs were developed from ROG emission inventories for the same construction sources analyzed in Section 4.2, *Air Quality*, and emission rates of particulate-bound TACs were developed from the PM10 emission inventories also included in Section 4.2. Speciation profiles[57] for ROG and PM10 emissions from individual source types, primarily developed by the California Air Resources Board (CARB), were used to calculate TAC emissions.[58,59] Improvements to airport operations associated with the CFTP (e.g., reduced aircraft taxiing/idling times) would not be realized until after construction is complete. During construction, operational changes are expected to be minimal; thus, the only notable emissions associated with the CFTP are emissions from construction sources. These emissions form the basis for estimating impacts from TAC, and only TAC emissions from construction sources were included in the analysis.

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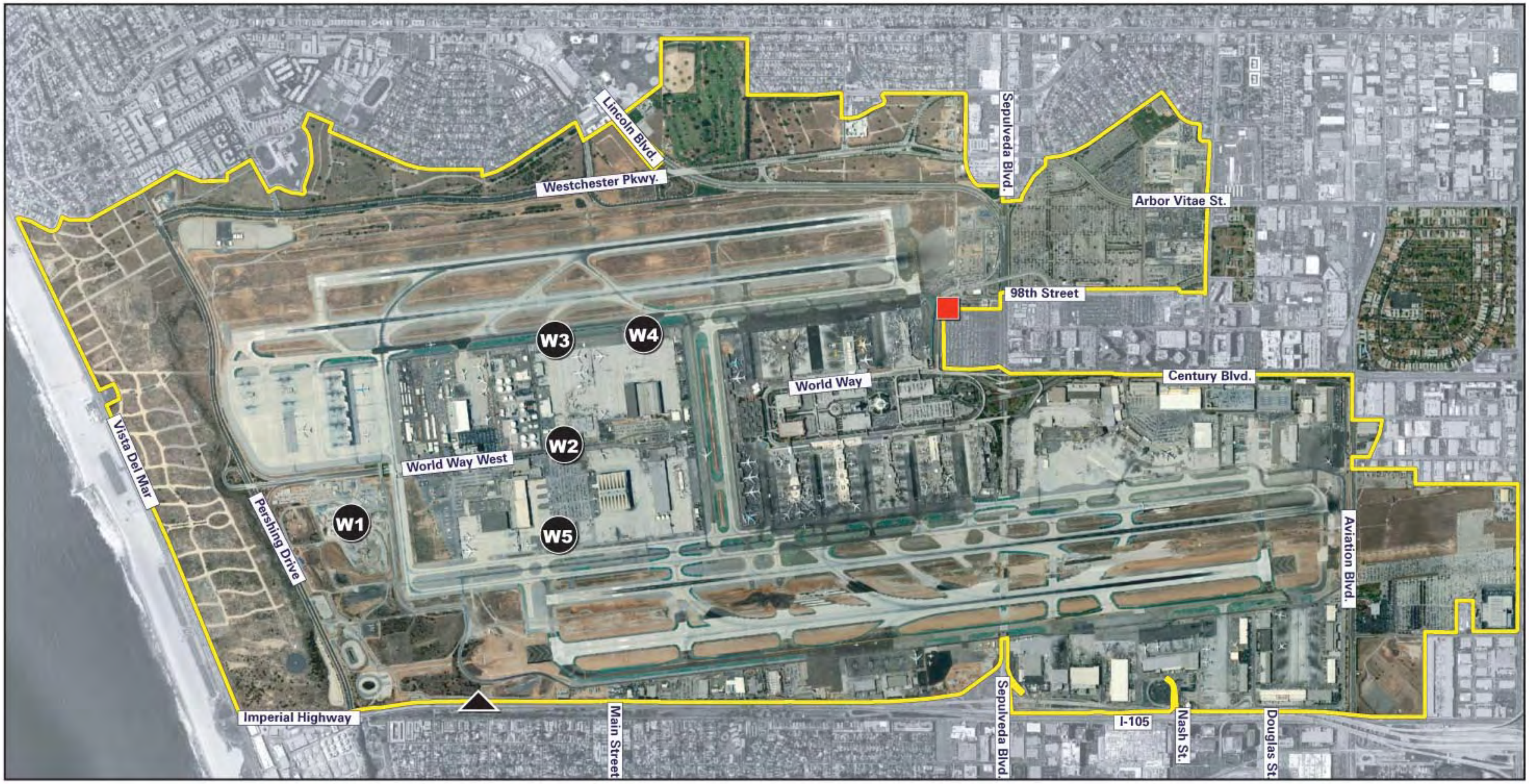
56 The HHRA for the LAX Master Plan was completed prior to publication of MATES III results. Thus, cumulative risk assessment for the Master Plan HHRA used results from a previous and very similar study, MATES II.

57 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.

58 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.

59 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.



Legend

- W On-Site Worker Receptors
- ▲ Peak TAC Concentration (Acute)
- ■ Maximum Annual Average Concentrations of TACs
- Fence Line Receptors

north

Not to Scale

Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Human Health Risk Assessment Receptors and Peak Concentration Locations	Figure 4.3-1

Construction Emissions

Proposed construction activities for the CFTP would include construction of a new crossfield taxiway, identified as Taxiway C13, and an associated connection to and extension of Taxiway D. Construction of these improvements would require removal and potential relocation of ancillary and support facilities (i.e., World Way West). A new parallel service road, two bridge facilities and a utility corridor would also be constructed. Finally, existing overnight aircraft parking would be resituated to a new location adjacent to Taxiway C13. The CFTP also includes construction of a new Aircraft Rescue and Fire Fighting (ARFF) facility. Construction of the CFTP would result in temporary emissions of various air pollutants from construction equipment, workers commuting to the job site, truck haul/delivery trips, surface paving, taxiway stripping, and demolition (material crushing and grading). The period of construction for the CFTP is anticipated to be limited to approximately 16 months.

Construction-related sources of TAC emissions associated with the CFTP include off-road heavy duty construction equipment,[60] on-road equipment and vehicles, generators, and construction material (e.g., ROGs from striping and asphalt paving). Criteria pollutant emissions from construction activities were estimated using CARB OFFROAD Model[61] emission factors for equipment engines, and CARB URBEMIS2007 model[62] for organic emissions in fugitive dust and asphalt paving.

As discussed in Section 4.2, *Air Quality*, emission controls for fugitive dust through implementation of SCAQMD Rule 403 and for diesel particulate matter through installation of diesel particulate filters required on construction equipment under the LAX Master Plan Community Benefits Agreement would constitute the "controlled" scenario for the unmitigated CEQA analysis. As used here, "controlled" indicates that emission reductions were estimated for construction fugitive dust and diesel particulate matter emissions. "Uncontrolled" in Section 4.2 indicates that no emission reductions were assumed. As used in this HHRA, uncontrolled emissions were analyzed under the unmitigated scenario, and controlled emissions were analyzed under the mitigated scenario. This approach produces a conservative assessment of unmitigated impacts since the controls mentioned above would be applied regardless of the significance finding for health risks and hazards.

The basis of the mitigated analysis for human health risk assessment is that fugitive dust emissions will be reduced by approximately 63 percent with watering two to three times per day, and diesel particulate matter from construction equipment would be reduced by approximately 60 percent with installation of diesel particulate filters.

TAC inventories for construction equipment ROG emissions were developed from Organic Profile No. 818 for diesel-fueled equipment, Organic Profile No. 441 for gasoline vehicles, Organic Profile No. 715 for paving, and Organic Profile No. 1811 for taxiway/roadway painting and striping. TAC inventories for construction equipment PM emissions were developed from Profile No. 425 for diesel-fueled equipment and Profile No. 400 for gasoline vehicles. PM10 TAC emission rates from construction dust were estimated from CARB Profile No. 420. Finally, the concrete batch plant PM10 TAC emissions were developed from Profile No. 343. Exhaust emissions from on-road construction equipment sources, including haul trucks, delivery trucks, etc., were calculated using emission factors developed with the CARB Emission Factor 2007 Model (EMFAC2007).[63] Detailed calculations for CFTP construction ROG and PM10 pollutant emissions inventory are provided in Appendix C, *Air Quality* and Appendix D, *Human Health Risk Assessment*.

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60 Examples of off-road heavy duty construction equipment include scapers, graders, backhoes, and rock crushers.

61 California Air Resources Board, Available: http://www.arb.ca.gov/msei/offroad/offroad.htm, accessed April 11, 2008.

62 California Air Resources Board, URBEMIS2007 for Windows with Enhanced Construction Module Version 9.2.4, Emissions Estimation for Land Use Development Projects, November 2007.

63 California Air Resources Board, EMFAC2002 On-Road Emissions Inventory Estimation Model, Version 2.2, 2003.

Airport Emissions

As previously discussed, changes in airport operations are not expected for the CFTP; therefore, emission estimates were not prepared for operational sources. Consequently evaluation of potential impacts to human health associated with operational sources was not assessed in this HHRA.

4.3.2.3 Exposure Concentrations (Dispersion)

Air dispersion modeling was used to estimate TAC concentrations for the CFTP. Dispersion modeling analysis of TACs was conducted for construction sources only. The USEPA AERMOD dispersion model was used to conduct this analysis. TAC concentrations were estimated in two steps: first, dispersion modeling was used to estimate total, ROG and PM10 concentrations, and then individual organic or particulate TAC concentrations were calculated using emissions profiles to speciate total ROG and PM10.

Receptors[64] included in the modeling analysis were located at or near the airport fence-line. Since the fence-line is the closest location with unrestricted access to airport emission sources, modeled concentrations at these locations will be higher than concentrations modeled farther out from the airport where people currently reside, work, and go to school. Evaluation of current conditions is appropriate because of the short time frame (approximately 16 months) over which construction would occur.

For both cancer and chronic non-cancer analyses, the location with the maximum risk was selected to represent exposure concentrations for all receptors (residents, workers, and students). Annual average concentrations were used to represent typical exposure concentrations on a day-to-day basis that might occur over the duration of construction.

Five locations on the airport were modeled to evaluate potential impacts to on-airport construction workers. All grid nodes were evaluated for potential exposure and used in the cancer and chronic non-cancer analyses.

In addition, each grid node was identified for its most likely receptor (residential, school, and occupational) for the acute hazard analysis. Land use and receptor designations are not directly relevant to the assessment of acute risks. Acute risks were evaluated by simple comparison of estimated concentrations with a threshold concentration (the REL) that is protective for sensitive receptors. However, land use designations do provide some indication of likely receptors. For example, young children are likely receptors at school locations and exceedance of the acute REL at these locations would be of concern.

Short-term and annual TAC concentrations were estimated in the USEPA AERMOD air dispersion model using options for 1-hour maximum and annual average concentrations. Short-term exposure was evaluated using peak daily emissions over a 16-month construction period. Annual exposure was evaluated using CFTP construction emissions estimated for all of 2009 divided by 365 days to yield an average daily emission rate. Details of the dispersion model analysis for the CFTP construction emissions are provided in Appendix C, *Air Quality* and Appendix D, *Human Health Risk Assessment*.

4.3.2.4 Overview of Risk Assessment

Selection of TACs of Concern

Not all chemicals released during construction of the CFTP 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 using regulatory lists, emissions estimates, human toxicity information, results of the LAX Master Plan HHRA, and a review of health risk assessments included in the Long Beach Airport Terminal Area Improvement Project Draft EIR,[65] LAX

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64 Receptors represent locations in the vicinity of the airport where people could potentially be exposed to the TACs by breathing the air.

65 City of Long Beach, Long Beach Airport Terminal Area Improvement Project Draft EIR, September 2005.

SAIP Final EIR,[66] Oakland International Airport - Airport Development Program (ADP) Draft Supplemental EIR,[67] and Orange County Civilian Reuse of MCAS El Toro Draft Supplemental EIR.[68] Selection of TACs of concern for the CFTP was based initially on TACs of concern for LAX operations identified during preparation of the HHRA for the LAX Master Plan Final EIR, as described in Technical Report 14a of that EIR. Some of the pollutants of concern that had been identified for the LAX Master Plan HHRA were then eliminated, based on the review of the LAX Master Plan programmatic analysis, which demonstrated that they would not contribute significantly to potential health impacts, as well as results presented in the Oakland and El Toro EIRs and communication with CARB.[69] This list of TACs was further refined to include only TACs with chronic RELs, acute RELs, and cancer potency values identified by OEHHA. TACs not included in this list are discussed further in Appendix D. Lack of quantitative analysis of these latter TACs is not anticipated to affect the conclusions of the risk assessment. The resulting list of TACs of concern for the CFTP HHRA is identified in **Table 4.3-1**.

Table 4.3-1

Toxic Air Contaminants of Concern for the CFTP

Toxic Air Contaminant	Type
Acetaldehyde	ROG
Acrolein	ROG
Benzene	ROG
1,3-Butadiene	ROG
Ethylbenzene	ROG
Ethyl glycol	ROG
Formaldehyde	ROG
n-Hexane	ROG
Isopropyl alcohol	ROG
Methyl alcohol	ROG
Methyl ethyl ketone	ROG
Methyl t-butyl ether	ROG
Propylene	ROG
Styrene	ROG
Toluene	ROG
Xylene (total)	ROG
Naphthalene	PAH
Antimony	PM-Metal
Arsenic	PM-Metal
Cadmium	PM-Metal
Chromium VI	PM-Metal
Copper	PM-Metal
Lead	PM-Metal
Manganese	PM-Metal
Mercury	PM-Metal
Nickel	PM-Metal
Selenium	PM-Metal
Silicon	PM-Metal
Vanadium	PM-Metal
Zinc	PM-Metal
Diesel PM	Diesel Exhaust
Ammonium Ion	PM-Inorganics

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

67 Port of Oakland, Draft Oakland International Airport - Airport Development Program (ADP) Supplemental Environmental Impact Report, September 2003.

68 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.

69 Honcoop, Gary, California Air Resources Board, Personal Communication, June 23, 2005.

Table 4.3-1

Toxic Air Contaminants of Concern for the CFTP

Toxic Air Contaminant	Type
Bromine	PM-Inorganics
Chlorine	PM-Inorganics
Sulfates	PM-Inorganics

Source: CDM, 2008.

Exposure Assessment

For the CFTP, four specific receptors were selected for quantitative evaluation: on-airport worker, off-airport adult resident, off-airport child resident, and off-airport school child. Fire fighters at the existing ARFF facility were also considered, but were not selected as potential receptors. Fire fighters were evaluated qualitatively in the Uncertainties Section of Appendix D using the results of modeling for nearby locations. 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 was considered incomplete and was not evaluated. Numerous potentially complete exposure pathways exist for receptors at or near LAX. For this HHRA, the inhalation pathway was considered the most important complete exposure pathway, contributing the majority of risk associated with the project and was therefore quantitatively evaluated for all receptors. Other exposure pathways - 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 analyzed via estimation of the amounts of TACs that might deposit onto soils. The analysis indicated that deposition onto soil would not be sufficient to cause noteworthy exposure through any of the above pathways. Details of this analysis are provided in Appendix D and are discussed in the Uncertainties Section of Appendix D.

Baseline conditions for construction are zero, and therefore, all modeled concentrations are incremental estimates. Modeled incremental concentrations were then used to estimate incremental risks and hazards for the CFTP which serve as the basis of the significance determinations.

To estimate potential cancer risks and the potential for adverse non-cancer health hazards, TAC intakes for each pathway for each receptor were estimated. For cancer and non-cancer risk assessment, average long-term daily intakes are used to estimate risk and hazards. Cancer risk is evaluated as the lifetime average daily dose (LADD) according to CalEPA and USEPA guidance. Non-cancer hazards are evaluated as average daily dose (ADD) over the period of exposure, again, following CalEPA and USEPA guidance. Exposure assumptions and risk calculation equations are discussed further in Appendix D.

Assessment of potential chronic human health impacts due to release of TACs associated with CFTP construction activities assumes that the exposure concentrations of TACs are constant over a 70-year period for residential receptors. Since the CFTP is expected to be completed in approximately 16 months, chronic health impacts 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 16 months). This 16-month construction period analysis is provided in the Uncertainties Section of Appendix D. Exposure parameters used to calculate LADD and ADD for all receptors for the inhalation pathway are summarized in **Table 4.3-2**, Parameters Used to Estimate Exposures to TACs of Concern. Exposure parameters are based on the CalEPA Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities,[70] USEPA Exposure Factors Handbook,[71] and CalEPA Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.[72] These exposure parameters were selected to maintain consistency with the health risk analyses conducted for the LAX Master Plan Final EIR[73] and the SAIP EIR.[74] However, the CalEPA Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments recommends a range of exposure durations and inhalation rates be evaluated. Additional analyses presented in the Uncertainties Section of Appendix D verify that the sensitivity of the analyses to these variations in exposure durations and inhalation rates does not change the conclusions of potential impacts of the project.

Table 4.3-2

Parameters Used to Estimate Exposures to TACs of Concern

Exposure Pathway Inhalation of Particulates and Gases	Off-Airport Receptors			
	Off-Site Resident		Off-Site School Child	Off-Site Worker
	Adult	Child		
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 Appendix D, Attachment 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, 2008.

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

70 California Environmental Protection Agency, Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities, 1993.
71 U.S. Environmental Protection Agency, Exposure Factors Handbook, USEPA/600/P-95/002Fa, 1997.
72 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.
73 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004.
74 City of Los Angeles, Los Angeles World Airports, Draft Environmental Impact Report for South Airfield Improvement Project, Los Angeles International Airport (LAX), August 2005.

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 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.

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 4.3-3** and **Table 4.3-4**, respectively.

Table 4.3-3

Cancer Slope Factors

TAC of Concern	Cal/EPA[1] Inhalation Cancer Slope Factor $[(mg/kg/day)^{-1}]$[2]	Tumor Site/ Inhalation	Cancer Classification[3]
ROG			
Acetaldehyde	0.01	Nasal, Larynx	B2
Acrolein	NA	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
Methyl t-butyl ether	0.00091	NA	A
Naphthalene	0.12	Respiratory System	C
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

1 Cal/EPA 2008
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

Source: CDM, 2008.

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 1-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 4.3-5**. TACs without acute RELs are discussed further in Appendix D.

Table 4.3-4

Toxicity Criteria for Systemic Toxicants

			Target Organ		Uncertainty Factor	
TAC of Concern	**USEPA Chronic Oral RfD[1,2] (mg/kg-day)[3]**	**Cal/EPA Chronic Inhalation RfD[4] (mg/kg-day)**	**Oral**	**Inhalation**	**Oral**	**Inhalation (Cal/EPA RfD)**
ROG[6]						
Acetaldehyde	NA[7]	$2.57x10^{-3}$	NA	Respiratory System	NA	NA
Acrolein	$5x10^{-4}$	$1.71x10^{-5}$	Decreased Survival	Respiratory System, Eye	100	300
Benzene	$4x10^{-3}$	$1.71x10^{-2}$	Decreased Lymphocyte count	Hematopoietic System, Development, Nervous System	300	10
1,3-Butadiene	NA	$5.71x10^{-4}$ [(1)]	NA	Reproductive System	NA	30
Ethylbenzene	$1x10^{-1}$	$5.71x10^{-1}$	Liver, Kidney	Developmental, Liver, Kidney, Endocrine System	1,000	30
Ethyl glycol	$2x10^{0}$	$1.14x10^{-1}$	Kidney	Respiratory System, Kidney, Development	100	100
Formaldehyde	$2x10^{-1}$	$8.57x10^{-4}$	Body Weight	Respiratory System	100	10
n-Hexane	NA	$2.00x10^{0}$	NA	Nervous System	NA	30
Isopropyl alcohol	NA	NA	NA	NA	NA	NA
Methyl alcohol	$5x10^{-1}$	$1.14x 10^{0}$	Increased SGPT,[8] SAP[9] Decrease Brain Weight	Developmental	1,000	30
Methyl ethyl ketone	$6x10^{-1}$	$1.43x10^{0}$ [(1)]	Body Weight	Developmental (skeletal variations)	1,000	300
Methyl t-butyl ether	NA	$8.57x10^{-1}$ [(1)]	NA	Liver, Kidney	NA	100
Naphthalene	$2x10^{-2}$	$2.57x10^{-3}$	Body Weight	Respiratory System	3,000	1,000
Propylene	NA	$8.57x10^{-1}$	NA	Respiratory System	NA	100
Styrene	$2x10^{-1}$	$2.57x10^{-1}$	Red blood cells, Liver	CNS[10]	1,000	3
Toluene	$8x10^{-2}$	$8.57x10^{-2}$	Liver, Kidney weight	CNS, Respiratory System, Development	3,000	300
Xylene	$2x10^{-1}$	$2.00x10^{-1}$	Body Weight	CNS, Respiratory System	1,000	30
Diesel Exhaust						
Diesel Particulates	NA	$1.43x10^{-3}$	NA	Respiratory System	NA	NA
PM Metal						
Antimony	$4x10^{-4}$	NA	Blood	NA	1,000	NA
Arsenic	$3x10^{-4}$	$8.57x10^{-6}$	Skin	development, cardiovascular system, nervous system	3	1,000
Cadmium	$1x10^{-3}$	$5.71x10^{-6}$	Proteinuria	Respiratory System, Kidney	10	30
Chromium (VI)	$3x10^{-3}$	$2.86x10^{-5}$ [(1)]	None reported	Respiratory System	300	300
Copper	$4x10^{-2}$ [(5)]	NA	NA	NA	NA	NA
Lead	NA	NA	NA	NA	NA	NA
Manganese	$1.4x10^{-1}$(Food)	$5.71x10^{-5}$	CNS	Nervous System	1	300
Mercury	NA	$2.57x10^{-5}$	NA	Nervous System	NA	1,000
Nickel	$2x10^{-2}$	1.43E-05	Body, Organ Weight	Respiratory System, Hematopoietic System	300	30
Selenium	$5x10^{-3}$	NA	Clinical selenosis	NA	3	NA
Silicon	NA	NA	NA	NA	NA	NA
Vanadium	$9x10^{-3}$	NA	Decreased hair cystine	NA	100	NA
Zinc	$3x10^{-1}$	NA	Blood	NA	3	NA

Table 4.3-4

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: Oral	Target Organ: Inhalation	Uncertainty Factor: Oral	Uncertainty Factor: 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), 2008.
2 RfD = Reference Dose
3 mg/kg/day = milligram per kilogram per day
4 Calculated from RELs (REL = Reference Exposure Level) obtained from OEHHA Online Toxicity Criteria database, 2008. 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 m3/d) and dividing by body weight (70 kg).
5 Values obtained from the USEPA Region 9 PRG Table, 2004.
6 ROG = Reactive Organic Gas
7 NA = Not available or not applicable.
8 SGPT = Serum glutamate pyruvate transaminase
9 SAP = Serum alkaline phosphatase
10 CNS = Central Nervous System

Source: CDM, 2008.

Table 4.3-5

Acute RELs for TACs of Concern

TAC	Acute REL (µg/m^3)
Acrolein	0.19
Benzene	1,300
Formaldehyde	94
Methyl Ethyl Ketone	13,000
Toluene	37,000
Xylenes Total	22,000
Styrene	21,000
Methyl Alcohol	28,000
Methyl Ethyl Ketone	13,000
Isopropyl Alcohol	3,200
Ammonia	3,200
Arsenic	0.19
Chlorine	210
Copper	100
Mercury	1.8
Nickel	6
Sulfates	120
Vanadium Pentoxide	30

Source: CDM, 2008.

Risk Characterization

Methodology for Evaluating Cancer Risks and Non-Cancer Health Hazard

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. Incremental cancer risks were based on a 70-year exposure duration. 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.

Maximally Exposed Individuals (MEI)

For the CFTP, approximately 120 grid points were analyzed along the airport fence-line (**Figure 4.3-1**). Concentrations of each TAC along the fence-line were used in the cancer risk and chronic and acute non-cancer hazard estimates. These calculations were used to identify the location with the maximum cancer risk. Nearest land use designations (commercial, residential, etc.) were used to identify receptor type associated with fence-line grid points for informational purposes. Since receptors of all types were assumed to exist at all fence-line locations, actual land use was not factored into the risk and hazard calculations.

Fence-line concentrations of TACs are likely to represent the highest concentrations and potential impacts for residents, workers, and school children. Thus, risks and hazards estimated for the LAX fence-line are likely to overestimate risks and hazards that may occur in actual residential or commercial areas.

Methodology for Evaluating Acute Impacts

Acute non-cancer risk estimates were calculated by dividing estimated concentrations in air by a REL. The acute REL is the concentration in air below which adverse effects are unlikely, including in sensitive subgroups. In most cases, RELs were estimated on the basis of a 1-hour exposure duration. CalEPA's OEHHA has developed acute RELs for several of the TACs of concern identified in emissions from the airport. As noted in the LAX Master Plan Final EIR, acrolein is a TAC of concern and is responsible for essentially all predicted chronic non-cancer health hazards associated with LAX operations. Acrolein is primarily due to aircraft emissions (i.e., operation emission estimates). Other TACs of concern associated with LAX operations, for which acute RELs are available, are unlikely to be present in concentrations that would represent an acute health threat. Because only construction activities and related emissions were estimated for the CFTP, acute adverse health impacts for all TACs with RELs, not just acrolein, were assessed.

Short-term concentrations for TACs from airport sources associated with CFTP construction activities were estimated using the same air dispersion model (AERMOD) used to estimate annual average concentrations, but with the model option for 1-hour maximum concentrations selected. Baseline concentrations for the CFTP were assumed to be zero; therefore, concentrations estimated for each selected grid node in AERMOD are project-related or incremental concentrations. 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 1-hour air concentrations of TACs for the CFTP to eight-hour standards referred to as Time-Weighted Average Permissible Exposure Levels (PEL-TWAs), established by the California Occupational Safety and Health Administration (CalOSHA).[75] For pollutants with no PELs, Threshold Limit Values (TLVs) established by the American Conference of Governmental Industrial Hygienists (ACGIH)[76] were used.

4.3.3 Baseline Conditions

The evaluation of human health risk impacts associated with the CFTP focuses on exposure to air pollutant emissions generated by construction activities. Since the construction activities have not yet started, the existing baseline risk associated with the project is zero.

4.3.4 CEQA Thresholds of Significance

A significant[77] impact relative to human health risk would occur if the direct and indirect changes in the environment that may be caused by the CFTP when compared to 2007 baseline conditions would potentially result in one or more of the following future conditions listed below.

- An increased incremental cancer risk[78] greater than, or equal to, 10 in one million (10×10^{-6}) for potentially exposed residents or school children.
- A total incremental chronic hazard index[79] greater than, or equal to, 1 for any target organ system[80] at any receptor location.

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75 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.

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

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

78 Incremental cancer risk is defined as the difference in potential cancer risks between CFTP impacts and baseline conditions.

79 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 total incremental acute hazard index greater than, or equal to, 1 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 recent SCAQMD guidance, namely SCAQMD's Air Quality Analysis Guidance Handbook[81] 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. The threshold for workers is 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.[82,83]

4.3.5 LAX Master Plan Commitments and Mitigation Measures

LAX Master Plan mitigation measures and commitments that are applicable to the CFTP are discussed below. LAX Master Plan mitigation measures that address air quality impacts are summarized in Section 4.2 of this EIR. As indicated in that section, two LAX Master Plan mitigation measures would directly relate to the CFTP and were accounted for in the TAC emissions and dispersion analysis. These measures, which are described in Section 4.2, include:

- **MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality.**
- **MM-AQ-2. Construction-Related Measure.**

These measures will reduce emissions of TACs 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 CFTP EIR assumed the implementation of these measures. However, for this human health risk assessment, the unmitigated scenario assumes no reduction of particulate emissions from fugitive dust or diesel engine exhaust. Thus, the resulting unmitigated risks and hazards will be conservatively estimated.

4.3.6 Impact Analysis

This section describes potential environmental impacts of the CFTP as they relate to human health. Environmental consequences considered are: incremental cancer risks, incremental non-cancer chronic (long-term) health hazards, and incremental non-cancer acute (short-term) health hazards. Possible human health effects are discussed as they relate to releases of TACs during construction activities and to associated risks and hazards for off-airport residents, school children and, for acute risks, off-airport occupational workers as well. Possible effects for on-airport occupational workers are also considered.

The discussion of TACs and associated health impacts addresses potential cancer risks, non-cancer hazards, and acute hazards for MEI. For this analysis, MEIs were conservatively assumed to work, reside, or attend school, at the LAX fence-line. Thus, all estimates of risk and hazard overestimate any health risk that may actually accrue as a result of the CFTP. Risks and hazards from chronic (long-term) exposure as well as hazards from acute (short-term) exposure were assessed. Further, all risks and

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A hazard index is the sum of ratios of estimated exposures to TACs and recognized safe exposures developed by regulatory agencies.

80 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).

81 South Coast Air Quality Management District, Air Quality Analysis Guidance Handbook, June 24, 2005, Available: http://www.aqmd.gov/ceqa/hdbk.html.

82 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.

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

hazard estimates are incremental. That is, they represent any additional risk or hazard, above the 2007 baseline, that may be associated with the CFTP.

Incremental cancer risk and non-cancer health hazards are based on emission rates estimated for construction activities for the CFTP as described above, and on basic exposure assumptions as used in the HHRA for the LAX Master Plan EIR revised to be consistent with recent CalEPA guidance.[84] Incremental MEI cancer risks and non-cancer health hazards were calculated for adult residents, child residents 0 to 6 years of age, and for elementary-aged school children near or at fence-line locations where air concentrations for TACs were predicted. 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 exposures to LAX-related emissions and would hence be subject to the greatest potential risks and hazards. For the acute impact analysis, receptors were assumed to be located at grid points along 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 along 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 incremental 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 CFTP. 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.

Calculations supporting the results presented in the following sections are provided in Appendix D, *Human Health Risk Assessment*, Attachments C and D. As described in the sections below, risk calculations indicate that construction impacts to health risk would be below regulatory thresholds of significance.

4.3.6.1 Incremental Cancer Risks

As noted in Section 4.3.2, the CFTP would be constructed in a manner that would not affect LAX operations; as such, only construction activities were evaluated for potential human health impacts. Project-related incremental cancer risks for the MEI are summarized in **Table 4.3-6**. As indicated in this table, construction emissions of the unmitigated CFTP would result in an incremental MEI cancer risk for adult residents of 4 in one million at the location with the maximum cancer risk. This means that, in 2008, if the maximally exposed adult resident were exposed to TAC concentrations associated with CFTP, there could be a risk of 4 additional cancer cases per million people exposed compared to 2007 baseline conditions. Total incremental cancer risks for child residents are estimated to be 1 in one million. Cancer risks for adults and children under the CFTP are due almost entirely due to predicted exposure to diesel particulate matter contributing about 92 percent of the risk estimate. These estimates greatly overestimate the exposure because they assume that exposure to TACs released from the CFTP would occur during the entire lifetime exposure duration (childhood, ages 0 to 6 years and adulthood, ages 7 to 70 years) of the receptor. However, construction of the CFTP would only be approximately 16 months. Cancer risk estimates due to exposure during the approximately 16-month CFTP construction period are provided in Section 5 Uncertainties in Appendix D. It should be noted that, construction activities would entail activities that generate fewer emissions than those which were evaluated for the SAIP. Therefore, incremental cancer risks were less than those risks estimated for the construction portion of the SAIP Final EIR (Appendix L, Attachment 4 of the SAIP Final EIR).

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[84] 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.

Table 4.3-6

Incremental Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals for CFTP Construction - Pre-Mitigation

Receptor Type	Incremental Cancer Risks[1] (per million people) Unmitigated
Child Resident	1
School Child	0.1
Adult + Child Resident[2]	5
Adult Resident	4
	Incremental Non-Cancer Chronic Hazards[3] Unmitigated
Child Resident	0.02
School Child	0.002
Adult Resident	0.006

1 Values provided are changes in the number of cancer cases per million people exposed as compared to baseline conditions. All estimates are rounded to one significant figure.
2 Includes exposure to TACs released from LAX from childhood (ages 0-6) through adulthood (ages 7-70).
3 Hazard indices are totals for all TACs that may affect the respiratory system. This incremental hazard index is essentially equal to the total for all TACs.

Source: CDM, 2008.

Incremental cancer risks for children attending schools within the study area are estimated to be 0.1 in one million. For the school child, diesel particulate matter contributed the majority of the cancer risk.

Project-related incremental cancer risks for adults and for young children are predicted to be below the threshold of significance for the CFTP.

4.3.6.2 Incremental Non-Cancer Chronic Health Hazards

Project-related incremental non-cancer chronic hazard indices for construction impacts associated with the CFTP are provided in **Table 4.3-6**. Hazard indices for adult residents and child residents living at the maximum cancer risk location under the unmitigated scenario are estimated to be 0.006 and 0.02, respectively. The hazard index for school children is estimated to be 0.002. Hazard index estimates are higher for children than adults, because they are normalized to body weight, which is lower for children than for adults. Diesel particulate matter contributes 43 percent or more to the total hazard index for all receptor types, with the remaining portion of the total hazard index attributable to formaldehyde (24 percent), manganese (4 percent), and chlorine (17 percent). The source of diesel particulate matter is mainly construction equipment. Project-related incremental chronic non-cancer health hazards for all receptor types would be below the threshold of significance for the CFTP.

4.3.6.3 Incremental Acute Hazards

A hazard index equal to or greater than 1, the threshold of significance for acute effects, indicates some potential for acute adverse health effects. A hazard index less than 1 suggests that acute adverse health effects are not expected. Toxicity criteria for acute health hazards do not distinguish between adults and children, but are established at levels that are considered protective of sensitive populations. Acute hazards were evaluated for all residents, on-airport and off-airport occupational workers, and school children.

Incremental hazards due to acute exposure to TACs are significantly below 1 for all selected grid nodes and receptors within the study area under both mitigated and unmitigated scenarios. However because no additional mitigation was assumed for ROG (VOC) emissions, mitigated and unmitigated concentrations of acrolein and formaldehyde are the same. The maximum incremental acute hazard associated with construction activities for the CFTP is shown in **Table 4.3-7** and is based on potential exposure to formaldehyde. That is, acute risks for other TACs for which acute toxicity criteria exist are much lower. For formaldehyde, if acute effects occurred, they would typically include irritation to the eye and respiratory system and potentially adverse effects to the immune system.[85] Also shown in **Table 4.3-7** are incremental acute hazards for exposure to acrolein associated with construction activities for the CFTP. Acute exposures to acrolein may result in mild irritation of eyes and mucous membranes.[86] Incremental hazards due to acute exposure to other TACs are provided in Attachment D of Appendix D. The peak 1-hour TAC location is shown in **Figure 4.3-1**.

Table 4.3-7

Maximum Incremental Acute Hazard Indices for CFTP Construction

	Summary of Acute Hazard Indices	
	CFTP Increment Formaldehyde	**CFTP Increment Acrolein**
Residential		
Maximum HI[1]	0.02	0.001
Minimum HI	0.003	0.0002
Average HI	0.008	0.0006
Off-Airport Worker		
Maximum HI	0.01	0.0008
Minimum HI	0.001	0.00008
Average HI	0.004	0.0003
School Child		
Maximum HI	0.01	0.0007
Minimum HI	0.006	0.0004
Average HI	0.008	0.0006
Overall Off-Airport Maximum HI	0.02	0.001
On-Airport Construction Worker		
Maximum HI	0.09	0.006
Minimum HI	0.03	0.002
Average HI	0.07	0.005

[1] HI = Hazard Index

Source: CDM, 2008.

4.3.6.4 Health Effects for On-Airport Workers

Effects on on-airport workers were evaluated by comparing estimated maximum air concentrations of TACs for the CFTP to the CalOSHA 8-hour PEL-TWAs.[87] Receptor locations evaluated for on-airport workers are shown in **Figure 4.3-1**. For pollutants with no PELs, TLVs established by the ACGIH[88] were

85 California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, OEHHA Toxicity Criteria Database, Available: http://www.oehha.ca.gov/risk/ChemicalDB/index.asp, May 1, 2008.

86 California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, OEHHA Toxicity Criteria Database, Available: http://www.oehha.ca.gov/risk/ChemicalDB/index.asp, May 1, 2008.

used. Estimated on-airport air concentrations and PEL-TWAs for TACs of concern for LAX are presented in **Table 4.3-8**.

Table 4.3-8

Comparison of CalOSHA Permissible Exposures Limits to Maximum Estimated 8-Hour On-Airport Air Concentrations

Toxic Air Contaminant[1]	Unmitigated CFTP (mg/m^3)[2]	Mitigated CFTP (mg/m^3)[2]	CAL OSHA PEL-TWA (mg/m^3)[3]
Acetaldehyde	0.0040370	0.0040370	45
Acrolein	0.0000012	0.0000012	0.25
Benzene	0.0011215	0.0011215	0.32[4]
Butadiene, 1-3-	0.0001092	0.0001092	2.2
Ethylbenzene	0.0009221	0.0009221	435
Ethylene Glycol	0.0000962	0.0000962	100
Formaldehyde	0.0080893	0.0080893	0.37[4]
Hexane, n-	0.0023511	0.0023511	180
Isopropyl Alcohol	0.0002331	0.0002331	980
Methyl Alcohol	0.0001511	0.0001511	260
Methyl Ethyl Ketone	0.0008993	0.0008993	590
Methyl t-butyl ether	0.0000173	0.0000173	144
Naphthalene	0.0009925	0.0009925	50
Propylene	0.0014530	0.0014530	NA[5]
Styrene	0.0000330	0.0000330	215
Toluene	0.0078042	0.0078042	188
Xylene (total)	0.0007464	0.0007464	435
Antimony	0.0000043	0.0000017	0.5
Arsenic	0.0000045	0.0000015	0.01
Cadmium	0.0000083	0.0000030	0.005
Chromium VI	0.0000070	0.0000023	0.005
Copper	0.0000263	0.0000089	1
Lead	0.0001296	0.0000428	0.05
Manganese	0.0002120	0.0000699	0.2
Mercury	0.0000044	0.0000016	0.025
Nickel	0.0000148	0.0000051	1
Selenium	0.0000023	0.0000010	0.2
Vanadium	0.0000613	0.0000203	0.05
Zinc	0.0001324	0.0000464	NA
Ammonium Ion	0.0001086	0.0000578	18
Bromine	0.0000070	0.0000025	0.7
Chlorine	0.0008130	0.0002863	1.5
Diesel PM	0.0236474	0.0143397	NA
Silicon	0.0448265	0.0147072	5
Sulfates	0.0017655	0.0008155	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 1-hour concentrations at on-airport location. (W3 for ROGs and inorganics, except for sulfates and selenium, which is W1)
3 California Occupational Safety and Health Administration, Permissible Exposure Limits for Chemical Contaminants, Table AC-1, 2008, Available: http://www.dir.ca.gov/title8/5155table_ac1.html.
4 CalOSHA does not have a value; value is from American Conference of Governmental Industrial Hygienists, Documentation of the Threshold Limit Values and Biological Exposure Indices, 8th ed., 1998.
5 NA = Not Available

Source: CDM, 2008.

87 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.

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

Estimated maximum air concentrations at on-airport locations under the CFTP for both unmitigated and mitigated scenarios are several orders of magnitude below PELs or TLVs for all TACs. This result suggests that air concentrations from airport emissions with or without implementation of the CFTP would not exceed those considered "acceptable" by CalOSHA standards.

4.3.6.5 Discussion of Impacts

Consistent with the results for the LAX Master Plan Final EIR, modeling results for the CFTP indicate that diesel particulates from trucks and construction equipment are responsible for nearly all potential health risks posed by construction activities (see Appendix D, Attachment C). Specifically, diesel particulates account for nearly 83 percent of the total incremental cancer risk and 37 percent of the chronic non-cancer health hazard. Estimated risks and health hazards, however, are less than significance thresholds. 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. Additional discussion of uncertainties is provided in Appendix D to support this conclusion.

Several factors contribute to the incremental cancer risks and non-cancer health hazards associated with the CFTP. Construction of the CFTP would result in temporary emissions of various air pollutants from construction equipment, workers commute, truck haul/delivery trips, surface paving, taxiway stripping, and demolition/material crushing and grading activities.

4.3.7 <u>Cumulative Impacts</u>

Unlike air quality, for which standards have been established that determine acceptable levels of pollutant concentrations in the air, 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 the project-related contribution to those impacts, but does not make a determination regarding the significance of cumulative impacts.

4.3.7.1 Cumulative Cancer Risks

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. Recently released results of MATES-III provides a follow up to MATES-II and provides a 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 a million to 1,400 in a million, with an average of 1,200 in a 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 significant. 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.
- 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.

Although project-specific construction activities of the CFTP were not analyzed in the LAX Master Plan Final EIR, total estimated cancer risks for the CFTP are substantially less than those estimated for the No Action/No Project Alternative in 2005 in the LAX Master Plan Final EIR. Therefore, cumulative impacts for the CFTP in 2009 may be similar to those identified for the No Action/No Project Alternative in 2005. Based on this assumption, the CFTP can be expected to result in a small increase in cumulative human cancer risks. Because the incremental contribution would be relatively small (i.e., less than 2 percent), it would probably not be measurable against urban background conditions in the South Coast Air Basin.

With regard to probable future 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 emission rates of nearby LAX projects that may be implemented concurrently with the CFTP were assessed to see how they compare to estimated mitigated CFTP emissions during construction. LAX projects that were included in this evaluation are: TBIT Reconfiguration Project (Taxiway S and ARFF demolition), In-Line Baggage Screening System, TBIT Interior Improvements Program, Airfield Intersection Improvements (AIIP) - Phase 2, North Airfield Waterline Repair, Airfield Operating Area (AOA) Perimeter Fence - Phases III and IV, Korean Air Cargo Terminal Improvement Project, Airport Operations Center (AOC)/Emergency Operation Center(EOC), and Westchester Rainwater Improvement Project. Estimated ROG and PM10 emissions for 2009 and 2010 from these projects are summarized in **Table 4.3-9**.

Table 4.3-9

Comparison of Mitigated CFTP Project Emissions during Construction in 2009 and 2010 with Emissions of Other LAX Projects Constructed Concurrently

	Emissions[1] (tons per year)	
	2009	**2010**
PM10		
Mitigated CFTP	10.69	4.38
TBIT Reconfiguration	5.75	3.64
In-line Baggage	0.07	0.004
TBIT Interior	0.44	0.20
AIIP	1.17	0.10
Waterline Repair	0.03	0
AOA Perimeter Fence	0.01	0
Korean Air Cargo	0.16	0
AOC/EOC	0.18	0
Rainwater Improvement	6.54	0
Total PM10	**25.04**	**8.32**
CFTP Percentage of Total PM10	**43%**	**53%**
ROG		
Mitigated CFTP[2]	16.95	7.32
TBIT Reconfiguration	6.18	6.39
In-line Baggage	0.58	0.03
TBIT Interior	5.76	6.19
AIIP	1.73	0.14
Waterline Repair	0.03	0
AOA Perimeter Fence	0.1	0
Korean Air Cargo	0.57	0
AOC/EOC	0.30	0
Rainwater Improvement	0.81	0
Total ROG	**33.01**	**20.07**
CFTP Percentage of Total ROG	**51%**	**36%**

1 Emissions include both on- and off-site emissions.
2 CFTP mitigation measures do not affect ROG estimates, thus mitigated and unmitigated ROG are the same.

Source: CDM 2008.

As shown in **Table 4.3-9**, emissions from the mitigated CFTP project comprise approximately 40 to 50 percent of peak-year emissions from the combined LAX projects. Emissions are not directly proportional to risks and hazards because locations of emissions and toxicity of individual constituents differ. However, given the proximity of projects and the dominance of PM10 emissions (diesel PM accounts for 92 percent of the total cancer risk and for 41 percent of the total non-cancer hazard), emission estimates will provide a conservative approximation of relative impacts. In fact, since the period of overlapping construction activity would be short (a few months), this approach will substantially overestimate cumulative impacts associated with CFTP construction. When assuming a direct proportional relationship between emissions and risks/hazards, risks and hazards for the combined LAX projects (CFTP and those projects listed above) would roughly double the values estimated for the mitigated CFTP project alone. Thus, risks and hazards associated with CFTP emissions after mitigation combined with the risks and hazards of other concurrent LAX projects would result in a small 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.

Meaningful quantification of future cumulative health risk exposure in the Basin is not possible. Moreover, the threshold of significance used in this analysis is based on the incremental cancer risk increase of individual projects; this threshold is not appropriately applied to conclusions regarding the cumulative cancer risk in the Basin. However, based on the relatively high cancer risk level associated with past and present projects, as represented by the environmental baseline (i.e., an additional 1,200 cancer cases per million), the CFTP 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 particulates are the major contributors 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 region. 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 CFTP cannot be ascertained.

4.3.7.2 Cumulative Non-Cancer Chronic Health Hazards

Recently, USEPA conducted an independent study of possible annual average air concentrations within the South Coast Air Basin associated with a variety of TACs, including acrolein. These estimates provide a means for assessing cumulative non-cancer impacts of airport operations in much the same manner as cumulative cancer risks were assessed using the MATES-III results.

Within the study area of the HHRA, USEPA predictions for annual average acrolein concentrations yield a range of hazard indices from 35 to 221, with an average of 59. Because of the large uncertainties associated with the USEPA estimates, the cumulative analysis for non-cancer health impacts is semi-quantitative and based on a range of possible contributions. This cumulative analysis does not address the issue of potential interactions among acrolein and criteria pollutants. Such interactions cannot, at this time, be addressed in a quantitative fashion. A qualitative discussion of the issue is presented in the LAX Master Plan Final EIR Technical Report S-9a, Section 7.

Maximum incremental hazard indices for the CFTP construction impacts were estimated to be two orders of magnitude less than the threshold of significance of one compared to the 2007 Baseline. Hence, the CFTP is not expected significantly add to possible chronic human health hazards. Maximum incremental hazard indices from other TACs of concern were also significantly below the regulatory threshold for significance.

As discussed in the LAX Master Plan Final EIR (Subsection 4.24.1.2), there are limited data available describing acrolein emissions. Therefore, estimates of non-cancer hazards are very uncertain. Non-cancer hazards associated with the CFTP should only be used to provide a relative comparison to baseline conditions, recognizing that the uncertainties associated with acrolein emissions apply to all scenarios. These hazards should not be viewed as absolute estimates of potential health impacts. Moreover, USEPA's estimates are based on data that are now several years old. Emissions from some important sources may have been reduced as a result of continuing efforts by SCAQMD and other agencies to improve air quality in the South Coast Air Basin. Finally, the estimates do not consider degradation of TACs in the atmosphere. Degradation may be very important for relatively reactive chemicals such as acrolein.

4.3.7.3 Cumulative Acute Hazards

Predicted concentrations of TACs released from construction activities for the CFTP suggest that acute health hazards would not be expected. The assessment of cumulative acute hazards follows the methods used to evaluate cumulative acute hazards presented in the LAX Master Plan Final EIR. USEPA modeled emission estimates by census tract were used to estimate annual average ambient air concentrations. These census tract emission estimates are subject to high uncertainty, and USEPA warns against using them to predict local concentrations. Thus, for the analysis of cumulative risks, no location-specific estimates of total acrolein or formaldehyde concentrations were made. Instead, estimates for each census tract within the study area were identified, and the range of concentrations was used as an estimate of the possible range of annual average concentrations in the general vicinity of the airport. This range of concentrations was used to estimate a range of acute non-cancer hazard indices using the same methods as described in the Final EIR (Subsection 4.24.1.7 and Technical Report S-9a, Section 6.1). This range of hazard indices was then used as a basis for comparison with estimated maximum acute hazards for the CFTP. The relative magnitude of acute hazards calculated on the basis of the USEPA estimates and the incremental hazards estimated for CFTP were taken as a general measure of relative cumulative impacts. Emphasis must be placed on the relative nature of these estimates. Uncertainties in the analysis preclude estimation of absolute impacts; uncertainties in the methods are further discussed in Appendix D.

When USEPA annual average estimates are converted to possible 1-hour maximum concentrations, acute hazard indices associated with total acrolein concentrations are estimated to range from 2 to 120, with an average of 23, for locations within the study area. Predicted incremental acute hazards associated with acrolein for the CFTP are 0.001 and 0.0008 for fence-line locations adjacent to residential and commercial land uses, respectively. Thus, the CFTP would be expected to contribute significantly less than 1 percent above current levels of acrolein at residential locations and off-airport locations. Acute hazard indices associated with total formaldehyde concentrations are estimated to range from 0.07 to 1.7, with an average of 0.55, for locations within the study area. Predicted incremental acute hazards associated with formaldehyde for the CFTP are 0.02 and 0.01 for fence-line locations adjacent to residential and commercial land uses, respectively. Thus, the CFTP would be expected to contribute less than 3 percent above current levels of formaldehyde at residential locations and at off-airport locations.

4.3.8 <u>Mitigation Measures</u>

LAWA is committed to mitigating emissions from both construction activities and temporary changes in operations associated with the CFTP, as well as from long-term activities at LAX, to the extent possible. A comprehensive mitigation program was developed as part of the LAX Master Plan Final EIR and means for implementing this program are in the process of being formulated and will be approved prior to implementation of the CFTP. Although developed to address air quality impacts, this program will also reduce impacts to human health associated with exposure to TACs. Because (1) this mitigation program establishes a commitment and process for incorporating all feasible air quality mitigation measures into each component of the LAX Master Plan, and (2) the unmitigated project risks/hazards as well as cumulative risks/hazards are below levels of significance, no additional project-specific mitigation measures are recommended in connection with the CFTP.

Projected air emissions for the proposed project after mitigation were modeled and the risks and hazards after mitigation were estimated. As shown in **Table 4.3-10**, chronic risks and hazards after mitigation are lower than under the unmitigated scenario. Mitigation measures only address PM10 emissions; therefore, under the mitigated scenario, concentrations from ROG emissions remain the same as the unmitigated scenario. Total estimated incremental cancer risk for adult residents and child residents for the mitigated CFTP were 2 in one million and 0.7 in one million, respectively. Total estimated incremental cancer risks for a young child through adulthood (adult + child) at the fence-line location with maximum cancer risks was 3 in one million. Cancer risks under CFTP after mitigation due to construction impacts are still almost entirely due to predicted exposure to diesel particulate matter contributing -- about 94 percent of the risk estimate. Incremental cancer risks for children attending schools within the study area under the mitigated scenario are estimated to be 0.06 in one million.

Table 4.3-10

Incremental Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals for CFTP Construction - Post-Mitigation

	Incremental Cancer Risks[1] (per million people)	
Receptor Type	**Unmitigated**	**Mitigated**
Child Resident	1	0.7
School Child	0.1	0.06
Adult + Child Resident[2]	5	3
Adult Resident	4	2
	Incremental Non-Cancer Chronic Hazards[3]	
	Unmitigated	**Mitigated**
Child Resident	0.02	0.01
School Child	0.002	0.001
Adult Resident	0.006	0.004

1 Values provided are changes in the number of cancer cases per million people exposed as compared to baseline conditions. All estimates are rounded to one significant figure.

2 Includes exposure to TACs released from LAX from childhood (ages 0-6) through adulthood (ages 7-70).

3 Hazard indices are totals for all TACs that may affect the respiratory system. This incremental hazard index is essentially equal to the total for all TACs.

Source: CDM, 2008.

Chronic hazard indices for adult residents and child residents living at the fence-line location with maximum cancer risks under the mitigated conditions are estimated to be 0.004 and 0.01, respectively. Incremental HIs for MEI school children are 0.001 for construction impacts under the mitigated CFTP. After mitigation, the contribution of the constituents changes slightly: diesel particulate matter contributes 41 percent, formaldehyde contributes 38 percent, chlorine contributes 7 percent, and acetaldehyde contributes 6 percent.

4.3.9 Level of Significance After Mitigation

The TAC emissions inventory developed for the CFTP, which formed the basis for the health risk characterization, is based on the assumption that certain air quality mitigation measures identified in the LAX Master Plan Final EIR and Mitigation Monitoring and Reporting Program would be in place at the time of construction (2009) of the CFTP. Specifically, as indicated in Section 4.3.5, construction-related mitigation measures associated with LAX Master Plan Mitigation Measure MM-AQ-2 were assumed to be in place during CFTP construction (see Table 4.2-7). The TAC emissions inventory thereby represents "mitigated" conditions.

Master Plan mitigation measures could potentially reduce emissions of TACs associated with the CFTP thereby further reducing related health risks. Levels of significance for the CFTP are summarized below:

- Project-related incremental cancer risks for construction 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 incremental chronic hazard indices for construction impacts would be below the thresholds of significance for all receptor types (i.e., child resident, school child, and adult resident).
- Project-related incremental acute 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 TACs at on-airport locations would not exceed PEL-TWA or TLVs for workers.

Estimated cumulative risks from emissions for concurrent construction projects are likely to be less than the incremental risk thresholds noted above.

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4.4 Global Climate Change

This section addresses the CFTP's potential impacts 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, there have yet to be developed specific guidelines and protocols for 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, 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 CFTP, with the objective of providing the public and decision-makers with a basic understanding of the issue, a quantitative and qualitative estimate of CFTP's impacts, and an analysis of how those impacts may be considered in different contexts.

4.4.1 Introduction

Since completion of the LAX Master Plan Final EIR, 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 (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.

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).[89] 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.[90] 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 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.[91]

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89 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.

90 California Climate Change Center, Our Changing Climate: Assessing the Risks to California, 2006.

91 California Environmental Protection Agency, Climate Action Team, Report to Governor Schwarzenegger and the California Legislature, March 2006.

- 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 limited water shortage, 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 a depletion of 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_2 Eq.) -- 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.

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 $\pm$ 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetraflouromethane (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.

According to a white paper on GHG emissions and global climate change prepared by the Association of Environmental Professionals (AEP), total worldwide GHG emissions in 2004 were estimated to be 20,135 teragrams (Tg)[92] CO_2 Eq., excluding emissions/removals from land use, land use change, and forestry.[93] In 2004, GHG emissions in the U.S. were 7,074.4 Tg CO_2 Eq. - 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 nations). In 2004, California produced 494 Tg CO_2 Eq.,[94] 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.

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 California Climate Registry, 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

92 One teragram (Tg) is equal to one million metric tons or approximately 2,204,600,000 pounds (lbs).

93 Association of Environmental Professionals, Final Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, June 29, 2007.

94 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.

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) 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.

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. That being said, with the issuance of California Assembly Bill 32 (AB 32), which will move toward the establishment of GHG reporting requirements and GHG reduction mechanisms, GHG emissions, and relative increases or decreases in operational emissions following implementation of this proposed project have been included here for informational purposes.

In the context of CEQA, climate change issues associated with the proposed project may be addressed in two ways:

- How does the project affect climate change? At this time there is not enough evidence or data available to reasonably conclude the extent to which any single project will affect global climate. However, through the use of forecasting it is possible to generally estimate the amount of GHGs that may be emitted directly or indirectly by the project. Such quantitative information can be considered relative to the project's contribution to cumulative impacts (i.e., global climate change is, by definition, a cumulative process not attributable to any single project). Such forecasting can also be used to systematically develop a systematic GHG emission inventory for a project, based on the proposed land uses, and evaluate design features of a project that serve to reduce potential GHG emissions.
- How does climate change affect the project? Due to the global nature of climate change, this cannot be forecast in a project-specific manner, but potential effects of global change on factors such as sea level rise, wildfire hazard, and water supply reliability are discussed.

4.4.2 Methodology

For this project, the GHG of concern is primarily CO_2. Given the primary emission sources for this project are combustion sources, emissions of CO_2 from both 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 significant amounts of N_2O and CH_4 also being emitted). Based on the nature of the CFTP, GHG emissions associated with secondary emission sources, such as electricity consumption, are considered to be much less of a contributor to the project's climate change impact. The electricity usage characteristics of the project are limited to energy consumption associated with operation of the new fire station/aircraft rescue and firefighting (ARFF) facility and electricity consumed by lighting associated with the proposed airfield improvements such as taxiway marker lights, airfield ground signs, apron lighting at the new RON area, and the use of ground power hookups at the four aircraft parking spots within the new RON area. Additionally, the consumption of natural gas in buildings at the project site, such as the new ARFF would contribute directly to GHG emissions. The analysis provided in this section includes an estimate of the GHG emissions associated with construction and operation of the proposed project, and also takes into account potential reductions in existing GHG emissions due to the removal of several existing buildings on-site and to improvements in the operation of aircraft taxiing in the midfield area. As such, the analysis provided herein includes a "baseline" that 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[95] for the South Coast Air Basin using the California Air Resources Board (CARB) OFFROAD2007 model.[96] 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[97] for the South Coast Air Basin using the CARB EMFAC2007 model.[98]

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

Building/Lighting Operations

Implementation of the CFTP would include the removal of several existing buildings, which directly and indirectly generate GHG emissions, and the construction of a new building - the ARFF. The natural gas and electricity usage in each building was estimated from the building's area (square feet). Natural gas usage factors from the Urban Emissions (URBEMIS) air quality model, Version 9.2.4 were used for all buildings except the existing fire station/ARFF. Usage factors for natural gas were obtained from the 1999 Commercial Buildings Energy Consumption Survey (CBECS) results by the Energy Information Administration (EIA). Electricity usage factors were obtained from the CBECS for all buildings. In addition to buildings, operational sources of energy consumption for this project include the high intensity discharge lighting (i.e., floodlights) applied in apron areas such as the RON area.

Emission factors were obtained from The Climate Registry's General Reporting Protocol (May 2008) for all pollutants with the exception of CO_2 from electricity. The CO_2 electricity emission factor was obtained from the 2005 CCAR emissions report for the Los Angeles Department of Water & Power (LADWP). Since the LADWP uses a higher percentage of coal than the rest of the state in its electricity generation, this method produced a more accurate estimate of emissions than using the default factors from The Climate Registry.

The analysis context considered in the analysis of GHG emissions from building operations was generally defined as the area encompassing the existing structures that would be removed as a result of project construction. Those structures are described in Section 2.4.2. Within that general area are the two potential sites that are currently being considered for the new ARFF.

Aircraft Operations

The completion of the CFTP would have a slight beneficial impact on the taxi/idle times of aircraft that need to move between the north and south airfields at LAX. These aircraft would not have to either wait for other aircraft to move off of the existing crossfield taxiway, or taxi down to the western end of the airport to cross. As described earlier in Section 2.1.3, no other operational source would be affected by

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95 South Coast Air Quality Management District, Available: http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls, accessed April 11, 2008.

96 California Air Resources Board, Available: http://www.arb.ca.gov/msei/offroad/offroad.htm, accessed April 11, 2008.

97 South Coast Air Quality Management District, Available: http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html, accessed April 11, 2008.

98 California Air Resources Board, Available: http://www.arb.ca.gov/msei/onroad/latest_version.htm, accessed April 11, 2008.

the CFTP, and only taxi/idle emissions from aircraft would be impacted by this project. Therefore, only aircraft emissions during taxi/idle modes on the airport following completion of the project are analyzed for the CFTP. The aircraft types and used in airport simulation modeling with and without the CFTP are listed in **Table 4.4-2**.[99]

Table 4.4-2

Aircraft Codes, Descriptions and Engines Used in Airport Simulation and EDMS Modeling

Simulation Aircraft Code	EDMS Aircraft Code	EDMS Aircraft Description	EDMS Engine
300	A300B4-2	Airbus A300B4-200 Series	CF6-50C2 Low emissions fuel nozzle
319	A319-1	Airbus A319-100 Series	CFM56-5B6/P
320	A320-2	Airbus A320-200 Series	V2527-A5
321	A321-2	Airbus A321-200 Series	V2530-A5
332	A330-2	Airbus A330-200 Series	PW4168 Talon II
717	B717-2	Boeing 717-200 Series	BR700-715A1-30 Improved fuel injector
727	B727-2	Boeing 727-200 Series	JT8D-217 series
733	B737-3	Boeing 737-300 Series	CFM56-3-B1
734	B737-4	Boeing 737-400 Series	CFM56-5B6/P
735	B737-5	Boeing 737-500 Series	CFM56-3C-1
737	B737-1	Boeing 737-100 Series	JT8D-17A
739	B737-9	Boeing 737-900 Series	CFM56-7B24
73G	B737-7	Boeing 737-700 Series	CFM56-7B22
73H	B737-8	Boeing 737-800 Series	CFM56-7B26
742	B747-2	Boeing 747-200 Series	CF6-50E2 Low emissions fuel nozzle
744	B747-4	Boeing 747-400 Series	PW4056
752	B757-2	Boeing 757-200 Series	PW2040
753	B757-3	Boeing 757-300 Series	PW2040
762	B767-2	Boeing 767-200 Series	CF6-80A
763	B767-3	Boeing 767-300 Series	CF6-80C2B7F 1862M39
764	B767-4	Boeing 767-400	CF6-80C2B8FA 1862M39
777	B777-2	Boeing 777-200 Series	PW4077
A31	A310-2	Airbus A310-200 Series	CF6-80A3
A34	A340-2	Airbus A340-200 Series	CFM56-5C3
BE5	BEECH99	Raytheon Beech 99	PT6A-36
C21	CNA208	Cessna 208 Caravan	PT6A-114A
C55	CNA550	Cessna 550 Citation II	JT15D-4 series
CL6	CL600	Bombardier Challenger 600	CF34-3B
CNA	CNA500	Cessna 500 Citation I	JT15D-1 series
CR7	CRJ7	Bombardier CRJ-700	CF34-8C1
CRJ	CRJ2	Bombardier CRJ-200	CF34-3B
D9S	DC9-5	Boeing DC-9-50 Series	JT8D-17 Reduced emissions
DC1	DC10-3	Boeing DC-10-30 Series	CF6-50C2 Low emissions fuel nozzle
DC8	DC8-7	Boeing DC-8 Series 70	CFM56-2B
DH4	DHC8Q-4	Bombardier de Havilland Dash 8 Q400	PW150A
EM2	EMB120	Embraer EMB120 Brasilia	PW118
ERD	ERJ145	Embraer ERJ145	AE3007A1E Type 3
FAL	FAL20-C	Dassault Falcon 20-C	CF700-2D
GAS	BEECH200	Raytheon Super King Air 200	PT6A-42
GII	GULF2	Gulfstream II	SPEY Mk511 Transply IIH
GIV	GULF4-SP	Gulfstream IV-SP	TAY Mk611-8
HS1	HS125-1	Hawker HS-125 Series 1	TFE731-3
LEA	LEAR35	Bombardier Learjet 35	TFE731-2-2B
M83	MD83	Boeing MD-83	JT8D-219 Environmental Kit (E_Kit)
M87	MD87	Boeing MD-87	JT8D-219

99 The aircraft fleet mix assumed for the SIMMOD modeling is based on the flight operations and schedules in 2005, which represents the most recent full-year of aircraft flight data at LAX under normal operations. LAX flight data for calendar years 2006 and 2007 are not considered to be representative of normal operations due to South Airfield Improvement Project (SAIP) construction activities underway at that time, which required temporary modifications to normal airfield operations.

Table 4.4-2

Aircraft Codes, Descriptions and Engines Used in Airport Simulation and EDMS Modeling

Simulation Aircraft Code	EDMS Aircraft Code	EDMS Aircraft Description	EDMS Engine
M88	MD88	Boeing MD-88	JT8D-219 Environmental Kit (E_Kit)
MD1	MD11	Boeing MD-11	CF6-80C2D1F 1862M39
MD9	MD90	Boeing MD-90	V2525-D5
MU3	MU300	Mitsubishi MU-300 Diamond	JT15D-4 series
SD3	SD330	Shorts 330	PT6A-45R
SF3	SAAB340-A	Saab 340-A	CT7-5A2
SW4	SA227	Fairchild SA-227-AC Metro III	TPE331-10

Source: CDM, 2008.

The analysis of aircraft taxi/idle emissions was conducted by estimating taxi/idle times with and without the CFTP using airfield simulation modeling. The resulting taxi/idle times were summarized by aircraft type (fleet mix), and fuel use was calculated using the Version 5.0.2 of the FAA EDMS model.[100] Once the total fuel consumed was determined, CO_2 emissions were calculated in accordance with the 2006 IPCC guidelines.[101] The IPCC allows for the use of one of three different calculation methods, with the first two being dependent on fuel use/consumption data and the last one being dependent on movement data for individual flights. The second tier of analysis (Tier 2), which relies on fuel use and the number of landing/take-off cycles (LTOs), is recommended for all jet aircraft. Taxi/idle emissions only occur in the LTO cycle, thus no change to cruise GHG emissions are associated with the CFTP. The mass of fuel consumed during aircraft taxi/idle, as calculated by EDMS, was multiplied by a factor of 3.16 mass of CO_2/mass of fuel[102] and to obtain the quantity of CO_2 produced. No substantial quantity of aviation gasoline is consumed at LAX, and as of 2007, aviation gasoline is no longer provided at the airport by LAX fuel suppliers.[103] The incremental change in fuel use between with and without the CFTP would be the project's impact on CO_2 emissions.

The analysis context considered in the analysis of GHG emissions from aircraft operations was generally defined as the airport's midfield area, where aircraft taxi between the north and south runway complexes and the terminals.

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

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[100] Federal Aviation Administration, Available: http://www.faa.gov/about/office_org/headquarters_offices/aep/models/edms_model/, December 2007.

[101] Intergovernmental Panel on Climate Change, 2006 IPCC Guidelines for National Greenhouse Gas Inventories, 2006, Available: http://www.ipccnggip.iges.or.jp/public/2006gl/index.htm.

[102] Intergovernmental Panel on Climate Change, 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2 – Energy, 2006; Available: http://www.ipccnggip.iges.or.jp/public/2006gl/index.htm.

[103] Jack, Raymond, Chief of Operations II, Los Angeles World Airports, Personal Communication, February 4, 2008.

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. 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 were made in October 2005. 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.

California Assembly Bill No. 1493 (AB 1493): Enacted on July 22, 2002, this bill required the 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.

Executive Order S-3-05: 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.

California Assembly Bill 32 (AB 32): 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 is required to adopt regulations for mandatory GHG emissions reporting by January 1, 2008 and to adopt a plan indicating how emission reductions will be achieved by January 1, 2009. 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.

Executive Order S-01-07: 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 business-as-usual)
- 1990 levels by 2020 (25 percent below business-as-usual)
- 80 percent below 1990 levels by 2050

California Senate Bill 97: Senate Bill 97 (SB 97) requires that Office of Planning and Research (OPR) to prepare guidelines to submit to the California Resources Agency regarding feasible mitigation of greenhouse gas 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.

4.4.3.2 Existing GHG Emissions

Building/Lighting Operations

An estimate of GHG emissions associated with existing building/lighting operations was prepared for those facilities that are proposed to be demolished and/or taken out of service as a result of the CFTP. The estimate focused primarily on direct and indirect emissions from the consumption of natural gas and electricity, respectively. Appendix E provides a technical memorandum delineating the assumptions, approach, and factors used in estimating energy consumption and GHG generation. Based on the information provided therein, it is estimated that natural gas consumption from existing buildings generates approximately 212 metric tons of CO_2 and electricity consumption generates approximately 2,467 metric tons of CO_2, for a total of 2,679 metric tons.

Aircraft Operations

Based on the existing midfield taxiway systems and aircraft taxiing movements, it is estimated that approximately 358,045 tons of CO_2 are generated annually (see Section 4.4.6.2 below for details regarding the calculation of this estimate).

4.4.4 CEQA Thresholds of Significance

As previously stated, no widely-established or readily accepted thresholds of significance for GHG currently exist. This may be partially due to the difficulty of addressing GHG on a project-level due to the global nature of their effects (as the name implies). In June 2008, the Governor's Office of Planning and Research (OPR) issued a Technical Advisory titled "*CEQA AND CLIMATE CHANGE: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*." The Advisory offers informal guidance regarding the steps lead agencies should take to address climate change in CEQA documents, recognizing that OPR is currently working on new CEQA Guidelines that must be adopted by January 2010. Those new CEQA Guidelines will provide additional guidance on how to address and mitigate GHG emissions in CEQA documents. In that regard, 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. In the meantime, however, each lead agency must make its own determination as to an appropriate threshold of significance related to climate change and greenhouse gas emissions, and may undertake a project-by-project analysis in so doing. As such, the threshold of significance set forth in this EIR for the CFTP analysis is as follows:

- A significant impact relative to global climate change and GHG is considered to occur if the project would result in a substantial increase in GHG emissions compared to current emission levels.

4.4.5 LAX Master Plan Commitments and Mitigation Measures

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 the CFTP and hence were considered in the air quality analysis as part of the project.

- **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. The LAX MP-MPAQ process has commenced and LAWA is working with its consultants to define the framework for the overall air quality mitigation program and to define specific measures to be implemented in three categories of emission - construction, transportation, and operations.
- **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 4.6.8 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 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). Based on the construction equipment list developed for the CFTP, no portable diesel generators are anticipated to be required for the project. There will, however, be limited use of portable light stands, which have been accounted for in the construction emission estimates. Some components of MM-AQ-2 are not readily quantifiable, but will be implemented as part of the CFTP. Several of these mitigation strategies, presented in **Table 4.4-3**, are expected to further reduce construction-related CO_2 emissions associated with the CFTP.

Table 4.4-3

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.	Nonroad Mobile
Utilize on-site rock crushing facility, when feasible, during construction to reuse rock/concrete and minimize off-site truck haul trips.	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
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.

The following Master Plan commitment designed to address impacts to solid waste disposal, and which also addresses related air quality impacts from truck haul trips, is applicable to the CFTP.

- **SW-3. Requirements for the Recycling of Construction and Demolition Waste.** This measure requires that contractors recycle a specified minimum percentage of waste materials generated during construction and demolition. The percentage of waste materials required to be recycled will be specified in the construction bid documents. Waste materials to be recycled may include, but are not limited to, asphalt, concrete, drywall, steel, aluminum, ceramic tile, and architectural details. This measure was successfully applied on the South Airfield Improvement Project (SAIP) relative to the use of an on-site rock crusher to recycle demolition waste (old concrete and asphalt) into aggregate base material. This reduced both the need to export demolition waste and the need to import aggregate base. In turn, the amount of truck haul trips, with associated fuel consumption and greenhouse gas generation, was reduced. Similar to the SAIP, the CFTP is well-suited to this type of on-site recycling.

4.4.6 Impact Analysis

4.4.6.1 Construction Emissions

The construction source CO_2 emissions, by calendar quarter, are presented in **Table 4.4-4**. The peak quarterly emissions by general equipment or vehicle category are summarized in **Table 4.4-5**. Over the duration of the project, the on-site construction equipment generates just under 60 percent of the project construction CO_2 emissions, and deliveries of construction materials primarily for the batch plant generate almost 30 percent of the project construction CO_2 emissions.

Table 4.4-4

Quarterly CO_2 Emissions from CFTP Construction Sources

Quarter	CO_2 (tons)
2009 Q1	2,602
2009 Q2	3,808
2009 Q3	4,023
2009 Q4	3,479
2010 Q1	3,915
2010 Q2	2,122
Project Total	**19,948**

Source: CDM, 2008.

Table 4.4-5

Peak Quarterly Emissions, Controlled, by Equipment Category

Equipment Type	CO_2 Tons	Contribution to Total
Offroad, On-Site Equipment	2,423	60%
On-Road, On-Site Trucks	109	3%
On-Road, Off-site Deliveries	1,005	25%
On-Road, Off-site Workers	486	12%
Total (tons per quarter)	**4,023**	**100.00%**

Source: CDM, 2008.

Given that presently the nature and extent of construction activities within the project area are minimal, as are any associated existing construction-related GHG emissions, the generation of between 2,100 and 4,000 tons of CO_2 per quarter for well over a year is considered to represent a substantial increase, albeit temporary, in GHG emissions. As such, construction-related GHG emissions constitute a significant impact.

4.4.6.2 Operational Emissions

Building/Lighting Operations

With implementation of the CFTP, several existing facilities would be demolished, which would terminate the energy consumption associated with their operation; however, inasmuch as the vast majority of the existing activities would be relocated to another existing facility, a certain amount of existing energy demands would be transferred over to the recipient building. With the assumed adjustments described in Appendix E, it is anticipated that the future (with-project) natural gas consumption would generate approximately 254 metric tons of CO_2 and the future electricity consumption would generate approximately 2,401 metric tons of CO_2, for a total of 2,655 metric tons. This represents a decrease of 24 metric tons of CO_2, compared to existing conditions - a 0.9 percent reduction.

Aircraft Operations

Upon completion of the CFTP, aircraft movements around the airfield would see an improvement (reduction) in taxi/idle times. When averaged over 640,000 total operations, based on SIMMOD airfield modeling of representative existing conditions, this reduction is approximately 50 seconds per LTO. Based on the fleet mix listed in the Methodology above, the annual CO_2 emission reductions would be approximately 12,500 tons per year, as shown in **Table 4.4-6**. Recognizing that the LAX Master Plan had an assumed buildout year of 2015, the CO_2 reductions that would occur with the CFTP amount to approximately 75,000 tons from 2010 through 2015.

Table 4.4-6

Annual Reduction in Fuel Consumption and CO_2 Emissions with CFTP

	Without CFTP	With CFTP	Reduction with CFTP
Fuel Consumed, tpy	113,305	109,360	3,945
CO_2 Emissions, tpy	358,045	345,577	12,467

Source: CDM, 2008.

4.4.6.3 Impacts to Climate Change

Based on the information presented above in Sections 4.4.6.1 and 4.4.6.2, implementation of the proposed CFTP would result in the generation of approximately 19,948 tons of construction-related GHG, primarily in the form of CO_2, over the 16-month construction period. This represents a substantial, albeit temporary, increase in GHG emissions compared to current emission levels, which constitutes a significant impact to climate change. The operations-related reduction in GHG (CO_2) associated with improved aircraft ground movement would have a beneficial impact. It should be noted that the amount of GHG generated during the 16-month construction period would be equaled in about 19 months of post-project operation reductions, and represent a net reduction in GHG emissions hence forward. As such, operations following completion of the CFTP would not result in a substantial increase in GHG emissions compared to current emission levels; hence, there would not be a significant impact to climate change from project operations.

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 the 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 CFTP.

The CFTP site has surface elevations of between approximately 108 and 118 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 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 global climate change 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.

4.4.7 Cumulative Impacts

The construction source CO_2 emissions from cumulative projects are presented in **Table 4.4-7**. The cumulative construction projects that occur at LAX concurrently with the CFTP include: (1) TBIT Reconfiguration Project, Taxiway S and ARFF demolition, (2) TBIT Interior Improvements Program, (3) Airfield Intersection Improvements, (4) North Airfield Waterline Repair, (5) In-Line Baggage Screening Systems, (6) Perimeter Fence Projects, (7) Korean Air Cargo Terminal Improvement Project, (8) Airport Operations Center (AOC)/Emergency Operation Center (EOC), and (9) Westchester Rainwater Improvement Project. Calculation sheets for these emissions are included in Appendix E, Attachment 1.

Table 4.4-7

Cumulative Construction Project CO_2 Emissions

Project	CO_2 Emissions (tons)
In Line Baggage Screening System[1,2]	1,005
TBIT Interior Improvements Program[1,3]	6,310
Airfield Intersection Improvements Project[4] - Phase 2	558
AOA Perimeter Fence Project-Phases III and IV[5]	10
North Airfield Waterline Repair[5]	23
TBIT Reconfiguration (Taxiway S & ARFF Demolition)[5]	11,725
Korean Air Cargo Terminal Improvement Project[5]	228
AOC/EOC[5]	150
Westchester Rainwater Improvement Project[5]	858
Total Other Cumulative Project CO_2 Emissions, tons	**20,866**
CFTP Construction CO_2 Emissions, tons	19,948
Total Cumulative Construction Projects CO_2 Emissions, tons	**40,814**

1 Annual CO_2 emissions estimated by CDM from average CO-to-CO annual emissions from TBIT Reconfiguration, North Airfield Waterline Repair, Perimeter Fence, and Airfield Intersections Improvement Projects.
2 City of Los Angles, 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 Angles, Los Angeles World Airports, Tom Bradley International Terminal Improvements and Baggage Screening Facilities Project, prepared by PCR Services Corporation, November 2004. Project is currently in the Building/Erection Phase, so values are for that phase.
4 Los Angeles World Airports, "Airfield Intersections Improvement Project Equipment Inventory - Peak Day Jan 2009-Jan 2010," May 22, 2008.
5 Equipment estimates developed by CDM in consultation with LAWA.

Sources: CDM 2008.

4.4.8 Mitigation Measures

The long-term operations-related GHG reductions associated with the CFTP far exceed the temporary construction-related GHG emissions. The project includes mitigation measures to reduce construction equipment operations/duration, as described above. There are no other feasible mitigation measures to reduce construction-related GHG emissions other than those already identified above and in the Section 4.2, *Air Quality*.

In that regard, **Table 4.4-8**, Evaluation of Potential GHG Mitigation Measures, presents a comprehensive list of suggested mitigation measures for new development projects throughout the state of California. This list is prepared by the California Office of the Attorney General relative to addressing GHG emissions and climate change impacts within an EIR. The table below describes how the proposed project relates to each of the applicable mitigation measures. As indicated in the table, the proposed project responds to those measures that are within the scope/control of the project.

Table 4.4-8

Evaluation of Potential GHG Mitigation Measures

Measure	Discussion
Transportation	
Coordinate controlled intersections so that traffic passes more efficiently through congested areas.	NA - Beyond the scope/control of the project.
Set specific limits on idling time for commercial vehicles, including delivery and construction vehicles.	Included in project - see Table 4.4-3.
Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for high-occupancy vehicles, providing larger parking spaces to accommodate vans used for ride-sharing, designating adequate passenger loading and unloading and waiting areas, and providing electronic message board space for coordinating rides.	NA - Beyond the scope/control of the project.
Create car-sharing programs. Accommodations for such programs include providing parking spaces for the car-share vehicles at convenient locations accessible by public transportation.	NA - Beyond the scope/control of the project.
Create and/or expand existing vehicle buy-back programs to include vehicles with high greenhouse gas emissions.	NA - Beyond the scope/control of the project.
Require clean alternative fuels and electric vehicles.	LAWA has an existing policy requiring vehicles over 8,500 pounds gross weight, including shuttles meeting that weight requirement, to be alternative fueled.
Develop the necessary infrastructure to encourage the use of alternative fuel vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations).	NA - Beyond the scope/control of the project.
Increase the cost of driving and parking private vehicles by imposing tolls, parking fees, and residential parking permit limits.	NA - Beyond the scope/control of the project.
Develop transportation policies that give funding preference to public transit.	NA - Beyond the scope/control of the project.
Design transportation centers where various public transportation modes intersect.	NA - Beyond the scope/control of the project.
Encourage the use of public transit systems by enhancing safety and cleanliness on vehicles and in and around stations.	NA - Beyond the scope/control of the project.
Assess transportation impact fees on new development in order to facilitate and increase public transit service.	NA - Beyond the scope/control of the project.
Provide shuttle service to public transit.	A shuttle will be used to transport construction workers between the construction employee parking lot and the project site. The shuttle route travels along Imperial Highway and passes directly by the Metro Green Line station, which also has local bus access. The project shuttle can, upon request, make a stop at the Metro station if/as workers choose to use public transit for their work commute.
Offer public transit incentives.	NA - Beyond the scope/control of the project.

Table 4.4-8

Evaluation of Potential GHG Mitigation Measures

Measure	Discussion
Incorporate bicycle lanes into street systems in regional transportation plans, new subdivisions, and large developments.	NA - Beyond the scope/control of the project.
Create bicycle lanes and walking paths directed to the location of schools and other logical points of destination and provide adequate bicycle parking. Ensure that non-motorized transportation systems are connected and not interrupted by impassable barriers, such as freeways.	NA - Beyond the scope/control of the project.
Restore and/or expand school bus services. Where possible, use an alternative fuel school bus fleet.	NA - Beyond the scope/control of the project.
Require commercial projects to include facilities on-site to encourage employees to bicycle or walk to work.	NA - Beyond the scope/control of the project.
Provide public education and publicity about public transportation services.	NA - Beyond the scope/control of the project.
Conduct a public information campaign on all options for individuals to reduce transportation emissions.	NA - Beyond the scope/control of the project.
Organize and lead a formal telecommute work program involving public agencies and private businesses. 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 and Renewable Energy	
Require energy efficient design for buildings. This may include strengthening local building codes for new construction and renovation to require a higher level of energy efficiency.	The new ARFF would be designed as a LEED-certified (Silver) building.
Adopt a "Green Building Program" to promote green building standards.	As indicated above, the new ARFF would be designed and constructed as a LEED-certified (Silver) building.
Provide permitting incentives for energy efficient building projects, e.g., by giving green projects priority in plan review, processing and field inspection services.	See above.
Fund and schedule energy efficiency audits of existing buildings by checking, repairing, and readjusting heating, ventilation, air conditioning, lighting, hot water equipment, insulation and weatherization. (Facilitating or funding the improvement of energy efficiency in existing buildings could offset in part the global warming impacts of new development.) Offer financial incentives for adoption of identified efficiency measures.	NA - Existing structures within project area to be removed.
Provide individualized energy management services for large energy users.	NA - No such uses proposed as part of the project.
Require the use of energy efficient heating and cooling systems, appliances and office equipment.	Energy efficient heating and cooling systems are one of the key measures within the project's provisions for a LEED-certified (Silver) ARFF.
Fund incentives and technical assistance for lighting efficiency.	See above.

Table 4.4-8

Evaluation of Potential GHG Mitigation Measures

Measure	Discussion
Require that projects use efficient lighting. (Fluorescent lighting uses approximately 75% less energy than incandescent lighting to deliver the same amount of light).	See above.
Require the use of Light Emitting Diode (LED) for traffic and street lighting.	NA - Beyond the scope/control of the project.
Incorporate on-site renewable energy production (through, e.g., participation in the California Energy Commission's New Solar Homes Partnership). Require project proponents to install solar panels, water reuse systems, and/or other systems to capture energy sources that would otherwise be wasted.	Such provisions would be considered during the planning and design of the new ARFF, in conjunction with pursuing LEED-certification (Silver).
Streamline permitting and provide public information to facilitate accelerated construction of solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating, ventilation and air conditioning systems in existing buildings.	See above.
Provide innovative financing for energy efficiency and alternative energy projects. For example, allow property owners to pay for energy efficiency improvements and solar system installation through long-term assessments on individual property tax bills.	NA - Owner is Applicant.
Fund incentives to encourage the use of energy efficient equipment and vehicles.	See above. It should be noted that, as described in Section 2.1, implementation of CFTP would provide for improved aircraft ground movements, resulting in reduced taxi/idle times and associated fuel consumption and GHG emissions.
Provide public education and publicity about energy efficiency and available programs and incentives.	NA - CFTP pertains to airfield only; does not involve public.
Land Use Measures	
Encourage mixed-use, infill, and higher density development to reduce vehicle trips, promote alternatives to individual vehicle travel and promote efficient delivery of services and goods. Infill development generates fewer vehicle miles traveled (VMT) per capita and reduced emissions of greenhouse gases, and denser development is associated with increased public transit use. For example, a city or county could promote "smart" development by reducing developer fees or granting property tax credits for qualifying projects.	NA - Project does not involve land use planning and development.
Discourage development that will increase passenger vehicle VMT. Enact ordinances and programs to limit or prohibit sprawl - development that requires additional or longer passenger vehicle commutes between workplaces and residences.	See above.
Incorporate public transit into project design.	NA - CFTP "pertains to airfield only; does not involve public transit.
Require measures that take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.	NA - The project site is located on LAX airfield and location and orientation of improvements based on aircraft movements.
Preserve and create open space and parks. Preserve existing trees and require the planting of replacement trees for those removed in construction.	NA - The project site is located within the LAX property boundaries, and is currently developed or previously disturbed.

Table 4.4-8

Evaluation of Potential GHG Mitigation Measures

Measure	Discussion
Impose measures to address this "urban heat island" effect by, e.g., requiring light-colored and reflective roofing materials and paint; light-colored roads and parking lots; shade trees in parking lots; and shade trees on the south and west sides of new or renovated buildings. Darker colored roofs, pavement, and lack of trees may cause temperatures in urban environments to increase by as much as 6-8 degrees Fahrenheit as compared to surrounding areas.	Majority of CFTP improvements involve placement of concrete (i.e., responds to desire for light-colored surfaces). Design of new ARFF may include limited ornamental landscaping; however, extensive use of landscaping (i.e., shade trees) is not expected to occur based on bird attractant hazard.
Facilitate "brownfield" development located near existing public transportation and jobs.	NA-The project site is not a "brownfield."
Require pedestrian-only streets and plazas within developments, and destinations that may be reached conveniently by public transportation, walking, or bicycling.	NA - Project primarily involves airfield improvements not open to the public.
Water Conservation and Efficiency	
Design and implement a comprehensive water conservation strategy. The strategy may include many of the specific items that follow, plus other innovative measures that are appropriate for the location.	Energy efficient utility systems are included as key measures within the LEED-certification program, which will include the ARFF designed and constructed to LEED Silver certification.
Require water efficient landscapes. Adopt a strong landscape ordinance with water budgets to assure efficient landscape design, installation, and maintenance in new construction.	NA - The CFTP primarily involves airfield improvements. Minimal ornamental landscaping anticipated to occur, in light of potential birdstrike hazards.
Encourage the use of reclaimed water for landscape irrigation in new developments and on public property. Provide necessary infrastructure to deliver and use reclaimed water.	See above.
Require water efficient design for buildings. This may include strengthening local building codes for new construction and implementing a program to renovate existing buildings to require a higher level of water efficiency.	Energy efficient utility systems, including water conservation, are acknowledged in the LEED-certification program, which would be applied to the ARFF.
Adopt a retrofit ordinance that will require installation of water-efficient fixtures upon the sale of homes.	NA - Project does not involve residences.
Adopt and enforce restrictions on watering methods (e.g., prohibiting systems that apply water to non-vegetated surfaces) and controls on runoff.	NA - Minimal, if any, landscaping anticipated.
Require water efficiency training and certification for irrigation designers, installers, and managers.	NA - Minimal, if any, landscaping anticipated.
Provide individualized water audits for large water users to identify conservation opportunities. Offer financial incentives for adoption of identified efficiency measures.	NA - Project does not involve large water users.
Provide water audits for large landscape accounts. Offer financial incentives for efficient irrigation controls and other efficiency measures.	NA - Minimal, if any, landscaping anticipated.
Fund incentives and technical assistance for water efficiency.	Water efficiency in building (ARFF) would be addressed through LEED-certification. Minimal, if any, landscaping anticipated.

Table 4.4-8

Evaluation of Potential GHG Mitigation Measures

Measure	Discussion
Adopt standards that prescribe the maximum allowable effective impervious area for all new development and redevelopment projects. Require preservation of the existing hydrologic character of developed sites 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).	LAX Conceptual Drainage Plan developed as a result of Master Plan Commitment HWQ-1 sets forth basic hydrology and water quality design considerations for individual projects such as CFTP.
Adopt conservation pricing to encourage efficient water use.	Water efficiency in building (ARFF) would be addressed through LEED-certification. Minimal, if any, landscaping anticipated.
Solid Waste Measures	Waste minimization and efficiency related to the new ARFF would be addressed through LEED-certification. The project provides for an on-site rock crusher for the recycling of demolition debris to use as aggregate base.
Require projects to reuse and recycle construction and demolition waste.	See above.
Implement or expand city or county-wide recycling and composting programs for residents and businesses.	NA - Beyond the scope/control of the project.
Increase areas served by recycling programs.	NA - Beyond the scope/control of the project.
Extend the types of recycling services offered (e.g., to include food and green waste recycling).	NA - Beyond the scope/control of the project.
Establish methane recovery in local landfills, wastewater treatment and animal operations plants to generate electricity.	NA - Beyond the scope/control of the project.
Provide public education and publicity about recycling services.	NA - Beyond the scope/control of the project.
Carbon Offsets	
In some instances, a lead agency may find that measures that will directly reduce a project's emissions are insufficient. A lead agency may consider whether carbon offsets would be appropriate. The project proponent could, for example, fund off-site projects (e.g., alternative energy projects) that will reduce carbon emissions, or could purchase "credits" from another entity that will fund such projects. The lead agency should ensure that any mitigation taking the form of carbon offsets is specifically identified and that such mitigation will in fact occur.	As indicated above and discussed throughout this section, the project includes the implementation of the LEED-certification program for the new ARFF. See also other measures described above. Moreover, the CFTP provides substantial benefits relative to reduce GHG emissions associated with aircraft ground movement.

Source: CDM, 2008.

4.4.9 Level of Significance After Mitigation

The climate change impacts of the CFTP, would be significant and adverse relative to short-term construction-related GHG emissions and the long-term operations-related GHG emissions would be less than significant. The operations-related reductions in existing GHG emission levels are considered to be beneficial.

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4.5 Biotic Communities

4.5.1 Introduction

The LAX Master Plan Final EIR evaluated potential impacts on biotic communities[104] and proposed mitigation measures to address potentially significant impacts. The analysis of biotic communities provided in this project-level tiered EIR was prepared to examine, at a greater level of detail, the potential impacts on biotic communities associated with construction of the CFTP. Operational aspects of the CFTP and their potential to impact biotic communities have not changed from what was addressed in the LAX Master Plan Final EIR. Therefore, the potential operational impacts on biotic communities associated with the CFTP are not further addressed herein.

There are two key findings and potential impacts and mitigation measures from Section 4.10 of the LAX Master Plan Final EIR that relate to this section and the CFTP.

Construction activities, including staging and stockpiling of materials proximal to the Los Angeles/El Segundo Dunes, including the El Segundo Blue Butterfly Habitat Restoration Area, were identified as having the potential to result in deposition of fugitive dust within state-designated sensitive habitat. The potential for fugitive dust to affect biotic communities was considered a significant impact prior to mitigation. Implementation of Mitigation Measures MM-BC-1, Conservation of State-Designated Sensitive Habitat within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area, and MM-ET-3, El Segundo Blue Butterfly Conservation: Dust Control, was recommended to reduce these potential fugitive dust impacts to a less than significant level.

No significant indirect impacts due to increased ambient light, noise, or concentrations of air pollutants were identified as a result of implementation of the LAX Master Plan.

The purpose of this analysis is to examine at a more precise project-level of detail the potential for CFTP construction activities to impact biotic communities. In addition to direct impacts associated with construction activities, potential indirect construction impacts from light emissions, air emissions, and noise are also assessed.

4.5.2 Methodology

Existing sensitive biotic communities and plant and animal communities were identified through a series of studies and surveys conducted for the LAX Master Plan EIR. (See Section 4.10 and Technical Report 7 of the LAX Master Plan Final EIR.) For this Draft EIR, biologists conducted a general assessment of the biotic communities within the unpaved/undeveloped portions of the CFTP which may contain sensitive biotic communities: the construction staging area and the American Airlines employee parking lot relocation site. On July 31, 2008 and August 6, 2008, on-site surveys of the proposed CFTP staging area site and American Airlines employee parking lot relocation site were conducted by BonTerra Consulting to document existing biological resources and map vegetation for each of the two areas. Prior to the surveys, the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Vascular Plants of California and the CDFG's California Natural Diversity Data Base (CNDDB) were reviewed to identify special status plants, wildlife, and habitats known to occur in the vicinity of these sites. The result of the BonTerra biological resources survey are included in Appendix F and described below.

4.5.3 Baseline Conditions

Descriptions of existing conditions relative to biotic communities are presented in Section 4.10 of the LAX Master Plan Final EIR and Section 2.2 of the Second Addendum to the Final EIR. This information is incorporated herein by reference and summarized below. The discussion below updates the findings on the LAX Master Plan Final EIR to incorporate the results of the recent surveys.

[104] Biotic communities are regional assemblages of vegetation (flora) and associated wildlife (fauna) and sensitive plant and animal species.

4.5.3.1 Overview of Baseline Conditions

The majority of the airport property, including the CFTP site, is developed. However, the north and south airfields contain biotic communities classified as non-native grassland/ruderal and disturbed ground. The proposed American Airlines employee parking lot relocation site consists of both ruderal and developed areas. The largest area of open space within airport property is the 307-acre Los Angeles/El Segundo Dunes (Dunes), which includes the El Segundo Blue Butterfly Habitat Restoration Area, located west of Pershing Drive. Biotic communities within the Dunes include southern foredune, southern dune scrub, valley needlegrass grassland, disturbed dune scrub/foredune, and non-native grassland/ruderal. Conditions regarding the presence of sensitive biotic communities within or adjacent to the CFTP work area have not changed materially from those presented in the LAX Master Plan Final EIR.

No sensitive species have been observed on or near the airfield portion of the CFTP site or within the construction staging area. However, southern tarplant (*Centromadia parryi* ssp. a*ustralis*) was observed on the American Airlines employee parking relocation site. This species is discussed below. In addition, the loggerhead shrike (*Lanius ludovicianus*), a California Department of Fish and Game (CDFG) designated Species of Special Concern, has been observed adjacent to the proposed CFTP staging area, currently used for construction staging for the SAIP. The San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) utilizes the open space area located in the southwestern corner of the airfield. In addition, a number of sensitive plant and animal species, including loggerhead shrike, San Diego horned lizard (*Phrynosoma coronatum blainvillei*), silvery legless lizard (*Anniella pulchra*), California spineflower (*Mucronea californica*), and Lewis' evening primrose (*Camissonia lewisii*) are located west of the CFTP staging area, beyond Pershing Drive in the Dunes.

4.5.3.2 CFTP Site Conditions

The following describes the results of the July/August 2008 BonTerra biological resources survey conducted for the CFTP (see Appendix F).

No native vegetation types are present at either the proposed staging area site or American Airlines employee parking lot relocation site. The American Airlines employee parking lot relocation site consists of ruderal and developed (paved) areas (see **Figure 4.5-1**). The ruderal area undergoes regular operations maintenance and is continuously mowed. Ruderal vegetation was dominated by black mustard (*Brassica nigra*), telegraph weed (*Heterotheca grandiflora*), common plantain (*Plantago major*), common horseweed (*Conyza canadensis*), shortpod mustard (*Hirschfeldia incana*), wild oat (*Avena sp*.), and foxtail chess (*Bromus madritensis ssp. rubens*).

The proposed staging area consists of a small amount of ruderal vegetation along the eastern boundary and developed/disturbed areas in the remainder of the site.

Vegetation in these two areas provides very little habitat for native wildlife species. Wildlife species observed or expected to occur on these sites include species associated with urban habitats. The only reptile species observed was the western fence lizard (*Sceloporus occidentalis*). Common bird species observed or expected to occur include the rock pigeon (*Columba livia*), American crow (*Corvus brachyrhynchos*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), European starling (*Sturnus vulgaris*), and house sparrow (*Passer domesticus*). Mammal species observed or expected to occur in these areas include California ground squirrel (*Spermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*).

Suitable habitat is not present at these two areas for any listed threatened or endangered plant or wildlife species; therefore, such species are not expected to occur on the proposed staging area site or American Airlines employee parking lot relocation site. (Section 5.6 provides a detailed discussion of endangered and threatened species of flora and fauna.)

Source: BonTerra Consulting, 2008.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR

Vegetation at Proposed Staging Area and Employee Parking Lot Relocation Site

Figure 4.5-1

One special status plant species, southern tarplant (*Centromadia parryi ssp. australis*) was observed on the American Airlines employee parking lot relocation site. Southern tarplant is a CNPS List 1B.1 species. Although not formally listed by the resource agencies (i.e., U.S. Fish and Wildlife Service and CDFG), this species may be considered a constraint on development per Section 15380 of CEQA.

Southern tarplant typically blooms from May to November. This annual herb occurs in disturbed areas in the margins of marshes and swamps, valley and foothill grasslands, vernal pools, and non-native grasslands below 1500 feet mean sea level. It occurs in Los Angeles, Orange, Santa Barbara, San Diego, and Ventura counties. The number of individuals in a population can be highly variable from year to year, based on timing and amount of annual rainfall. Very little is known about pollinators for this species, however, they are likely pollinated by native honey bees and bumblebees. Approximately 29 southern tarplant individuals, on 0.14 acre, were observed within the eastern portion of the American Airlines employee parking lot relocation site in disturbed non-native grasslands.

4.5.4 CEQA Thresholds of Significance

Significant impacts to biotic communities would occur if direct and indirect changes in the environment, which may be caused by the CFTP, potentially could result in one or more of the following future conditions:

- A substantial reduction (greater than 10 percent) in locally designated natural communities including state-designated sensitive habitats, Ecologically Sensitive Habitat Areas (ESHAs), and habitat preservation areas designated pursuant to local ordinances. Specifically, a substantial reduction (greater than 10 percent) in the Habitat Restoration Area (designated as such by City of Los Angeles Ordinance 167940).
- A conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plans.
- A substantial net reduction in federal- or state-listed or otherwise sensitive plants, pursuant to the California Native Plant Protection Act.
- Interference with habitat (e.g., from the introduction of noise, light) such that normal species behaviors are disturbed to a degree that may diminish the chances for long-term survival of a sensitive species, pursuant to the L.A. CEQA Thresholds Guide.
- A substantial adverse effect, either directly or through habitat modifications, on any candidate, sensitive, or special status species.
- Substantial interference with the movement of any native fish or wildlife species or with established wildlife corridors, or impede the use of a native wildlife nursery site.
- Removal of occupied nesting habitat during the breeding season (March 15 to August 15) or harassment of any bird species afforded protection under the Migratory Bird Treaty Act.
- A significant reduction (greater than 10 percent) of a biotic community designated as sensitive by the Coastal Zone Management Act. Specifically, a reduction in size of the Habitat Restoration Area or the encompassing Los Angeles/El Segundo Dunes, including adjacent open areas.

These thresholds were adapted from criteria and guidance contained in the Migratory Bird Treaty Act, the Coastal Zone Management Act, the L.A. CEQA Thresholds Guide, and the California Native Plant Protection Act. These guidelines are also consistent with Appendix G of the State CEQA Guidelines. They are utilized because they address the potential concerns relative to biotic communities associated with the LAX Master Plan; namely, the reduction or take of sensitive flora, fauna, or habitat.

An evaluation of whether or not an impact on biological resources would qualify as significant must consider both the resource itself and how that resource fits into a regional context. The criteria for determining significance of impacts are based on the importance of the resource, the proximity of the resource to the project site, the proportion of the resource that would be affected, the sensitivity of the resource to the type of impact being considered, and the extent and degree of the proposed impact.

4.5.5 LAX Master Plan Commitments and Mitigation Measures

LAX Master Plan commitments and mitigation measures are described in the LAX Master Plan MMRP. Of the commitments and mitigation measures that were designed to address biotic communities, the following are applicable to the CFTP and considered in the biotic communities analysis.

- **MM-BC-1. Conservation of State-Designated Sensitive Habitat within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area.** MM-BC-1 requires the implementation of construction avoidance measures in areas where construction or staging are adjacent to the Habitat Restoration Area. The goal of Mitigation Measure MM-BC-1, in conjunction with Mitigation Measure MM-ET-3, is to reduce fugitive dust emissions by 90 to 95 percent.
- **MM-ET-3. El Segundo Blue Butterfly Conservation: Dust Control.** The goal of Mitigation Measure MM-ET-3, in conjunction with MM-BC-1, is to reduce fugitive dust emissions by 90 to 95 percent through the implementation of dust control measures.

4.5.6 Impact Analysis

As described above, one special status plant species, southern tarplant (*Centromadia parryi ssp. australis*), was observed on the American Airlines employee parking lot relocation site. Southern tarplant is a CNPS List 1B.1 species. Construction of the CFTP would directly impact 29 southern tarplant individuals which would be a significant impact.

Construction of the CFTP, including staging and stockpiling of materials in close proximity to the Los Angeles/El Segundo Dunes and the El Segundo Blue Butterfly Habitat Restoration Area, would have the potential to deposit fugitive dust within State-designated sensitive habitats, a significant impact, requiring the implementation of mitigation measures specified in the LAX Master Plan Final EIR. Implementation of MM-BC-1 and MM-ET-3 would reduce this impact to a less than significant level.

4.5.7 Cumulative Impacts

Implementation of the CFTP would result in the loss of 29 southern tarplant individuals. With implementation of MM-BC (CFTP)-1 described below, impacts to the southern tarplant would be reduced to a level less than significant. There are no southern tarplant individuals located at any of the on-airport cumulative project sites or their associated staging areas.[105] Therefore, no cumulative impacts to southern tarplant would occur.

4.5.8 Mitigation Measures

To address the potential significant fugitive dust impacts on sensitive biotic communities, Master Plan Mitigation Measures MM-BC-1, Conservation of State-Designated Sensitive Habitat within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area, and MM-ET-3, El Segundo Blue Butterfly Conservation: Dust Control, would be applicable to the CFTP.

The following project-specific mitigation measure is proposed to address impacts to the southern tarplant:

- **Mitigation Measure MM-BC (CFTP)-1. Conservation of Floral Resources: Southern Tarplant.** LAWA or its designee shall prepare a special status plant mitigation program. The loss of the southern tarplant individuals shall be mitigated through seed collection and seeding into a suitable mitigation site within undeveloped property owned by LAWA, determined based on habitat, soil type, moisture levels, and other relevant conditions.

  A qualified Seed Collector shall monitor the tarplant phenology to determine the appropriate timing for seed collection. Tarplant seed shall be collected from all tarplants within the impact area, which shall be delineated in the field with lath and flagging by a Qualified Biologist. The Biologist shall ensure

[105] Focused surveys of on-airport cumulative project sites were conducted by BonTerra Consulting on September 2, 2008.

that seed shall only be collected from plants that will be impacted by the CFTP. Upon completion of seed collection, the seed collector shall clean the seeds to prepare for the seeding effort.

A mitigation plan shall be developed at a level of detail necessary for successful program implementation by a Landscape Contractor. The detailed program shall contain the following items:

- *Responsibilities and qualifications of the personnel to implement and supervise the plan.* The plan shall specify the responsibilities and qualifications of the personnel who will supervise and implement the mitigation plan, including LAWA, Technical Specialists, and Maintenance Personnel.
- *Site selection.* The site for the mitigation shall be determined in coordination with LAWA, and shall be located in a suitable area within the boundaries of LAX. The appropriate site shall consist of approximately 0.14 acre and shall have suitable hydrology, soils, and other factors necessary for the establishment of the southern tarplant. Such suitable sites exist within the boundaries of LAX, including but not limited to areas within LAX Northside and in the southwestern portion of the airport, west of the south airfield complex.
- *Site preparation and planting implementation.* The plan shall include specifications for seed collection and storage and guidelines for on-site preparation. The guidelines shall contain specifications for (1) existing native species protection; (2) trash and weed removal; (3) soil treatments (e.g., imprinting and decompacting); (4) temporary irrigation installation as needed; (5) erosion control measures (e.g., rice or willow wattles); and (6) seed application.
- *Schedule.* A schedule shall be developed, which includes planting, to occur in late fall and early winter (between October and January 30).
- *Maintenance plan/guidelines.* A three to five year maintenance plan shall include (1) weed control; (2) herbivory control; (3) trash removal; (4) irrigation system maintenance; (5) maintenance training; and (6) replacement seeding, if necessary. Ten percent of the original seed collected shall be stored in the event it is needed for replacement seeding.
- *Monitoring plan.* The monitoring plan shall include the following success criteria:
  - Germination, flowering and seed set of at least 17 individuals (60 percent of the original population size) in year one;
  - Germination, flowering and seed set of at least 23 individuals (80 percent of the original population size) by year three;
  - Germination, flowering and seed set of at least 29 individuals (100 percent of the original population size) by year five.

  If these success criteria are not met, or are unlikely to be met within the required time periods, remedial measures will be required.

  This plan may include qualitative and quantitative monitoring. Qualitative monitoring includes site visits at regular intervals (i.e., monthly, quarterly, etc.) to determine the overall general performance of the site and maintenance needs. Quantitative monitoring is conducted on an annual basis and includes data collection specific to the performance standards established in the monitoring plan.
- *Long-term preservation.* Long-term preservation of the site shall also be outlined in the conceptual mitigation plan to ensure that future development does not impact the mitigation site.

4.5.9 Level of Significance After Mitigation

Implementation of Master Plan Mitigation Measures MM-BC-1 and MM-ET-3 would reduce potential fugitive dust impacts on sensitive habitat in the Los Angeles/El Segundo Dunes, including the El Segundo Blue Butterfly Habitat Restoration Area, from construction activities in the CFTP staging area to a less than significant level. Implementation of Mitigation Measure MM-BC (CFTP)-1 would reduce significant impacts to the southern tarplant to a level less than significant.

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5. OTHER ENVIRONMENTAL RESOURCES

This chapter provides an assessment of environmental impacts associated with the construction of the CFTP, with the exception of impacts associated with surface transportation, air quality, human health risks, global climate change, and biotic communities which are addressed under their respective sections in Chapter 4. Potentially significant effects related to the operation of the airport after the completion of the CFTP are largely addressed in the LAX Master Plan Final EIR. As described in Section 1.2.3 of this EIR, in accordance with Sections 15152(a) and 15168 of the CEQA Guidelines, the information presented in this chapter is primarily for disclosure and informational purposes, because further review confirms that the construction impacts of the CFTP were accounted for and addressed in the LAX Master Plan Final EIR and Addenda to the Final EIR. No new significant impacts have been identified. Certain Master Plan commitments[106] and mitigation measures delineated in the LAX Master Plan Final EIR are applicable to the CFTP, as described below for each environmental resource area. Some of the measures previously defined as part of the Master Plan Final EIR call for the preparation of more detailed mitigation plans that apply airport-wide. As such, this section also includes some new mitigation measures related to archaeological and paleontological resources, reflecting mitigation plans that were adopted by LAWA subsequent to the approval of the LAX Master Plan. For the environmental resources addressed in this chapter, no other mitigation measures are required beyond those associated with the LAX Master Plan Final EIR, as reflected in the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP).

Overall construction impacts were addressed at a programmatic level of detail in the LAX Master Plan Final EIR and related technical reports and appendices. Each environmental category in this chapter is reviewed to determine the applicability of the LAX Master Plan commitments and mitigation measures presented in the MMRP to the potential project-level construction impacts of the CFTP. An assessment is then made as to whether the evaluation and mitigation of construction impacts presented in the LAX Master Plan Final EIR for a given resource are adequate to address the impacts of the CFTP.

Each of the 15 environmental categories presented in this chapter is set forth in separate subsections. The following headings are included within each subsection:

- The **Introduction** describes the resource category and incorporates by reference relevant sections of the LAX Master Plan Final EIR, Addenda to the LAX Master Plan Final EIR, and related technical reports and appendices.
- The **Setting** briefly describes the existing environment as it relates to the respective resource category.
- The **CEQA Thresholds of Significance** are quantitative or qualitative measures used to determine whether a significant environmental impact would occur as a result of the CFTP. This subsection includes an explanation of the thresholds of significance and their origins. Where possible, validation of the choice of thresholds is provided by federal, state, and local guidelines, particularly the *Guidelines for California Environmental Quality Act* (State CEQA Guidelines)[107] and the *L.A. CEQA Thresholds Guide*,[108] published by the City of Los Angeles.

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106 As indicated in the introduction to Chapter 4, besides mitigation measures, the Mitigation Monitoring and Reporting Program for the LAX Master Plan includes Master Plan commitments. LAX Master Plan commitments were determined to be more appropriate than mitigation measures where: (1) standards and regulations exist with which compliance is already required by the applicable regulatory agency; (2) potential impacts would be adverse but not significant; and (3) design refinements could be incorporated into the project to reduce or avoid potential impacts. In some cases, Master Plan commitments also include performance standards and a range of options for meeting the standard.

107 State of California, Guidelines for California Environmental Quality Act (State CEQA Guidelines), California Code of Regulations, Title 14, Chapter 3, Sections 15000-15387.

108 City of Los Angeles, Department of City Planning, L.A. CEQA Thresholds Guide, Your Resource for Preparing CEQA Analysis in Los Angeles, 2006. Many of the CEQA thresholds of significance used in the LAX Master Plan Final EIR environmental evaluation were derived from thresholds included in the City of Los Angeles' Draft L.A. CEQA Thresholds Guide (1998). The relevant thresholds of significance contained in the 1998 Draft L.A. CEQA Thresholds Guide are essentially identical to similar thresholds included in the 2006 L.A. CEQA Thresholds Guide. Further, the 2006 L.A. CEQA Thresholds Guide does not contain any new (developed since publication of the 1998 Draft L.A. CEQA Thresholds Guide) thresholds of significance relevant to the CFTP.

- The **LAX Master Plan** discussion summarizes construction impacts that are relevant to the CFTP as identified in the LAX Master Plan Final EIR and Addenda, presents LAX Master Plan commitments and mitigation measures that address these impacts, and identifies any construction impacts associated with the Master Plan that would remain significant after mitigation.
- The **Crossfield Taxiway Project** discussion evaluates the potential for additional impacts not addressed in the LAX Master Plan Final EIR and Addenda to the Final EIR, and, when necessary, further defines impacts presented in the LAX Master Plan Final EIR and Addenda to the Final EIR associated with the CFTP. These impacts are then evaluated to determine whether additional LAX Master Plan commitments and mitigation measures beyond those presented in the MMRP are necessary to address the project-related construction impacts of the CFTP. This Crossfield Taxiway Project discussion also identifies any construction and/or construction-related impacts that would remain significant after mitigation.

5.1 Noise

5.1.1 Introduction

This section addresses noise impacts from CFTP construction traffic and equipment on noise-sensitive uses within the communities surrounding LAX. The determinations and assessments made in this section are based primarily on information contained in:

- LAX Master Plan Final EIR, Section 4.1, *Noise*, April 2004
- LAX Master Plan Final EIR, Technical Report S-C1, *Supplemental Aircraft Noise Technical Report* (which also includes road traffic noise data), June 2003
- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts*, April 2004

5.1.2 Setting

The existing setting relative to construction equipment and traffic noise is provided in Sections 4.1 and 4.20 of the LAX Master Plan Final EIR and is incorporated herein by reference. In general, as briefly described earlier in Section 3.2, the noise setting at and around the CFTP site is characterized by airport-related uses including aircraft and ground equipment. The existing aircraft noise levels at LAX are comparable to those reflected in the LAX Master Plan Final EIR, as can be seen by comparing the airport noise contours for the year 2000 (see Figure F4.1-6 of the LAX Master Plan Final EIR) to the airport noise contours shown on a recent quarterly noise monitoring report (i.e., 2nd Quarter 2007, which is the most recent report on www.lawa.org).

There are no noise sensitive uses immediate to the project site (i.e., within 1,000+ feet of the project's construction site and staging area). In the area surrounding LAX, the noise setting is characterized by several major highways including I-405 and I-105, and several major arterial roads including, but not limited to, Imperial Highway, Sepulveda Boulevard, Century Boulevard, and Lincoln Boulevard. Noise sensitive receptors in proximity to LAX include residential uses in El Segundo to the south, Inglewood and Lennox to the east, and Westchester to the north. Of these sensitive noise receptors, residential development in El Segundo is the closest to the site, being approximately 0.75 mile from the center of the site, and approximately 0.47 mile from the closest point of the site, which is southern edge of the Taxiway C13 construction area. Daytime ambient noise levels in El Segundo next to the airport are estimated to be 65 dBA L_{eq} or higher, owing to both road traffic and aircraft noise, and nighttime noise levels would be about 5 dBA lower than during the day.

5.1.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of construction noise impacts for the LAX Master Plan and are also applicable to the CFTP construction noise impacts analysis.

A significant noise impact from construction would occur if the direct and indirect changes in the environment that may be caused by the project 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.

These thresholds were utilized because they address physical impacts on the environment and are included in the L.A. CEQA Thresholds Guide.

5.1.4 LAX Master Plan

5.1.4.1 Impacts Identified in the Final EIR

Construction activities typically generate noise from the operation of equipment required for demolition and construction of various facilities. Table F4.20-9 in the LAX Master Plan Final lists the range of typical noise levels associated with basic construction equipment types. The actual noise level would vary, depending upon the equipment model and the type of work activity being performed.

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 L_{eq}[109] at 50 feet from the noise source. As described in Section 4.1.2.4 of the LAX Master Plan EIR, this type of sound typically dissipates at a rate of 4.5 dBA to 6.0 dBA for each doubling of distance. For the LAX Master Plan noise analysis, the more conservative attenuation rate of 4.5 dBA was used. As such, a sound level of 86 dBA at 50 feet from the noise source would be approximately 81.5 dBA at a distance of 100 feet, 77 dBA at a distance of 200 feet, and so on. That sound drop-off rate does not take into account any intervening shielding or barriers such as structures or hills between the noise source and noise receptor.

The area of potential construction noise impact includes all noise-sensitive land uses within 600 feet of the LAX Master Plan boundaries where construction would occur. This distance allows a noise level of 86 dBA L_{eq} at 50 feet to dissipate to approximately 70 dBA L_{eq}, with no adjustment (reduction) for the affects of any intervening shielding or barriers. The LAX Master Plan EIR identified several areas along the edge of the airport where future construction activities associated with the Master Plan would occur within 600 feet of noise-sensitive receptors and result in significant noise impacts.

Relative to construction traffic noise impacts, construction traffic noise would be generated by both trucks and employee vehicles. As part of the LAX Master Plan, commitments were made that would shift trips to off-peak hours, encourage remote parking, and minimize employee car trips. Additionally, construction-related trucks would be restricted to designated routes ensuring that these vehicles utilize the nearby freeways and major arterials to the maximum extent and minimize use of local roadways.

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[109] For this analysis, noise levels were measured in terms of equivalent energy level (L_{eq}). L_{eq} is the basic building block for highway and other transportation noise prediction models, the most stable of all the noise descriptors, and the principal metric used to evaluate transportation noise for periods of less than 24 hours. It is the amount of constant energy that contains the same amount of energy as a time varying sound level, over a given time period.

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 operation levels, reduced drive-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 the CEQA threshold of significance of a 5 dBA increase. Traffic would have to increase 16-fold over the No Action/No Project Alternative volumes to meet criteria for a substantial noise increase of 12 dBA.

The construction routes for the LAX Master Plan would be intentionally designated for freeways and major arterials around the airport, avoiding minor arterials and local streets. These freeways and major arterials are high-volume routes that are already at LOS C or worse. Therefore, construction traffic would not trigger an exceedance of either the CEQA construction traffic noise threshold or the federal standards for substantial increase in traffic noise. As a result, this noise impact is expected to be less than significant.

Master Plan-related construction activities located within the vicinity of noise-sensitive uses include the development of airport property north of Westchester Parkway and west of Sepulveda Boulevard, the RAC, the ANMP acquisition area (Belford), the GTC (Manchester Square), and on-site cargo facilities near the airport's southern boundary. The CFTP was not considered to be a construction project near noise-sensitive uses.

Land uses potentially affected by significant construction noise levels would be those primarily located to the south of the airport in El Segundo and to the north of the airport in Westchester. Even with Master Plan Mitigation Measures MM-N-7, Construction Noise Control Plan, MM-N-8, Construction Staging, MM-N-9, Equipment Replacement, and MM-N-10, Construction Scheduling, LAX Master Plan construction equipment operations would create noise levels over extended periods of time that are more than 5 dBA L_{eq} higher than ambient levels near sensitive residential areas and schools. This is a significant and unavoidable impact.

5.1.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **MM-N-7. Construction Noise Control Plan**
- **MM-N-8. Construction Staging**
- **MM-N-9. Equipment Replacement**
- **MM-N-10. Construction Scheduling**
- **ST-16. Designated Haul Routes**
- **ST-22. Designated Truck Routes**

5.1.5 Crossfield Taxiway Project

5.1.5.1 Impacts

As reflected above, the information, analysis, and Master Plan mitigation measures provided in the LAX Master Plan Final EIR adequately address potential construction traffic and equipment noise impacts due to CFTP construction activities. Unlike improvements included in the LAX Master Plan that are located near the southern and northern boundaries of the airport, the CFTP site and staging area are not located within 600 feet of noise-sensitive land uses. The nearest noise-sensitive land use is residential development in El Segundo, with the nearest residence over 2,500 feet from the southernmost edge of the CFTP construction area. As indicated above, a construction noise level of 86 dBA L_{eq} at 50 feet from the source would drop-off to 70 dBA L_{eq} at 600 feet. At a distance of 2,500 feet, which is the closest point between the CFTP construction area and residential development in El Segundo, the noise level would be 60.5 dBA L_{eq}. As discussed in the environmental setting, noise levels in El Segundo during the day are predicted to be approximately 65 dBA L_{eq} and at night are predicted to be approximately 60 dBA L_{eq}. The addition of construction and ambient noise levels would be less than 5 dB. Therefore, no significant impacts on noise-sensitive uses from CFTP construction equipment operation would occur (i.e., the construction noise level of 60.5 dBA L_{eq} would not exceed the ambient exterior noise level by 5 dBA at noise-sensitive areas where the existing daytime ambient noise level is approximately 65 dBA and the existing nighttime ambient noise level is approximately 60 dBA). As with the LAX Master Plan, CFTP construction traffic would not trigger an exceedance of either the CEQA construction traffic noise threshold (5 dBA) or the federal standards (12 dBA) for substantial increase in traffic noise. As a result, this noise impact would be less than significant.

Implementation of the CFTP would not affect the overall airport noise contours for LAX that are reflected in the LAX Master Plan Final EIR. Those contours are defined primarily by aircraft takeoff and landing operations, which would not be affected at all by the CFTP. Implementation of the CFTP would improve aircraft ground movement activity in the midfield area by helping to alleviate periodic congestion occurrences, which in turn would reduce the need for aircraft to stop and start while taxiing. This would result in an operational noise benefit by reducing the frequency of aircraft engine "run-ups" associated with start and stop movements during aircraft taxiing. The midfield area where the existing congestion occurs and the areas where aircraft are directed by the control tower to hold until the congestion clears is, however, near the center of the airfield, which is well removed from noise sensitive uses near LAX. As such, the reduced noise levels associated with improved aircraft taxiing operations through the course of an average may not be readily perceptible at off-airport locations.

As described in Section 2.4.1, the southernmost aircraft parking spot of the proposed RON area would be designated as available for future construction of an aircraft ground run-up enclosure (GRE). Presently aircraft ground run-ups at LAX are conducted at unenclosed blast-fence/wall areas situated near the maintenance operations for Federal Express, Continental Airlines, American Airlines, Delta Airlines, and at the former TWA Hangar area. Future development of a GRE would provide a "U"-shaped enclosure to serve as a noise barrier. The LAX Master Plan includes the future development of two GREs, one of which would be in the midfield area for replacement ancillary facilities displaced in conjunction with the future Midfield Satellite Concourse. None of the improvements proposed to be constructed as part of the CFTP displace or affect the current need for, and continued operation of, the existing ground run-up areas at LAX. As such, implementation of the proposed project would not have an impact relative to existing ground run-up activities.

The proposed designation of one of the RON aircraft parking spots as the location of the future GRE, of which the location shown in the Master Plan falls within the currently proposed alignment of Taxiway C13, allows for future development of the subject GRE as a replacement for existing ground run-up areas displaced by the Midfield Satellite Concourse. Although the GRE location proposed under the CFTP would be approximately 1,000 feet closer to the City of El Segundo than the location identified in the Master Plan, there would still be a substantial future noise reduction (benefit) associated with providing a GRE. A GRE typically provides between 15 and 20 dB of noise reduction. From a cumulative impacts perspective relative to other Master Plan projects, such as the future Midfield Satellite Concourse, there would still be an improvement over existing conditions.

5.1.5.2 Mitigation Measures

As delineated above in Section 5.1.4.2, several Master Plan commitments and mitigation measures specified in the MMRP would address potential construction noise impacts associated with the project. No significant impacts on noise-sensitive uses from CFTP construction equipment operation or traffic would occur. Therefore, no other mitigation measures are required.

5.2 Land Use

5.2.1 Introduction

Potential significant effects related to land use incompatibilities or inconsistencies with applicable federal, state, and local regulations, plans and policies from operation of the airport after the completion of the

CFTP were fully addressed in the LAX Master Plan Final EIR. This section addresses potential land use incompatibilities that could result from CFTP construction activities occurring near residential or other noise-sensitive areas. The determinations and assessments made in this section are based primarily on information contained in:

- LAX Master Plan Final EIR, Section 4.2, *Land Use*, April 2004
- LAX Master Plan Final EIR, Technical Report 1, *Land Use Technical Report*, January 2001
- LAX Master Plan Final EIR, Technical Report S-1, *Supplemental Land Use Technical Report*, June 2003
- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts*, April 2004

5.2.2 Setting

Descriptions of existing conditions relative to land uses in the vicinity of the airport are presented in Section 4.2 of the LAX Master Plan Final EIR. This information is incorporated herein by reference. The City of El Segundo is located south of the airport boundary and south of Imperial Highway. Along Imperial Highway, commercial uses are located between the I-405 and Sepulveda Boulevard and residential uses are located west of Sepulveda Boulevard. Also located along Imperial Highway is the Imperial Strip, a 7.35-acre open space corridor. To the north of LAX is the City of Los Angeles, which includes the communities of Westchester and Playa del Rey. East of LAX is the City of Inglewood, the unincorporated community of Lennox, the City of Los Angeles community of South Los Angeles, and the unincorporated community of Athens. These surrounding areas are largely built out and urbanized and have not changed from the conditions described in the LAX Master Plan Final EIR in a manner that would alter the basic findings of this land use analysis.[110] Specific to the CFTP site, the surrounding land uses are comprised solely of on-airport airfield operations areas and facilities.

5.2.3 CEQA Thresholds of Significance

Thresholds relevant to land use compatibility during construction in terms of surface transportation disruption, noise, and degraded views are included in Sections 4.1, *Surface Transportation*, 5.1, *Noise*; and 5.10, *Aesthetics*, respectively.

5.2.4 LAX Master Plan

5.2.4.1 Impacts Identified in the Final EIR

Major construction activities associated with the LAX Master Plan include runway and airfield modifications. A variety of activities would occur within these project work areas and construction staging areas, including demolition, excavation and grading, utility installation, the use of a concrete batch plant and rock crushing facility, and construction of foundations. The majority of construction activities associated with the LAX Master Plan would occur during daytime hours, with second and third shifts used for work activities that cannot be accomplished during the daytime shift (i.e., during large-scale pours of concrete, such as for substantial areas of the taxiways and/or the RON, when it would be necessary to maintain a continuous stream of concrete deliveries through multiple shifts, or, as another example, when completing improvements near active taxiway areas for which less interference with airfield operations would occur if the improvements were completed at night when taxiway use is low or nil) due to coordination or interference issues (i.e., airport operations, safety, delivery of materials and equipment). Nighttime construction is expected to occur on the airfield.[111]

Construction haul routes would be located away from residential streets and noise-sensitive parcels as provided for under Master Plan Commitment ST-16, Designated Haul Routes. Construction staging

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110 Windshield survey by CDM conducted on July 29, 2008.

111 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.20, page 4-1173.

areas would be located away from residential areas, as stated in Master Plan Mitigation Measure MM-N-8, Construction Staging; and Master Plan Commitment ST-12, Designated Truck Delivery Hours, would limit construction delivery hours.

The effects of construction from noise, degraded views, surface transportation disruption, and other issues would impact land uses surrounding the LAX Master Plan boundaries. The most notable impact affecting adjacent land uses would be construction noise. Noise-sensitive land uses closest to the construction areas for LAX Master Plan projects that could potentially be affected by significant construction noise levels would primarily be residential uses located to the south of the airport in El Segundo and to the north of the airport in Westchester.[112] As further described in Section 4.1 of the LAX Master Plan Final EIR, even with the implementation of Master Plan Mitigation Measures MM-N-7 through MM-N-10, implementation of the LAX Master Plan would result in significant unavoidable impacts on noise-sensitive areas located within 600 feet of construction sites.

As described in Section 4.21 of the LAX Master Plan Final EIR, construction activities would create a visual contrast around the airport and although construction would be phased, it would cause areas of the airport environs to have an incomplete, disrupted, and unattractive quality. Construction in the central airfield would primarily be visible from I-105 and upper stories of hotels and businesses on Century Boulevard and Imperial Highway. The short-term aesthetic effects of construction on surrounding uses and airport visitors are considered to be significant. Impacts would be reduced to a less than significant level with implementation of Master Plan Mitigation Measure MM-DA-1, Construction Fencing. Additionally Master Plan Commitment DA-1, Provide and Maintain Airport Buffer Areas, would provide for screening to reduce views of construction.

With respect to surface transportation, traffic and lane closures due to construction activities would temporarily disrupt normal traffic flows. Implementation of Master Plan Commitments C-1, ST-9, ST-12, ST-14, ST-16 through ST-18, and ST-22 would minimize potential incompatibilities associated with construction traffic; however, construction-related traffic would, at times, result in significant and unavoidable impacts on Century Boulevard east of Sepulveda Boulevard.

5.2.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **MM-N-7. Construction Noise Control Plan**
- **MM-N-8. Construction Staging**
- **MM-N-10. Construction Scheduling**
- **C-1. Establishment of a Ground Transportation/Construction Coordination Office**
- **C-2. Construction Personnel Airport Orientation**
- **ST-9. Construction Deliveries**
- **ST-12. Designated Truck Delivery Hours**
- **ST-14. Construction Employee Shift Hours**
- **ST-16. Designated Haul Routes**
- **ST-17. Maintenance of Haul Routes**
- **ST-18. Construction Traffic Management Plan**
- **ST-22. Designated Truck Routes**

[112] City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.1, page 4-103, 4-104 and Figure F4.1-10.

5.2.5 Crossfield Taxiway Project

5.2.5.1 Impacts

The information, analysis, and LAX Master Plan commitments and mitigation measures provided in the LAX Master Plan Final EIR adequately address potential land use impacts due to CFTP construction activities. This subsection provides additional analysis of potential project-specific construction impacts related to surface transportation disruption, construction noise, and degraded views.

Construction activities associated with the CFTP would include demolition and relocation of existing facilities, excavation and grading, utility relocation and replacement, construction of a new ARFF, the use of a concrete batch plant and rock crushing facility, and paving for new/extended taxiways. The majority of construction activities would occur during daytime hours, with a second shift used for work activities that cannot be accomplished during the daytime shift due to coordination or interference issues (i.e., for large pours of concrete or for construction activities occurring near active taxiway areas, as described earlier). Construction of the CFTP would not require roadway lane closures, and as described in Section 4.1, construction traffic would not result in any significant surface transportation impacts.

Construction-related noise, traffic and degraded views would potentially affect those land uses closest to the CFTP construction and staging areas and along the haul route for the CFTP specifically, land uses located along the southern boundary of LAX. Due to the distance from the CFTP construction activities, staging areas and haul route, land uses to the north of LAX would not be affected by CFTP construction traffic, noise, or degraded views. Implementation of Master Plan Commitments C-1, ST-9, ST-12, ST-14, ST-16 through ST-18, and ST-22 would minimize potential incompatibilities associated with construction traffic and ensure that construction traffic impacts would be less than significant. As discussed in Section 5.1, construction noise impacts on sensitive land uses would be less than significant. As concluded below in Section 5.10, aesthetic impacts from construction activities would be less than significant.

5.2.5.2 Mitigation Measures

As delineated above in Section 5.2.4.2, several Master Plan commitments and mitigation measures specified in the MMRP would address potential land use impacts associated with construction of the project. No significant impacts to land use would occur relative to noise, surface transportation disruption, or views. Therefore, no other mitigation measures relating to these resources are required.

5.3 Population, Housing, Employment and Growth-Inducement

5.3.1 Introduction

This section addresses the potential for CFTP to induce substantial population or economic growth, which would result in the construction of new housing or other development that would directly or indirectly cause significant impacts on the environment. The potential for CFTP construction activities to displace existing housing or off-airport businesses is also identified.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.2, *Land Use*, April 2004
- LAX Master Plan Final EIR, Section 4.4.1, *Employment/Socio-Economics*, April 2004
- LAX Master Plan Final EIR, Section 4.4.2, *Relocation of Residences or Businesses*, April 2004
- LAX Master Plan Final EIR, Section 4.5, *Induced Socio-Economic Impacts (Growth Inducement)*, April 2004
- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts*, April 2004
- LAX Master Plan Final EIR, Technical Report 5, *Economic Impacts Technical Report,* January 2001

- LAX Master Plan Final EIR, Technical Report S-3, *Supplemental Economic Impacts Technical Report*, June 2003
- LAX Master Plan Program Draft Relocation Plan, April 2004
- Addendum to the LAX Master Plan Final EIR, September 2004

5.3.2 Setting

Descriptions of the population, housing, employment, and growth-inducing characteristics of the communities surrounding the airport are presented in Sections 4.4.1, 4.4.2, and 4.5 of the LAX Master Plan Final EIR. This information is incorporated by reference herein. Data within these sections includes the role of LAX in the regional economy, demographic information by census tracts for the surrounding area, and regional distribution of population, housing, and employment. The potential for project-induced growth to trigger construction of new infrastructure or remove obstacles to growth was also assessed. The information most relevant to the CFTP is construction employment and related growth-inducing effects. The CFTP would not require relocation of residences or off-airport businesses. The assumptions used to estimate construction jobs and other growth-inducing impacts have not changed from the conditions described in the LAX Master Plan Final EIR in a manner that would alter the basic findings. For example, estimates of construction employment and related demand on housing, utilities, and services and removal of obstacles to growth would be similar to what was described in the LAX Master Plan Final EIR.

5.3.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of population, housing, employment and growth-inducement impacts for the LAX Master Plan and are also applicable to the CFTP population, housing, employment and growth-inducement impacts analyses.

Employment/Socio-Economics

The State CEQA Guidelines, Section 15131, Economic and Social Effects, states that "economic or social effects shall not be treated as significant effects on the environment." As a result, there are no CEQA significance thresholds for employment/socio-economic impacts. State CEQA Guidelines, Section 15131(b) does state that the "economic or social effects of a project may be used to determine the significance of physical changes caused by the project." This assessment is provided as part of the Induced Socio-Economic Impacts (Growth Inducement) analysis; please see relevant thresholds below.

Relocation of Residences or Businesses

A significant impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the future conditions listed below.

- Substantial numbers of people and/or housing are displaced, necessitating the construction of replacement housing elsewhere.
- Extensive relocation of residents, where comparable, decent, safe and sanitary replacement housing within the financial means of displaced persons is not available; and, the construction of such is not feasible in a timely manner in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Act and implementing regulations.
- Extensive relocation of community businesses that would create substantial economic hardship for the affected communities.
- Displacement of a substantial number of businesses in the absence of suitable relocation sites, resulting in business closures and a loss of jobs and tax revenue. This applies specifically to businesses that are uniquely dependent on airport proximity.
- Displacement of business that would create a substantial loss in community tax base.

These CEQA thresholds of significance were utilized because they address relocation concerns and potential impacts on residences and businesses that stem from LAX Master Plan. The thresholds are derived in part from guidance contained in Federal Aviation Administration's (FAA) Order 5050.4B, National Environmental Policy Act Implementing Instructions for Airport Actions,[113] and from Appendix G, Environmental Checklist Form, of the State CEQA Guidelines.

Induced Socio-Economic Impacts (Growth Inducement)

A significant impact would occur if the direct or indirect changes in the environment that may be caused by the project would potentially result in one or more of the following:

- Directly or indirectly foster population or economic growth that would cause significant physical impacts on the environment by triggering the need for development of substantial new land uses and/or associated public facilities or infrastructure.
- Removal of obstacles to population growth or new development that would lead to significant physical impacts on the environment (for example, extending a new highway or utility infrastructure into an undeveloped area, thereby resulting in housing growth and associated physical impacts).

These thresholds were utilized to address the growth-inducing impacts of the project. Both thresholds are derived from language contained in CEQA Guidelines, Section 15126.2(d).

5.3.4 LAX Master Plan

5.3.4.1 Impacts Identified in the Final EIR

Under the LAX Master Plan, residential acquisition of approximately nine to twelve dwelling units could occur with the implementation of Master Plan Mitigation Measure MM-ST-13, Create A New Interchange at I-405 and Lennox Boulevard.[114] Residential acquisition could also occur if the ANMP voluntary land acquisition for Manchester Square is not completed prior to construction within the Manchester Square and Belford areas. In addition, under the LAX Master Plan, approximately 34 businesses would be acquired and relocated.[115]

The LAX Master Plan construction-related expenditures, excluding land acquisition and relocation costs, would be approximately $6.4 billion (in 1997 dollars), and there would be an estimated 48,778 jobs directly involved in design and construction. When a multiplier effect[116] is applied, construction of the LAX Master Plan would generate 102,244 construction-related jobs.[117] Based on estimated direct construction expenditures, the LAX Master Plan would yield an estimated $11.3 billion dollars in total economic output in Los Angeles County. The majority of construction-related jobs associated with the LAX Master Plan would be filled from the local labor force within a 20-mile[118] radius and the jobs would be temporary.

Growth-inducing impacts associated with job growth, population and housing growth, related services and utilities, and removal of obstacles to population growth under the LAX Master Plan would be less than

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113 U.S. Department of Transportation, Federal Aviation Administration, Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, April 28, 2006.

114 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.4.2, page 4-555.

115 City of Los Angeles, Addendum to the Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, September 2004, page 2-2.

116 The "multiplier effect" includes indirect jobs (i.e., those related to purchases of goods and services by companies directly involved in the design and construction of the project) and induced jobs (i.e., those related to the re-spending of earnings by direct and indirect job holders).

117 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.4.1, page 4-528.

118 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.5, page 4-649.

significant. This is primarily due to the overall projected net decrease in LAX-related employment for the region[119] and the characteristics of the approved LAX Master Plan. Therefore, project-related job growth, population, housing and removal of obstacles to population growth would not meaningfully contribute to regional growth forecasts, create a net new demand for public utilities or services, or extend development to undeveloped areas.

5.3.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

As noted below, no property acquisition would be required for the CFTP and construction-related employment would not induce growth in the area. Therefore, Master Plan commitments and mitigation measures identified in the LAX Master Plan MMRP related to these impacts are not relevant to the CFTP. However, the following Master Plan commitments presented in the LAX Master Plan MMRP to address environmental justice are relevant to the CFTP, as they would apply to construction jobs:

- ♦ **EJ-1. Aviation Curriculum**
- ♦ **EJ-2. Aviation Academy**
- ♦ **EJ-3. Job Outreach Center**
- ♦ **EJ-4. Community Mitigation Monitoring**

The above Master Plan commitments include provisions for LAWA to work with local school districts and low-income and minority communities that would be disproportionately adversely affected by the LAX Master Plan to provide aviation related-curriculum, training, and outreach to increase career opportunities, including aviation-related construction jobs, for affected residents.

5.3.5 <u>Crossfield Taxiway Project</u>

5.3.5.1 Impacts

The information, analysis, and Master Plan commitments provided in the LAX Master Plan Final EIR adequately address the potential population, housing, employment, and growth-inducing impacts due to CFTP construction activities. As described in Chapter 2, *Project Description*, of this EIR, although the CFTP would require the internal relocation of a number of on-airport tenants and uses, no property acquisition of residences or off-airport businesses would be required to implement the CFTP. Therefore, there would be no residential or business-related property acquisition impacts associated with construction of the CFTP. As described in Chapter 2, *Project Description*, of this EIR, on-airport tenants and uses affected by the CFTP would be relocated within the airport.

The CFTP would provide temporary construction-related employment opportunities for over 200 workers during the peak week of the approximately 16-month construction period. Other industries that would indirectly benefit from construction activities associated with the CFTP include those that provide services for construction and manufacturing employees such as eating/drinking establishments, retail trade, auto repair, and transportation equipment and industrial machinery manufacturing. The majority of the construction jobs would be filled by workers who already reside within a 20-mile radius, and the jobs would be temporary. Therefore, few construction workers are expected to move into the area due to temporary construction jobs at LAX, and there would be no substantial increase in demand for housing, utilities, or other development to the area. As such, construction of the CFTP would not create a net new demand for public utilities or services, or extend development to undeveloped areas. As a result, growth-inducing impacts would be less than significant.

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[119] As described in Section 4.5 of the LAX Master Plan Final EIR, the projected net decrease in LAX-related employment for the region, in spite of projected increasing aviation activity over the LAX Master Plan planning period, reflects productivity increases (i.e., producing more economic output per worker) within manufacturing industries related to LAX that would outpace increases in employment.

Estimated construction costs associated with the CFTP would be approximately $127 million.[120] As stated earlier, the CFTP would provide temporary construction-related employment opportunities for over 200 workers during the peak week of the approximately 16-month construction period. As presented in Master Plan Commitment EJ-3, Job Outreach Center, LAWA would make special efforts to offer construction jobs to MBE/WBE/DBE subcontractors and minority or disadvantaged residents within affected communities.

Operationally, as described in Chapter 2, *Project Description*, no net increase in on-site employment would occur as a result of operation of the CFTP, including the new ARFF. Thus, operation of the CFTP project would not induce substantial demand for housing, utilities, or other development to the area. Furthermore, construction of the CFTP would not create a net new demand for public utilities or services, or extend development to undeveloped areas. As a result, operations-related growth-inducing impacts would be less than significant.

5.3.5.2 Mitigation Measures

No significant impacts on population, housing, employment, and related growth-inducing effects would occur as a result of CFTP construction. Therefore, no mitigation measures are required.

5.4 Hydrology/Water Quality

5.4.1 Introduction

This section addresses the potential for the CFTP to result in adverse hydrology/water quality impacts. The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.7, *Hydrology and Water Quality*, April 2004
- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts*, April 2004
- LAX Master Plan Final EIR, Technical Report 6, *Hydrology and Water Quality Technical Report*, January 2001
- LAX Master Plan Final EIR, Technical Report S-5, *Supplemental Hydrology and Water Quality Technical Report*, June 2003

5.4.2 Setting

Descriptions of existing conditions relative to hydrology are presented in Section 4.7 and Technical Report 6 of the LAX Master Plan Final EIR. This information is incorporated herein by reference. Subsequent to publication of the LAX Master Plan Final EIR, and in accordance with the LAX Master Plan Mitigation Monitoring and Reporting Program, a Conceptual Drainage Plan (CDP)[121] was prepared for LAX. The CDP provides the basis by which detailed drainage improvement plans associated with LAX Master Plan projects are to be designed in conjunction with site engineering specific to each Master Plan improvement project. In addition, following approval of the Master Plan and in conjunction with implementation of the South Airfield Improvement Project, drainage facilities within the south airfield were modified to accommodate the airfield improvements. These modifications included upgrading the facilities to accommodate a 25-year storm event and incorporating BMPs to improve water quality. These improvements were local to the south airfield and do not extend to the drainage infrastructure that serves the CFTP project site.

Drainage at LAX

At LAX, surface water is discharged to both County of Los Angeles and City of Los Angeles drainage and flood control structures. County of Los Angeles facilities include the Dominguez Channel, which

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[120] Ulukaya, Matt, LAX Development Program IPMT, Personal Communication, August 6, 2008.

[121] City of Los Angeles, Los Angeles World Airports, Los Angeles International Airport Conceptual Drainage Plan, June 2005.

discharges to San Pedro Bay, as well as some of the individual drains that discharge into Santa Monica Bay. The city regulates the remaining drainage and flood control structures at the airport.

The existing drainage system at LAX consists of catch basins, subsurface storm drains and open channels, and outfalls.[122] The principal storm water outfalls for surface water captured on the airport property are the Dominguez Channel, the Argo Drain, the Imperial Drain, and the Culver Drain. The service boundaries for each of these outfalls form distinct sub-basins that collect surface water runoff. These sub-basins extend off airport property and collect surface water runoff from surrounding communities. Within the airport, the CDP divides the Imperial sub-basin into two separate sub-basins: the Imperial sub-basin and the Pershing sub-basin. In addition, the Vista del Mar sub-basin provides drainage for the portion of the airport west of Pershing Drive (i.e., the Dunes). Surface water flow from the Argo, Imperial, Culver, and Vista del Mar sub-basins contributes to the total surface water flow in the Santa Monica Bay Watershed.

The total amount of impervious area within the Master Plan study area is 3,510 acres. The 67-acre portion of the project area that is proposed for redevelopment with taxiways, apron, service roads, and the ARFF, consists entirely of impervious surfaces. The 14-acre parking lot relocation site is partially paved and partially undeveloped; approximately 8 acres of the parcel consists of impervious surfaces.

Drainage Within the CFTP Project Area

Runoff within the project area drains to the Santa Monica Bay watershed. As indicated in Section 2, *Project Description,* the majority of the project area, including the improvements to World Way West, the new taxiways and service road, and the relocated ARFF, currently drains to the center of the site from the north and south. A main drainage trunk line running east to west in the middle of the site collects runoff via a piped network. This main line flows west along World Way West. The trunk line increases in size from a 42-inch diameter pipe at the east side of the project area to a 72-inch diameter pipe at World Way West. A second drainage trunk is located along the southern edge of the westerly portion of the project area. Runoff from the relocated parking lot site flows to this line. There are minor underground subsystems scattered throughout the project area.

The localized watershed is comprised of smaller tributary areas that are defined by ridge lines, primarily taxiway centerlines, which form small basins within the infield area. The infield areas are drained via paved or natural swales into catch basins. Each tributary area discharges into an outfall that is under the jurisdiction of the City of Los Angeles Flood Control District.

The outfall for the project area is an existing 72-inch reinforced concrete pipe (RCP) located in the middle of World Way West and a parallel pipe located along the southern edge of the westerly portion of the project site. These pipes connect to a series of pipes that connect to a 7-foot-1-inch wide by 6-foot-6-inch high reinforced concrete box (RCB) draining south along Pershing Drive. At the south end of Pershing Drive is an existing detention basin and oil/water separator that treats the first flush of runoff in a rainfall event, as well as dry weather flows. The remaining flow continues through an RCB that drains to the west and discharges into the ocean. Surface runoff within the watershed is collected via a series of paved swales connecting to underground pipe systems before being discharged to the ocean.

Recharge at LAX

Surface recharge occurs when precipitation or surface water runoff contacts pervious surfaces and infiltrates through the subsurface to replenish groundwater in aquifers below. Groundwater occurs beneath LAX within what is known as the West Coast Groundwater Basin. Designated beneficial uses for groundwater as defined by the Los Angeles Regional Water Quality Control Board (LARWQCB) in the *Water Quality Control Plan (Basin Plan)* for the Los Angeles Region include municipal, industrial, process, and agricultural.[123] However, groundwater beneath LAX is not used for municipal or agricultural purposes

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[122] An outfall is the point at which drainage conveyance facilities discharge.

[123] California Regional Water Quality Control Board, Los Angeles Region 4, Water Quality Control Plan, Los Angeles Region - Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, June 13, 1994.

and industrial and process uses are limited to the removal of small amounts of groundwater extracted incidental to free hydrocarbon product (FHP) recovery.

To characterize the components that contribute to the groundwater supplies in the Basin, a water budget was developed as part of a water management study of the West Coast Basin Barrier Project by the West Basin Municipal Water District. Based on this water budget, 6,700 acre-feet/year of groundwater inflows to the Basin are attributed to surface recharge. This is approximately 13 percent of the total estimated inflows. Sources for this recharge include precipitation, surface water streams, irrigation water from field and lawns, industrial and commercial wastes, and other applied surface waters. Within the LAX area there are no surface water streams and industrial and commercial waste discharges are prohibited on the airport. Sources for recharge at the airport include precipitation and its associated runoff, and applied irrigation.[124]

The estimated surface recharge volume within the Basin is approximately 6,700 acre-feet/year, and the total pervious area within the West Coast Groundwater Basin is 28,271 acres. Using these figures, the estimated recharge rate through the pervious surfaces of the West Coast Groundwater Basin is approximately 0.24 feet/year. Within the Master Plan study area, pervious surfaces are estimated to provide 171 acre-feet/year of surface recharge, or approximately 0.3 percent of the total inflows estimated for the Basin.[125]

Recharge Within the CFTP Project Site

Most of the surfaces within the CFTP project site are impervious, with the exception of an 8-acre parcel that is proposed to be paved as part of the relocated American Airlines employee parking lot. Recharge associated with this parcel is less than 2 acre-feet/year, or 0.004 percent of total Basin inflows.

5.4.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of hydrology/water quality impacts for the LAX Master Plan and are also applicable to the CFTP hydrology/water quality impacts analysis.

Hydrology

A significant hydrology impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- An increase in runoff that would cause or exacerbate flooding with the potential to harm people or damage property.
- Substantial interference with groundwater recharge such that there would be a net decrease in the aquifer volume or a change in groundwater storage that would adversely affect the quantity, water level, or flow of the underlying groundwater relative to beneficial uses of the basin.
- Substantial alteration of the existing drainage pattern of the site in a manner which would result in substantial erosion or siltation on- or off-site.

These thresholds of significance were utilized because they address potential concerns relative to flooding and recharge associated with the LAX Master Plan. These thresholds reflect those contained in the L.A. CEQA Thresholds Guide that are relevant to this project, as well as relevant issues identified in Appendix G, Environmental Checklist Form, of the State CEQA Guidelines.

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124 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.7, page 4-759.

125 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.7, page 4-759.

Water Quality

A significant water quality impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in the following future condition:

- An increased load of a pollutant of concern delivered to a receiving water body by surface water runoff.

This threshold of significance was developed because it addresses the potential water quality impacts resulting from project-related runoff being discharged to receiving water bodies that are already considered impaired. The threshold is based on guidance provided by the L.A. CEQA Thresholds Guide as well as relevant issues identified in Appendix G, Environmental Checklist Form, of the State CEQA Guidelines.

5.4.4 LAX Master Plan

5.4.4.1 Impacts Identified in the Final EIR

Operational Impacts

The Master Plan would increase the total impervious area within the study area by 163 acres compared to baseline conditions, an increase of less than 5 percent. To address this increase, Master Plan Commitment HWQ-1 required LAWA to develop a CDP for LAX. This plan was developed in 2005. The CDP provides the basis by which detailed drainage improvement plans for individual Master Plan projects will be designed. With implementation of project-level design in accordance with the CDP, potential impacts from flooding associated with the Master Plan would be less than significant.

With implementation of the Master Plan, all facilities receiving and conveying storm water from the airport would be concrete lined and, therefore, any increase in storm water peak flow rates or changes in the drainage infrastructure would not result in substantial erosion or siltation either on-site or off-site. Therefore, the impact of erosion or siltation due to runoff from the airport would be less than significant.

With implementation of the Master Plan, the volume of surface recharge within the study area would decrease by approximately 40 acre-feet/year to 131 acre-feet. The reduction in surface recharge would represent a change of less than 0.1 percent in the total groundwater inflows estimated for the West Coast Basin. No groundwater production occurs within the Master Plan study area relative to the beneficial uses designated for the Basin. Therefore, the impact of the projected reduction in the volume of surface recharge would be less than significant.

Construction Impacts

Construction of the LAX Master Plan facilities could create sources of pollution that could potentially affect water quality. As these construction activities would affect an area greater than one acre, LAWA's existing construction policy would require the development and implementation of a construction Storm Water Pollution Prevention Plan (SWPPP) in compliance with the statewide National Pollutant Discharge Elimination System (NPDES) General Permit for storm water discharges associated with construction activities (General Permit for Construction).[126] Temporary construction Best Management Practices (BMPs) specified in LAWA's existing Construction SWPPP for LAX include:

- Soil stabilization (erosion control) techniques such as seeding and planting, mulching, and check dams
- Sediment control methods such as detention basins, silt fences, and dust control
- Contractor training programs

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[126] California State Water Resources Control Board, Water Quality Order No. 99-08-DWQ, NPDES General Permit No. CAS000002, Waste Discharge Requirements for Discharges of Storm Water Runoff Associated with Construction Activity, December 1999.

- Material transfer practices
- Waste management practices such as providing designated storage areas and containers for specific waste for regular collection
- Roadway cleaning/tracking control practices
- Vehicle and equipment cleaning and maintenance practices
- Fueling practices

By following the procedures contained in the SWPPP and employing the appropriate BMPs, impacts to water quality associated with construction activities under the LAX Master Plan, including erosion and siltation, would be less than significant.

5.4.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **HWQ-1. Conceptual Drainage Plan**

5.4.5 Crossfield Taxiway Project

5.4.5.1 Impacts

The CFTP would result in an alteration to existing drainage facilities. As accounted for in the LAX Master Plan EIR hydrology analysis, development of the proposed parking lot site would increase impervious surfaces compared to existing conditions[127] and would involve the relocation and upgrading of existing drainage facilities. Information pertaining to the more detailed engineering information that is now available is provided below.

Hydrology

On-Site Drainage

The CFTP would involve demolition of existing pavement and buildings and construction of new taxiways and apron area. In addition, World Way West would be depressed beneath the new Taxiway C13. However, as this portion of the project area currently consists entirely of impervious surfaces, the total impervious area would not change with implementation of these facilities. The currently unpaved portion of the parking lot relocation site would be paved, thereby resulting in an increase in impervious surfaces of approximately 8 acres. In addition, grading and excavation associated with the CFTP would result in an alteration to existing drainage facilities.

New storm drain facilities have been designed that would replace the affected facilities. The preliminary proposed storm drain system was designed according to the Los Angeles County Department of Public Works (LACDPW) Hydrology Manual,[128] Modified Rational Method and would be consistent with the CDP. To provide a higher level of protection (i.e., accommodating larger, less frequent storm events than the minimum 10-year frequency requirement per City standards), and to meet the minimum recommended criteria in the CDP, the preliminary proposed storm drain system was designed to accommodate a 25-year design storm using LACDPW's Modified Rational Method to determine the hydrology. The preliminary proposed storm drain system was designed to accommodate the ultimate taxiway/apron configuration for the midfield portion of the airport as defined in the LAX Master Plan. Wherever possible, the existing storm drain system would be used. However, based on the storm drain criteria established for this project (i.e., 25-year design storm), larger-diameter pipes would replace the

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127 Although the LAX Master Plan EIR did not include parking uses as currently proposed on the parking lot site, the site was anticipated to be converted to impervious surfaces for a maintenance hangar and associated aircraft apron.

128 Los Angeles County Department of Public Works, Water Resources Division, Hydrology Manual, January 2006.

existing systems in many cases to accommodate the design flow rates. Preliminary hydrologic calculations for the CFTP are provided in Appendix G.

The proposed surface drainage patterns are similar to the existing patterns. As described in Section 2, *Project Description,* runoff would be collected via a system of swales, catch basins, and underground pipes. The new taxiways would be crowned to drain to the infield areas, which would utilize swales to route runoff to catch basins. Storm drains would follow similar alignments as existing conditions and would connect to the existing trunk line in World Way West or the existing trunk line at the southern edge of the project site. The watershed would continue to drain to its current outfall locations. Calculations conducted specifically for the proposed parking lot relocation component indicate that the existing trunk line has sufficient capacity to accommodate the slight increase in flows associated with the proposed parking lot and no flooding would occur as a result of the increase in impervious surfaces (see Appendix G-2).

A pump station would be required to drain the depressed roadway under Taxiway C13. The depressed roadway would be designed for a 100-year flow. The pump station would be designed with a total redundancy based on a detention time of 10 minutes.

With implementation of the proposed drainage facilities, the CFTP would be designed to address flooding within the boundaries of the project study area. The increase in impervious surfaces in the amount of 8 acres would not materially affect runoff flow rates. Moreover, existing drainage patterns would not be altered in such a way as to result in substantial erosion or siltation on- or off-site. As a result, on-site impacts relative to drainage would be less than significant.

Recharge

With implementation of the CFTP, the volume of surface recharge within the study area would decrease by less than 2 acre-feet/year. The reduction in surface recharge would represent a change of less than 0.004 percent in the total groundwater inflows estimated for the West Coast Basin. No groundwater production occurs within the Master Plan study area relative to the beneficial uses designated for the Basin. The reduction in surface recharge of 2 acre-feet/year would not represent a substantial interference with groundwater recharge that would result in a net decrease in the aquifer volume to the extent that beneficial uses of the basin would be adversely affected. Therefore, this impact would be less than significant.

Water Quality

Operational Considerations

Water quality impacts associated with operation of the LAX Master Plan facilities, including the CFTP, were fully addressed in the LAX Master Plan Final EIR. The discussion below provides additional information pertaining to the CFTP that was not available during the preparation of the LAX Master Plan EIR, but does not alter the conclusions of that analysis.

As noted above, the CFTP would result in an increase in impervious area of approximately 8 acres. As the size of the Pershing sub-basin, in which the project site is located, is approximately 770 acres, this represents an increase in impervious area of approximately 1 percent. The proposed project must comply with the Los Angeles Regional Water Quality Control Board's Standard Urban Storm Water Mitigation Plan (SUSMP) requirements incorporated in the Los Angeles County MS4 stormwater permit. To comply with these requirements, in conjunction with detailed project design, LAWA would prepare a project-specific SUSMP. This plan would identify specific Best Management Practices and would require approval by the City of Los Angeles Bureau of Sanitation. In accordance with SUSMP requirements, BMP requirements would apply to the entire approximately 82-acre project area. Water quality volumes calculations indicate that 4.1 acre-feet of water would require treatment (see Appendix G-3).

The Conceptual Drainage Plan identified recommended treatment control BMP options for the Pershing Area. These include project-specific, sub-regional and regional BMPs. Both project-specific and sub-regional BMPs would be implemented as part of the CFTP to treat runoff prior to discharge. Measures would include drain inserts/water quality inlets in combination with media filters, or other equivalent measures. As the local drainage system in the project area does not currently include structural BMPs, the BMPs that would be designed into the proposed drainage system would improve water quality compared to existing conditions.

Because BMPs would be incorporated into the project design, pollutant loads to receiving water bodies would not increase. Therefore, potential impacts to water quality associated with operation of the CFTP would be reduced to a level that is less than significant and no additional mitigation would be required.

Water Quality Impacts from Construction

Construction of the proposed improvements could generate sources of pollution that could potentially affect water quality. Pollutants of concern from proposed construction activities include sediment, spills or leaks of fuels or hazardous materials, and contaminants associated with construction materials.

Construction of the CFTP would require grading and other earthmoving activities. The total earthwork volumes estimated for the CFTP include 218,775 cubic yards of cut and 42,730 cubic yards of fill.[129] These activities would expose soils to erosion, which could result in sedimentation in receiving waters.

Project construction would require the use of vehicles and equipment that use fuels, oils, and other liquids. These substances could spill or leak during refueling and maintenance, or during routine use. Similarly, construction materials, such as asphalt, concrete, and paint, could spill resulting in adverse water quality impacts. Such spills or leaks have the potential to contaminate site runoff and enter receiving waters. The exposure of construction equipment to rain could also introduce contaminants to storm water runoff.

Because the proposed improvements would affect an area of greater than one acre, LAWA's existing construction policy would require the development and implementation of a project-specific construction Storm Water Pollution Prevention Plan (SWPPP) in compliance with the statewide General Permit for Construction. Temporary construction BMPs specified in LAWA's existing Construction SWPPP for LAX to minimize the effects of construction activities on water quality include:

- Soil stabilization (erosion control) techniques such as seeding and planting, mulching, and check dams
- Sediment control methods such as detention basins, silt fences, and dust control
- Contractor training programs
- Material transfer practices
- Waste management practices such as providing designated storage areas and containers for specific waste for regular collection
- Roadway cleaning/tracking control practices
- Vehicle and equipment cleaning and maintenance practices
- Fueling practices

As indicated above, for the CFTP, a project-specific SWPPP would be required to be developed in compliance with the state's construction permit. The project-specific SWPPP would follow the procedures outlined in LAWA's existing Construction SWPPP and would employ all appropriate temporary construction BMPs from the list above. With implementation of the project-specific SWPPP, there would be no increase in pollutant loads to receiving water bodies. As a result, impacts to water quality associated with construction activities would be less than significant and no additional mitigation would be required.

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[129] Linder, Andrew, LAX Development Program IPMT, Personal Communication, August 18, 2008; Lazarevic, Goran, Los Angeles World Airports, Personal Communication, August 6, 2008.

5.4.5.2 Mitigation Measures

With compliance with regulatory requirements pertaining to the design of drainage facilities and the provision of short-term and permanent water quality BMPs, and preparation of a detailed drainage plan in compliance with the CDP, no significant impacts on hydrology or water quality would occur with implementation of the CFTP. Therefore, no mitigation measures are required.

5.5 Cultural Resources

5.5.1 Introduction

The cultural resources analysis described in this section addresses the potential construction impacts of the CFTP on cultural resources including historical, archaeological, and paleontological resources. Historical and archaeological resources considered include prehistoric or historic buildings, sites, districts, structures, or objects that meet criteria of significance as established by the National Register of Historic Places, California Register of Historical Resources (National Register), California Register of Historical Resources (California Register), and local jurisdictions. This section also addresses paleontological resources, or fossilized remains of plants and animals that may be considered unique.

Potential construction impacts on these resources could occur from excavation and grading associated with the CFTP.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.9, *Historic/Architectural and Archaeological/Cultural and Paleontological Resources*, April 2004
- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts*, April 2004
- LAX Master Plan Final EIR, Appendix I, *Section 106 Report*, January 2001
- LAX Master Plan Final EIR, Appendix S-G, *Supplemental Section 106 Report*, June 2003

5.5.2 Setting

5.5.2.1 Historic and Archaeological Resources

Descriptions of existing conditions relative to historical and archaeological resources are presented in Section 4.9.1 of the LAX Master Plan Final EIR. This information is incorporated herein by reference. Ten historic properties were identified within the vicinity of LAX that are of federal, state or local significance. These properties are identified in Figure F4.9.1-1, Composite Area of Potential Effects Map, in the LAX Master Plan Final EIR. In addition, within a radius of approximately two miles of LAX, 32 previously recorded archeological sites were identified. Furthermore, four previously unrecorded archaeological sites were identified during the study conducted for the LAX Master Plan. Due to the characteristics of the area, there is a high likelihood of additional undiscovered archaeological resources being present. No changes in the significance of historic properties or the number of recorded archaeological sites at LAX have occurred since publication of the LAX Master Plan Final EIR. However, since publication of the LAX Master Plan Final EIR, and in accordance with the LAX Master Plan Mitigation Monitoring and Reporting Program, an Archaeological Treatment Plan (ATP)[130] and a Paleontological Management Treatment Plan (PMTP)[131] were prepared for the LAX Master Plan. The documents provide additional information and guidance for understanding the conditions and implementation of mitigation measures pertaining to archaeological and paleontological resources, respectively, associated with the Master Plan.

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[130] City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Archaeological Treatment Plan, 2005.

[131] City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Paleontological Management Treatment Plan, Revised December 2005.

5.5.2.2 Paleontological Resources

Existing paleontological resources are described in Section 4.9.2 of the LAX Master Plan Final EIR. That information is incorporated herein by reference. A records search conducted by the Natural History Museum of Los Angeles County noted that fossils are likely to exist within the sand dune deposits and underlying Palos Verdes Sand formation present at LAX. The records search also identified the presence of fossils in the vicinity of LAX at depths ranging from 13 to 70 feet. Such areas could be affected by construction of the CFTP. Conditions relating to the potential for encountering paleontological resources in the project area have not changed from those described in the LAX Master Plan Final EIR.

5.5.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of impacts to historical/archaeological and paleontological resources associated with the LAX Master Plan and are also applicable to the CFTP historical/archaeological and paleontological resources impacts analyses.

Historic and Archaeological Resources

A significant impact upon historic/architectural and archaeological/cultural resources would occur if the direct and/or indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions listed below.

- Physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historic resource would be materially impaired. The significance of a historic resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historic resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the National Register, California Register, and/or local register.
- Any action, such as clearing, scraping, soil removal, mechanical excavation, or digging that would disturb, damage, or degrade a unique archaeological resource.[132]

These thresholds were utilized because they address specific concerns to prehistoric and historic resources associated with the LAX Master Plan, namely, loss, destruction, alteration, or damage of a resource. These thresholds reflect state regulations, which define adverse impact levels and analysis. It is important to note that, under CEQA, project compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties mitigates impacts on historic resources to a less than significant level.[133]

Paleontological Resources

A significant impact on paleontological resources would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in the following future condition:

- The direct or indirect destruction of a unique paleontologic resource or site.

This threshold was utilized because it addresses potential impacts to paleontological resources associated with the LAX Master Plan. The threshold is consistent with Appendix G, Environmental Checklist Form, of the State CEQA Guidelines.

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

[133] State CEQA Guidelines, Section 15064.5(b)(3), "Determining the Significance of Impacts to Archaeological and Historical Resources."

5.5.4 LAX Master Plan

5.5.4.1 Impacts Identified in the Final EIR

Historic and Archaeological Resources

Construction activities associated with the LAX Master Plan would affect one California Register eligible historic resource, the International Airport Industrial District, which is located approximately 2.5 miles east of the CFTP site.

Under the LAX Master Plan, some loss of as-yet discovered archaeological resources could occur during grading and excavation activities. The disturbance or destruction of potentially significant undiscovered archaeological resources by these activities would be considered a significant impact. As indicated in the LAX Master Plan Final EIR, with implementation of Master Plan Mitigation Measures MM-HA-4 through MM-HA-10, identified below, project impacts on archaeological/cultural resources would be reduced to a less than significant level.

Paleontological Resources

Under the LAX Master Plan, grading or excavation involving depths generally greater than 6 feet are likely to expose and possibly damage potentially important paleontological resources. Construction activities would also increase the potential for the project site to be accessible for unauthorized fossil collection, which could result in the loss of additional fossil remains, associated scientific data, and fossil sites. These construction impacts are considered significant. As indicated in the LAX Master Plan Final EIR, implementation of Master Plan Mitigation Measures MM-PA-1 through MM-PA-7, identified below, would reduce potential adverse impacts to paleontological resources to a less than significant level.

5.5.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

Historic and Archaeological Resources

- **MM-HA-4. Discovery**
- **MM-HA-5. Monitoring**
- **MM-HA-6. Excavation and Recovery**
- **MM-HA-7. Administration**
- **MM-HA-8. Archaeological/Cultural Monitor Report**
- **MM-HA-9. Artifact Curation**
- **MM-HA-10. Archaeological Notification**

Paleontological Resources

- **MM-PA-1. Paleontological Qualification and Treatment Plan**
- **MM-PA-2. Paleontological Authorization**
- **MM-PA-3. Paleontological Monitoring Specifications**
- **MM-PA-4. Paleontological Resources Collection**
- **MM-PA-5. Fossil Preparation**
- **MM-PA-6. Fossil Donation**
- **MM-PA-7. Paleontological Reporting**

5.5.5 Crossfield Taxiway Project

5.5.5.1 Impacts

The information, analysis, and Master Plan mitigation measures provided in the Final LAX Master Plan EIR adequately address the potential construction impacts of the CFTP on historical, archaeological, and paleontological resources. The CFTP would not affect the one historic property, the International Airport Industrial District, that is identified in the LAX Master Plan Final EIR as being impacted by the LAX Master Plan. However, the CFTP could potentially disturb or destroy potentially significant, undiscovered archaeological resources. This impact would be significant, as discussed in the LAX Master Plan Final EIR. In addition, as the CFTP would involve grading and excavation greater than 6 feet in depth, it is possible that potentially important paleontological resources could be exposed and/or damaged. CFTP construction could make paleontological resources accessible for unauthorized fossil collection. This impact would also be significant, as discussed in the LAX Master Plan Final EIR.

5.5.5.2 Mitigation Measures

Subsequent to the publication of the LAX Master Plan Final EIR, an Archaeological Treatment Plan (ATP),[134] was prepared for the LAX Master Plan. The ATP provides additional information and guidance for understanding the conditions and implementation of Mitigation Measures MM-HA-4 through MM-HA-10. Thus, the following mitigation measure, which incorporates the requirements of Master Plan Mitigation Measures MM-HA-4 through MM-HA-10, is applicable to the CFTP.

- **Mitigation Measure MM-HA (CFTP)-1. 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 ATP, 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.

Subsequent to the publication of the LAX Master Plan Final EIR, and in accordance with Master Plan Mitigation Measure MM-PA-1, a Paleontological Management Treatment Plan (PMTP),[135] was prepared for the LAX Master Plan. The PMTP provides additional information and guidance for understanding the conditions and implementation of Master Plan Mitigation Measures MM-PA-1 through MM-PA-7. Thus, the following mitigation measures, which incorporate the requirements of Master Plan Mitigation Measures MM-PA-1 through MM-PA-7, are applicable to the CFTP.

- **Mitigation Measure MM-PA (CFTP)-1. 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 Final LAX Master Plan MMRP PMTP, 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

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[134] City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Archaeological Treatment Plan, 2005.

[135] City of Los Angeles, Los Angeles World Airports, Environmental Management Division, Final LAX Master Plan Mitigation Monitoring & Reporting Program, Paleontological Management Treatment Plan, Revised December 2005.

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 MM-PA (CFTP)-2. 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.

5.5.5.3 Level of Significance After Mitigation

Implementation of CFTP Mitigation Measures MM-HA (CFTP)-1, MM-PA (CFTP)-1, and MM-PA (CFTP)-2 would reduce potential CFTP construction impacts on archaeological and paleontological resources to a less than significant level.

5.6 Endangered and Threatened Species of Flora and Fauna

5.6.1 Introduction

This section addresses the potential for construction activities associated with the CFTP, including the construction staging area and work area, to affect endangered and threatened species of flora and fauna, as defined by the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). These species are protected under the State and federal Endangered Species Acts. In addition to direct impacts associated with construction activities, potential indirect construction impacts from light emissions, air emissions, and noise are also assessed.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.11, *Endangered and Threatened Species of Flora and Fauna*, April 2004
- LAX Master Plan Final EIR, Section 4.18, *Light Emissions*, April 2004
- LAX Master Plan Final EIR, Appendix J1, *Biological Assessment*, January 2001
- LAX Master Plan Final EIR, Technical Report 7, *Biological Resources, Memoranda for the Record on Floral and Faunal Surveys,* January 2001
- LAX Master Plan Final EIR, Appendix S-H, *Updated Biological Assessment*, June 2003
- LAX Master Plan Final EIR, Appendix F-E, *Biological Opinion*, April 2004
- Second Addendum to the LAX Master Plan Final EIR, Chapter 2, *Regulatory Agency Actions*, December 2004.

5.6.2 Setting

Descriptions of existing conditions relative to endangered and threatened species of flora and fauna are presented in Section 4.11 of the LAX Master Plan Final EIR and Section 2.2 of the Second Addendum to the Final EIR. This information is incorporated herein by reference. There are ten federally- or state-listed species of flora that were evaluated for their potential to occur within the LAX Master Plan boundaries. However, based on direct surveys, none of these plant species was determined to be present. There are nine federally- or state listed species of fauna that potentially occur within the LAX Master Plan boundaries. Three species, the Riverside fairy shrimp, the El Segundo blue butterfly, and the American peregrine falcon, were observed on-site. Riverside fairy shrimp cysts (or eggs) were determined to be present in five areas of ephemerally wetted soils near the CFTP construction staging area, as shown in **Figure 5-1**. The El Segundo blue butterfly is present within the El Segundo Blue Butterfly Habitat Restoration Area, located west of Pershing Drive. The American peregrine falcon has been observed roosting in tall buildings and structures adjacent to LAX but was not observed within the LAX boundary during surveys conducted in 2002 and 2003.

Conditions regarding the presence of federal- or state- listed species of fauna or flora within or adjacent to the CFTP work area and construction staging area have not changed materially from those presented in the LAX Master Plan Final EIR, with the exception of the Riverside fairy shrimp. Soils bearing cysts of the Riverside fairy shrimp were removed from the airport in July and August 2005, pursuant to an April 20, 2004 Biological Opinion from the USFWS,[136] as well as an April 8, 2005 Biological Opinion for Operation and Maintenance Activities at LAX.[137] In addition, as described in Section 4.5, *Biotic Communities*, field surveys of the proposed staging area site and American Airlines employee parking lot relocation site conducted in July and August of 2008 by BonTerra Consulting concluded that suitable habitat is not present at these two areas for any threatened or endangered plant or wildlife species; therefore, such species are not expected to occur on the proposed staging area site or American Airlines employee parking lot relocation site.

5.6.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of impacts to endangered and threatened species associated with the LAX Master Plan and are also applicable to the CFTP endangered and threatened species impacts analysis.

A significant impact to endangered and threatened species would occur if the direct or indirect changes in the environment that may be caused by the project would eventually result in one or more of the following future conditions listed below.

- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedance with the use of native wildlife nursery sites.
- A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans.
- A violation of federal, state, or local statutes or regulations imposed for the protection of federally- or state-listed, threatened, endangered, or candidate species of flora or fauna, specifically the Federal Endangered Species Act of 1973 and the State Endangered Species Act.[138]
- A substantial adverse effect, either directly or through habitat modifications of existing habitat of a federally- or state-listed endangered, threatened, or candidate species of flora and fauna that would result in a net reduction in occupied habitat.[139]
- A net loss of federally- or state-listed endangered, threatened, or candidate species of flora or fauna.

These thresholds were utilized because they address the potential concerns associated with the LAX Master Plan relative to endangered, threatened, and candidate species. These thresholds are also consistent with Appendix G of the State CEQA Guidelines.

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136 The April 20, 2004 Biological Opinion is included in Appendix F-E, *Biological Opinion from United States Fish and Wildlife Service (USFWS)*, of the LAX Master Plan Final EIR, April 2004.

137 U.S. Fish and Wildlife Service, Biological Opinion for Operations and Maintenance Activities at Los Angeles International Airport, City of Los Angeles, Los Angeles County (1-6-01-F-1012.7), April 2005.

138 The California Endangered Species Act (CESA) protects endangered, threatened, and candidate species. As stated in Fish and Game Code 2067, " … [a]ny animal determined by the Commission as 'rare' on or before January 1, 1985 is a 'threatened' species." Under CESA, plants are designated as 'rare' although afforded no protection. Plants designated as rare pursuant to Section 1904 of the Native Plant Protection Act and Sections 2074.2 and 2075.5 of the CESA are afforded protection under the Native Plant Protection Act.

139 Bass, Ronald E., Albert I. Herson, and Kenneth M. Bogdan, CEQA Deskbook, Second Edition, 1999.

north

Not to Scale

Legend

EW - Ephemerally Wetted Areas

- Fenced CFTP Construction Staging Area

Source: South Airfield Improvement Project Draft EIR, August 2005; Aerial photo dated 10-07-02.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Ephemerally Wetted Areas Formerly Containing Riverside Fairy Shrimp Cysts Near Construction Staging Area	Figure 5-1

5.6.4 LAX Master Plan

5.6.4.1 Impacts Identified in the Final EIR

As identified in the LAX Master Plan, 0.04 acres (1,853 sq. ft.) of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp would be permanently converted as a result of construction staging, airfield operations and maintenance activities, and/or airfield improvements. This converted area includes 1,438 square feet associated with ephemerally wetted (EW) area EW6, located near the CFTP construction staging area. The permanent conversion of the 1,853 square feet was considered a significant impact and triggered the need for Section 7 consultation with the USFWS. As a result of this consultation, the April 20, 2004 Biological Opinion for the LAX Master Plan stated that soils bearing embedded cysts of the Riverside fairy shrimp from EW6, as well as EW1 and EW2, will be salvaged and stored prior to implementation of LAX Master Plan projects. Therefore, the conversion of EW1, EW2, and EW6 would not result in a significant impact. In addition, construction staging, airfield operations and maintenance activities, and/or airfield improvements have the potential to indirectly affect EW9, EW12, EW13, EW14, EW15, and EW16, which comprise 1.26 acres of degraded wetland habitat. Specifically, EW9, EW12, and EW13, would potentially be affected by an alteration of upland hydrology resulting from the construction staging and development of the proposed employee parking garage. EW14, EW15, and EW16 would potentially be affected by construction staging in support of development of the Taxiway/Aircraft Apron and the proposed employee parking garage. Potential indirect impacts to ephemerally wetted areas located adjacent to project work areas would be avoided through the implementation of construction avoidance measures, including Best Management Practices (BMPs), and the creation of a buffer area around the degraded wetland habitat. Watershed buffer areas located near the SAIP/CFTP staging area are shown in **Figure 5-2**. Implementation of Master Plan Mitigation Measure MM-ET-1, Riverside Fairy Shrimp Habitat Restoration, would reduce direct impacts and potential indirect impacts to embedded cysts of the Riverside fairy shrimp to a level less than significant.

The Second Addendum to the LAX Master Plan Final EIR provides additional discussion of the Riverside fairy shrimp. As stated therein, on April 27, 2004, the USFWS published a new proposed designation of critical habitat for Riverside fairy shrimp, which included 108 acres proposed as critical habitat within the Airfield Operations Area (AOA). Ephemerally wetted areas EW9, EW12, EW13, EW14, EW15, and EW16 were within the proposed designation of critical habitat for the Riverside fairy shrimp. On July 20, 2004, FAA, LAWA, and the USFWS held a conference, pursuant to 50 CFR, Part 402.10, at which the USFWS concluded that continued construction, operations and maintenance activities on the proposed critical habitat areas outside the approximately 23 acres included in the April 20 2004 Biological Opinion, would not result in adverse modification of the proposed critical habitat areas.[140] Specific avoidance measures for the 23 acres are described in FAA's letter of no adverse modification.[141] The USFWS subsequently issued a letter of concurrence with the FAA's letter of no adverse modification.[142] Copies of these letters are provided in Appendix N, *Other Environmental Resources,* of the SAIP Draft EIR. Further consideration of critical habitat for the Riverside fairy shrimp at LAX is not required. On April 12, 2005 the USFWS excluded these areas from designation of critical habitat for the Riverside fairy shrimp based on the fact that primary constituent elements required for the Riverside fairy shrimp to complete its life cycle are not met at LAX.[143]

No conversion of occupied habitat of the El Segundo blue butterfly in the Habitat Restoration Area would occur as a result of the LAX Master Plan. Indirect impacts to the El Segundo Blue Butterfly Habitat

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140 50 Code of Federal Regulations (CFR) Section 402.10, "Conference on Proposed Species or Proposed Critical Habitat."

141 Federal Aviation Administration, Letter to U.S. Department of the Interior, Fish and Wildlife Service, Biological Services, Carlsbad Fish and Wildlife Office, Subject: Los Angeles International Airport, Proposed Designation of Critical Habitat, August 12, 2004.

142 U.S. Fish and Wildlife Service, Letter to the U.S. Department of Transportation, Federal Aviation Administration, Subject: Informal Conference for Five Projects at Los Angeles International Airport, September 13, 2004.

143 70 Federal Register (FR) 19154, "Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Riverside Fairy Shrimp (Streptocephaulus woottoit); Final Rule", April 12, 2005.

Restoration Area have the potential to occur from fugitive dust particles related to activities at the construction staging site. This potential impact would be avoided with implementation of Master Plan Mitigation Measure MM-ET-3, El Segundo Blue Butterfly Conservation: Dust Control. Implementation of the LAX Master Plan would not affect the continued existence of the American peregrine falcon, because this species does not occupy habitat in area of the proposed Master Plan facilities or within areas that would be developed or used for construction staging activities.

No significant indirect impacts to endangered or threatened species due to increased ambient light, noise, or concentrations of air pollutants were identified as a result of the implementation of the LAX Master Plan.

5.6.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **MM-ET-1. Riverside Fairy Shrimp Habitat Restoration**
- **MM-ET-3. El Segundo Blue Butterfly Conservation: Dust Control**

5.6.5 <u>Crossfield Taxiway Project</u>

5.6.5.1 Impacts

The information, analysis, and Master Plan mitigation measures provided in the LAX Master Plan Final EIR adequately address the potential construction impacts of the CFTP on Riverside fairy shrimp and El Segundo blue butterfly habitat.

The CFTP project site is not located in or near an area that provides habitat for any threatened or endangered species. Moreover, the proposed CFTP construction staging area is currently being used for construction staging for other LAX projects. As shown in **Figure 5-2**, the CFTP construction staging area would not overlap the watershed area for EW9, EW12, EW13, or EW14. Construction avoidance measures -- such as BMPs and the establishment of buffer areas -- as described in Master Plan Mitigation Measure MM-ET-1 and specified in the April 20, 2004 Biological Opinion issued by the UFWS in support of the LAX Master Plan, have been incorporated at EW6. Therefore, no impact on these areas would occur.

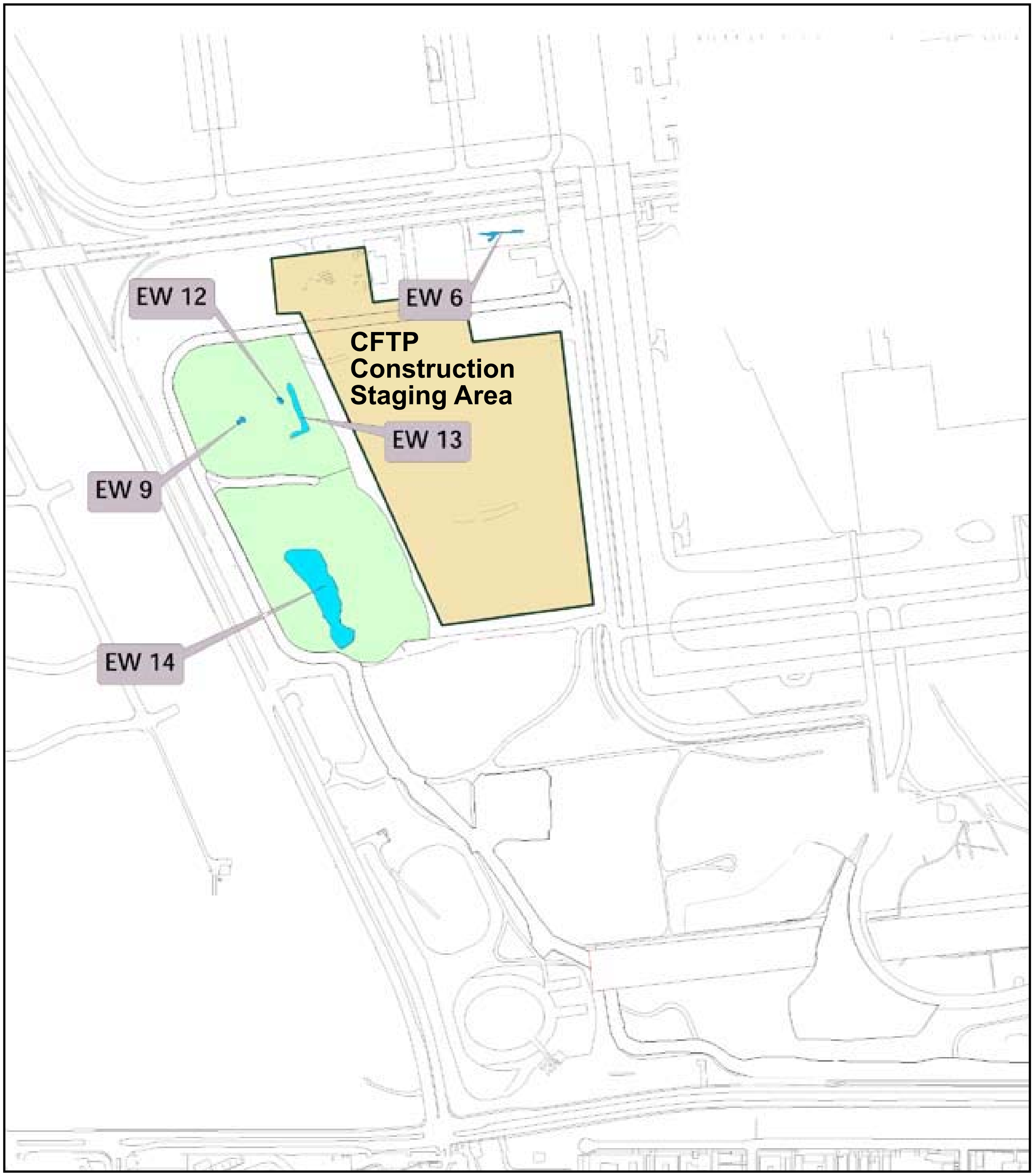
CFTP construction staging and stockpiling of materials in close proximity to the Habitat Restoration Area would have the potential to deposit fugitive dust within habitat for the El Segundo blue butterfly, which is considered a significant impact. As described in Section 5.6.4.1 above, the potential for construction activities to deposit fugitive dust within habitat for the El Segundo blue butterfly was identified and addressed as part of the LAX Master Plan Final EIR.

5.6.5.2 Mitigation Measures

To address the potential significant fugitive dust impacts on habitat for the El Segundo blue butterfly, Master Plan Mitigation Measure MM-ET-3, El Segundo Blue Butterfly Conservation: Dust Control, would be applicable to the CFTP. With implementation of that existing mitigation measure, no significant impacts would occur and no other mitigation measures are warranted.

5.6.5.3 Level of Significance After Mitigation

Implementation of Master Plan Mitigation Measure MM-ET-3 would reduce potential CFTP construction impacts on endangered and threatened species to a less than significant level.



north
Not to Scale

Legend

- Ephemerally Wetted Area Associated Watersheds
- Ephemerally Wetted Pools
- Fenced Construction Staging Area

Source: South Airfield Improvement Project Draft EIR, August 2005.
Prepared by: CDM, 2008.

LAX Crossfield Taxiway Project Draft EIR	Watershed Buffer Areas Near the CFTP Construction Staging Area	Figure 5-2

5.7 Wetlands

5.7.1 Introduction

This section addresses the potential for any construction activities to impact "waters of the United States," including wetlands and other special aquatic habitats protected by the federal government, and to natural rivers, streams, and lakes protected by the State of California. Information pertaining to protected species that exist in wetland areas is provided in Section 5.6.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.12, *Wetlands*, April 2004
- LAX Master Plan Final EIR, Appendix J2, *Jurisdictional Delineation*, January 2001
- LAX Master Plan Final EIR, Technical Report 7, *Biological Resources -- Memoranda for the Record on Floral and Faunal Surveys*, January 2001
- LAX Master Plan Final EIR, Appendix S-A, *Agency Consultation Letters,* June 2003.
- Second Addendum to the LAX Master Plan Final EIR, Chapter 2, *Regulatory Agency Actions*, December 2004

5.7.2 Setting

Descriptions of existing conditions relative to wetlands and protected species that exist in wetlands are presented in Sections 4.11 and 4.12 of the LAX Master Plan Final EIR and supplemented by Section 2.2 of the Second Addendum to the Final EIR. This information is incorporated herein by reference. There are a total of 1.3 acres within the AOA that meet the U.S. Army Corps of Engineers (USACOE) criteria for wetland hydrology. The areas closest to the construction staging area associated with the CFTP are shown in **Figure 5-1**.

In addition, field surveys of the proposed staging area site and American Airlines employee parking lot relocation site conducted in July and August of 2008 by BonTerra Consulting concluded that no jurisdictional wetlands are located within the largely undeveloped proposed staging area site or American Airlines employee parking lot relocation site (see Appendix F).

5.7.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of impacts to wetlands associated with the LAX Master Plan and are also applicable to the CFTP wetlands impacts analysis.

A significant wetlands impact would occur in the Master Plan area if direct and indirect changes in the environment, which might be caused by the project, potentially could result in one or more of the following future conditions:

- Alteration of the flow, bed, channel, or bank of rivers, streams, or lakes as defined in Section 1600 of the State Fish and Game Code.
- 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 interruptions, or other means.
- Impact in excess of 0.1 acre of wetland habitat (including marsh, riparian, or vernal pools) or lakes, rivers, streams, or other special aquatic habitats, as defined in Section 404 of the Clean Water Act.
- Alteration of an existing wetland habitat.

The above thresholds were utilized in criteria established in Section 404 of the Clean Water Act, the NWI, Section 1600 of the State Fish and Game Code, the L.A. CEQA Thresholds Guide and Appendix G, Environmental Checklist Form, of the State CEQA Guidelines. These thresholds address the concerns relative to wetlands associated with the LAX Master Plan, namely destruction, loss, alteration, or degradation of wetlands. An evaluation of whether or not an impact on wetlands would be significant must consider both the wetland resource and how it fits into a regional context. The criteria for determining the significance of impacts are based on the importance of the wetland area, the proximity of the area to the project site, the proportion of the area that would be affected, the sensitivity of the area to the type of impact being considered, and the extent and degree of the proposed impact.

5.7.4 LAX Master Plan

5.7.4.1 Impacts Identified in the Final EIR

As identified in the LAX Master Plan Final EIR, 0.04 acre (1,853 square feet) subject to the jurisdiction of the USACOE would be permanently converted as a result of construction staging, airfield operations and maintenance activities, and/or airfield improvements. Ephemerally wetted (EW) areas EW1 and EW2, located adjacent to the north airfield and comprising approximately 415 square feet, would be directly affected by construction staging activities in support of development of the airside service road. EW6, comprising 1,438 square feet, would be directly affected by the development of the proposed employee parking garage. Potential direct impacts would be avoided through implementation of Master Plan Mitigation Measure MM-ET-1, Riverside Fairy Shrimp Habitat Restoration, and construction avoidance measures specified in the April 20, 2004 Biological Opinion.[144]

In addition, EW9, EW12, EW13, EW14, EW15, and EW16, comprising 1.26 acres of jurisdictional wetlands have the potential to be indirectly impacted by implementation of the LAX Master Plan as a result of construction staging, airfield operations and maintenance activities, and/or airfield improvements within or adjacent to these jurisdictional wetland areas. Specifically, EW9, EW12, and EW13, would potentially be affected by an alteration of upland hydrology resulting from the construction staging and development of the proposed employee parking garage. EW14, EW15, and EW16 would potentially be affected by construction staging in support of development of the Taxiway/Aircraft Apron and the proposed employee parking garage. As described in the April 20, 2004 Biological Opinion, potential indirect impacts would be avoided through implementation of construction avoidance measures, including BMPs, and the establishment of a buffer area around these six jurisdictional wetland sites. Such construction avoidance measures have been implemented prior to the July and August 2005 removal, salvage, and storage of cyst bearing soils from these areas pursuant to the April 8, 2005 Biological Opinion for Operation and Maintenance Activities at Los Angeles International Airport.[145] Ephemerally wetted areas and associated watersheds identified for the LAX Master Plan and located in proximity to the CFTP staging area are shown in **Figure 5-2**.

5.7.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **MM-ET-1. Riverside Fairy Shrimp Habitat Restoration**

5.7.5 Crossfield Taxiway Project

5.7.5.1 Impacts

The information, analysis, and Master Plan mitigation measure provided in the LAX Master Plan Final EIR as well as the April 20, 2004 and April 8, 2005 Biological Opinions adequately address the potential construction impacts of the LAX Master Plan on wetlands. The CFTP would not have any direct impacts on wetlands. The CFTP project site is not located in proximity to any wetland areas. The CFTP

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144 The April 20, 2004 Biological Opinion is included in Appendix F-E, *Biological Opinion from United States Fish and Wildlife Service (USFWS)*, of the LAX Master Plan Final EIR, April 2004.

145 U.S. Fish and Wildlife Service, Biological Opinion for Operations and Maintenance Activities at Los Angeles International Airport, City of Los Angeles, Los Angeles County (1-6-01-F-1012.7), April 2005.

construction staging area is currently being used for construction staging for other LAX projects. Continued use of this site for construction staging activities would not affect EW6. Impacts on jurisdictional wetland EW6 would be avoided through continued implementation of construction avoidance measures, such as BMPs and establishing buffer areas, as specified in the April 20, 2004 Biological Opinion issued by the USFWS in support of the LAX Master Plan. The CFTP construction staging area would not overlap the watershed area for EW9, EW12, EW13, or EW14. Therefore, no impacts on these areas would occur.

5.7.5.2 Mitigation Measures

With continued implementation of construction avoidance measures, specified in Master Plan Mitigation Measure MM-ET-1 as well as the April 20, 2004 and April 8, 2005 Biological Opinions, CFTP construction impacts on wetlands would be avoided and no further mitigation would be required.

5.8 Energy Supply and Natural Resources

5.8.1 Introduction

This section addresses electricity, natural gas, and other fossil fuel consumption resulting from construction activities and operations associated with the CFTP. Construction activities include fuel consumption for construction-related vehicle trips, construction lighting, and utility relocation. Operational impacts include the reduction in energy demands resulting from the elimination of certain existing buildings in the project area and the generation of new energy demands associated with the new ARFF. This analysis also addresses access to and use of natural resources including mineral, petroleum, and aggregate resources.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.17, *Energy Supply and Natural Resources*, April 2004
- LAX Master Plan Final EIR, Technical Report 8, *Energy Supply Technical Report*, January 2001
- LAX Master Plan Final EIR, Technical Report S-6, *Supplemental Energy Supply Technical Report*, June 2003
- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts*, April 2004

5.8.2 Setting

5.8.2.1 Energy Supply

Existing conditions relative to on-airport airport electricity generation and transmission, natural gas supply and transmission, and fuel transmission are provided in Section 4.17.1 of the LAX Master Plan Final EIR and are incorporated herein by reference. Electricity and natural gas consumption at LAX results from a number of activities, including space heating and cooling, airfield and terminal lighting, food preparation, office functions, and maintenance. Other fossil fuel consumption includes aviation fuel for aircraft, as well as diesel, gasoline, and alternative fuels for ground support equipment (GSE), stationary sources, and airport-related motor vehicle trips. As indicated in Section 4.17 and Technical Report S-6 of the LAX Master Plan Final EIR, estimated annual energy consumption within the LAX Master Plan boundaries under Year 2000 was as follows: Electricity-- 245,396 mega watt hours/year; Natural Gas-- 943,136 thousand cubic feet/year; Jet A-- 1,784 million gallons; Avgas-- 20,000 gallons; gasoline-- 114 million gallons; diesel-- 25 million gallons; liquefied natural gas (LNG), compressed natural gas (CNG) and Propane-- 1,652 thousand therms. As indicated in Section 4.17.1, electricity, natural gas, and fuel transmission lines are located throughout the LAX Master Plan project site. The location of transmission facilities potentially affected by construction activities, and energy consumption at LAX, have not materially changed from what was presented in the LAX Master Plan Final EIR, given that existing uses and activity levels at the airport have not changed substantially over the past several years. The LAX Master Plan Final EIR indicated that adequate electricity, natural gas and transportation-related fuels (e.g., gasoline and diesel) supplies were anticipated to be available through 2015. The following discussion provides updated information on electricity, natural gas and transportation-related fuel supplies since publication of the LAX Master Plan EIR.

The Los Angeles Department of Water and Power (LADWP) supplies electric power to the City of Los Angeles, including LAX. The City used approximately 24,000 gigawatt-hours of electricity in 2006.[146] Projections prepared by LADWP in 2007 indicate that the electricity demand for Los Angeles will be approximately 29,000 gigawatt hours in 2025.[147] LADWP's 2007 Integrated Resource Plan (IRP) provides the framework for assuring that future energy needs of the City of Los Angeles are reliably met in a cost-effective manner, and are consistent with the City's commitment to environmental excellence. As described in the 2007 IRP, in order to meet these objectives, LADWP will aggressively pursue the Renewable Portfolio Standard of having 20 percent of its energy needs met by renewable sources of energy by 2010, reducing greenhouse gas emissions to 35 percent below 1990 levels by 2030, and increasing the level of commitment and funding to customer energy efficiency, demand side management and solar programs. Forecasts in the 2007 IRP indicates that there will be adequate electricity resources to meet the projected City electrical demand through 2025.

The Southern California Gas Company (SoCalGas) supplies natural gas to nearly all of Southern and Central California, including the City of Los Angeles. SoCalGas obtains the majority of its natural gas from out-of-state sources. In 2007, approximately 2,700 million cubic feet (MMCF) of natural gas per day was consumed in the SoCalGas service area.[148] SoCalGas projects gas demand for all its market sectors to grow at an annual average rate of just 0.02 percent from 2008 to 2030. Demand is expected to be virtually flat for the next 22 years due to modest economic growth, California Public Utilities Commission-mandated demand-side management goal and renewable goal, decline in commercial and industrial demand, and continued increased use of non-utility pipeline systems by enhanced oil recovery customers.[149] The outlook on natural gas supply availability continues to be favorable and future supplies of natural gas are anticipated to be adequate to meet projected demand through 2030.[150]

As indicted in Section 4.17.1 of the LAX Master Plan Final EIR, supplies of transportation-related fuels, such as gasoline and diesel, are dependent on energy reserves, both domestic and international, and available refinery capacity. Projections prepared by the State of California indicate that market factors, including increasing demand for petroleum products within California and declining refinery capacity within the state, will result in increased reliance on out-of-state petroleum resources.[151] The demand for petroleum fuels will likely increase over the next decade or so, requiring an expansion of the capability to accommodate additional imports.[152]

5.8.2.2 Natural Resources

Information regarding the sources of mineral, petroleum and aggregate resources is provided in Section 4.17.2 of the LAX Master Plan Final EIR and is incorporated herein by reference. The Hyperion Oil Field is located directly beneath and adjacent to the southwestern portion of the LAX boundaries, including the

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146 Los Angeles Department of Water and Power, 2007 Integrated Resource Plan, December 2007, page 16; Available: http://www.ladwp.com/ladwp/cms/ladwp010273.pdf.

147 Los Angeles Department of Water and Power, 2007 Integrated Resource Plan, December 2007, page 16; Available: http://www.ladwp.com/ladwp/cms/ladwp010273.pdf.

148 California Gas and Electric Utilities, 2008 California Gas Report, 2008, page 95, Available: http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf.

149 California Gas and Electric Utilities, 2008 California Gas Report, 2008, page 62, Available: http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf.

150 California Gas and Electric Utilities, 2008 California Gas Report, 2008, Available: http://www.socalgas.com/regulatory/documents/cgr/2008_CGR.pdf.

151 California Energy Commission, California's Petroleum Infrastructure Overview and Import Projections, February 1, 2007, Available: http://www.energy.ca.gov/2007publications/CEC-600-2007-001/CEC-600-2007-001.PDF.

152 California Energy Commission, California's Petroleum Infrastructure Overview and Import Projections, February 1, 2007, Available: http://www.energy.ca.gov/2007publications/CEC-600-2007-001/CEC-600-2007-001.PDF.

construction staging area for the CFTP. No active wells are located within the LAX boundaries. No timber resources or areas of significant mineral deposits occur within the Master Plan boundaries.[153] The following discussion provides updated information on permitted aggregate reserves in the project region since publication of the LAX Master Plan EIR.

According to a 2006 report on aggregate availability in California by the California Geologic Survey,[154] there are four aggregate production-consumption (P-C) regions within approximately 60 miles of LAX; San Gabriel Valley P-C, Temescal Valley-Orange County P-C, Claremont-Upland PC, and San Fernando Valley-Saugus-Newhall P-C. Combined, these areas have permitted aggregate reserves of approximately 960 million tons, which is projected to be sufficient to meet approximately 30 percent of the combined 50-year aggregate demand in the four P-C areas (3,027 million tons). However, the 2006 CGS report indicates that permitted aggregate reserves for each of the four P-C areas would be adequate to meet projected demand through at least 2016.

5.8.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of impacts to energy supply and natural resources associated with the LAX Master Plan and are also applicable to the CFTP energy supply and natural resources impacts analysis.

Energy Supply

A significant energy impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- An exceedance in regional electricity or natural gas supplies or generation or distribution facilities due to project-related electricity and natural gas demand.
- A substantial increase in project-related fuel consumption relative to available supply.
- Interference with existing major electrical or natural gas infrastructure due to construction of project features.

These thresholds of significance were utilized because they address the potential concerns relative to energy associated with the LAX Master Plan, namely the potential for the project to exceed regional energy supply and distribution capabilities, and the potential for interference with existing energy utility infrastructure due to construction of the LAX Master Plan. The first two thresholds were developed based upon guidance provided in the L.A. CEQA Thresholds Guide. The third threshold was developed specifically to address potential impacts associated with the LAX Master Plan relative to construction conflicts, which was not addressed in the L.A. CEQA Thresholds Guide.

Natural Resources

A significant natural resources impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- The project were to result in the permanent loss of, or loss of access to, substantial volumes of harvestable timber resources, petroleum resources, or mineral resources.
- The natural resource requirements for construction of the project were to exceed available permitted supplies.

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153 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.17.2, page 4-1074.

154 California Geological Survey, Department of Conservation, Aggregate Availability in California, 2006, Available: http://www.conservation.ca.gov/cgs/minerals/mlc/Pages/index.aspx.

These thresholds were utilized because they address the two potential impacts to natural resources associated with the LAX Master Plan: the potential for the project to restrict access to important natural resources due to the construction of new facilities on largely undeveloped areas, and the use of natural resources for the construction of improvements associated with the LAX Master Plan. The first threshold was adapted from the L.A. CEQA Thresholds Guide to address other resources in addition to mineral resources. The second threshold was developed specifically to address potential impacts associated with the Master Plan alternatives relative to natural resource consumption, which was not addressed in the L.A. CEQA Thresholds Guide. The only other potential impacts to natural resources are associated with the consumption of fuel and other energy resources. These impacts are addressed under, *Energy Supply*.

5.8.4 LAX Master Plan

5.8.4.1 Impacts Identified in the Final EIR

Energy Supply

Under the LAX Master Plan, electricity and natural gas consumption at LAX would increase as compared to baseline conditions. In order to reduce electricity and natural gas consumption under Alternative D, LAWA would implement Master Plan Commitment E-1, Energy Conservation and Efficiency Program, to maximize the energy efficiency of new facilities. This program would be consistent with federal policies pertaining to energy efficiency and resource conservation. Sufficient supply of electricity and natural gas is expected to be available. Therefore, no significant impacts with respect to electricity and natural gas supply would occur.

Similarly, the LAX Master Plan would result in increases in the consumption of transportation-related fuels. The consumption of gasoline and diesel from on-airport sources, including GSE and on-airport vehicles, would be reduced as a result of the conversion of some of these vehicles to LNG, CNG, or propane power. These decreases would be offset by increases in the amount of gasoline and diesel consumption associated with off-airport vehicle trips, including trips by both passengers and employees arriving and departing LAX, as well as trips to and from LAX Northside. Sufficient supply of transportation-related fuels is expected to be available. Therefore, no significant impacts with respect to transportation-related fuel supply would occur.

Construction activities described in the LAX Master Plan would require fuel for the operation of construction equipment and for construction-related vehicle trips, as well as electricity for lighting. The total amount of diesel and gasoline consumption related to construction equipment and additional worker vehicle trips to and from the construction sites would be approximately 29.9 million gallons and 3.1 million gallons, respectively. Because adequate electricity, gasoline, and diesel supplies are anticipated to be available through 2015, the impact associated with the consumption of these energy resources for construction activities would be less than significant.

Construction associated with the LAX Master Plan would include activity near existing natural gas and electrical power lines. Excavating near natural gas or electrical power lines could cause an interruption in service to LAX or the surrounding area if improper construction methods are used or poor planning occurs. Construction near submerged high voltage electrical power lines could later affect the transmission capacity of the lines if surrounding insulation material is improperly changed. The ability of utility providers to access underground pipes or lines could also be affected by construction. Under Master Plan Commitments E-2, Coordination with Utility Providers, and PU-1, Develop a Utility Relocation Program, LAWA would work with the utility providers to assure that changes to the electrical distribution system would not adversely affect electricity or natural gas service to the surrounding area. Implementation and adherence to the measures specified in the commitments would reduce the potential for impacts to the existing electricity supply and distribution system from construction activities to a level that is less than significant.

Natural Resources

As there are no actively-mined mineral, timber, or petroleum resources within LAX, implementation of the LAX Master Plan would not restrict access to these resources. Implementation of the LAX Master Plan would require aggregate materials to be used for construction of the various proposed improvements. The estimated aggregate consumption for construction improvements proposed in the LAX Master Plan is 11.4 million tons, or less than 1 percent of the estimated 1.7 billion tons of permitted reserves in the Los Angeles region identified and included as part of the LAX Master Plan natural resources analysis. Construction materials from demolition work would be recycled; therefore, not all of this demand for aggregate would require raw materials.

At the time of publication of the LAX Master Plan EIR, the California Department of Conservation, Division of Mines and Geology anticipated that permitted aggregate reserves in the Los Angeles region will be available through 2046. Although use of materials from more distant production areas may be more costly, the need for aggregate materials would not result in a significant impact on available reserves.

5.8.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **E-1. Energy Conservation and Efficiency Program**
- **E-2. Coordination with Utility Providers**
- **PU-1. Develop a Utility Relocation Program**

5.8.5 Crossfield Taxiway Project

5.8.5.1 Impacts

Energy Supply

The information, analysis, and Master Plan commitments provided in the LAX Master Plan MMRP adequately address the potential impacts of the CFTP on energy supply. This subsection provides additional analysis of project-specific impacts on the existing energy supply and energy distribution system, including electrical, natural gas, and aviation fuel distribution facilities.

Construction activities for the CFTP would require fuel for the operation of construction equipment and for construction-related vehicle trips, as well as electricity for lighting. The total amount of diesel and gasoline consumption related to construction equipment and additional worker vehicle trips to and from the construction sites would be approximately 1.1 million gallons and 336,000 gallons, respectively. Because adequate electricity, gasoline, and diesel supplies are anticipated to be available during the duration of construction activities for the CFTP (a period of approximately 16 months, anticipated to start around the beginning of April 2009) the impact associated with the consumption of these energy resources for construction activities would be less than significant.

Operations-related energy demands would include natural gas and electricity consumption associated with uses in buildings and with lighting. As described in Chapter 2, implementation of the CFTP would require the removal of several buildings, as well as outdoor lighting fixtures, which would eliminate or reduce existing demands. The project also includes development of the new, larger ARFF and the relocated RON area with new apron lighting, which have new energy demands. Appendix E provides estimates of the natural gas and electricity demands associated with the existing structures that would be eliminated or relocated as part of the project and the new ARFF and RON apron lighting. As described in Section 4.4, it is anticipated that operation of the proposed project would result in a net increase in natural gas demands and a net decrease in electricity demands.

Electrical power used at LAX is distributed across the airport via several transmission lines. Electrical transmission lines in the vicinity of the CFTP project site include overhead distribution lines along World Way West and smaller subsurface lines throughout the project area. As indicated in Chapter 2, *Project*

Description, existing overhead lines would be relocated in a new underground utilidor adjacent to the realigned World Way West. Smaller subsurface lines in the project area would be relocated, as required. Development of the CFTP would include the installation of edge lights along Taxiway C13 and the Taxiway D extension and centerline lights within Taxiway C13. The locations of the new electrical lines that would support these lighting systems are depicted in Figure 2-15 of this EIR.

Natural gas is supplied to the airport by several underground distribution lines, including branch connections from distribution lines that provide natural gas service to airport tenants. As shown in Figure F4.17.1-2 in the LAX Master Plan Final EIR, a 6-inch natural gas distribution line is located in the eastern and central portions of the CFTP site, adjacent to and parallel with Taxiway S and World Way West, respectively. This line crosses World Way West in the area where the roadway is proposed to be depressed and would need to be relocated as part of the CFTP.

Jet A aviation fuel is stored at the LAXFUEL fuel farm, located near the western boundary of the CFTP site. Aviation fuel lines within the CFTP site include major fuel lines (6 inches to 18 inches in diameter) under the proposed extension of Taxiway D. These fuel lines are proposed to be replaced with a new line at greater depth than the existing fuel lines. The proposed fuel lines are depicted in Figure 2-14 of this EIR.

In accordance with Master Plan Commitments E-2, Coordination with Utility Providers, and PU-1, Develop a Utility Relocation Program, LAWA would work with the utility providers to assure that changes to the electrical, natural gas and aviation fuel distribution system would not adversely affect electricity, natural gas, or aviation fuel service on-airport or to the surrounding area. As part of the Utility Relocation Program for the CFTP, a utilidor would be constructed adjacent to the realigned World Way West. Implementation and adherence to the measures specified in Master Plan Commitments E-2 and PU-1 would reduce the potential for impacts to the existing energy supply and distribution system from CFTP construction activities to a level that is less than significant.

Natural Resources

The information and analysis provided in the LAX Master Plan Final EIR adequately address the potential construction impacts of the CFTP on natural resources. This subsection provides additional analysis of project-specific construction impacts on permitted aggregate reserves in the project region.

As part of the CFTP, existing concrete and asphalt pavement would be demolished and would be replaced by new concrete and asphalt surfaces. It is estimated that 53,245 cubic yards of material would be demolished.[155] This material would be sent to the rock crusher located on the airport to be ground for reuse on-site or off-site.

The proposed CFTP facilities would require petroleum-derived and aggregate-based building materials, including 127,960 cubic yards of Portland cement concrete, 74,000 cubic yards of econocrete, 40,520 cubic yards of sub-base, and 13,030 cubic yards of asphalt.[156] The majority of this material would need to consist of new raw materials; however, approximately 75 percent of the sub-base, or 30,390 cubic yards, could be generated from on-site sources (i.e., reuse of demolished materials). In addition, approximately 1,650 cubic yards of asphalt mill would be stored on-site and used for other asphalt paving repairs at LAX. Given the availability of permitted aggregate reserves in the region, no significant impacts to aggregate reserves would occur.

5.8.5.2 Mitigation Measures

No significant impacts related to energy consumption and distribution, or access to and use of natural resources would occur as a result of CFTP construction. Therefore, no mitigation measures are required.

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155 Linder, Andrew, LAX Development Program IPMT, Personal Communication, August 18, 2008.

156 Linder, Andrew, LAX Development Program IPMT, Personal Communication, August 18, 2008; Lazarevic, Goran, Los Angeles World Airports, Personal Communication, September 2 and 3, 2008.

5.9 Solid Waste

5.9.1 Introduction

This section addresses potential impacts related to solid waste generation and disposal. The primary source of solid waste generation from the CFTP would be demolition of existing facilities. Waste generated from demolition would include asphalt and concrete associated with relocation of World Way West and the "remain overnight" (RON) aircraft parking facilities, and materials such as drywall, masonry, steel, aluminum, metal pipes, roofing materials, ceramic tile, insulation, composite engineered wood products, glass, carpeting and fixtures associated with building demolition. There would also be debris generated from new construction activities. Relative to operations, no notable changes in existing solid waste generation is expected to occur. Existing project-related uses that generate solid waste, such as GSE maintenance, the existing ARFF, and other various office, storage, and administrative uses described in Chapter 2, would be relocated as part of the project and the existing operations-related solid waste generation would be largely unchanged. Impacts associated with hazardous waste generation and disposal are addressed in Section 5.12, *Hazards and Hazardous Materials*.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.19, *Solid Waste,* April 2004
- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts,* April 2004
- LAX Master Plan Final EIR, Technical Report 10, *Solid Waste Technical Report*, January 2001
- LAX Master Plan Final EIR, Technical Report S-7, *Supplemental Solid Waste Technical Report*, June 2003

5.9.2 Setting

Existing conditions regarding solid waste generation and disposal are described in Section 4.19 of the LAX Master Plan Final EIR. This information is incorporated herein by reference. Construction and demolition waste is considered inert and can be disposed of at unclassified landfills. There is currently sufficient inert waste disposal capacity available in Los Angeles County.[157] Further, a large portion of construction and demolition waste can be diverted from landfills through recycling and reuse. There are a number of operations within Los Angeles County that recycle construction and demolition material. Assumptions regarding construction and demolition debris, including the CFTP, and the disposal capacity for inert waste in Los Angeles County have not changed in a manner that would alter the basic findings presented herein or in the LAX Master Plan Final EIR.

The following provides updated information on overall municipal solid waste landfill capacity within Los Angeles County published since certification of the LAX Master Plan Final EIR. As of December 31, 2005, the remaining permitted Class III (municipal solid waste) landfill capacity in Los Angeles County was estimated at 102 million tons.[158] According to the County, the 96.5 million ton capacity will be exhausted by the year 2014. The County is currently revising the Countywide Siting Element which will identify goals, policies and strategies that provide for the maintenance of adequate permitted disposal capacity through the 15 year planning period (2020) and in the long term.[159]

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157 The LAX Master Plan Final EIR stated on page 4-4114 that, according to the 2000 Annual Report on the Countywide Summary Plan and Countywide Siting Element (County of Los Angeles, Department of Public Works, September 2001) as of the end of 2000, the remaining inert waste capacity in Los Angeles County was estimated to be 57.7 million tons. Based on the average 2000 disposal rate, capacity would be available for 44 years. According to the 2005 Annual Report on the Countywide Summary Plan and Countywide Siting Element (County of Los Angeles, Department of Public Works, May 2007), as of January 1, 2006, the remaining inert capacity is 47.02 million tons.

158 County of Los Angeles, Department of Public Works, 2005 Annual Report Los Angeles County Countywide Integrated Waste Management Plan, Countywide Summary Plan and Countywide Siting Element, May 2007.

159 County of Los Angeles, Department of Public Works, 2005 Annual Report Los Angeles County Countywide Integrated Waste Management Plan, Countywide Summary Plan and Countywide Siting Element, May 2007.

Baseline municipal solid waste generation figures for LAX have not changed in a manner that would alter the basic findings presented herein or in the LAX Master Plan Final EIR.

5.9.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of solid waste impacts for the LAX Master Plan and are also applicable to the CFTP solid waste impacts analysis.

A significant solid waste impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- A net increase in project-related solid waste generation that could not be accommodated by existing or permitted regional landfills or other disposal facilities.
- Conflicts with solid waste policies and objectives intended to help achieve the requirements of AB 939 (1989).

These thresholds were utilized because they address the two potential impacts to solid waste associated with the LAX Master Plan: the potential for project-generated solid waste to exceed the capacity of permitted regional landfills or other disposal facilities, and the potential for the project to hinder compliance with AB 939 diversion requirements. These thresholds were developed based upon guidance provided in the L.A. CEQA Thresholds Guide.

5.9.4 LAX Master Plan

5.9.4.1 Impacts Identified in the Final EIR

Construction and demolition activities associated with the LAX Master Plan would generate a substantial amount of inert debris requiring disposal. To the extent feasible, materials would be recycled or reused at LAX. For example recycled pavement could be used as filler below new pavement. Additionally, Master Plan Commitments SW-2, Requirements for the Use of Recycled Materials During Construction, and SW-3, Requirements for the Recycling of Construction and Demolition Waste, would reduce the amount of demolition and construction waste requiring disposal by requiring contractors to use recycled construction materials and to recycle demolition and construction-related waste. Recycling and reuse of construction and demolition materials is consistent with FAA policies pertaining to waste minimization and resource conservation. As discussed above, there is currently adequate capacity available for disposal of inert solid waste. Therefore, no significant impacts related to construction and demolition solid waste generation and disposal are anticipated with construction of the LAX Master Plan.

Operationally, although airport activities would increase under the LAX Master Plan, with the acquisition and demolition of land uses within the LAX Master Plan boundaries and compliance with AB 939, total solid waste generated within the LAX Master Plan boundaries would decrease as compared to the baseline conditions. As a result, impacts relative to solid waste generation would be less than significant.

5.9.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **SW-2. Requirements for the Use of Recycled Materials During Construction**
- **SW-3. Requirements for the Recycling of Construction and Demolition Waste**

5.9.5 Crossfield Taxiway Project

5.9.5.1 Impacts

The information, analysis, and Master Plan commitment provided in the LAX Master Plan Final EIR adequately address the potential operations and construction impacts of the CFTP on solid waste generation and available landfill capacity.

Construction waste would consist of concrete pavement and building materials. Approximately 53,245 cubic yards of concrete pavement material would be demolished as part of the CFTP. Geotechnical testing would be required to determine if the existing base material could be recycled. It is anticipated that an on-site rock crushing plant and portable screen would be used for recycling asphalt, concrete, and suitable base material. It is estimated that approximately 30,390 cubic yards could be reused as fill on-site. The remaining volume would be sent off-site for reuse or disposal, depending on geotechnical testing to determine the suitability of the material for reuse.

In addition, approximately 12,125 square yards of buildings (calculated as roof area) would be demolished to accommodate the new facilities. Waste from these buildings would consist of but not be limited to asphalt and concrete pavement, drywall, steel, aluminum, metal pipes, roofing materials, ceramic tile, insulation, composite engineered wood products, glass, carpeting and fixtures.

Master Plan Commitment SW-3 states that the percentage of waste materials required to be recycled must be specified in the construction bid document for each LAX Master Plan project. Specific to the CFTP, the construction bid document would specify that a minimum of 20 percent of construction waste materials would be required to be recycled.[160] As noted above, all suitable demolished pavement would be recycled for use on-site or shipment off-site. Building materials to be recycled would include, but not be limited to, asphalt and concrete pavement, steel products (rebar, dowels, piping, and electrical items), and wiring. Steel products and electrical wiring would be sent off-site for recycling. With compliance with Master Plan Commitment SW-3, the CFTP would not result in a significant impact related to the generation or disposal of construction solid waste.

5.9.5.2 Mitigation Measures

No significant impacts related to municipal or construction solid waste generation and disposal would occur as a result of CFTP. Therefore, no mitigation measures are required.

5.10 Aesthetics

5.10.1 Introduction

This section addresses the potential for the construction or operation of the CFTP to result in adverse visual or lighting impacts. The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.21, *Design, Art and Architecture Application/Aesthetics,* April 2004
- LAX Master Plan Final EIR, Section 4.18, *Light Emissions*, April 2004
- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts,* April 2004
- LAX Master Plan Final EIR, Technical Report 11, *Design, Art and Architecture Application/Aesthetics Technical Report*, January 2001
- LAX Master Plan Final EIR, Technical Report 9, *Light Emissions Technical Report*, January 2001

5.10.2 Setting

Descriptions of existing visual conditions relative to views and lighting are presented in Sections 4.18 and 4.21 of the LAX Master Plan Final EIR. This information is incorporated herein by reference. The CFTP is within the central portion of the LAX airfield and consists of paved and highly disturbed bare ground areas and aviation-related ancillary/support facilities, primarily designed for function and access. The facilities on the CFTP site have little in the way of landscaping and are not aesthetically valued. The

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160 The SAIP specified that a minimum of 20 percent of construction waste materials were to be recycled, but the actual amount recycled and re-used was approximately 70 percent as the majority of demolition material included asphalt, concrete, and base material. However, the CFTP includes building demolition, which has a lower percentage of recyclable materials.

CFTP site is visible as a distant feature from I-105 and the upper stories of hotels and businesses located along the north side of Century Boulevard and the south side of Imperial Highway.

Lighting for facilities in the CFTP area includes roof perimeter and parapet lights, shielded and directed down, that generally do not spill over 30 feet onto the surrounding areas. Interior light coming from hangars and other facilities does not generally spill over beyond the hangar doors or immediate facility grounds. The existing airfield lighting system within the project area consists of taxiway edge lights, taxiway centerline lights, and guidance signs. Airfield lighting in the midfield areas is generally low to the ground and low in intensity. Runway/taxiway lights are typically directed to the direction of the runway or taxiway. While contributing to urbanized ambient light conditions, the facilities in the airport midfield area, including at the CFTP site, are at distances of approximately 2,500 to 3,000 feet or more from sensitive residential receptors and, as evidenced by lighting measurements at these sites, cause no light spillover in residential areas on the south and north perimeters of the airport.

The surrounding area along the southern boundary of LAX that would have the most direct views of the CFTP site had not materially changed from that analyzed in the LAX Master Plan Final EIR.

The southwestern portion of the airport, east of Pershing Drive has little development, and it is mainly limited to airfield/open space. Subsequent to publication of the LAX Master Plan Final EIR, a construction staging area for the SAIP was established east of Pershing Drive and south of World Way West. This area continues to be used for construction staging activities associated with SAIP construction, and is also the proposed CFTP staging area. Residential areas on Imperial Avenue west of Loma Vista Street have views of the southwest end of the airport. Views of the southwestern portion of the airport from Imperial Highway, west of Main Street, are blocked by graded-fill berms; both sides of Imperial Highway are bordered by a combination of wood and steel utility poles and lines.

5.10.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of aesthetic and light emissions impacts for the LAX Master Plan and are also applicable to the CFTP aesthetic and light emissions impacts analyses.

Aesthetics

A significant aesthetic or view impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- Introduction of features that would detract from the existing valued aesthetic quality of a neighborhood, community, or localized area by conflicting/contrasting with important aesthetic elements or the quality of the area (such as a theme, style, setbacks, density, massing, etc.) or cause an inconsistency with applicable design guidelines.
- Removal of one or more features that contribute to the valued aesthetic character or image of the neighborhood, community, or localized area such as demolition of structures, street trees, a strand of trees, or other landscape features that contribute positively to the valued visual image of a community.
- Obstruction, interruption, or diminishment of a valued focal or panoramic view or view from any designated scenic highway, corridor, or parkway.

These thresholds of significance were utilized because they address the potential concerns relative to aesthetic resources and views associated with the LAX Master Plan. All three thresholds reflect those contained in the L.A. CEQA Thresholds Guide that are relevant to this project.

Light Emissions

A significant light emissions impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in the following future condition:

- An increase in lighting intensity of more than 2 footcandles as measured at the property line of a residential property.

A significant glare (reflected light) impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in the following future condition:

- Installation of lighting or signage within an airport hazard area that would make it difficult for pilots to distinguish between said lights and aeronautical lights, or result in glare in the eyes of pilots that would impair their ability to operate aircraft.[161]

These thresholds of significance were utilized because they address the potential concerns relative to light and glare emissions associated with the LAX Master Plan, namely spillover of light on sensitive uses and introduction of glare that would impair operation of aircraft. The first threshold reflects general direction provided in the L.A. CEQA Thresholds Guide, and specifies the 2-footcandle increase from the City of Los Angeles Municipal Code (Section 93.0117). The threshold for significant glare is also derived from the City of Los Angeles Municipal Code.

5.10.4 LAX Master Plan

5.10.4.1 Impacts Identified in the Final EIR

Construction activities would create a visual contrast around the airport and although construction would be phased, it would cause areas of the airport environs to have an incomplete, disrupted, and unattractive quality. Construction in the central airfield would primarily be visible from I-105 and upper stories of hotels and businesses on Century Boulevard and Imperial Highway. The short-term aesthetic effects of construction on surrounding uses and airport visitors are considered to be significant. Impacts would be reduced to a less than significant level with implementation of Master Plan Mitigation Measure MM-DA-1, Construction Fencing. Additionally Master Plan Commitment DA-1, Provide and Maintain Airport Buffer Areas, would provide for screening to reduce views of construction.

With respect to operational aesthetics impacts, LAX Master Plan airfield improvements would include the extension, upgrade, and/or relocation of existing runways and new and reconfigured taxiways. The airfield improvements, while expanding the area in which visible aircraft activity occurs, would not contrast with existing airfield aesthetic conditions or cause view obstruction from off-site vantages. Therefore, no significant aesthetic and view impacts would occur.

With respect to light emissions, construction may include nighttime activities that would require lighting of work areas. Construction lighting would be focused downward and directed on airport property away from sensitive uses. Further, construction work hours would comply with municipal code requirements. No nighttime construction work and associated lighting would occur in areas close enough to disturb residential uses, and therefore no significant construction lighting impacts are anticipated with construction of the LAX Master Plan.

The proposed LAX facilities would be constructed of non-reflective materials and would not contain undifferentiated expanses of glass. Master Plan Commitments LI-2, Use of Non-Glare Generating Building Materials, and LI-3, Lighting Controls, would ensure that no building materials or light sources are introduced that could generate glare which would pose an aviation hazard. Therefore, the LAX Master Plan is not expected to generate significant glare impacts.

Operationally, under the LAX Master Plan, limited replacement and upgraded cargo and ancillary facilities would be developed along Imperial Highway along the southern site boundary.[162] These light sources would be similar to current lighting in this area. Light measurements conducted at a receptor site located near the intersection of Imperial Highway and Pershing Drive demonstrated that incremental increases in

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161 City of Los Angeles, Los Angeles Municipal Code, Section 12.50, "Airport Approach Zoning Regulations," March 31, 2000.

162 The cargo and ancillary facilities improvements along the southern boundary of LAX are not part of the CFTP; they are discussed herein to identify the overall LAX Master Plan operational light emissions impacts along the southern boundary of LAX, as the sensitive receptors nearest to the CFTP site are located to the south of LAX in the City of El Segundo.

lighting along the southern boundary of LAX would be well below the City of Los Angeles threshold and would, therefore, result in a less than significant impact.

5.10.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **LI-2. Use of Non-Glare Generating Building Materials**
- **LI-3. Lighting Controls**

5.10.5 Crossfield Taxiway Project

5.10.5.1 Impacts

The information analysis, and Master Plan commitments provided in the LAX Master Plan Final EIR adequately address potential view and lighting impacts due to CFTP construction. Construction activities and construction staging would be visible in the distance from I-105, the upper stories of hotels and office buildings to the south and some residences south of Imperial Avenue, and to travelers along Imperial Highway. The view into the LAX airfield is not considered scenic and the CFTP construction activities would generally be consistent with the industrial character of the airport. Moreover, the CFTP site is located at a considerable distance from the nearest sensitive receptors. With respect to light emissions, construction would include nighttime activities that would require lighting of work areas. Construction lighting would be focused downward and directed on airport property away from sensitive uses. Further, construction work hours would comply with municipal code requirements. No nighttime construction work and associated lighting would occur in areas close enough to disturb residential uses. As a result of these considerations, aesthetic and light emissions impacts associated with CFTP construction would be less than significant.

With respect to operational aesthetics impacts, as described above for the LAX Master Plan, airfield improvements, including the CFTP, would not contrast with existing airfield aesthetic conditions or cause view obstruction from off-site vantages. Therefore, no significant aesthetic and view impacts would occur.

The proposed new/relocation CFTP facilities, such as the new ARFF, would be constructed of non-reflective materials and would not contain undifferentiated expanses of glass. Master Plan Commitments LI-2, Use of Non-Glare Generating Building Materials, and LI-3, Lighting Controls, would ensure that no building materials or light sources are introduced that could generate glare which would pose an aviation hazard. Therefore, the CFTP is not expected to generate significant glare impacts.

The CFTP would result in operational changes to lighting. Under the CFTP, new airfield lighting systems would be installed, including taxiway edge lights and in-pavement taxiway centerline lights along Taxiway C13, taxiway edge lights on the Taxiway D extension, aircraft parking apron lighting, and new airfield signage, as follows:

- The proposed taxiway edge lighting system would be installed ten feet off of the taxiway edges and would be elevated 14 inches to match the existing installations. The light fixtures would use 8.5 watt LED lamps.
- The proposed taxiway centerline lighting system would consist of in-pavement lights, using energy efficient, longer life new generation light fixtures and 10 watt halogen lamps.
- Aircraft parking apron (RON) lighting would consist of 70-foot high, round tapered steel poles equipped with two, 1,000-watt metal halide floodlights. The lighting system would be designed to maintain a minimum of 1-foot candle horizontally on the limits of the apron.
- The proposed airfield signage system would consist of taxiway signs using energy efficient fluorescent lamps.
- With the exception of the aircraft parking apron lighting, the relocated American Airlines employee parking lot and the new ARFF, all lighting associated with the CFTP would consistent of low level

lamps installed within or very close to the pavement. Such lighting would not result in visual impacts to off-site sensitive receptors. Similar to the existing RON aircraft parking that would be removed under the CFTP, lighting for the new airfield parking apron would include tall, bright lights to ensure sufficient visibility around the aircraft to be parked in this location. Nevertheless, given the distance of these lights to the nearest sensitive receptors, an increase in lighting intensity of more than 2 footcandles as measured at the property line of a residential property would not occur and, therefore, this impact would be less than significant. Lighting for the relocated American Airlines employee parking lot and the new ARFF would be shielded and focused to avoid unnecessary light spillover, and given the distance of these lights to the nearest sensitive receptors, no significant light emission impacts would occur.

5.10.5.2 Mitigation Measures

No significant impacts related to aesthetics would occur as a result of CFTP. Therefore, no mitigation measures are required.

5.11 Earth and Geology

5.11.1 Introduction

This section addresses the potential for construction of the CFTP to increase the consequences of adverse geologic conditions and hazards, such as earthquake-induced ground shaking, earthquake fault surface rupture, earthquake-induced liquefaction and settlement, non-seismic settlement, expansive soils, slope stability, and oil field gasses and cause potential impacts such as substantial damage to structures or infrastructure, and exposure of people to substantial risk of injury resulting from a geologic hazard.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.22, *Earth Geology*, April 2004
- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts,* April 2004
- LAX Master Plan Final EIR, Technical Report 12, *Earth/Geology Technical Report*, January 2001

5.11.2 Setting

Descriptions of existing conditions relative to the geologic setting including topography, geology, faults and other geological hazards are presented Section 4.22 of the LAX Master Plan Final EIR. This information is incorporated by reference herein. LAX lies on a relatively level area at an elevation of about 100 feet above sea level. The only notable topographic feature is located at the west end of the airport, west of Pershing Drive, where although much of this area was previously developed with homes that were subsequently removed due to noise impacts from LAX, this area still retains some of the original sand dune landform character, with sand ridges ranging from 85 to 185 feet above sea level and closed depressions of varying height creating local relief of up to 80 feet. There are no distinct or prominent geologic features on-site. The LAX Master Plan EIR identified the following geological hazards associated with LAX: seismic-related, settlement/expansion of foundation soils, slope stability, oil field gasses, and erosion hazards. Conditions related to geological hazards in the vicinity of the CFTP site and construction staging area have not changed from the conditions described in the LAX Master Plan Final EIR.

5.11.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of earth/geology impacts for the LAX Master Plan and are also applicable to the CFTP earth/geology impacts analysis.

A significant earth/geology impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- Substantial damage to structures or infrastructure, or exposure of people to substantial risk of injury, as a result of the creation or acceleration of a geologic hazard.
- Sediment runoff (erosion) that could not be contained or controlled on-site.
- Destruction, permanent covering, or material and adverse modification of one or more distinct and prominent geologic or topographic features.

These thresholds of significance were utilized because they address potential concerns relative to geologic hazards and landform alteration associated with the LAX Master Plan, namely seismic hazards (ground shaking, surface rupture, liquefaction, seismic settlement, and seismic slope failure), non-seismic settlement, expansive soils, slope stability, oil field gases, and erosion. The thresholds reflect those contained in the L.A. CEQA Thresholds Guide that are relevant to this project, as well as relevant issues identified in Appendix G, Environmental Checklist Form, of the State CEQA Guidelines.

5.11.4 LAX Master Plan

5.11.4.1 Impacts Identified in the Final EIR

Development of the LAX Master Plan would not adversely affect any distinct or prominent geologic or topographic features. Table F4.22-1 of the LAX Master Plan Final EIR identified the following geological considerations related to airfield facilities: settlement, expansion, fault surface rupture, ground shaking, liquefaction, seismic slope settlement, grading, and existing foundations. Earth-related construction considerations for implementation of the LAX Master Plan would include grading and earthwork activities, grading-related changes of topography, erosion, stability of temporary construction slopes and excavations, and settlement of existing structures. The total earthwork volumes estimated for the LAX Master Plan include 4,121,926 cubic yards of cut (1,264,870 cubic yards of which are unsuitable for fill) and 1,400,666 cubic yards of fill, resulting in a disposal of 1,456,390 cubic yards of fill.

Site-specific geotechnical investigations would be performed that would provide recommendations for reducing impacts of grading and earthwork, and provide the basis for development of grading plans subject to agency review and approval. Compliance with requirements to conduct site-specific geotechnical investigations during project design and to design and implement remedial and protective construction measures would ensure that the potential impacts associated with geologic hazards identified in the LAX Master Plan would be less than significant.

5.11.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

No Master Plan commitments or mitigation measures for earth and geology were identified in the LAX Master Plan MMRP.

5.11.5 Crossfield Taxiway Project

5.11.5.1 Impacts

The information and analysis provided in the LAX Master Plan Final EIR adequately address the potential for geologic hazards due to CFTP construction activities. Construction of the CFTP would require grading and excavation. Construction of the CFTP would involve 218,775 cubic yards of cut and 42,730 cubic yards of fill.[163] A total of 176,045 cubic yards of material would either be stockpiled on the airport or transported off-site for disposal or reuse at another location. A portion of this material may be unsuitable for fill based on its characteristics; in addition, some of the material would consist of contaminated soils, which would be remediated on-site or sent off-site for treatment and/or disposal. A site-specific

[163] Linder, Andrew, LAX Development Program IPMT, Personal Communication, August 18, 2008; Lazarevic, Goran, Los Angeles World Airports, Personal Communication, August 6, 2008.

geotechnical investigation would be prepared for the CFTP, which would provide the basis for a detailed grading plan. The site-specific geotechnical investigation and the design and implementation of the recommended remedial and protective construction methods would reduce potential geologic hazards, including off-site erosion, to a level that is less than significant. Please see Section 5.4, *Hydrology/Water Quality*, for further discussion of BMPs that would be employed during CFTP construction activities to minimize potential erosion impacts.

5.11.5.2 Mitigation Measures

No significant impacts related to adverse geologic conditions and hazards would occur as a result of CFTP construction activities. Therefore, no mitigation measures are required.

5.12 Hazards and Hazardous Materials

5.12.1 Introduction

This section addresses potential impacts associated with hazardous materials use and storage; hazardous waste generation, transport, and disposal; soil and groundwater contamination and remediation operations that may occur as a result of construction of the CFTP. This section also discusses the potential impacts related to risk of upset of the CFTP.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts*, April 2004
- LAX Master Plan Final EIR, Section 4.23, *Hazardous Materials*, April 2004
- LAX Master Plan Final EIR, Section 4.24.3, *Safety*, April 2004
- LAX Master Plan Final EIR, Technical Report 13, *Hazardous Materials Technical Report*, January 2001
- LAX Master Plan Final EIR, Technical Report S-8, *Supplemental Hazardous Materials Technical Report*, June 2003
- LAX Master Plan Final EIR, Technical Report 14c, *Safety Technical Report*, Attachment A, Aviation Incidents and Accidents, January 2001
- LAX Master Plan Final EIR, Technical Report S-9b, *Supplemental Safety Technical Report*, June 2003

5.12.2 Setting

Hazardous Materials

A description of existing conditions relative to hazardous materials usage and waste generation, and hazardous materials contamination and remediation is presented Section 4.23 of the LAX Master Plan Final EIR. This information is incorporated herein by reference. The most common hazardous materials used and stored at the airport are fuels. The most common types of hazardous waste generated at the airport include waste oil and fuel, used solvents, and used maintenance fluids. Existing soil and groundwater contamination and remediation activities are located throughout the airport property. In addition, many of the buildings on the airport may contain hazardous building materials, such as asbestos, polychlorinated biphenyls (PCBs), and lead-based paints. These conditions regarding the types of hazardous materials used and generated, ongoing remediation activities, and the potential for soil contamination, have not changed from those presented in the LAX Master Plan Final EIR in a manner that would alter the basic findings presented herein.

Risk of Upset

A discussion of existing conditions relative to risk[164] of upset[165] is provided in Section 4.24.3 of the LAX Master Plan Final EIR, and incorporated herein by reference. Four facilities at LAX handle large volumes of toxic or flammable materials: the Central Utility Plant (CUP), the Fuel Farm, the LNG/CNG Facility, and the CNG Station. Individuals that could be potentially affected by an upset at the CUP, fuel farm, or LNG/CNG facilities include airport employees, passengers, and visitors. Additionally, off-airport land uses could potentially be affected in the event of an upset at one of these facilities. Sensitive receptors are those off-airport land uses that could be most affected by a risk of upset, such as public and private educational facilities for pre-schoolers through high school grades, general acute care hospitals, long-term health care facilities, and nearby residential populations.

The risk of upset analysis for each facility focused on the reasonably-foreseeable, worst-case accident scenario, as these accidents are likely to pose the highest risk to people or property. These scenarios are highly unlikely and have never occurred at LAX. Further, regulatory and operational safeguards are in place at each of the four facilities described above to prevent an upset or minimize its effects.

The CUP is located near the Central Terminal Area. The reasonably-foreseeable worst-case scenario for the existing CUP is the potential release of sulfuric acid caused by a line break between the sulfuric acid tank and a variable stroke injector pump that feeds sulfuric acid to the cooling tower. This would result in the release of sulfuric acid into a water-filled berm, and subsequent formation of a cloud comprised of diluted sulfuric acid vapors. As shown in Figure F4.24.3-2, of the LAX Master Plan Final EIR, the "hazard footprints," or potential areas of effect, extend to some of the roadway, public, and terminal areas of the airport. No residences or other sensitive receptors would be affected. No such incidents have occurred at the existing CUP.

The LAX Fuel Farm is located on World Way West, immediately west of the CFTP site. Potential release scenarios at the LAXFUEL Fuel Farm include a major fuel release without subsequent ignition and a major fuel release with subsequent ignition (pool fire). As indicated in Figure F4.24.3-2 of the LAX Master Plan Final EIR, in the event of a pool fire at the LAXFUEL Fuel Farm, individuals may be injured on the access road near the operations center, and at adjacent buildings, including those occupied by Dobbs House, Marriott Corporation, and the Los Angeles West Terminal Fuel Corporation (LAWTFC). No residences or other sensitive receptors would be affected. The ignition of surrounding structures is not expected to occur. No such incidents have occurred at the existing fuel farm.

Two facilities at LAX currently store and dispense LNG or CNG fuels: a LAWA-operated LNG/CNG Facility on World Way West near the Continental Airlines leasehold, immediately north of the proposed American Airlines employee parking lot relocation site, and a CNG Station on the United Airlines leasehold operated by ENRG (formerly Pickens Fuel Corporation). Both LNG and CNG consist primarily of methane, a flammable hydrocarbon that is lighter than air, but behaves like a dense gas during a release. CNG and LNG are both gaseous at room temperature, although LNG is stored at high pressures to maintain liquid form in the vessel. A CNG release could form a vapor cloud of gaseous methane and a LNG release could form a boiling liquid vapor pool or a vapor cloud of gaseous methane. As indicated in Figure F4.24.3-2 in the LAX Master Plan Final EIR, in the event of a worst-case incident at the LNG/CNG Facility, individuals may be injured along World Way West, and at adjacent buildings, including those currently occupied by Continental Airlines and LAWA offices. No residences or other sensitive receptors would be affected. In the event of an incident at the CNG Station, individuals on the United Airlines leasehold may be injured. No such incidents have occurred at the existing LNG/CNG facilities.

These conditions regarding the location of the facilities that handle large volumes of toxic or flammable, the reasonably foreseeable worst-case scenarios and associated hazard footprints have not changed

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[164] Risk is a combined measure of the probability and severity of a potential scenario.

[165] An upset is an accidental occurrence involving a substantial release of a toxic or flammable substance to the environment.

from those presented in the LAX Master Plan Final EIR in a manner that would alter the basic findings presented herein.

5.12.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of hazardous materials and risk of upset impacts for the LAX Master Plan and are also applicable to the CFTP hazardous materials and risk of upset impacts analysis.

Hazardous Materials

A significant hazardous materials impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- An unauthorized and uncontrolled release of a hazardous material that created a hazard to the public or the environment.
- Exposure of workers to hazardous materials in excess of Occupational Safety and Health Administration's (OSHA) permissible exposure limits.
- Handling of acutely hazardous materials within ¼ mile of a school.
- Contamination of soil or groundwater or prevention of clean up of sites that are currently undergoing soil or groundwater remediation.
- Impairment of the effective implementation of an adopted emergency response plan.
- An exceedance in the capacity of regional treatment, storage, and disposal facilities due to project-related increases in hazardous waste generation.

These thresholds of significance were utilized because they address the potential concerns relative to hazardous materials associated with the LAX Master Plan, namely, safety of construction workers and the general public associated with hazardous materials and hazardous wastes; remediation of existing environmental contamination; and adequate disposal capacity for hazardous waste. The thresholds reflect those contained in the L.A. CEQA Thresholds Guide that are relevant to this project as well as relevant issues identified in Appendix G of the State CEQA Guidelines. Thresholds associated with issues that are not covered in these sources were developed specifically to address potential impacts associated with the LAX Master Plan relative to hazardous materials.

Risk of Upset

A significant safety impact related to risk of upset would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in the following future condition:

- A substantial increase in the likelihood or consequences of an upset incident.

Neither the L.A. CEQA Thresholds Guide nor the State CEQA Guidelines provide specific guidance for safety thresholds of significance. The threshold of significance was utilized because it addresses the potential concerns relative to risk of upset. It captures the two concepts that comprise risk (likelihood and consequences) and addresses the important issue of the relative risk associated with baseline conditions and the LAX Master Plan.

5.12.4 LAX Master Plan

5.12.4.1 Impacts Identified in the Final EIR

Hazardous Materials

The LAX Master Plan Final EIR evaluated potential impacts to existing contamination and to current remediation activities conducted by tenants and other third parties. This evaluation was performed by mapping areas of known contamination within LAX Master Plan boundaries and comparing those locations to areas of planned excavation that would occur under the LAX Master Plan. This process identified areas where substantial contamination may be encountered during construction and where construction activities would have the potential to prevent the clean up of sites that tenants and other third parties are remediating or plan to remediate in the near future.[166] This evaluation identified numerous areas of known soil and/or groundwater contamination that could be affected by grading and excavation activities associated with the LAX Master Plan improvements, including the CFTP. In addition, as further described below in Section 5.12.5.1, extraction wells associated with the Continental Airlines (CAL) Maintenance Facility free product remediation system are located within the proposed American Airlines employee parking lot relocation site. As such construction of the parking lot could conflict with the ongoing CAL Maintenance Facility remediation activities.

Under Master Plan Commitment HM-1, Ensure Continued Implementation of Existing Remediation Efforts, for remediation of sites now on airport property, LAWA will work with tenants to ensure that, to the extent possible, remediation is complete before construction of LAX Master Plan improvements begins. If remediation must be interrupted to allow for construction related to the LAX Master Plan, LAWA will notify and obtain approval from the regulatory agency with jurisdiction, as required, and will evaluate whether new or increased monitoring will be necessary. If it is determined that contamination has migrated during construction, temporary protective measures will be taken. As part of this commitment, remediation systems would be reinstated following the completion of construction, if required. Therefore, potential impacts would be less than significant.

As stated in the LAX Master Plan, grading in areas with soil contamination could expose construction workers to hazardous materials. In addition, it is possible that, during other construction activities for implementing the LAX Master Plan, previously unidentified soil and/or perched groundwater contamination would be encountered. Due to the many safety measures required by local, state, and federal laws and regulations that govern contaminated materials encountered during construction, worker health and safety and the environment would be protected to the maximum extent possible. As a result, potential impacts associated with construction in areas that may be contaminated would be less than significant. In addition, implementation of Master Plan Commitment HM-2, Handling of Contaminated Materials Encountered During Construction, would further reduce potential adverse effects encountered with handling contaminated materials.

Implementation of the LAX Master Plan would alter ground access in the vicinity of the airport during construction. Because local access would be adequately maintained through detours and diversions and emergency access would be coordinated and ensured through Master Plan Commitment C-1, Establishment of a Ground Transportation/Construction Coordination Office, and Master Plan Commitments ST-9, ST-12, ST-14, and ST-16 through ST-22, project-related construction would not significantly impair the implementation of emergency response plans, and no significant impact would occur.

Demolition of existing structures at the airport under the LAX Master Plan could disturb hazardous building materials and could pose a risk of exposure for construction workers. Other hazardous materials may also be encountered during demolition activities. By implementing the measures required by federal, state, and local laws and regulations, the potential impacts associated with hazardous building materials would be less than significant.

Construction activities would include the use and transport of hazardous substances, including fuels for construction equipment. As such, there is the potential for an accidental discharge of hazardous substances during construction activities. Compliance with safety precautions and regulatory requirements identified in Section 4.23 in the LAX Master Plan Final EIR would be required and would reduce the risk of an accidental release of hazardous materials during construction to a level less than significant.

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[166] City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, pgs. 4-1262 through 4-1279.

Risk of Upset

Under the LAX Master Plan, the existing CUP would be the same size and at the same location as under baseline conditions with the same hazard footprint. Thus, the risk of a sulfuric acid release under the LAX Master Plan would be the same as that under baseline conditions and would be less than significant.

Under the LAX Master Plan, the LAXFUEL Fuel Farm would retain its existing capacity and would remain in its existing location, but the overall fuel farm site footprint would be reduced; however, the hazard footprint would be the same as under baseline conditions because the secondary containment area would be the same size. As indicated in Figure F4.24.3-18 of the LAX Master Plan Final EIR, in the event of a pool fire at the LAXFUEL Fuel Farm, individuals may be injured on the access road near the operations center, and at adjacent buildings, including those currently occupied by Dobbs House, Marriott Corporation, and LAWTFC. The ignition of surrounding structures would not be expected to occur. No residences or other sensitive receptors would be affected. Due to the numerous safety features currently in place and compliance with all applicable setback and regulatory requirements, the risk of a pool fire at the LAXFUEL Fuel Farm would be low. Because the likelihood and consequences of a pool fire under the LAX Master Plan would be the same as under baseline conditions, the risk of upset impact of this scenario would be less than significant.

Under the LAX Master Plan, the LAWA LNG/CNG Facility would be the same size and at the same location as under current conditions with the same hazard footprint. Due to the safety-related project design features and planned compliance with all applicable setbacks and safety requirements, the likelihood of an incident at the LNG/CNG Facility would be low. LNG/CNG facilities are highly regulated in order to prevent releases and mishaps. Because the likelihood and consequences of an LNG or CNG incident at the LNG/CNG Facility under the LAX Master Plan would be the same as under baseline conditions, the risk of upset impact of this scenario would be less than significant.

Under the LAX Master Plan, the CNG Station would be relocated to the southeast corner of Arbor Vitae Street and Aviation Boulevard. The relocated CNG Station would be the same size with the same overall capacity as under baseline conditions. Therefore, the hazard footprint would be the same as well although it would be at a different location. As indicated in Figure F4.24.3-18 in the LAX Master Plan Final EIR, in the event of an incident at the relocated CNG Station, individuals may be injured along public streets (Arbor Vitae Street and Aviation Boulevard) and at adjacent uses (a law school, rental car storage, and a gas station). The ignition of surrounding structures would not be expected to occur. No residences or other sensitive receptors would be affected. While the hazard footprint would be located in another area, the consequences would be similar to baseline conditions. CNG facilities are highly regulated in order to prevent releases and mishaps. Due to the planned safety features and compliance with all applicable setback and safety requirements, the likelihood of an incident at the relocated CNG Station would be low. Because the likelihood and consequences of a CNG incident at the relocated CNG Station under the LAX Master Plan would be similar to baseline conditions, the risk of upset impact of this scenario would be less than significant.

5.12.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **HM-1. Ensure Continued Implementation of Existing Remediation Efforts**
- **HM-2. Handling of Contaminated Materials Encountered During Construction**
- **C-1. Establishment of a Ground Transportation/Construction Coordination Office**
- **C-2. Construction Personnel Airport Orientation**
- **ST-9. Construction Deliveries**
- **ST-12. Designated Truck Delivery Hours**
- **ST-14. Construction Employee Shift Hours**
- **ST-16. Designated Haul Routes**

- **ST-17. Maintenance of Haul Routes**
- **ST-18. Construction Traffic Management Plan**
- **ST-22. Designated Truck Routes**

5.12.5 Crossfield Taxiway Project

5.12.5.1 Impacts

Hazardous Materials

The information, analysis, and Master Plan commitments provided in the LAX Master Plan Final EIR adequately address remediation, exposure to hazardous materials, disturbance of hazardous building materials, ground access, and transportation of hazardous materials impacts due to CFTP construction activities. The following provides additional analysis of project-specific impacts related to the potential for conflicts with on-going remediation activities at LAX and hazardous waste disposal capacity.

As described in Section 5.12.4.1 above, extraction wells associated with the CAL Maintenance Facility free product remediation system are located within the proposed American Airlines employee parking lot relocation site. Potential conflicts with the ongoing CAL Maintenance Facility remediation activities would be avoided with implementation of Master Plan Commitment HM-1, Ensure Continued Implementation of Existing Remediation Efforts, including incorporating modifications to the groundwater remediation system, such as system pipeline and well head modifications, to allow the system to continue to operate. Of the 220 monitoring wells on-site, it is anticipated that 50 wells would be taken off-line for the duration of the 6-weeks of construction activity for development of the replacement American Airlines employee parking lot.

Consistent with CEQA, an updated review of federal, state, and local database lists was conducted to determine if other agencies have identified sites within the CFTP site as having been contaminated by hazardous materials releases. Review of such lists was conducted by Environmental Data Resources (EDR), Inc. in April, 2008. The product of this review is the EDR report, which is provided as Appendix H of this EIR. The results of the review indicated no recorded contamination sites within the CFTP boundaries. However, the LAXFUEL fuel farm, located west of the CFTP site, is identified as undergoing remediation of groundwater contamination from a leaking underground storage tank. In addition, previous research conducted for the LAX Master Plan identified other sites with potential contamination in proximity to the CFTP site, including an American Airlines site located east of the extension of World Way West, and the Continental Airlines (CAL) Maintenance Facility, whose contamination of groundwater extends to the proposed American Airlines employee parking lot relocation site. Information pertaining to the CAL Maintenance Facility is provided above. The American Airlines (AA) site involves soil contaminated with Total Petroleum Hydrocarbons (TPH) and fuel components (e.g., benzene, toluene, ethylbenzene, xylene [BTEX]); groundwater has not been affected by soil contamination associated with these sites.[167] Sites in the vicinity of the CFTP that are listed as closed cases in agency records include the LAXFUEL Day Storage Facility and the Arco Day Storage Facility. Other contaminated sites in the general vicinity of the CFTP facilities include the TOFCO Day Storage facility and the former Trans World Airlines (TWA) site.[168] Due to their distance from the proposed facilities, potential contamination at these two sites is not expected to be affected by construction of the CFTP.

As noted above, historical activities in the vicinity of the CFTP project site have resulted in contamination in the project area. Both identified activities, including the sites listed above, and unidentified activities may have contributed to this contamination. In order to determine the extent of contamination that would be affected by construction of the CFTP improvements, LAWA undertook investigations to identify contaminated areas within the proposed construction footprint. For purposes of the CFTP construction,

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167 Powell, Larry, Los Angeles World Airports, Personal Communication, August 13, 2008.

168 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.23, Table F4.23-1, page 4-1269.

only soil contamination was investigated, as construction activities are not expected to encounter groundwater. Between April and June 2008, soil borings were taken within the Taxiway C-13 and Taxiway D extension corridors to determine the extent of contaminated soils that may be present on-site.[169] The results of the soil borings indicated no significant levels of volatile organic compounds, semi-volatile organic compounds, metals, or PCB were present. However, in the area of the proposed Taxiway D extension, significant TPH contamination with a maximum detected concentration of 7,600 mg/kg was identified with an overall areal extent of approximately 7,500 square feet. Significant TPH contamination was also identified in the northeastern portion of the site. Soil in this second area was identified as having a maximum detected concentration of 120,000 mg/kg with an overall areal extent of approximately 15,000 square feet. The total volume of soil that would need to be excavated from both these areas in order to remove soils with significant contamination, including clean overburden and surrounding soils, is estimated at approximately 21,500 cubic yards. Additional soil borings were taken in the summer of 2008 within the former day fuel storage facilities, which were located in a north-south alignment immediately west of Taxiway S. These borings indicate contamination in the vicinity of the American Airlines site and the former Arco Day Storage Facility.[170] The contaminated soil appears to be outside of the excavation area associated with the proposed extension of World Way West.

Master Plan Commitment HM-2, Handling of Contaminated Materials Encountered During Construction, was designed to insure that any potential effects from contaminated materials encountered during construction would be less than significant. In order to facilitate the implementation of this Master Plan commitment, in 2005 LAWA adopted the "Procedure for the Management of Contaminated Materials Encountered During Construction"[171] (the "Procedure") for application to all LAX Master Plan projects. This Procedure provides detailed guidance for implementing HM-2, especially for projects involving excavation and grading of soils. The Procedure has provisions for, among other matters, preparing detailed plans for handling previously unknown areas of contaminated soil encountered and spills of hazardous materials that occur during construction, including provisions for preparing detailed health and safety and soils management plans, and for testing and segregating contaminated soils for proper disposal outside landfills. While the Procedure focuses on previously unknown contaminated materials, its provisions for handling, storing, and disposing of contaminated materials also apply to contaminated materials that LAWA already has identified, or will identify before the start of construction of an LAX Master Plan project in the area of contamination. By following HM-2 and the Procedure that implements it, the environmental effects of grading, excavating and other construction activities for the CFTP that involve handling of contaminated materials would be less than significant.

With respect to hazardous materials disposal capacity, as described above, the total volume of contaminated soil that would need to be excavated from the two areas at the CFTP site prior to construction of the CFTP facilities is estimated at approximately 21,500 cubic yards. Hazardous wastes generated at LAX, including contaminated soils that cannot be treated on-site, are removed by licensed waste haulers and transported for treatment, disposal, or recycling at off-site facilities.[172] It is anticipated that contaminated soils excavated as part of CFTP construction activities would be able to be accommodated by existing treatment, storage and disposal facilities.[173] Therefore, no significant impacts to hazardous waste disposal capacity would occur.

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169 Tetra Tech, Report of Results of Phase II Environmental Site Assessment for the Taxiway D and C13 corridors at Los Angeles International Airport, California, July 24, 2008.

170 Powell, Larry, Los Angeles World Airports, Personal Communication, August 18, 2008.

171 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.

172 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.23, pages 4-1266 and 4-1267.

173 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.23, page 4-1300.

Risk of Upset

The information and analysis provided in the LAX Master Plan Final EIR adequately address the risk of upset impact due to the CFTP. The following provides additional discussion of uses that would be located within hazards footprints associated with the highly unlikely event of a risk of upset at two facilities, the Fuel Farm and the CNG/LNG Facility, located adjacent to CFTP.

As described above, under the LAX Master Plan, in the event of a pool fire at the LAXFUEL Fuel Farm, individuals may be injured on the access road near the operations center, and at adjacent buildings, including the new ARFF proposed at the northeast edge of the fuel farm. Under the CFTP, two optional sites are proposed for the new ARFF; at the northeast corner of World Way West and Coast Guard Road, which would also be within the hazard footprint for a risk of upset at the fuel farm and could be injured; and at the western edge of the proposed (relocated) RON, which would be outside the hazard footprint for a risk of upset at the fuel farm. As described above, due to the numerous safety features currently in place and compliance with all applicable setback and regulatory requirements, the risk of a pool fire at the LAXFUEL Fuel Farm would be low. Because the likelihood and consequences of a pool fire under the LAX Master Plan would be the same as or less than under baseline conditions, the risk of upset impact of this scenario would be less than significant.

Under the LAX Master Plan, the LAWA LNG/CNG Facility in the event of a worst-case incident at the LNG/CNG Facility, individuals may be injured along World Way West and at adjacent buildings. Under the CFTP, employees accessing the proposed relocated American Airlines employee parking lot would also be within the hazard footprint for a risk of upset at the CNG/LNG Facility and could be injured. Due to the safety-related project design features and planned compliance with all applicable setbacks and safety requirements, the likelihood of an incident at the LNG/CNG Facility would be low. LNG/CNG facilities are highly regulated in order to prevent releases and mishaps. Because the likelihood and consequences of an LNG or CNG incident at the LNG/CNG Facility under the LAX Master Plan would be the essentially the same as under baseline conditions, the risk of upset impact of this scenario would be less than significant.

5.12.5.2 Mitigation Measures

Implementation of Master Plan Commitments C-1, ST-9, ST-12, ST-14, ST-16 through ST-22, HM-1 and HM-2, as well as compliance with the Procedure for the Management of Contaminated Materials Encountered During Construction, would ensure that any impacts relative to hazardous materials associated with construction of the CFTP would be less than significant. Therefore, no mitigation measures are required.

5.13 Public Utilities

5.13.1 Introduction

This section addresses potential impacts from operation and construction activities associated with the CFTP on water use and distribution facilities, and wastewater generation and collection infrastructure.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts*, April 2004
- LAX Master Plan Final EIR, Section 4.25.1, *Water Use*, April 2004
- LAX Master Plan Final EIR, Section 4.25.2, *Wastewater*, April 2004
- LAX Master Plan Final EIR, Technical Report 15a, *Water Use Technical Report*, January 2001
- LAX Master Plan Final EIR, Technical Report 15b, *Wastewater Technical Report*, January 2001

- LAX Master Plan Final EIR, Technical Report S-10a, *Supplemental Water Use Technical Report*, June 2003
- LAX Master Plan Final EIR, Technical Report S-10b, *Supplemental Wastewater Use Technical Report*, June 2003

5.13.2 Setting

5.13.2.1 Water Use and Facilities

Descriptions of existing conditions relative to water use and conveyance are presented Section 4.25 of the LAX Master Plan Final EIR. This information is incorporated herein by reference. Water consumption within the LAX Master Plan boundaries was estimated at 2,230 acre-feet for 2000. Existing estimated annual potable water use has not materially changed from what was presented in the LAX Master Plan Final EIR. As presented in Section 4.25.1, water is supplied to the airport through a 36-inch trunk line in Sepulveda Boulevard that distributes water to a combination of 12-inch and 16-inch transmission lines along the airport perimeter. Within the CFTP project area, water distribution facilities include two water lines that cross beneath World Way West and a north-south fire water line located west of the proposed Taxiway C13.

Section 4.25 of the LAX Master Plan Final EIR indicated that, according to the City's 1995 Urban Water Management Plan, there would be adequate water supply to meet City-wide demand, including demand associated with the LAX Master Plan, through 2015. The following provides updated information on the City's water supply published since certification of the LAX Master Plan Final EIR. In 2007, the City recognized that existing traditional water supplies are being stressed due to a number of factors, including the lowest snowpack on record in the Eastern Sierra, the driest year on record in the City, a Federal Court ruling that limits exports from the Sacramento-San Joaquin Delta by as much as one-third, City environmental commitments, and contamination in the San Fernando Valley groundwater supply.[174] In response, the City has drafted a water supply plan, "Securing L.A.'s Water Supply,"[175] which provides a blueprint for ensuring a reliable water supply for the future of Los Angeles. The City's strategy for meeting project future water demand is a multi-pronged approach that includes: investments in state-of-the-art technology; a combination of rebates and incentives; the installation of smart sprinklers, efficient washers and urinals; and long-term measures such as expansion of water recycling and investment in cleaning up the local groundwater supply. The premise of the City's Water Supply Plan is that the City will meet all new demand for water, about 100.000 acre-feet per year, through a combination of water conservation and water recycling. It is estimated that by year 2019, half of all new demand will be filled by a six-fold increase in recycled water supplies and by 2030 the other half will be met through ramped up conservation efforts.[176]

At LAX, 35 percent of all landscaped areas at LAX are irrigated by reclaimed water. Much of the irrigation system at LAX is monitored and controlled through a centralized computer irrigation control center, further conserving water resources. LAX is working with LADWP to expand reclaimed water distribution facilities at LAX to include portions of the airport along Imperial Highway, the Sepulveda/Imperial gateway area, and the CTA.[177]

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[174] City of Los Angeles, Department of Water and Power, Securing L.A.'s Water Supply, May 2008, Available: http://www.ladwp.com/ladwp/cms/ladwp010587.pdf.

[175] City of Los Angeles, Department of Water and Power, Securing L.A.'s Water Supply, May 2008, Available: http://www.ladwp.com/ladwp/cms/ladwp010587.pdf.

[176] City of Los Angeles, Department of Water and Power, Securing L.A.'s Water Supply, May 2008, Available: http://www.ladwp.com/ladwp/cms/ladwp010587.pdf.

[177] Quilliam, Dennis, City Planner, Los Angeles World Airports, Personal Communication with LAWA Superintendents Edward Melara and Tom McHugh, August 28, 2008.

5.13.2.2 Wastewater

Descriptions of existing conditions relative to wastewater generation and wastewater conveyance and treatment are presented Section 4.25 of the LAX Master Plan Final EIR. This information is incorporated herein by reference. Wastewater generation within the LAX Master Plan boundaries for the Year 2000 was estimated at 1,936,861 gallons per day.[178] Existing estimated wastewater generation has not materially changed from what was presented in the LAX Master Plan Final EIR. As described in Section 4.25.2, three major sewer outfalls, the North Central Outfall Sewer (NCOS), North Outfall Relief Sewer (NORS), and the Central Outfall Sewer (COS), and other sewer lines underlie LAX. Within the CFTP project area, 10- and 12-inch diameter sanitary sewer lines cross at depth beneath World Way West. In addition, the 150-inch-diameter NORS crosses beneath the site at a depth of approximately 60 feet. The NCOS crosses beneath the American Airlines employee parking lot relocation site at a substantial depth.

Section 4.25 of the LAX Master Plan Final EIR indicated that, according to projections in the City's Integrated Plan for the Wastewater Program (IPWP), the first phase of the Integrated Resources Plan (IRP), wastewater flows to the Hyperion Treatment Plant (HTP) were anticipated to exceed the facility's capacity in 2020. The following provides updated information on the City's water supply published since certification of the LAX Master Plan Final EIR. The 2006 City of Los Angeles, Integrated Resources Plan (IRP) Final Environmental Impact Report (EIR)[179] analyzed the impacts that would occur from implementing the proposed wastewater treatment and water resource management components documented in the City of Los Angeles Integrated Resources Plan, Volumes 1 through 4--IRP Facilities Plan.[180] The IRP Facilities Plan integrates planning for the three interdependent water systems: wastewater, recycled water, and stormwater. The IRP Facilities Plan based future (2020) wastewater needs on flow model projections developed by the City (based in part on the Southern California Association of Governments [SCAG] population and employment projections). The 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.

The IRP EIR evaluated four alternatives that would meet the future citywide wastewater needs. Of the four alternatives evaluated in the IRP Facilities Plan and in the IRP EIR, Alternative 4 was the staff recommended alternative. Alternative 4 includes expanding Tillman Water Reclamation Plant (Tillman) to 100 million gallons per day (mgd); adding new collection system sewers (Northeast Interceptor Sewer II, Glendale-Burbank Interceptor Sewer, and Valley Spring Lane Interceptor Sewer); adding storage to Tillman and the Los Angeles-Glendale Water Reclamation Plant (LAG); and adding a truck-loading facility, digesters, and secondary clarifiers to the HTP. In addition, Alternative 4 includes increasing the amount of effluent from Tillman and LAG that is recycled, on-site percolation of wet weather runoff at schools and government properties, and neighborhood-scale percolation at vacant lots and at parks/open space in the eastern San Fernando Valley.

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 (including the decision to proceed with groundwater replenishment of recycled water from Tillman). The decision to upgrade Tillman to advanced treatment will be contingent on future regulations for discharges to the Los Angeles River, future regulations for the use of recycled water, and/or policy decisions for the use of water for groundwater replenishment, thereby requiring coordination between the City's Los Angeles Department of Public Works and the Los Angeles Department of Water and Power. Also, if regulatory permit requirements result in a need for advanced treatment to discharge to the Los Angeles River, then advanced treatment could be added to LAG at its existing capacity, which would require partnership and coordination with the City of Glendale.

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178 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Technical Report S-10b.

179 City of Los Angeles, Integrated Resources Plan (IRP) Final Environmental Impact Report, November 2006.

180 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 Updated November 2005).

Alternative 4 was recommended based, in part, on its recycled water benefits. In the event that groundwater replenishment or other recycled water use is not feasible (based on public acceptability, costs, and future regulations) and if population increases (and associated increases in wastewater) trigger a need for additional wastewater capacity, then wastewater flows would be diverted to the HTP, and Alternative 1 would be implemented (which includes expansion of the wastewater treatment capacity at the HTP by increasing its current capacity of 450 mgd to 500 mgd, and the upgrading of Tillman to advanced treatment and addition of wastewater and recycled water storage at LAG).

The actual timing and implementation of the components that comprise the staff recommended alternative will be initiated by monitored triggers, which include increases in wastewater flow resulting from population growth, regulatory changes, and other policy decisions. Implementation of the components under Alternative 4 are organized into: (1) immediate, or "Go Projects," which are projects where the population or flow trigger already has been reached or will be reached within the next several years; (2) "Go When Triggered," which are projects that will be implemented in the future when the trigger is reached; and (3) "Go Policy Directions," which are specific directions to staff on the next studies and evaluations required to provide progress on the programmatic elements (recycled water and runoff management) in the staff recommended alternative. Since certifying the IRP EIR in 2006, the City of Los Angeles Bureau of Sanitation has been monitoring wastewater flows and has found that flows are even lower than the IRP projections. The Bureau of Sanitation is documenting this monitoring through their implementation strategy.

In conclusion, 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.

5.13.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of water use and wastewater impacts for the LAX Master Plan and are also applicable to the CFTP water use and wastewater impacts analysis.

Water Use

A significant water use impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- An exceedance of regional water supply and distribution capabilities due to project-related water demand.
- Interference with major water distribution facilities due to construction of project features.

These thresholds were utilized because they address the two potential impacts to water supply and distribution associated with the LAX Master Plan: the potential for the project to exceed regional water supply and distribution capabilities, and the potential for interference with existing water distribution facilities due to construction of proposed Master Plan improvements. The first threshold was developed based upon guidance provided in the L.A. CEQA Thresholds Guide. The second threshold was developed specifically to address potential impacts associated with the LAX Master Plan relative to construction conflicts, which was not addressed in the L.A. CEQA Thresholds Guide.

Wastewater

A significant wastewater generation impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- An exceedance in the capacities of regional wastewater collection and treatment facilities due to project-related wastewater generation.
- Interference with major wastewater collection facilities due to construction of project features.

These thresholds of significance were utilized because they address the two potential impacts to wastewater collection and treatment associated with the LAX Master Plan: the potential for the project to exceed regional wastewater collection and treatment capabilities; and the potential for the construction of proposed facilities to interfere with existing wastewater collection infrastructure. The first threshold was developed based upon guidance provided in the L.A. CEQA Thresholds Guide to address potential impacts to collection and treatment capabilities and infrastructure. The second threshold was developed specifically to address potential impacts associated with the project relative to construction conflicts, which was not addressed in the L.A. CEQA Thresholds Guide.

5.13.4 LAX Master Plan

5.13.4.1 Impacts Identified in the Final EIR

Water Use and Facilities

Water would be required during construction of the LAX Master Plan improvements. Additionally, water would be used during construction for the mixing of concrete. It is possible that reclaimed water could be used for dust suppression, reducing the quantity of potable water required. The use of reclaimed water and additional water conservation measures are incorporated in Master Plan Commitments W-1, Maximize Use of Reclaimed Water, and W-2, Enhance Existing Water Conservation Program. Due to the projected availability of local water supplies and increase use of water conservation measures for implementation of the LAX Master Plan, construction water usage would be a less than significant impact.

Construction of subsurface structures identified in the LAX Master Plan may interfere with existing water supply and distribution facilities. Preliminary review of the LAX Master Plan indicates that relocation/adjustment of water system facilities may be required. Under Master Plan Commitment PU-1, Develop a Utility Relocation Program, a utility relocation program would be implemented during construction to minimize potential impacts on existing subsurface utilities. It is possible that some connections would experience brief, temporary disruption of service during utility relocation. The utility relocation program would be prepared to minimize these disruptions. Developing and implementing this utility relocation program would ensure that potential impacts on existing water supply and distribution facilities would be less than significant.

Operationally, total water use within the LAX Master Plan boundaries would increase over baseline conditions. LAWA would implement Master Plan Commitments W-1 and W-2 to reduce water use associated with the LAX Master Plan. The LAX Master Plan Final EIR indicated that the LADWP projected that there will be adequate water supply to meet city demands through 2015. This is consistent with the findings of an updated water availability assessment prepared by LADWP for the LAX Master Plan. As discussed above, in 2007, the City drafted a Water Supply Plan, "Securing L.A.'s Water Supply," which provides a blueprint for ensuring a reliable water supply for the future of Los Angeles. Because project-related water demand could be accommodated by the projected water supply, no significant adverse impacts relative to water supply would occur.

Under the LAX Master Plan, LAWA would implement Master Plan Commitment W-1 to maximize the use of reclaimed water in new facilities and within irrigated areas. With the planned expansion of existing reclaimed water production and existing distribution capacity, ample supply and facilities would be available to accommodate the demand for reclaimed water use associated with the LAX Master Plan. This is consistent with the water availability assessment prepared for the LAX Master Plan by LADWP. Therefore, no significant impacts with respect to reclaimed water supply would occur.

Wastewater

Construction of subsurface structures identified in the LAX Master Plan may interfere with existing wastewater collection infrastructure. Construction of major subsurface structures, such as the proposed APM and the consolidated RAC facility, as well as improvements to the CTA and the south airfield, could potentially interfere with the NCOS, NORS and COS outfalls. The NCOS and NORS are larger and deeper than the COS and, based on a preliminary analysis, design and construction would be performed so that the LAX Master Plan facilities would not interfere with these sewers. However, the COS is much more shallow. Based on preliminary engineering analysis, it appears that the COS would be affected by construction of the LAX Master Plan and would require relocation or modification. Under Master Plan Commitment PU-1, Develop a Utility Relocation Program, a utility relocation program would be implemented during construction to minimize potential impacts on existing subsurface utilities and ensure that potential impacts to existing wastewater outfalls would be less than significant.

Although the LAX Master Plan Final EIS determined that Alternative D would not have any significant impacts relative to project-related wastewater generation and treatment capacity, the following mitigation measure was recommended to reduce potential cumulative wastewater impacts:

- MM-WW-1. Provide Additional Wastewater Treatment Capacity to Accommodate Cumulative Flows.

  Additional wastewater capacity within the City of Los Angeles should be provided by the expansion/upgrade of the city's wastewater treatment systems via a combination of improvements to address the projected wastewater shortfall resulting from cumulative development. Such improvements could include increasing the capacity at HTP, building new reclamation capacity upstream of HTP, conservation of potable water, and infiltration/inflow reduction. Implementation of this mitigation measure is the responsibility of the City of Los Angeles Department of Public Works, Bureau of Sanitation. Specific improvements will be identified in the City's IPWP and Wastewater Facilities Plan component of the City's Integrated Resources Plan. The cost for implementing this mitigation measure would be passed on to LAX and other wastewater generators through increased wastewater fees.

As indicated in Section 5.13.2.2 above, 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. Thus, implementation of this mitigation measure has been completed and potential cumulative impacts to wastewater generation and treatment associated with the LAX Master Plan would be less than significant.

5.13.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **W-1. Maximize Use of Reclaimed Water**
- **PU-1. Develop a Utility Relocation Program**

5.13.5 Crossfield Taxiway Project

5.13.5.1 Impacts

Water Use and Facilities

The information, analysis, and Master Plan commitments provided in the LAX Master Plan Final EIR adequately address the potential operational and construction impacts of the CFTP on water supply and distribution facilities. This subsection provides additional analysis of project-specific construction impacts on water supply and distribution facilities.

The nature of water use for construction activities associated with the CFTP would be the same as identified in the LAX Master Plan Final EIR. It is estimated that 60 million gallons of water, 42 million gallons of which would be reclaimed (non-potable) water, would be used during CFTP construction activities. Approximately 90 percent of the 60 million gallons would be used for dust suppression, with the remainder for concrete mixing, equipment washing, etc. Although adequate water supply would be available for construction of the CFTP, as indicated above, reclaimed water would be used to the extent feasible for dust suppression in accordance with Master Plan Commitment W-1. Based on the above, construction water use required for the CFTP would be less than significant.

Construction of the CFTP would require the relocation of existing water transmission lines in the project area. Specifically, water lines that cross beneath World Way West may need to be relocated to allow for the realignment and depression of the road. In addition, construction of the proposed Taxiway C13 and associated service road would interrupt an existing north-south fire water loop north of World Way West. A new connection is proposed to maintain the fire water service loop north of World Way West. South of World Way West another fire water loop will be protected in place and existing hydrants would be replaced with flush-mounted types to meet FAA clearance requirements These proposed facilities are shown in Figure 2-14. As part of the CFTP, a utilidor for relocated electrical and water transmission lines would be constructed adjacent to the realigned World Way West. Further, with the implementation of Master Plan Commitment PU-1 in the LAX Master Plan MMRP, impacts on water distribution facilities would be less than significant. No water lines would be affected with construction of the relocated American Airlines employee parking lot.

<u>Wastewater</u>

The information, analysis, and Master Plan commitment provided in the LAX Master Plan Final EIR adequately address the potential impacts of the CFTP on existing wastewater collection system. This subsection provides additional analysis of project-specific construction impacts on wastewater collection facilities.

Construction of the CFTP would require construction of a short sewer line segment that would connect a new oil/water separator to the existing sewer line in Coast Guard Road. The NORS crosses beneath the CFTP project site at depth of approximately 60 feet and would not be adversely affected by project construction. Implementation of Master Plan Commitment PU-1 in the LAX Master Plan MMRP would ensure that impact to wastewater collection facilities would be less than significant.

The NCOS crosses beneath the American Airlines employee parking lot relocation site at a substantial depth and, as no substantial excavation would occur in this area, the NCOS would not be adversely affected by project construction. In addition, no wastewater collection lines would be affected by construction of the relocated American Airlines employee parking lot.

5.13.5.2 Mitigation Measures

Implementation of Master Plan Commitments W-1, and PU-1 would ensure that any impacts on water supply and water distribution facilities and wastewater collection system would be less than significant. Therefore, no mitigation measures are required.

5.14 Public Services

5.14.1 <u>Introduction</u>

This section addresses potential impacts from the CFTP on fire protection and law enforcement response times, and other potential effects on public parks and recreation and libraries.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.20, *Construction Impacts*, April 2004
- LAX Master Plan Final EIR, Section 4.26.1, *Fire Protection*, April 2004
- LAX Master Plan Final EIR, Section 4.26.2, *Law Enforcement*, April 2004

- LAX Master Plan Final EIR, Section 4.26.3, *Parks and Recreation*, April 2004
- LAX Master Plan Final EIR, Section 4.26.4, *Libraries*, April 2004
- LAX Master Plan Final EIR, Technical Report 16a, *Public Services Fire Protection and Emergency Services*, January 2001
- LAX Master Plan Final EIR, Technical Report 16b, *Public Services Law Enforcement*, January 2001
- LAX Master Plan Final EIR, Technical Report 16c, *Public Services Parks and Recreation*, January 2001
- LAX Master Plan Final EIR, Technical Report 16d, *Public Services Libraries*, January 2001

5.14.2 Setting

Descriptions of existing conditions relative to fire protection, law enforcement, public parks and recreation, and libraries are presented Section 4.26 of the LAX Master Plan Final EIR. This information is incorporated herein by reference.

As described in Section 4.26.1, fire protection service is provided by the City of Los Angeles Fire Department (LAFD) from three fire stations located on the airport. One of these stations, Fire Station 80, is located in same general area as the CFTP. As presented in Section 4.26.2, law enforcement services at the airport are provided by the LAWA Police Division (LAWAPD) and the Los Angeles Police Department (LAPD) from facilities located on LAX. Since publication of the LAX Master Plan Final EIR, Fire Station 5, located at 6621 W. Manchester Boulevard, was relocated a few blocks south to 8900 Emerson Ave within LAX Northside and the size of the station was increase from 9,640 square feet to 23,750 square feet. Although LAFD, LAWAPD, and LAPD staffing and equipment levels have changed somewhat from those described in the LAX Master Plan Final EIR, with the exception of the relocation and expansion of Fire Station 5, these changes are minor and do not alter the basic findings of this public services analysis regarding response times, service levels, and emergency access associated with the CFTP.[181]

As depicted in Section 4.26.3, the closest public recreational facilities to the CFTP are the South Bay Bicycle Trail and the Imperial Strip, located approximately 0.5 mile to the south, and the Westchester Golf Course, located approximately 0.5 mile to the north. As depicted in Section 4.26.4, the closest libraries to the CFTP are the Westchester-Loyola Village Branch Library and El Segundo Library, located approximately 1 mile north and south of the CFTP site, respectively. The location of these facilities has not changed from those analyzed in the LAX Master Plan Final EIR, nor have any new public parks/recreation facilities or libraries been constructed in the LAX Master Plan parks study area.[182]

5.14.3 CEQA Thresholds of Significance

The following CEQA thresholds of significance were used in the analysis of fire protection, law enforcement, parks and recreation, and libraries impacts for the LAX Master Plan and are also applicable to the CFTP fire protection, law enforcement, parks and recreation, and libraries impacts analyses.

Fire Protection

A significant impact on fire and emergency services would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

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[181] Wells, Richard, Chief of Airport Planning, Los Angeles World Airports, Personal Communication with James Butts, Deputy Executive Director, Law Enforcement and Protection Services, Los Angeles World Airports, August 14, 2008; Wells, Richard, Chief of Airport Planning, Los Angeles World Airports, Personal Communication with Pamela Howard, Adjutant, Los Angeles World Airports Police Department, August 18, 2008.

[182] Windshield survey by CDM conducted on July 29, 2008; City of El Segundo Public Library website, http://library.elsegundo.org/, accessed August 2, 2008; Los Angeles Public Library, Summary of Branch Facilities Plan Revision, Available: http://www.lapl.org/about/, accessed August 2, 2008.

- Restricted emergency access, increased response times, extended station response distances, or decreased fire flow beyond the standards maintained by the agencies serving LAX and the surrounding communities.
- Requires, but does not adequately provide for, a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels.

These thresholds of significance were utilized because they address the potential concerns for fire protection services associated with the LAX Master Plan; namely, emergency access, response times, station response distances, and fire flow. The first threshold was derived from the Los Angeles Fire Code (Los Angeles Municipal Code, Section 57.09.01-11) and correspondence with the LAFD.[183] This threshold also complies with the FAR requirements for ARFF stations. The Los Angeles Fire Code includes specific standards for access, fire flow requirements, and maximum response distance to fire stations. Furthermore, the LAFD fire stations that serve LAX have focused standards that account for the particular needs of LAX fire protection services, including standards for access, fire station response distances, and fire flow requirements, in accordance with the LAX Rules and Regulations Manual and the LAX Air/Sea Disaster Preparedness Plan. Maximum response times to airfield incidents for ARFF stations (i.e., for Station 80) as well as fire stations supporting ARFF stations in airfield incidents are set forth in FAR 139.315-319.

The second threshold listed above derives from the L.A. CEQA Thresholds Guide, which states that a significant impact on fire protection services would occur if a "project" requires "addition of a new fire station or the expansion, consolidation or relocation of an existing facility to maintain service."

Law Enforcement

A significant impact on law enforcement services would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following conditions:

- An increase in on-airport population that would require a substantial increase in law enforcement services to maintain adequate services or would require new or expanded facilities without providing adequate mechanisms for addressing these additional needs.
- Through increased traffic congestion, changes in circulation, expansion of airport property, or the location of new land uses, emergency response times increase beyond the limits required by applicable jurisdictions within the study area.

These thresholds were utilized because they address the potential impacts to law enforcement services associated with the LAX Master Plan, namely, staffing and facility needs and emergency response times. The first threshold listed above is derived from the L.A. CEQA Thresholds Guide, which states that consideration of impacts to law enforcement services must be given if the population increases as a result of implementation of the proposed project and/or demand for law enforcement services increases due to buildout of the proposed project when compared with the expected level of service available. The second threshold, also derived from the L.A. CEQA Thresholds Guide*,* states that increased traffic congestion may affect response times if any street intersections contain a level of service (LOS) of "E" or "F" at project buildout.[184] This L.A. CEQA Thresholds Guide threshold was broadened for this analysis to include the potential law enforcement service impacts associated with the LAX Master Plan.

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[183] City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Proposed Master Plan Improvements, April 2004, Section 4.26.1.

[184] The Police Protection section, Section K.1, of the L.A. CEQA Thresholds Guide states that the effect of increased traffic congestion on response times for police protection and other emergency services is guided by the discussion in the Fire Protection and Emergency Medical Services section. As such, this threshold is derived from the Fire Protection and Emergency Medical Services section. Section K.2, of the L.A. CEQA Thresholds Guide, 2006.

Parks and Recreation

A significant impact on parks and recreation areas would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of these conditions:

- Directly generate a substantial increase in the population of the project area that creates or exacerbates deficiencies in parkland as determined by the applicable ordinances and/or adopted standards.
- Directly results in the need for new parks or recreational facilities due to degradation or acquisition of parkland or substantially alters existing parks or recreational facilities so that it would decrease the use of the park or recreational facility.

These thresholds were utilized because they address the concerns for parks and recreation areas potentially directly affected by the LAX Master Plan. The first threshold is a modification of a threshold in the L.A. CEQA Thresholds Guide, which states that the "demand for recreation and park services anticipated at the time of project buildout" be "compared to the expected level of service available." In the following analysis, demand is based on whether the public park or recreational facilities would serve the surrounding population as determined through adopted ordinances and standards. Assessment of demand for recreational facilities is based on increases in employees, airport users or changes in population resulting directly from project development. The second threshold was derived from Appendix G of the State CEQA Guidelines, which states that a project would have a significant impact on parks if it results in the "need for new or physically altered" facilities and/or results in "substantial physical deterioration of the facility." Physical deterioration in this analysis includes acquisition, decreased access, or a change in the use of a park or recreational facility.

Libraries

A significant library services impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in one or more of the following future conditions:

- The service area population for a facility substantially exceeds the maximum population for the library facility or a planned and committed facility based on applicable library planning standards.
- Project-related effects cause the closure of a library or substantially inhibit use of a facility.

These thresholds were utilized because they address the potential impacts to libraries associated with the LAX Master Plan, namely, increased demand for library services or direct physical impacts that would close or restrict the use of library facilities. The first threshold is modified from the L.A. CEQA Thresholds Guide. It states that a significant impact to library services would occur if the increases in net population due to a project or the demand for library services at the time of project buildout is higher than the expected level of service available. In this analysis, expected levels of service are based on adopted Los Angeles Public Library planning standards and on library construction plans,[185] some of which have been implemented to date. The second threshold was developed specifically to address potential impacts of the LAX Master Plan relative to proposed acquisition areas.

5.14.4 LAX Master Plan

5.14.4.1 Impacts Identified in the Final EIR

Fire Protection

The traffic congestion associated with the demolition and construction of major projects identified in the LAX Master Plan within and adjacent to the airport property would have the potential to hamper or delay emergency response. However, temporary roadway LOS deficiencies associated with compromised

[185] Los Angeles Public Library, Summary of Branch Facilities Plan Revision, Available: http://www.lapl.org/about/, accessed August 2, 2008.

emergency response would be avoided through implementation of Master Plan Commitment C-1, Establishment of a Ground Transportation/Construction Coordination Office, and Master Plan Commitments ST-9, ST-12, ST-14, and ST-16 through ST-22, presented in the LAX Master Plan Final EIR. These commitments would ensure proper advanced coordination with LAFD, LAWAPD, and LAPD and planning of detours and emergency access routes to maintain response times. Therefore, impacts of construction of the LAX Master Plan on emergency response times would be less than significant.

Increases in airport development, traffic, and passenger activity, and changes in aircraft types and operations, combined with changes in the location and size of airport facilities, would contribute to increased demand for fire protection services. Significant impacts on service levels would occur if adequate response times, emergency access, fire flows, and fire prevention systems are not supported and maintained.

The size and locations of the proposed relocated fire stations would ensure that adequate response times to airfield incidents, pursuant to FAR 139.319, would be maintained or improved with the implementation of the LAX Master Plan. Adequate response times would also be supported by relocation of Station 5 to the LAX Northside site independent of the project and by proposed circulation improvements that would reduce traffic congestion on the airport compared to baseline conditions. Master Plan Commitments FP-1, LAFD Design Recommendations, and PS-1, Fire and Police Facility Relocation Plan, and enforcement of code requirements would also ensure maintenance of adequate response times and emergency access.

Potential impacts associated with staffing and equipment are considered less than significant, as these and other resources would be continually evaluated and addressed pursuant to standard LAFD procedures and FAR requirements. In addition, Master Plan Commitments FP-1 and PS-1 would ensure that adequate fire flows would be provided. Thus, impacts to fire protection services would be less than significant.

Law Enforcement

Construction activities and associated traffic congestion would have the potential to increase response times and increase traffic patrol and other law enforcement activities during periods of demolition and construction within and adjacent to the LAX property. While these impacts are potentially significant, they would be addressed through implementation of proposed Master Plan Commitment C-1, Establishment of a Ground Transportation/Construction Coordination Office, and Master Plan Commitments ST-9, ST-12, ST-14, and ST-16 through ST-2. These commitments would ensure, among other things, proper coordination and planning with law enforcement and fire protection agencies to reduce effects from construction on traffic, emergency access, and response times.

Operationally, LAX Master Plan development would increase demand for law enforcement services. Increases in passengers, traffic, parking areas, and other facilities, as well as the increased size of the airport, would all contribute to the need for additional staffing, facilities, and equipment. Compliance with Master Plan Commitments LE-1, Routine Evaluation of Manpower and Equipment Needs, and PS-2, Fire and Police Facility Space and Siting Requirements, would ensure that staffing and facilities keep pace with passenger activity and expansion of the airport through advanced planning and the routine evaluation and provision of needed staffing, equipment, and facilities. Thus, impacts to fire protection services would be less than significant.

Parks and Recreation

No acquisition of park or recreational facilities would occur under the LAX Master Plan. Construction of transportation facilities and other improvements in proximity to park and recreational facilities are not expected to restrict access to area parks and recreation facilities. Construction noise impacts associated with the LAX Master Plan would occur at a small portion of Imperial Strip, just south of Imperial Highway in the City of El Segundo. However, Imperial Strip serves as a buffer between the airport and the City of El Segundo and much of its use is for viewing aircraft, rather than quiet activities. Furthermore, construction noise at Imperial Strip would be temporary and additive to a currently noisy environment.

Therefore, construction noise impacts at Imperial Strip relative to park use are considered to be less than significant. As the focus of construction would be largely on airport property and within immediately adjacent acquisition areas, there would be no significant impacts on the South Bay Bicycle Trail. As such, construction of the LAX Master Plan projects would not result in the need for new parks or recreational facilities due to degradation or acquisition of parkland or substantially alter existing parks or recreational facilities so that it would decrease the use of the park or recreational facility. Therefore, no significant impacts to park and recreation facilities would occur.

As described in Section 5.3.4.1 above, construction of the LAX Master Plan would generate 102,244 construction-related jobs. The majority of construction-related jobs associated with the LAX Master Plan would be filled from the local labor force within a 20-mile radius and the jobs would be temporary. Thus, construction of the LAX Master Plan projects would not directly generate a substantial increase in the population of the project area that creates an increase demand for park and recreation facilities. Operationally, employment-related demand for parkland would decrease due to a reduction in direct employment generated by LAX. Therefore, no significant park and recreational facility demand impacts would occur.

Libraries

No acquisition of library facilities would occur under the LAX Master Plan. Construction of projects within and adjacent to airport property under the LAX Master Plan would not occur adjacent to local libraries. Due to the distance between construction activities and libraries, it is not anticipated that construction activities would cause substantial increases in noise levels or impair access to local libraries. As such, construction of the LAX Master Plan projects would not result in the closure of a library or substantially inhibit use of a library facility. Therefore, no significant impacts to library facilities would occur.

As described in Section 5.3.4.1 above, construction of the LAX Master Plan would generate 102,244 construction-related jobs. The majority of construction-related jobs associated with the LAX Master Plan would be filled from the local labor force within a 20-mile radius and the jobs would be temporary. Thus, construction of the LAX Master Plan projects would not directly generate a substantial increase in the population of the project area that creates an increase demand for library facilities. Operationally, employment-related demand for library facilities would decrease due to a reduction in direct employment generated by LAX. Therefore, no significant library facilities demand impacts would occur.

5.14.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

- **C-1. Establishment of a Ground Transportation/Construction Coordination Office**
- **C-2. Construction Personnel Airport Orientation**
- **FP-1. LAFD Design Recommendations**
- **LE-2. Plan Review**
- **PS-1. Fire and Police Facility Relocation Plan**
- **PS-2. Fire and Police Facility Space and Siting Requirements**
- **ST-9. Construction Deliveries**
- **ST-12. Designated Truck Delivery Hours**
- **ST-14. Construction Employee Shift Hours**
- **ST-16. Designated Haul Routes**
- **ST-17. Maintenance of Haul Routes**
- **ST-18. Construction Traffic Management Plan**
- **ST-22. Designated Truck Routes**

5.14.5 Crossfield Taxiway Project

5.14.5.1 Impacts

Fire Protection

The information, analysis, and Master Plan commitments provided in the LAX Master Plan Final EIR adequately address the potential construction impacts of the CFTP on emergency response times. As further described in Section 4.1, construction-related vehicle trips would be generated with the construction of the CFTP. No detours or lane closures would be required and, as described in Section 4.1, construction traffic would not result in any significant surface transportation impacts. Implementation of Master Plan Commitment C-1, Establishment of a Ground Transportation/Construction Coordination Office, and Master Plan Commitments ST-9, ST-12, ST-14, ST-16 through ST-18, and ST-22 would ensure that impacts of construction on emergency response times would be less than significant. The existing World Way West roadway would not be closed until the realigned segment is complete. Therefore, the realignment of World Way West would not affect emergency response times. Implementation of Master Plan Commitment FP-1, LAFD Design Recommendations, would ensure that on-airport emergency response times would not be affected.

As indicated in Chapter 2, *Project Description*, a new fire station/aircraft rescue and firefighting facility (ARFF) is proposed to be constructed as a replacement for the existing Fire Station No. 80/ARFF located on the airfield adjacent to Taxiway S. The proposed ARFF would provide approximately 27,895 square feet of administrative office area and station living quarters within a 2-story structure, six bays for emergency vehicles along with a service bay, storage area for various emergency response equipment, and briefing and training rooms. Figures 2-12 and 2-13 in Chapter 2 present a site plan and a floor plan, respectively, for the new ARFF. By comparison, the existing ARFF is approximately 14,000 square feet in size with four equipment bays, no notable storage capabilities, very limited briefing and training areas, and, having been constructed almost 30 years ago, has no notable water/energy conservation of sustainability features. The existing station has 14 firefighters (12 crewman and 2 officers) assigned to each 24-hour shift. Upon completion of the new ARFF, the station crew would transfer to the new facility and the existing ARFF would be vacated, to possibly be used for storage.

The LAX Master Plan originally anticipated the new ARFF to be approximately 18,000 square feet in size and would be located at the northeast edge of the fuel farm. The more recent planning, engineering, and design efforts associated with the CFTP, which included consultation with the LAFD, identified, however, the need for a larger facility in order to accommodate the size, volume, and nature of emergency response equipment at the ARFF, particularly with regard to equipment storage area, and to provide appropriate living, administrative, and training areas for station personnel. Also, the location proposed for the new ARFF was moved south of the originally envisioned site, becoming better situated relative to the mid-points of the outermost runways (Runway 6L/24R on the north and Runway 7R/25L on the south), consequently being more centralized relative to responding to emergencies on the airfield, and allowing construction of the ARFF to be better integrated with surrounding land uses and the infrastructure improvements and design plans of the overall CFTP. The new ARFF would be constructed at the western edge of the proposed (relocated) RON area described in Chapter 2, approximately 400 feet south of the intersection of World Way West and Coast Guard Way. The size, layout, and facilities proposed for the new ARFF were determined through consultation and coordination between LAWA, the LAFD, and the design team, consistent with the provisions of Master Plan Commitments PS-1, Fire and Police Facility Relocation Plan, and PS-2, Fire and Police Facility Space and Siting Requirements. As such, no significant impacts to fire protections service would occur.

Law Enforcement

The information, analysis, and Master Plan commitments provided in the LAX Master Plan Final EIR adequately address the potential construction and operational impacts of the CFTP on law enforcement response times. As further described in Section 4.1 of this EIR, construction-related vehicle trips would be generated with the construction of the CFTP. No detours or lane closures would be required, and as described in Section 4.1, construction traffic would not result in any significant surface transportation impacts. Implementation of Master Plan Commitment C-1, Establishment of a Ground Transportation/Construction Coordination Office, and Master Plan Commitments ST-9, ST-12, ST-14, ST-16 through ST-18, and ST-22 would ensure that impacts of construction on emergency response times would be less than significant.

As described in Chapter 2, *Project Description*, the LAPD Bomb Squad offices are currently located on the CFTP site in several trailers south of Taxiway E, and west of the American Airlines High-Bay Hangar. This facility would need to be relocated within the central portion of the airfield to retain rapid access to the airfield. It is proposed that the LAPD Bomb Squad operations be relocated to the Delta Airlines maintenance hangar located to the east of the CFTP site. Emergency response supplies currently stored in the existing Bomb Squad building would be relocated to an existing United Airlines warehouse adjacent to the airfield. The proposed relocation of the LAPD Bomb Squad operations was developed through consultation and coordination between LAWA, the LAFD, and the design team in accordance with Master Plan Commitments PS-1, Fire and Police Facility Relocation Plan, and PS-2, Fire and Police Facility Space and Siting Requirements, to ensure that any impacts to emergency services facilities or access would be less than significant.

As described in Chapter 2, *Project Description*, the LAWA Police Department formerly used a small building located adjacent to Taxiway D and west of Taxiway S as an airfield command post for special emergencies. The subject building, referred to as the LAWA Police Department Decision Center, is no longer used or needed for that purpose and is, for the most part, vacant and only occasionally used for miscellaneous purposes (i.e., storage, impromptu meetings, etc.). It will be removed as part of the CFTP and not replaced. Removal of the LAWA Police Department Decision Center would not impact law enforcement services.

Parks and Recreation

The information and analysis provided in the LAX Master Plan Final EIR adequately address the potential construction impacts of the CFTP on public parks and recreation. No acquisition of park or recreational facilities would occur under the CFTP. Construction activities associated with the CFTP would be contained within the airport property and therefore would not restrict access to area parks and recreation areas, including the South Bay Bicycle Trail, Imperial Strip, or Westchester Golf Course. As described in Section 5.1, given the distances of recreation facilities from the CFTP site, construction noise is not anticipated to adversely affect area parks and recreation facilities. As such, construction of the CFTP would not result in the need for new parks or recreational facilities due to degradation or acquisition of parkland or substantially alter existing parks or recreational facilities so that it would decrease the use of the park or recreational facility. Therefore, no significant impacts to park and recreation facilities would occur.

As described in Section 5.3.5.1 above, the CFTP would provide temporary construction-related employment opportunities for over 200 workers during the peak week of the approximately 16-month construction period. The majority of the construction jobs would be filled by workers who already reside within a 20-mile radius, and the jobs would be temporary. Few construction workers are expected to move into the area due to temporary construction jobs at LAX. Thus, construction of the CFTP would not directly generate a substantial increase in the population of the project area that creates an increase demand for parkland. As with the LAX Master Plan, operationally, employment-related demand for park and recreation facilities would decrease due to a reduction in direct employment generated by LAX. Further as described in Chapter 2, *Project Description*, no net increase in on-site employment would occur as a result of operation of the CFTP, including the new ARFF. Therefore, no significant park and recreation facilities demand impacts would occur.

Libraries

The information and analysis provided in the LAX Master Plan Final EIR adequately address the potential construction impacts of the CFTP on local libraries. No acquisition of library facilities would occur under the CFTP. As with the LAX Master Plan, construction of the CFTP would not occur adjacent to local libraries. Due to the distance between construction activities and libraries, it is not anticipated that construction activities would cause substantial increases in noise levels or impair access to local libraries. As such, construction of the CFTP would not result in the closure of a library or substantially inhibit use of a library facility. Therefore, no significant impacts to library facilities would occur.

As described in Section 5.3.5.1 above, the CFTP would provide temporary construction-related employment opportunities for over 200 workers during the peak week of the approximately 16-month construction period. The majority of the construction jobs would be filled by workers who already reside within a 20-mile radius, and the jobs would be temporary. Few construction workers are expected to move into the area due to temporary construction jobs at LAX. Thus, construction of the CFTP would not directly generate a substantial increase in the population of the project area that creates an increase demand for libraries. As with the LAX Master Plan, operationally, employment-related demand for library facilities would decrease due to a reduction in direct employment generated by LAX. Further as described in Chapter 2, *Project Description*, no net increase in on-site employment would occur as a result of operation of the CFTP, including the new ARFF. Therefore, no significant library facilities demand impacts would occur.

5.14.5.2 Mitigation Measures

Implementation of Master Plan Commitments FP-1, PS-1, PS-2, C-1, ST-9, ST-12, ST-14, ST-16 through ST-18, and ST-22 would ensure that any impacts relative to emergency access or emergency services facilities would be less than significant. Therefore, no mitigation measures are required.

5.15 Schools

5.15.1 Introduction

This section addresses potential impacts from construction activities associated with the CFTP on student enrollment. Non-enrollment construction impacts related to schools, such as air quality, human health risk, and noise exposure, are addressed in Sections 4.2, 4.3 and 5.1, respectively.

The determinations and assessments are based on information presented in:

- LAX Master Plan Final EIR, Section 4.27, *Schools*, April 2004
- LAX Master Plan Final EIR, Technical Report 17, *Schools Technical Report*, January 2001

5.15.2 Setting

Descriptions of existing conditions relative to student enrollment and high school clusters in the general area surrounding the airport are presented Section 4.27 of the LAX Master Plan Final EIR. This information is incorporated herein by reference.

Given the urbanized nature of the communities surrounding LAX, locations of schools have not materially changed from what was presented in the LAX Master Plan Final EIR. Although there may be minor changes to current student enrollment within high school cluster areas, such changes would not alter the basic findings of the schools analysis.

5.15.3 CEQA Thresholds of Significance

The following CEQA threshold of significance was used in the analysis of school enrollment impacts for the LAX Master Plan and are also applicable to the CFTP school enrollment impacts analysis.

A significant schools impact would occur if the direct and indirect changes in the environment that may be caused by the project would potentially result in the following future condition:

- Overcrowding of schools in the absence of funding for construction of new or expanded school facilities or other strategies for addressing capacity constraints.

This threshold was utilized because it addresses physical impacts on the environment in accordance with the focus of the CEQA Guidelines.[186] While this analysis focuses on enrollment change and the project's potential to cause overcrowding of schools, all decisions about how to mitigate the impacts of changes in enrollment are within the powers of LAUSD, and may include a number of strategies other than constructing new facilities (e.g., year-round school calendars).

5.15.4 LAX Master Plan

5.15.4.1 Impacts Identified in the Final EIR

As described in Section 5.3.4.1 above, construction of the LAX Master Plan would generate 102,244 construction-related jobs. The majority of construction-related jobs associated with the LAX Master Plan would be filled from the local labor force within a 20-mile radius and the jobs would be temporary. Thus, construction of the LAX Master Plan projects would not result in a substantial demand for housing, and therefore would not result in a substantial increase in student enrollment. Therefore, the effect of construction employment on student enrollment and available capacity of schools in the area would be less than significant.

5.15.4.2 Relevant LAX Master Plan Commitments and Mitigation Measures

No Master Plan commitments or mitigation measures for school enrollment were identified in the LAX Master Plan MMRP.

5.15.5 Crossfield Taxiway Project

5.15.5.1 Impacts

The information and analysis provided in the LAX Master Plan Final EIR adequately address potential school enrollment impacts due to CFTP construction activities. As described in Section 5.3.5.1 above, the CFTP would provide temporary construction-related employment opportunities for over 200 workers during the peak week of the approximately 16-month construction period. The majority of construction-related jobs associated with the CFTP would be filled from the local labor force within a 20-mile radius and the jobs would be temporary. Thus, construction of the LAX Master Plan projects would not result in a substantial demand for housing, and therefore would not result in a substantial increase in student enrollment. Therefore, the effect of construction employment on student enrollment and available capacity of schools in the area would be less than significant.

5.15.5.2 Mitigation Measures

No significant impacts related to student enrollment would occur as a result of CFTP construction. Therefore, no mitigation measures are required.

[186] State of California, Guidelines for the California Environmental Quality Act, Sections 15064(e) and 15131.

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6. ALTERNATIVES

6.1 Purpose and Scope

CEQA requires that an EIR include a discussion of reasonable 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 potential alternatives to the proposed CFTP.

Key provisions of the CEQA Guidelines on alternatives (Section 15126.6[b] through [f]) are summarized 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 project 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.
- "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]).
- 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 CFTP

As described in Chapter 4, the significant impacts of the CFTP, to which the formulation and evaluation of alternatives should seek to avoid or substantially lessen, include the following:

- **Air Quality** - Air pollutant emissions occurring during construction of the CFTP would exceed the CEQA thresholds of significance established by the AQMD for criteria pollutants on both a project level and a cumulative level. Specifically, the average daily emissions estimated to occur during the peak month of CFTP construction activity and from cumulative projects are indicated below in **Table 6-1**, along with the AQMD thresholds of significance. Upon completion of CFTP construction, operations-related air pollutant emissions would be less than those of existing conditions, due to project-related improvements in aircraft ground movements. As such, construction-related emissions would be a significant adverse impact and operations-related emissions would be less than significant and a beneficial impact (i.e., a reduction in emissions compared to baseline).

Table 6-1

Significant Air Quality Impacts

Pollutant	AQMD Threshold lbs/day	Project Emissions (Controlled) lbs/day[1]	Cumulative Emissions lbs/day[1]
CO	550	**596**	**1,330**
NO_x	100	**1,146**	**2,332**
ROG	75	**278**	**515**
SO_2	150	1	2
PM10	150	126	**260**
PM2.5	55	48	**106**

[1] Values shown in **bold** indicate significant impacts.

Source: CDM, 2008.

- **Global Climate Change/Greenhouse Gas** - Similar to air quality above, construction activities associated with the CFTP would result in the generation of a substantial amount of greenhouse gases, primarily in the form of CO_2 from internal combustion engine exhaust (i.e., fuel burn), contributing incrementally to global climate change. Specifically, it is estimated that a total of 19,948 tons of CO_2 would be generated over the approximately 16 months of construction. This is considered to be a significant impact. Also similar to above, however, the project-related improvements in aircraft ground movements following completion of construction would result in a notable reduction in aircraft fuel consumption and associated greenhouse gas emissions. Specifically, it is estimated that aircraft-related greenhouse gas emissions would be reduced by 12,467 tons per year. As such, construction impacts related to global climate change/greenhouse gas would be significant and adverse, while operational impacts would be less than significant and beneficial.
- **Biotic Communities** - One special status plant species, southern tarplant (*Centromadia parryi ssp. australis*) is located in the southeast portion of the American Airlines (AA) employee parking lot relocation site. Construction of the replacement parking lot would remove 29 southern tarplant individuals, which is considered a significant impact. As described in Section 4.5, mitigation is proposed to reduce this impact to a level less than significant.

6.3 Project Objectives

The objectives of the CFTP, which need to be considered in the formulation and evaluation of alternatives, include the following:

- To provide taxiway improvements, including a new taxiway, which will help alleviate periodic congestion that currently occurs at or near existing crossfield Taxiways Q and S, improve the safety and efficiency of aircraft ground movement during such times, and reduce aircraft taxi time and delay.
- To provide a new crossfield taxiway designed to accommodate ADG VI aircraft (i.e., NLA such as the Airbus A380 and Boeing 747-8), recognizing that limited commercial operation of the A380 at LAX is scheduled to begin in October 2008 and is anticipated to increase substantially by early 2012.
- To implement taxiway improvements and other related airfield operations area (AOA) improvements consistent with the design and intent of the approved LAX Master Plan, in a manner that is complementary to the systematic phased implementation of the Master Plan.
- To provide for both near-term and long-term environmental benefits, particularly as related to reduced air quality pollution, including greenhouse gas emissions, and reduced fuel consumption.

6.4 Alternatives

A wide range of alternatives to the airfield improvements proposed for LAX were formulated and evaluated during the course of developing and approving the LAX Master Plan. As evidenced in reviewing the five airport concepts addressed in the LAX Master Plan Final EIR, including Alternatives A through D and the No Action/No Project Alternative, each airport concept includes taxiway connections between the north runway complex and the south runway complex. Each of the four build alternatives called for new additional crossfield taxiways, with the number and locations of the taxiways being influenced primarily by the number and placement of midfield satellite concourses, with dual taxiways being proposed on each side of the concourse. As such, the taxiway system improvements such as those associated with the CFTP were formulated and defined particular to each of the airfield concepts, based on applicable FAA requirements and standards and professional airport planning practices. In light of several factors, including safety, cost, operational efficiency, and environmental concerns, it was ultimately determined by the Los Angeles City Council that the LAX Master Plan (Alternative D) best met the project objectives. Unlike certain conceptual plans for airport facilities, airfield configurations were developed and designed at a precise level of detail to satisfy FAA requirements related to airport layout plans. As such, consideration has already been given to a number of alternatives that included variations on crossfield taxiway systems. The following provides additional evaluation of alternatives to the proposed CFTP, with particular emphasis on the construction impacts associated with each alternative.

As described at the beginning of this chapter, the significant impacts associated with the proposed CFTP pertain to construction activities and include criteria air pollutant emissions and greenhouse gas emissions, which cannot be mitigated to a level that is less than significant, and impacts to biotic resources, which can be mitigated to a level that is less than significant. 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) a design alternative that is fully evaluated. Also, as required by CEQA, the "no project" alternative is also addressed in this section.

6.4.1 Potential Alternatives Screened-Out From Further Consideration

6.4.1.1 Alternative Site

The proposed CFTP is, by name and design, intended to provide an aircraft taxiway connection between the north runway complex and the south runway complex. The following discussion of alternative sites focuses on the potential to identify another north-south corridor between the runway complexes to develop a crossfield taxiway with substantially reduced construction-related air quality and greenhouse gas emissions impacts. Although there are other aspects of the CFTP in addition to Taxiway C13, such as the Taxiway D Extension, realignment of World Way West, and construction of a new ARFF, the analysis below focuses on the Taxiway C13 component, since that is the main component of the project and largely drives the location and design of the other elements. There may be some flexibility in the exact siting of the new ARFF; however, given the need for it to have immediate access to the airfield and be situated to allow emergency vehicles to meet required response times for both the north runway complex and the south runway complex, potential alternative sites for the new ARFF would generally be limited to the existing developed midfield area. Developing a new ARFF at a different location in or near the midfield area would not avoid or substantially reduce the significant construction-related impacts associated with the currently proposed project.

Presently there are three taxiways providing such crossfield access for aircraft. They include Taxiways Q and S located approximately 2,000 feet east of proposed Taxiway C13, and Taxiway AA located approximately 3,200 feet west of Taxiway C13. Those three existing north-south taxiway routes can be seen in Figure 1-2, which is an aerial photograph of the existing airport, with Taxiway AA being toward the west end of the airfield and Taxiways Q and S being near the center of the airfield, just west of Tom Bradley International Terminal (TBIT). As is also evident in Figure 1-2, the western half of the airfield is suitable for considering any alternative site for locating a new crossfield taxiway, due to the fact that the eastern half of the airfield is occupied by the Central Terminal Area and off-airport urban development and roadways. Relative to siting a new crossfield taxiway in the western half of the airfield, the subject area can be generally divided into two geographies: one being the area between Pershing Drive and Taxiway AA, which is largely undeveloped, with the most notable feature being the West Remote Pads; and the other being the area between Taxiway AA and Taxiways Q and S, which is highly developed with a variety of airfield facilities and infrastructure such as the LAX fuel farm, several hangars and maintenance facilities, apron areas, and numerous buildings related to airfield administration and operations.

Development of a new crossfield taxiway in the area between Pershing Drive and Taxiway AA would require far less demolition than that of the CFTP, due to the undeveloped nature of the area, which would reduce the associated air pollutant emissions and greenhouse gas generation. The reductions in demolition-related emissions would, however, be more than offset by an increase in taxiway construction emissions due to the need for more taxiway length required in order to connect the new north-south taxiway with the east-west taxiway system in the south runway complex. Additionally, the fact that this alternative site (taxiway alignment corridor) requires less demolition could actually be a disadvantage relative to the need for aggregate to use in the new taxiway. The currently proposed CFTP includes an on-site rock crusher to recycle demolition debris as aggregate for base material beneath the new taxiway and relocated RON apron area. It is anticipated that approximately 28,000 cubic yards of aggregate would be generated on-site from demolition debris associated with the currently proposed project. Given the combination of greater taxiway length and less demolition material, the air pollutant emissions and greenhouse gas generation associated with having to import (truck) aggregate materials to the site would largely negate the potential benefit of this alternative. Moreover, this alternative would not meet the basic objectives of the CFTP, inasmuch as it would not help alleviate the existing periodic aircraft movement congestion around Taxiways Q and S, would not facilitate taxiing of NLA and in fact would only add to the taxiing distance, is not consistent with the design and intent of the LAX Master Plan, and would not provide for near-term and long-term environmental benefits.

Development of a new crossfield taxiway anywhere in the area between Taxiway AA and Taxiways Q and S would not be remarkably different from that of the currently proposed project. Given the highly developed nature of the subject area, there is no north-south corridor that is free of existing apron areas, structures, utilities infrastructure, World Way West, and other construction considerations that must be dealt with during demolition and construction and result in air pollutant emissions and greenhouse gas generation. While it is conceivable that some alternative site (taxiway alignment corridor) within the subject area could be found to avoid or reduce a particular construction aspect of the project, such as perhaps avoiding a certain existing structure(s) that would otherwise have to be demolished, there is clearly no alternative site (corridor) within the subject area that would avoid or substantially lessen the overall construction-related air pollutant emissions and greenhouse gas generation impacts of the proposed CFTP. Additionally, locating a new crossfield taxiway within the subject area west of the currently proposed C13 alignment would lessen the degree to which the project objectives would be met, by moving the new taxiway farther away from the midpoint of the airfield.

Based on the above, there are no alternative sites for the crossfield taxiway that are capable of avoiding or substantially lessening the significant effects of the CFTP and feasibly attain most of the basic objectives of the project.

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 air quality and greenhouse gas emissions impacts identified in Chapter 4. It is important to note, however, that the construction approach currently proposed for the CFTP already includes a number of features that reduce potential impacts to those resources. Such construction approach features are described in Sections 4.2, *Air Quality*, and 4.4, *Global Climate Change*, and include, but are not limited to: the recycling/reuse of demolition debris associated with the removal of existing apron, roadways, and other surfaces through the use of an on-site rock-crusher; the preparation of concrete using an on-site batch plant; the establishment of limits on construction equipment idling time; and requirements to use low-emission equipment.

The basic nature of the proposed project primarily involves the redevelopment of existing improved airfield areas in order to provide new taxiways and apron areas designed to accommodate a full range of aircraft including the next generation of large heavy aircraft. As such, the CFTP involves substantial heavy-duty construction equipment activity to demolish, remove, and process (recycle) existing airfield surface materials and then construct the new redesigned airfield area. While an alternative construction approach would involve leaving most, if not all, of the existing airfield surface area in place and simply add new concrete above the existing surface, such as approach is not feasible or appropriate for the intended use of the project area. The placement of a "layer" of concrete over the existing surface would not provide suitable transfer and distribution of weight from heavy aircraft taxiing across the area, and surface material failure/damage would likely occur within a relatively short amount of time. Additionally, simply adding to the top of the existing surface area would not address any underlying subsurface (soils) conditions that warrant attention (i.e., previously placed unconsolidated and/or un-engineered fill not suitable for heavy design loads), as would otherwise be addressed by removing all existing surface materials and excavating/compacting any potential problem areas before placing the new surface materials. Also, the placement of a layer of concrete on the existing surface would pose problems with matching the existing grades of the adjoining airfield segments. In short, this alternative construction approach could reduce the amount of construction activity and resultant emissions associated with the demolition and reconstruction of airfield areas, but is not considered to be feasible.

An additional alternative construction approach that could be considered relative to avoiding or substantially reducing the air quality impacts associated with the CFTP would be to extend the overall construction period to reduce the amount of daily activity. **Table 6-2** indicates the amount of reduction in daily activity that would be required in order for the daily air pollutant emissions to fall below the AQMD CEQA Thresholds of Significance.

Table 6-2

Alternative Construction Approach (Reduce Daily Activity Duration)
Air Pollutant Emissions

Pollutant	AQMD Threshold lbs/day	CFTP Emissions lbs/day[1]	Amount (%) of Reduction Required to Avoid Significant Impact
CO	550	**596**	7.7
NO_x	100	**1,146**	91.3
ROG	75	**271**	72.3
SO_2	150	1	NA
PM10	150	126	NA
PM2.5	55	48	NA

1 Values shown in **bold** indicate significant impacts.

Source: CDM, 2008.

As indicated in **Table 6-2**, the greatest amount of reduction that would be required to avoid a significant impact would be needed with respect to NO_x emissions. Daily activities would need to be reduced by 91.3 percent, which would limit daily construction activities to approximately 52 minutes within what would otherwise be a 10-hour work day or 2 hours within what would otherwise be a 24-hour work day. This, in turn, would result in an extension in the overall construction schedule. Applying this level of activity reduction to the currently proposed 16-month schedule would extend the construction schedule to 184 months (approx 15 years). Clearly that construction approach is impractical and, while reducing daily emissions to a level that is less than significant, would simply increase the overall duration of air pollutant emission. If anything, the overall emissions would increase due to the extended duration of construction worker commute trips. Extending the duration of construction would postpone the air quality and greenhouse gas benefits associated with taxiway improvements' ability to help relieve periodic aircraft movement congestion in the midfield area.

6.4.2 Alternative Design

Under this analysis, consideration is given to the potential for alternative designs to avoid or substantially lessen the construction-related impacts of the CFTP, such as if Taxiway C13 and Taxiway D Extension were designed and constructed to accommodate ADG V aircraft (i.e., Boeing 747-400 and 787-8, Airbus A340) instead of ADG VI standards (i.e., Airbus A380 and Boeing 747-8). While the length of Taxiway C13 and Taxiway D Extension would remain unchanged, the width of the taxiways would be reduced from 100 feet to 75 feet and the stabilized (asphalt) shoulders along the taxiway would be reduced from 40 feet to 35 feet. As such, the overall width of the proposed taxiway improvements, including taxiway and shoulders, would be reduced from 180 feet for ADG VI to 145 feet for ADG V. The thickness of the taxiway and shoulders would not be notably less if the design were reduced to ADG V, based on the critical aircraft for pavement thickness design purposes being a Boeing 777-300ER - an ADG V aircraft. As such, the basic volumes of taxiway material would be reduced approximately 25 percent and the shoulder materials would be reduced by approximately 12 percent. Also, since under this alternative the taxiway improvements would be designed and constructed for up to ADG V aircraft, the relocated RON would also only be designed to ADG V standards; however, there would not be reduction in the size and thickness of the RON apron, based on the ADG V critical aircraft that would be used for design purposes.

Also considered under this "Design Alternative" is a variation to the proposed replacement of the AA employee vehicle parking lot. Under the proposed project, a replacement parking lot would be developed west of the existing lot, east of Taxiway AA and south of World Way West (see Figure 2-17). The western portion of the proposed replacement lot is currently undeveloped and includes ruderal (weedy) vegetation. As described above and in Section 4.5, there are 29 southern tarplant individuals situated in the southeast portion of that undeveloped parcel (see Figure 4.5-1). While not a listed species, the southern tarplant is considered sensitive, as a California Native Plant Society (CNPS) List 1B.1 species. Section 4.5 addresses the CFTP's impact to the subject plant and provides a mitigation measure that would reduce potential impacts to a level that is less than significant. Consideration is given, nevertheless, to the possibility of completely avoiding impacts to the subject species through an alternative design for the replacement parking lot. The alternative design would be to not develop the southeast portion of the subject area, where the tarplant is present, and extend the northwestern limits of the proposed parking lot farther north (i.e., grade and pave more area towards the north than currently proposed) to make up the difference.

The following describes the environmental impacts associated with this Design Alternative compared to those of the proposed project, starting with air quality and global climate change (i.e., issues with significant impacts) and then proceeding through each of the other environmental topics addressed in Chapters 4 and 5.

6.4.2.1 Air Quality and Global Climate Change

As described in Section 4.2.2.1, construction-related air pollutant emissions were calculated based on the construction equipment requirements and activity schedules developed for the proposed project. The overall construction program was characterized in terms of types of crews, with each crew type being defined by function, specific types and numbers of construction equipment and number of hours operated per 10-hour shift, and number of worker associated with the function. The types of resource crews encompassed by the proposed construction activities are delineated in **Table 6-3** and include the following:

Table 6-3

CFTP Construction Resource Crew Types

Administration Support	Electrical	Interior Rough
Asphalt-Concrete Paving (ACP)	Environmental	Lighting
Batch (Concrete) Plant	Excavation	LAWA-Construction Mgmt
Backfill	Exterior	Miscellaneous Labor
Bridge	Fencing	Quality Control Team
Building Systems	Fuel Line	Saw Cut
Portland Cement Concrete Paving (PCCP)	Foundation	Sealing
Clear and Grub	Grading	Striping
Crusher	Installation	Structural Concrete Placement
Demolition and Utilities	Interior Concrete Flooring	Structural Steel
Drainage	Interior Finishes Work	Survey

Source: HNTB, 2008.

As an example of the types of construction equipment and number of workers assigned to a specific crew, the Portland Cement Concrete Paving Crew, which would be actively involved in the placement of concrete of the taxiway, includes a paver, two belt placers, a cure/texture rig, two gang drills, two walk-behind saws, and 13 tri-axle trucks each operating 10 hours per shift, along with three pickup trucks and two flatbed trucks each operating six hours per shift, and a water truck operating four hours per shift. These types of assumptions were made for each of the crew types listed above.

In evaluating the extent to which construction-related air pollutant emissions associated with the proposed project could be reduced through this Design Alternative, the resource-loaded schedule for the CFTP was reviewed to identify the crew types associated with the construction of Taxiway C13 and Taxiway D Extension, and the number of days of activity for each crew. An assessment was made as to which crews would be affected by a reduction in taxiway and shoulder widths. For example, crews involved in fine grading, preparation of the lime-treated sub-grade, placement of base materials, placement of concrete or asphalt, and completion of saw cuts and surface sealing would be affected by a reduction in the taxiway and shoulder widths. On the other hand, the amount of activity for crews involved in taxiway lighting and striping would not be affected by proposing a narrower taxiway and shoulder.

Based on a review of the resource-loaded schedule, it is estimated that a total of over 300,000 hours of equipment activity would be required for construction of the CFTP. Of this total, approximately 29,000 hours of equipment activity would be involved in the completion of Taxiway C13 and Taxiway D Extension. With a reduction in the taxiway width from 100 feet to 75 feet and shoulder width from 40 feet to 35 feet under this Design Alternative, the amount of activity associated with construction of taxiway areas was reduced by 25 percent and the amount of activity associated with construction of the adjacent shoulders was reduced by 12 percent. This resulted in the total amount of construction activity associated with construction of Taxiway C13 and Taxiway D Extension, designed to ADG V standards, being reduced to approximately 23,600 hours - a net reduction of 5,400 hours compared to the current CFTP proposal. This equates, however, to only a 1.8 percent reduction in the overall construction activity level for the project. It is anticipated that the air pollutant emissions and green house gas generation associated with construction activities would, in general, also be reduced by a comparable amount. Such a reduction would not avoid or substantially reduce the construction-related significant impacts of the project. It should also be noted that the reductions in emissions would be reflected only in the quarterly and annual emissions, while the daily emissions would be largely unchanged. This is because with the reduced width taxiway/shoulder, the daily level of activity would remain the same, but would take fewer days to complete.

Additionally, this Design Alternative poses the potential to reduce the operations-related air quality and green house gas benefits associated with the CFTP. As described in Section 2.1.4, development of Taxiway C13 as an ADG VI taxiway will provide a new midfield taxiway between the north runway complex and the south runway complex suitable to accommodate NLA such as the Airbus A380. Presently, only Taxiway AA at the west end of the airfield and Taxiway S, with certain restrictions, can accommodate NLA. Should Taxiway C13 be designed to only ADG V standards, there may be situations in the future where NLA would have to use Taxiway AA for crossfield access, which is a much longer taxi route with the associated air pollutant and greenhouse gas emissions compared to a midfield route, or aircraft needing to taxi crossfield would be forced to hold and idle for a period while an NLA taxis on Taxiway S or C13 at a much reduced speed due to the restrictions associated with using a ADG V taxiway. The additional time aircraft engines have to operate in idle-mode while waiting for the taxiway to clear would lessen the air quality and greenhouse gas benefit that is otherwise associated with the CFTP as proposed.

The design variation for the AA employee parking lot relocation site, proposed under this alternative, would make no difference relative to air quality.

6.4.2.2 Human Health Risk Assessment

The potential for human health risk impacts, such as cancer and non-cancer health risks, is based on the air pollutant emissions associated with construction activities. As described above, the construction-related air pollutant emissions associated with the Design Alternative would be slightly less than those of the proposed project. Construction of the CFTP would not result in a significant human health risk; hence, implementation of the Design Alternative would have the same conclusion.

6.4.2.3 Surface Transportation

Implementation of the Design Alternative would result in surface transportation impacts comparable to those of the proposed project. While the duration of construction activity levels for some of the crews associated with completion of Taxiway C13 and Taxiway D Extension would be reduced due to the width of the taxiway and adjacent shoulders being built to only ADG V standards instead of ADG VI, the basic crew requirements and daily activity levels would remain the same. In other words, the same crews working the same 10-hour shifts would be required under the Design Alternative as for the proposed project; however, the number of days required to complete the taxiway/shoulder improvements may be slightly less. The number of vehicle trips associated with the estimated peak construction week for the project, which provides the basis for the surface transportation impacts analysis, would be essentially the same for the Design Alternative and the proposed project. Accordingly, the impacts of this alternative would be less than significant, as is the case for the proposed project. The design variation for the AA employee parking lot relocation site, proposed under this alternative, would make no difference relative to surface traffic.

6.4.2.4 Biotic Communities

With respect to the alternative of constructing the proposed taxiway improvements to only ADG V standards instead of ADG VI, there would be no difference in impacts to biotic communities compared to the proposed project. This is due to the fact that there are no notable biotic resources in the areas of the subject improvements.

As noted above, under this alternative, an alternative design would be implemented for the replacement parking lot that would avoid developing the southeast portion of the subject area, where the tarplant is present. Instead, the northwestern limits of the proposed parking lot would be extended farther north (i.e., grade and pave more area towards the north than currently proposed) to make up the difference.

Implementation of this alternative would avoid direct impacts to the 29 southern tarplant individuals present in the proposed AA employee parking lot replacement site. To develop the proposed parking lot around the subject plant area would, however, simply leave a small undeveloped island surrounded mostly by vehicle parking with Taxiway C to the south. Southern tarplant is highly successful as a colonizer of disturbed areas and is often found on abandoned roadways and on non-landscaped medians and shoulders. Therefore, the construction of a parking lot surrounding the current population, leaving the occupied habitat as an island, is unlikely to have an adverse impact on these plants. As noted in Chapter 4.5, very little is known about pollinators for this species, however, they are likely pollinated by native honey bees and bumblebees. It is expected that these pollinators would be able to access the plants following construction. The adjacent parking lot would likely lead to an increase of stormwater runoff into the occupied southern tarplant area. This would not have a direct impact on the southern tarplant. However, it may increase germination and growth of non-native plant species that could compete with the tarplant. Such impacts could be mitigated through periodic mowing and removal of larger non-native species.

Although this alternative would avoid impacts to the southern tarplant, the end result of this design alternative, that being there would be no significant impact to the southern tarplant, would be the same as that of the proposed project with mitigation.

6.4.2.5 Other Environmental Resources

The following addresses the potential impacts of the Design Alternative, compared to those of the proposed project, based on the information and analysis contained in Chapter 5.

> **Noise**: The construction and operational noise impacts associated with this alternative would essentially be the same as those of the proposed project. This is due to the fact that construction activities would be very similar between the two scenarios and, operationally, there is not much difference from a noise perspective. While under the Alternative Design scenario there may be occasions when NLA may need to taxi farther (i.e., along Taxiway AA) or other taxiing aircraft must hold while NLA taxi on Taxiway C13 or Taxiway S, the noise difference compared to the proposed project would be relatively short-term (i.e., the number of minutes that an aircraft would take to taxi a longer distance or to hold while a taxiway clears) and local, and would unlikely have a perceptible difference at off-airport noise receptors. The design variation for the replacement parking lot would not change the noise impacts and characteristics of the proposed project. No significant impacts would occur under either scenario. To the extent that this alternative would result in longer taxiing distances and idling times for aircraft, as compared to the currently

proposed project, the operational benefits of this alternative would be comparatively less than those of the proposed project.

Land Use: The construction-related land use impacts of the Design Alternative, including as related to Taxiway C13 and to the replacement parking lot, would the same as those of the project, inasmuch as the same existing on-airport facilities would be affected, the construction program is largely the same, and the construction effects associated with traffic, noise, and views are essentially the same. No significant impacts would occur under either scenario.

Population, Housing, Employment, and Growth Inducement: Development of the taxiway improvements based on ADG V standards instead of ADG VI standards would slightly reduce the overall construction activity level of the project. The difference would, however, probably be more along the lines of fewer days of construction activity and no appreciable reduction in the number of workers required for the project. There would be no material difference in the construction worker staffing requirements for the replacement parking lot under the Design Alternative versus under the proposed project. As such, there would be no notable difference in population, housing, employment, and growth inducement impacts under this alternative as compared to the proposed project. No significant impacts would occur under either scenario.

Hydrology/Water Quality: As described in Section 5.4.5, the vast majority of the CFTP area is developed, covered by impervious surface, and has been subject to airfield related uses for many years. Implementation of the CFTP is not expected to result in a substantial change in surface hydrology or water quality. Drainage system improvements and water quality control measures to be included in the proposed project would serve to avoid significant impacts related to hydrology and water quality. Reducing the design standard for the proposed taxiway improvements from ADG VI to ADG V would not have an appreciable effect on construction-related or operations-related impacts of the project. Development of the proposed replacement parking lot would convert the existing 8 acres of unpaved area to impervious surface. This would also be the case under the Design Alternative, although more of the existing unpaved area to the north would be developed in order to leave the area around the southern tarplants undeveloped. The net increase in impervious area would likely be the same as the proposed project. No significant impacts would occur under either scenario.

Cultural Resources: There are no historic structures on or near the CFTP site. Significant archaeological or paleontological resources are not known to occur at the project site; however, there is the potential to unexpectedly encounter such resources during excavation activities. The majority of excavation associated with the proposed project would be that associated with removal of existing paved surface areas, correction of any underlying soils issues, and preparation of soils for placement of base materials. The design standards for an ADG V taxiway calls for a total width of 145 feet compared to 185 feet for an ADG VI taxiway, which could ostensibly reduce the likelihood of unexpectedly encountering subsurface archaeological or paleontological resources, to the extent that comparatively less excavation is required. The Master Plan mitigation measures that apply to the project address the potential for encountering such resources and serve to ensure impacts would be less than significant. Those measures would apply equally to the Design Alternative, achieving the same result - no significant impacts. There would be no difference in potential impacts to cultural resources from development of the replacement parking lot under the Design Alternative versus the proposed project.

Endangered and Threatened Species of Flora and Fauna/Wetlands: The CFTP site is not located in or near an area that provides habitat for any threatened or endangered species. The CFTP construction staging area is located near habitat occupied by the El Segundo blue butterfly and by ephemerally wetted areas (i.e., wetlands) formerly containing cysts of the Riverside fairy shrimp. Master Plan mitigation measures are in place to avoid any significant impacts from the proposed project. Implementation of the Design Alternative would involve essentially the same areas as the proposed project, and the Master Plan mitigation measures would apply equally. No significant impacts would occur under either scenario.

Energy Supply and Natural Resources: There would be no difference between the proposed project and the Design Alternative relative to electricity and natural gas consumption, based on the fact that the facilities that use such energy are the same between the two. As described above relative to air quality and greenhouse gas, implementation of the Design Alternative would result in a slight reduction in the construction activity associated with the proposed project, due to the narrower taxiway improvements under this scenario. That reduction in construction activity would result in reduced fuel consumption. It is estimated that the reduction in overall construction activity would only be around 1.8 percent; hence, the associated reduction in fuel consumption is considered to be minimal. The reduced taxiway width and width of the adjacent shoulders under this alternative would reduce demands for aggregate used in concrete and asphalt, and cement used in concrete. The demands for aggregate for the replacement parking lot would be essentially the same between the Design Alternative and the proposed project. Much of the aggregate to be used in construction of the proposed project would be generated through the crushing of existing concrete to be demolished. Relative to operations, implementation of the Design Alternative could result in longer aircraft taxiing distances and idling times compared to the proposed project, which would result in comparatively greater fuel consumption by aircraft. No significant impacts related to energy supply and natural resources are expected to occur from the proposed project, and that would also be the case for implementation of the Design Alternative.

Solid Waste: Solid waste generated by the CFTP would come primarily from the demolition of existing buildings and surface area within the project site. Such demolition would be the same for the proposed Design Alternative, including as related to Taxiway C13 and the replacement parking lot; hence, there would be no difference in impacts. No significant impacts would occur.

Aesthetics: There would be no appreciable difference between the proposed project and the Design Alternative in the appearance or lighting of the improvements proposed under each scenario, including as related to Taxiway C13 and the replacement parking lot. No significant impacts would occur under either scenario.

Earth and Geology: There are no geotechnical issues or characteristics particular to the project site that would be affected differently between the proposed project and the Design Alternative, other than simply a difference in the amount of grading required under each scenario. The majority of excavation associated with the proposed project would be that associated with removal of existing paved surface areas, correction of any underlying soils issues, and preparation of soils for placement of base materials. The removal of existing paved surfaces would be essentially the same between the two scenarios. Grading to correct underlying soils issues and to prepare the area for base materials would likely be less for the Design Alternative, based on the relative differences in taxiway and shoulder widths for ADG V and ADG IV design standards (145 versus 180). The grading requirements for the replacement parking lot would be essentially the same between the Design Alternative and the proposed project. No significant impacts related to earth and geology are expected to occur from the proposed project, and that would also be the case for implementation of the Design Alternative.

Hazards and Hazardous Materials: There are areas of known subsurface contamination at and around the CFTP site. Certain areas of contamination occurring within the limits of construction are proposed to be excavated, and materials with unacceptable levels of contamination would be transported to a hazardous waste treatment and/or disposal facility. While it is possible that reducing the width of the taxiway improvements, based on ADG V standards compared to ADG VI standards, could result in a narrower taxiway construction corridor that encompasses less of a contaminated area, it is more than likely that the full limits of the contaminated area would still be excavated, as appropriate. There is limited potential to unexpectedly encounter contamination during construction. To the extent that development of narrower taxiway improvements under the Design Alternative would require less excavation, the potential for encountering contamination could be considered to be less. There are, however, Master Plan commitments specifically intended and designed to address that possibility regardless of whether it is high or low, which would apply to both the proposed project and the Design Alternative. Overall, there would be no notable difference in impacts between the proposed project and the Design Alternative relative to hazards and hazardous materials for Taxiway C13 and the replacement parking lot; no significant impacts would occur under either scenario.

Public Services and Utilities: The differences in taxiway design and replacement parking lot design that occur between the proposed project and the Design Alternative are inconsequential relative to public services and utilities.

6.4.2.6 Summary

Implementation of the Design Alternative, which provides for taxiway improvements based on ADG V standards instead of ADG VI standards and a replacement parking lot slightly differently than the currently proposed lot, would result in slightly less construction activity than would otherwise occur under the proposed project. The reduction in construction activity would, however, be relatively minor - a reduction of approximately 1.8 percent of the total construction activity. The reduction in construction activity would result in a reduction in construction-related air pollutant emissions and greenhouse gas generation, which have been identified in this EIR as significant impacts that cannot be mitigated to a level that is less than significant. The reduction in air pollutant emissions and greenhouse gas generation would be based on, and therefore comparable to, the amount of construction activity reduction - approximately 1.8 percent reduction. Such a reduction would not avoid or substantially lessen the aforementioned significant impacts. **Table 6-4** summarizes the proposed project's maximum quarterly construction emissions and maximum quarterly construction emissions associated with the Design Alternative based on a 1.8 percent reduction in construction activity.

Table 6-4

Estimated Reduction in Quarterly Construction Emissions Based on Design Alternative

Pollutant	AQMD Threshold tons/quarter	Project Emissions (Controlled) Max. tons/quarter[1]	Design Alternative Emissions (Reduced 1.8% from Project) Tons/quarter[1]
CO	24.75	19.51	19.16
NO_x	2.50	**36.70**	**36.04**
ROG	2.50	**5.12**	**5.03**
SO_2	6.75	0.04	0.04
PM10	6.75	4.29	4.21
PM2.5	6.75	1.79	1.76

[1] Values shown in **bold** indicate significant impacts.

Source: CDM, 2008.

With respect to greenhouse gas generation, the 19,948 tons of CO_2 resulting from the construction activities of the proposed project would only be reduced to approximately 19,584 tons of CO_2, which would still be a significant impact.

Operation of this alternative, in comparison to the proposed project, would result in increased time during which aircraft engines have to operate in taxi-idle mode while waiting for the taxiway to clear. This would lessen the operational air quality and greenhouse gas emissions benefits that are associated with the CFTP as proposed.

With respect to biological resources, implementation of the Design Alternative would avoid impacts to 29 southern tarplant individuals, a significant, but mitigable impact associated with the proposed project.

Relative to other environmental topics, implementation of the Design Alternative would result in impacts that are the same as, or generally comparable to, those of the proposed project. In all cases for such other environmental topics, aside from the air quality and greenhouse gas impacts described above, the impacts of the proposed project would be less than significant.

Implementation of the Design Alternative would not meet one of the key objectives of the project; to provide a new crossfield taxiway designed to accommodate ADG VI aircraft.

In light of the reasons above, the Design Alternative was rejected in favor of the currently proposed project.

6.4.3 "No Project" Alternative

The existing conditions within which to consider a "no project" alternative would include the midfield area as it currently exists. As described in Section 2.1, the existing configuration of the taxiway system in the midfield area is subject to periodic congestion in aircraft ground movement and is not considered to be well-suited for future operations of the Airbus A380 and other NLA. Also related to existing conditions is the fact that Fire Station #80 (existing ARFF) is 14,000 square feet in size, which does not provide adequate space and facilities for the station to operate effectively. Under the "no project" alternative, none of the construction-related significant impacts described in Chapter 4 would occur; however, none of the basic objectives of the CFTP would be met either. Additionally, none of the operational benefits of the proposed project would occur under the "no project" alternative. Such benefits include reduced air quality criteria pollutant emissions and reduced greenhouse gas generation due to improved movement of taxiing aircraft in the midfield area, with fewer stops and delays than under current conditions with periodic aircraft movement congestion. Similarly, the reduction in "start and stop" taxiing movements that would result with implementation of the proposed project offers certain noise benefits (i.e., less aircraft engine powering up and down) that would not occur under the "no project" alternative.

6.4.4 Environmentally Superior Alternative

Based on the analysis above, the "no project" alternative is considered to be the Environmentally Superior Alternative due to the fact that it would not include the extensive construction activities associated with the currently proposed project and would avoid significant construction-related air quality, greenhouse gas, and biotic resources impacts. It would not, however, provide the operational air quality benefits associated with the proposed project.

Second to the "no project" alternative, the Design Alternative is considered to be the Environmentally Superior Alternative, in that it would avoid impacts to 29 southern tarplant individuals and would result in slightly less construction-related air pollutant emissions and greenhouse gas generation that the proposed project. The difference in air quality and greenhouse gas generation impacts between the Design Alternative and the proposed project is slight, at best, and the Design Alternative does not come close to avoiding or substantially lessening the significant unavoidable impacts of the proposed project. Also, implementation of the Design Alternative would not meet one of the key objectives of the project, that being to provide a new crossfield taxiway designed to accommodate ADG VI aircraft.

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7. LIST OF PREPARERS, PARTIES TO WHOM NOP WAS SENT, REFERENCES, NOP COMMENTS, AND LIST OF ACRONYMS

To aid the reader, Chapter 7 contains the following sections:

- List of Preparers
- List of Parties to Whom NOP was Sent
- List of References
- NOP and Correspondence
- List of Acronyms

7.1 List of Preparers

LAWA

Roger Johnson, Deputy Executive Director of Facilities and Environmental Planning: B.S., Engineering. Mr. Johnson has 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 Program projects, including the Crossfield Taxiway Project.

Mike Doucette, Chief of Airport Planning: B.S., Architecture. 20 years experience. Daily responsibility of overseeing LAX Development Program including the Crossfield Taxiway Project.

Dennis Quilliam, City Planner: B.S., City Planning & Regional Planning. 32 years experience. Responsible for the oversight of the CEQA document for the LAX Development Program including the Crossfield Taxiway Project.

Richard Wells, Chief of Airport Planning: B.S., Civil Engineering; M.S., Structural Engineering. 38 years experience. Division Manager with oversight of Airport Planning and CEQA documentation.

Pat Tomcheck, Senior Transportation Engineer: B.S., Civil Engineering. 23 years experience. Responsible for transportation engineering, ground transportation improvement projects and analysis at all four of LAWA's airports.

Jake Adams P.E., Program Manager: B.S., Civil Engineering. 19 years experience. Provided expertise and coordination regarding construction aspects of the Crossfield Taxiway Project.

Herb Glasgow, Senior City Planner: B.A., Geography, Urban Planning. 30 years experience. Provided assistance in the preparation and review of the CEQA document.

Goran Lazarevic, Civil Engineering Associate: Civil Engineering (B.S. equivalent). 11 years experience. Prepared the hydrology analysis for the relocation of the American Airlines parking lot as part of the Crossfield Taxiway Project.

CDM

Anthony J. Skidmore, AICP, Vice President: B.A., Sociology; M.P.A., Public Administration. 27 years experience. EIR Project Director 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. Project Manager with responsibility for overall document preparation and technical review of the EIR.

John R. Pehrson, P.E., Associate: B.S., Chemical Engineering; M.B.A. 27 years experience. Task Manager for air quality-related analyses, including construction air quality, toxic air pollutant modeling and analysis, and global climate change assessment and related documentation.

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.

Teddy Marcum, Environmental Scientist: B.S., Environmental Science; Masters of Liberal Arts. 26 years experience. Conducted risk modeling for the quantitative health risk assessment.

Tree Raine, Project Manager: B.S., Environmental Sciences and Engineering; M. Eng., Environmental Engineering. 9 years experience. Provided technical assistance for global climate change assessment.

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.

Kathleen Owston, Planner: B.A., International Studies; M.M.A., Marine Affairs. 7 years experience. Assisted in environmental analysis.

Leslie Howard, Environmental Scientist: B.S., Environmental Science. 17 years experience. Provided technical support for preparation of Draft EIR.

Emily Glassburn, Project Coordinator: B.S., Rehabilitation Psychology. 3 years experience. Provided support for document preparation.

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Erin Sheehy, Principal: B.A., Economics with Environmental Studies. 21 years experience. Task Manager responsible for the air quality construction impacts analysis, including modeling and document preparation.

Tara Tisopulos, Senior Air Quality Specialist: B.S., English; M.S., Journalism. 13 years experience. Assisted in the air quality construction impacts analysis.

Eric Wood, Senior Air Quality Engineer: B.S., Mechanical Engineering. 15 years experience. Assisted in the air quality construction impacts analysis.

HNTB

Tony Fermelia, Design Manager: B.S., Civil Engineering. 15 years of experience. Provided technical design and construction details for the Crossfield Taxiway Project in support of the EIR project description.

Katie Chou, Civil/Aviation Engineer: Ph.D., Civil Engineering. 5 years research experience and 4 years industry experience. Responsible for pavement design for CFTP design.

Ryan Damery, Task Manager: B.S., Civil Engineering. 6 years experience. Responsible for grading and drainage, horizontal and vertical control, and utilities design for CFTP design.

Aamir Durrani, Project Engineer/Squad Leader: B.S., Engineering; M.S., Civil Engineering. 20 years experience. Lead structural engineer for CFTP design.

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Vasanth Shenoy, Sr. Consultant: B.E., Civil Engineering; M.S., Civil Engineering (Transportation). 5 years experience. Responsible for surface transportation technical analysis and assistance with related document preparation.

Steve Smith, Director: B.A., Liberal Studies. 12 years experience. Responsible for the preparation of airfield simulations.

Tim Swing, Senior Consultant: B.S., Business Administration, Airport Administration; M.S., Urban and Regional Planning, Transportation Planning. 10 years experience. Responsible for the technical modeling associated with the aircraft ground movement analysis.

Joy Martin, Senior Consultant: B.S., Aviation Management with Flight. 6 years experience. Assisted with the technical modeling associated with the aircraft ground movement analysis.

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Wells, Richard, Chief of Airport Planning, Los Angeles World Airports, Personal Communication with Pamela Howard, Adjutant, Los Angeles World Airports Police Department, August 18, 2008.

7.4 NOP and Correspondence

April 10, 2008 NOP and Correspondence

A Notice of Preparation (NOP) for the CFTP Draft EIR was published on April 10, 2008. The public comment period concluded May 12, 2008. Comments received from public review of the April 10, 2008 NOP are listed below in chronological order. Copies of the April 10, 2008 NOP and the comment letters received are included in Appendix A.

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Los Angeles International Airport Area Advisory Committee/Danna Cope	May 9, 2008
Alliance for a Regional Solution to Airport Congestion/Denny Schneider	May 11, 2008
Shute, Mihaly, & Weinberger LLP/Osa L. Wolff	May 12, 2008
Chevalier, Allen, & Lichman LLP/Barbara E. Lichman Ph.D.	May 12, 2008
U.S. Department of Transportation Federal Aviation Administration/Victor Globa	May 12, 2008

August 7, 2008 Revised NOP and Correspondence

Subsequent to the close of the public review and comment period for the April 10, 2008 NOP for the CFTP Draft EIR, modifications to the project were identified in light of development and refinement of more detailed plans for the CFTP. On August 7, 2008, a Revised NOP for the CFTP Draft EIR was published to afford interested parties the opportunity to provide any additional comments on the proposed scope of the EIR analysis, in light of the project modifications. Comments received from public review of the August 7, 2008 NOP are listed below in chronological order. Copies of the August 7, 2008 NOP and the comment letters received are included in Appendix A.

Agency/Contact	Date of Correspondence
State of California -- State Clearinghouse/Scott Morgan	August 8, 2008
Department of Transportation -- Division of Aeronautics/Sandy Hesnard	August 21, 2008

7.5 List of Acronyms

AA	American Airlines
AAM	Average Arithmetic Mean
AB	California Assembly Bill
ACGIH	American Conference of Governmental Industrial Hygienists
ADA	American with Disabilities Act
ADD	Average Daily Dose
ADG	Airplane Design Group
ADP	Airport Development Program
ADT	Average Daily Traffic
AEP	Association of Environmental Professions
AERMOD	Air Dispersion Model
ALP	Airport Layout Plan
ALSF-2	Approach Light System with Sequenced Flashing Lights
AOA	Airfield Operations Area
AOC	Airport Operations Center
APM	Automated People Mover
APUs	Auxiliary Power Units
AQMPs	Air Quality Management Plans
ARFF	Aircraft Rescue and Firefighting
ATADS	Air Traffic Activity Data System
ATCT	Air Traffic Control Tower
ATP	Archaeological Treatment Plan
ATR	Automatic Traffic Recorder
ATSAC	Automated Traffic Surveillance & Control
Basin	South Coast Air Basin
BMPs	Best Management Practices
C	Celsius
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL	Continental Airlines
CalEPA	California Environmental Protection Agency
California Register	California Register of Historical Resources
CalOSHA	California Occupational Safety & Health Administration

Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBA	Community Benefits Agreement
CBECS	Commercial Buildings Energy Consumption Survey
CBP	Customs and Border Protection
CC	Culver City
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCTV	Closed-Circuit Television
CDFG	California Department of Fish and Game
CDP	Conceptual Drainage Plan
CEIDARS	California Emission Inventory & Reporting System
CEQA	California Environmental Quality Act
CFCs	Chlorofluorcarbons
CFTP	Crossfield Taxiway Project
CH_4	Methane
CMA	Critical Movement Analysis
CMP	Congestion Management Plan
CNDDB	California Natural Diversity Data Base
CNEL	Community Noise Equivalent Level
CNG	Compressed Natural Gas
CNPS	California Native Plant Society
CNS	Central Nervous System
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2 Eq.	Carbon Dioxide Equivalent
COS	Central Outfall Sewer
CRM	Cultural Resource Monitor
CTA	Central Terminal Area
CTP	Central Terminal Processor
CUP	Central Utility Plant
c.y.	Cubic Yards
Draft EIR	Draft Environmental Impact Report
E_Kit	Environmental Kit

EDR	Environmental Data Resources
EDS	Explosion Detection System
EIA	Energy Information Administration
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMFAC2007	Emission Factor 2007 Model
EOC	Emergency Operation Center
EPA	Environmental Protection Agency
ES	El Segundo
ESB	El Segundo Blue
ESHAs	Ecologically Sensitive Habitat Areas
ETS	Explosive Trace Detection
EW	Ephemerally Wetted
FAA	Federal Aviation Administration
FHP	Free Hydrocarbon Product
FIS	Federal Inspection Services
GCC	Global Climate Change
GHG	Greenhouse Gases
GRE	Ground Run-up Enclosure
GSE	Ground Service Equipment
GTC	Ground Transportation Center
GWP	Global Warming Potential
HA	Hawthorne
HCP	Habitat Conservation Plan
HFCs	Hydrofluorocarbons
HHDT	Heavy-Heavy-Duty Diesel Truck
HHRA	Human Health Risk Assessment
HI	Hazard Index
HIRL	High Intensity Runway Edge Lights
HOV	High Occupancy Vehicle
HTP	Hyperion Treatment Plant
Hz	Hertz
I-105	Glenn M. Anderson or Century Freeway
I-405	San Diego Freeway

I-605	San Gabriel Freeway
IN	Inglewood
IPCC	Intergovernmental Panel on Climate Change
IPWP	Integrated Plan for the Wastewater Program
IRP	Integrated Resource Plan
IT	Information Technology
ITC	Intermodal Transportation Center
LA	Los Angeles
LACDPW	Los Angeles County Department of Public Works
LADD	Lifetime Average Daily Dose
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAG	Los Angeles -- Glendale Water Reclamation Plant
LAPD	Los Angeles Police Department
LARWQCB	Los Angeles Regional Water Quality Control Board
LAWA	Los Angeles World Airports
LAWAPD	LAWA Police Division
LAWTFC	Los Angeles West Terminal Fuel Corporation
LAX	Los Angeles International Airport
LAX MP-MPAQ	LAX Master Plan-Mitigation Plan for Air Quality
LED	Light Emitting Diode
LEED®	Leadership in Energy and Environmental Design
LEQ	Equivalent Energy Level
LNG	Liquefied Natural Gas
LOS	Level of Service
LTO	Landing and Takeoff Cycle
MALSRs	Medium Intensity Runway Approach Light Systems
MB	Manhattan Beach
MEI	Maximally Exposed Individuals
mg/kg/day	Milligram Per Kilogram Per Day
mg/m^3	Milligrams Per Cubic Meter
MMCF	Million Cubic Feet
MMRP	Mitigation Monitoring and Reporting Program

MP	Master Plan
MPAQ	Mitigation Plan for Air Quality
MPCs	Master Plan Commitments
MPO	Metropolitan Planning Organization
MRI	Midwest Research Institute
N_2O	Nitrous Oxide
N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NATA	National Scale Air Toxics Assessment
National Register	National Register of Historic Places
NCCP	Natural Communities Conservation Plan
NCOS	North Central Outfall Sewer
NEPA	National Environmental Policy Act
NLA	New Large Aircraft
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_x	Oxides of Nitrogen
NOP	Notice of Preparation
NORS	North Outfall Relief Sewer
NPDES	National Pollutant Discharge Elimination System
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OSR	On-Screen Resolution
Pb	Lead
P-C	Production - Consumption
PCA	Preconditioned Air
PCBs	Polychlorinated Biphenyls
PCC	Portland Cement Concrete
PCE	Passenger Car Equivalent
PD	Planning and Design
PEL-TWAs	Time-Weighted Average Permissible Exposure Levels
PFCs	Perfluorocarbons

PM2.5	Fine Particulate Matter
PM10	Particulate Matter
PMTP	Paleontological Management Treatment Plan
PPM	Parts Per Million
RAC	Consolidated Rental Car
RCB	Reinforced Concrete Box
RCP	Reinforced Concrete Pipe
RELs	Reference Exposure Levels
RFD	Reference Dose
ROD	Record of Decision
ROG	Reactive Organic Gases
RON	Remain Overnight
RVR	Runway Visual Range
RWQCB	Regional Water Quality Control Board
SAIP	South Airfield Improvement Project
SAP	Serum Alkaline Phosphatase
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF_6	Sulfur Hexafluoride
SGPT	Serum Glutamate Pyruvate Transaminase
SHPO	State Historic Preservation Officer
SIMMOD	Simulation Modeling
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
SoCalGas	Southern California Gas Company
SPAS	Specific Plan Amendment Study
SR	State Route
SUSMP	Standard Urban Storm Water Mitigation Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
TBIT	Tom Bradley International Terminal

TCR	The Climate Registry
TDZ	Touchdown Zone
Tg	Teragrams
Tillman	Tillman Water Reclamation Plant
TLVs	Threshold Limit Values
TPH	Total Petroleum Hydrocarbons
TSA	Transportation Security Administration
TWA	Trans World Airlines
$\mu g/m^3$	Micrograms Per Cubic Meter
UNFCCC	United Nations Framework Convention on Climate Change
URBEMIS	Urban Emissions
USACOE	U.S. Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
Utilidor	Utility Corridor
VASI	Visual Approach Slope Indicator
v/c	Volume Capacity
VMT	Vehicle Miles Traveled
VOCs	Volatile Organic Compounds