

Preface

This is the Federal Aviation Administration's (FAA) Final Environmental Impact Statement for the proposed Master Plan Improvements at Los Angeles International Airport (LAX). The need to prepare an Environmental Impact Statement (EIS) is based on the procedures described in FAA Order 5050.4A, Airport Environmental Handbook. FAA, in conjunction with Los Angeles World Airports (LAWA), a department of the City of Los Angeles government that, under the direction of the Board of Airport Commissioners, is responsible for management of City-controlled airports, published a joint Draft EIS/EIR in January 2001. The Draft EIS/EIR was prepared by FAA pursuant to the National Environmental Policy Act of 1969 and by LAWA pursuant to the California Environmental Quality Act of 1970 (CEQA). The Draft EIS/EIR assessed the potential impacts of three proposed Master Plan development alternatives (Alternatives A, B, and C). Pursuant to NEPA and CEQA, in July 2003, the FAA and LAWA published a joint Supplement to the Draft EIS/EIR to address the potential impacts of a new LAX Master Plan Alternative (Alternative D).

In April 2004, LAWA issued a Final EIR for use in the local decision-making process.

Information and analyses have been updated and/or refined for purposes of the Final EIS to comply with particular aspects of Federal law and regulation. That information and analysis is presented in a separate volume, entitled Volume A, and related appendices (Appendices A-1, A-2a, A-2b, A-3a, A-3b, A-3c, A-3d, and A-4), of the Final EIS. FAA welcomes comment on the contents of Volume A of the Final EIS. **FAA will accept comments on the information disclosed in Volume A and its associated appendices until 5:00 p.m. Pacific Standard Time, Tuesday, February 22, 2005.**

Comments should be submitted to:

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A.1 EXECUTIVE SUMMARY

A.1.1 Introduction

This document is the Final Environmental Impact Statement (Final EIS), prepared in support of the federal actions related to improvements recommended in the proposed Master Plan for Los Angeles International Airport (LAX).¹ The Final EIS is the culmination of nearly a decade of collaboration between the Federal Aviation Administration (FAA) and the City of Los Angeles on how best to improve Los Angeles International Airport to meet the air transportation needs for the Southern California region over the next fifteen years. The proposed Master Plan development includes: land acquisition; relocation of runways; and, construction of new taxiways, passenger terminals, aircraft parking aprons, air cargo processing facilities, and surface transportation improvements.

The Final EIS for the LAX Master Plan has been completed pursuant to the National Environmental Policy Act of 1969 (NEPA). The FAA's preparation and processing of the EIS for the LAX Master Plan has occurred in conjunction with the City of Los Angeles' preparation and processing of an Environmental Impact Report (EIR) for the LAX Master Plan pursuant to the California Environmental Quality Act (CEQA). Many of the documents associated with the subject EIS and EIR were completed by the FAA and City of Los Angeles as single joint documents that addressed the requirements of both NEPA and CEQA. This includes the Draft EIS/EIR for the LAX Master Plan, the Supplement to the Draft EIS/EIR, the written responses to comments received on those two documents (except as otherwise indicated in Volume A of the FEIS), and all of the related appendices and technical reports. The joint cooperative effort between the FAA and the City of Los Angeles in completing the respective NEPA and CEQA review processes for the LAX Master Plan is also reflected in the Final EIS and the Final EIR, which share many of the same documents as described in greater detail below. To clarify the contents of the Final EIS and the Final EIR, the table below identifies those documents which are considered part of either document.

Table AES-1

Final EIS and Final EIR Document Components

	Component of Final EIS	Component of Final EIR
Volume A	Yes	No
Part I (Volumes 1-5)	Yes (except where otherwise indicated in Volume A)	Yes
Part II (Volumes 1-16, including appendices)	Yes (except where otherwise indicated in Volume A)	Yes
The Supplement to the Draft EIS/EIR (in eight volumes, including appendices and technical reports)	Yes	Yes
The Draft EIS/EIR (in fourteen volumes, including appendices and technical reports)	Yes	Yes
(First) Addendum to the Final EIR (September 2004)	Yes	Yes
Second Addendum to the Final EIR (December 2004)	Yes	Yes
Third Addendum to the Final EIR (December 2004)	Yes	Yes
Fourth Addendum to the Final EIR (December 2004)	No	Yes

Volume A of the Final EIS is specific to the FAA's NEPA review of the LAX Master Plan. Volume A provides FAA's final analysis of the information and analyses contained in the other volumes of the Final

¹ See Section 2.7.1, *Requested Federal Actions*, in Part I of the Final EIS, for a list of the federal actions and approvals anticipated to occur in conjunction with the LAX Master Plan.

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EIS that were completed earlier in conjunction with the Final EIR for the LAX Master Plan. Volume A amends, clarifies, and supersedes such information and analyses, where appropriate, in accordance with the FAA's review of the LAX Master Plan pursuant to NEPA and other federal requirements.

A.1.2 Organization of the Final EIS

The Final EIS represents the culmination of a comprehensive multi-year evaluation of the potential impacts associated with several alternatives for the LAX Master Plan, including: (1) the preparation and public review in 2001 of the Draft EIS/EIR for the proposed project; (2) the preparation and public review in 2003 of the Supplement to the Draft EIS/EIR; and (3) the City of Los Angeles' certification (and approval) in December 2004 of the Final EIR, including related addenda to the Final EIR, in fulfillment of the requirements of CEQA. The Final EIS incorporates the information and analyses presented in the Draft EIS/EIR and the Supplement to the Draft EIS/EIR, as well as much of the information presented in the Final EIR and the First, Second, and Third addenda to the Final EIR and, with the information and analysis presented in Volume A of the Final EIS by the FAA, fulfills the requirements of NEPA and the Airport and Airway Improvement Act of 1982, as amended. For those parts of the Final EIS that were previously published by the City of Los Angeles as part of its Final EIR for CEQA purposes, FAA has attached a new cover on the volume indicating its adoption as part of the Final EIS. A brief description of the components of the Final EIS, which include Volume A, Part I, and Part II, is set out below.

Volume A - Information and Analysis Specific to the Final EIS

Volume A of the Final EIS represents information and analysis of potential environmental impacts of the LAX Master Plan, including four build alternatives and the No Action/No Project Alternative, where differing NEPA and CEQA methodologies or requirements created a need for NEPA-specific analysis which was not presented in the City of Los Angeles' Final EIR. While the material and topics covered in Volume A of the Final EIS take into account the information and analyses contained in the other volumes that were used for both NEPA and CEQA purposes, the analyses and information found in Volume A were not needed for the City of Los Angeles to complete its CEQA review of the LAX Master Plan. Volume A amends, clarifies, and supersedes, information and analyses contained in the other volumes where appropriate for purposes of the Final EIS. Volume A of the Final EIS includes four appendices, with a total of eight components, that contain technical data and other material in support of the information presented in the main body of Volume A. A description of the content and basis of the information and analysis contained in Volume A of the Final EIS is provided later in this section.

Part I - EIS Text, Appendices and Technical Reports

Part I of the Final EIS is comprised of numerous documents, the majority of which were prepared jointly by the FAA and the City of Los Angeles and used for analysis under both NEPA and CEQA for the LAX Master Plan. The following summarizes the general nature, purpose, and format of those documents.

Addenda to the Final EIR: As described below, the majority of the information and analyses comprising the Final EIS are contained in the Final EIR that was published in April 2004. During the course of the City's decision making process that followed publication of the Final EIR, certain information became available and events occurred relating to the LAX Master Plan and/or the Final EIR, and four addenda to the Final EIR were completed to amend, clarify, correct, or otherwise modify certain aspects of the April 2004 Final EIR. Three of those addenda contain information and analysis relevant to the NEPA analysis of the LAX Master Plan, and are therefore included as part of this Final EIS.

The first addendum, published in September 2004, clarifies the differences in approach and methodology used to determine environmental justice impacts under CEQA and NEPA and provides refinements to environmental justice benefits for CEQA purposes, although the NEPA evaluation of environmental justice impacts associated with the LAX Master Plan for federal decision-making purposes is presented in Volume A of the Final EIS. The subject addendum also provides information and analysis related to relocation and property acquisition impacts, clarification regarding air quality mitigation measures, refinements of Alternative D and to the Environmental Action Plan, a feasibility analysis of "Alternative E" concepts, and errata to the April 2004 Final EIR (which apply equally to the Final EIS).

The Second Addendum to the Final EIR, published in December 2004, provides information related to coastal resources, endangered and threatened species, refinements to certain mitigation measures related to soundproofing, and errata to the April 2004 Final EIR (which apply equally to the Final EIS). Such information is also presented in Volume A of the Final EIS.

The Third Addendum to the Final EIR, completed in December 2004, provides an updated traffic analysis for Alternative D, and refinements to the off-airport transportation system improvements mitigation program. Such analysis, as well as an expanded discussion for NEPA purposes, is also presented in Volume A of the Final EIS.²

The primary focus of the information and analyses presented in the addenda to the Final EIR is on Alternative D, which the City of Los Angeles selected for approval during the City's decision-making process. In being used first for CEQA purposes in the City's decision-making process and subsequently for NEPA purposes in this Final EIS, the First, Second, and Third addenda to the Final EIR have a sequential combination of two covers, including inner covers titled "Addendum to the Final Environmental Impact Report (EIR)" (September 2004), "Second Addendum to the Final Environmental Impact Report (EIR)" (December 2004), and "Third Addendum to the Final Environmental Impact Report (EIR)" (December 2004), with overlying outer covers titled "Addendum to the Final EIR (see Introduction in Volume A)" (January 2005), "Second Addendum to the Final EIR (see Introduction in Volume A)" (January 2005), and "Third Addendum to the Final EIR (see Introduction in Volume A)" (January 2005), respectively.

Volumes 1 through 4 of the Final EIS and the Final EIR: These four volumes comprise the main document for the Final EIR and also serve as the main document for the Final EIS, and contain detailed information and analysis related to the five alternatives considered for the LAX Master Plan, including the No Action/No Project Alternative and the four build alternatives - Alternatives A, B, C, and D. (Volume 5 of the Final EIR and the Final EIS consists of appendices and technical reports, as discussed below.) In general, the information and analysis presented therein addresses the LAX Master Plan alternatives from both a NEPA perspective and a CEQA perspective, in accordance with federal and state requirements related to the completion of a Final EIS and a Final EIR. Some portions of Volumes 1 through 4 are CEQA specific, however, or have been overridden for NEPA purposes by discussion and analysis presented in Volume A of the FEIS. Where analyses contained in Volumes 1-4 are overridden by Volume A, such will be explicitly stated in Volume A. Volumes 1 through 4 of the Final EIR were published in April 2004. These volumes are also part of the Final EIS, published in January 2005. Volumes 1 through 4 are based on the Draft EIS/EIR, published in January 2001, and the Supplement to the Draft EIS/EIR, published in July 2003. Similar to the addenda to the Final EIR described above, Volumes 1 through 4 were used first for CEQA purposes in the City's decision-making process and will be used for NEPA purposes in the FAA's decision-making process. As such, Volumes 1 through 4 of the Final EIS and the Final EIR have a sequential combination of two covers similar to that of the addenda to the Final EIR described above.

Appendices and Technical Reports: There are 18 volumes of appendices and technical reports that support the information and analyses presented in Volumes 1 through 4 of the Final EIS and the Final EIR (in addition to the appendices published as part of Volume A of the Final EIS). These appendices and technical reports include eleven volumes (Volumes 4 through 14) originally published as part of the Draft EIS/EIR, six volumes (Volumes 3 through 8) originally published as part of the Supplement to the Draft EIS/EIR, and one volume (Volume 5) published as part of the Final EIR and the Final EIS. A listing of these appendices and technical reports is provided in the Preface of Volume 1.

Part II - Responses to Comments

Part II of the Final EIS, containing 16 volumes, provides written responses to the comments received during the public comment periods for the Draft EIS/EIR and the Supplement to the Draft EIS/EIR. Approximately 5,400 comment letters were received during the two public comment periods, including

² The City of Los Angeles also completed a Fourth Addendum to the Final EIR in December 2004, which provides information and analysis specific to certain community-based agreements related to the LAX Master Plan, but not considered to pertain to the NEPA analysis of the Master Plan, and thus is not incorporated as part of the Final EIS.

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letters and written materials submitted at the 21 public hearings held during those periods. Comments were also submitted in the form of oral testimony at those hearings. (For the purposes of both the Final EIS and the Final EIR, written comments and oral testimony received during the public hearings are often both referred to as "comment letters"). A total of approximately 19,000 individual comments resulted from such input. In accordance with the requirements of NEPA and CEQA, the FAA and the City of Los Angeles jointly prepared written responses to all comments received on the Draft EIS/EIR and the Supplement to the Draft EIS/EIR. Part II of the Final EIS presents, first, the responses to comments received during the review period for the Draft EIS/EIR (January 18, 2001 to November 9, 2001), and, then, the responses to comments received during the review period for the Supplement to the Draft EIS/EIR (July 9, 2003 through November 7, 2003).³

A.1.3 Structure and Content of Volume A of the Final EIS

As indicated above, this document is Volume A of the Final EIS and contains information and analyses specific to the NEPA review of the LAX Master Plan that are not otherwise provided in the other parts of the Final EIS. The following describes the overall structure and content of Volume A of the Final EIS, and explains the relationship between the information and analyses presented in Volume A of the Final EIS to that provided in other parts of the Final EIS.

Chapter 1 - Executive Summary

This chapter explains the overall organization of the Final EIS, describing the general nature, content, and format of the multiple documents that comprise the Final EIS. This chapter also provides a summary description of the five alternatives considered for the LAX Master Plan and summarizes the environmental consequences of these alternatives on the environmental topics addressed in Volume A, namely Off-Airport Surface Transportation, Environmental Justice (NEPA Analysis), Air Quality, Endangered and Threatened Species of Flora and Fauna, and Coastal Zone Management and Coastal Barriers. Also included is a table that identifies all the Master Plan commitments and mitigation measures recommended in light of the environmental consequences identified for each alternative. The information summarized in this chapter is derived from the more extensive discussions presented in Volumes 1 through 4 of the Final EIS, with incorporation of additions, clarifications, and revisions, where appropriate, from other chapters of Volume A of the Final EIS and from the addenda to the Final EIR that are also included as part of the Final EIS.

Chapter 2 - Additional NEPA Information Pertaining to Environmental Consequences

This chapter presents information and analyses that supersede, amend, update, clarify, or otherwise modify the environmental consequences discussion presented in Volumes 1 through 4 of the Final EIS and, relative to environmental justice, the discussion presented in the addenda to the Final EIR that are also included as part of the Final EIS. The following describes the general nature and purpose of the discussion provided for each topic addressed in this chapter.

Off-Airport Surface Transportation: In September 2004, the City of Los Angeles approved the Playa Vista Phase II development as a much smaller, less intense development project than was assumed in the traffic impacts analysis presented in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS. Following the City's formal approval of the smaller development proposal for Playa Vista, LAWA completed a revised traffic analysis to reflect the associated reduction in background traffic against which the impacts of traffic from the LAX Master Plan are measured. The Off-Airport Surface Transportation section of Volume A of the Final EIS in conjunction with the Third Addendum to the Final EIR published in December, 2004 and incorporated as part of this Final EIS summarizes the results of the revised traffic analysis, as compared to the findings of the original traffic analysis presented in Part I of the Final EIS.

³ Where responses to comments differ under the NEPA and CEQA analyses, clarification is provided in Appendix A-1 of Volume A of the Final EIS.

Environmental Justice (NEPA Analysis): Chapter 2 provides an evaluation of environmental justice impacts associated with each of the build alternatives considered for the LAX Master Plan, specifically as related to the federal decision-making process in accordance with policies, procedures, and requirements outlined in Executive Order 12898 and U.S. Department of Transportation Order 5610.2. The evaluation presented in Chapter 2 replaces Section 4.4.3, *Environmental Justice*, of Part I of the Final EIS. Conclusions on this topic for the purposes of FAA and the City of Los Angeles decision-making are independent of each other. Part I of the Final EIR and Final EIS, in conjunction with information presented in the September 2004 Addendum to the Final EIR, provided the basis for the City of Los Angeles to complete the CEQA review of the LAX Master Plan. Due to important differences in how environmental justice impacts are identified and considered pursuant to federal requirements, compared to the analysis framework of a CEQA evaluation, the FAA completed a separate "stand-alone" evaluation of environmental justice impacts associated with each of the LAX Master Plan alternatives to be used in the federal decision-making process. As such, the environmental justice evaluation presented in Chapter 2 of Volume A of the Final EIS is specific to the FAA's review of the LAX Master Plan, and replaces and supersedes the evaluation contained in Section 4.4.3 of Part I of the Final EIS relative to the federal decision-making process.

Air Quality: Concurrent with the publication of this Final EIS, FAA published the Final General Conformity Determination for the LAX Master Plan Alternative D. The Final General Conformity Determination includes the results of air quality modeling conducted for purposes of demonstrating compliance with the federal Clean Air Act general conformity requirements. The Air Quality section of Chapter 2 of Volume A of the Final EIS serves to provide a discussion of, and comparison between, the air quality data presented in Section 4.6, *Air Quality*, of Part I of the Final EIS, and the air quality data presented in the Final General Conformity Determination for Alternative D.

Endangered and Threatened Species of Flora and Fauna: Section 4.11, *Endangered and Threatened Species of Flora and Fauna*, of Part I of the Final EIS, addresses potential impacts to several federally-listed species, including the Riverside fairy shrimp (*Streptocephalus woottoni*). In late April 2004, the United States Fish and Wildlife Service (USFWS) proposed the designation of critical habitat for Riverside fairy shrimp, a portion of which would occur within the Airport Operations Area at LAX. Volume A of the Final EIS provides information and analysis specific to the USFWS proposed designation of critical habitat for Riverside fairy shrimp and the potential impacts of each LAX Master Plan alternative relative to the proposed critical habitat areas. The information and analysis supplements the discussion presented previously in Section 4.11 of Part I of the Final EIS, but does not materially alter the basic conclusions presented therein.

Coastal Zone Management and Coastal Barriers: A coastal zone consistency finding that addresses project-related improvements occurring within the coastal zone is required before the FAA can issue its Record of Decision. The FAA has fulfilled that requirement by issuing a Coastal Consistency Determination in August 2004. The Coastal Consistency Determination addresses impacts associated with the proposed relocation and improvement of existing navigational aids associated with Alternative D, the only part of the proposed action that would be located within the coastal zone. In addition, the City of Los Angeles completed a Coastal Consistency Certification in August 2004. Chapter 2 of Volume A of the Final EIS summarizes the contents and the conclusions of the Coastal Consistency Determination and the Coastal Consistency Certification and actions taken as a result of the California Coastal Commission's review of these documents.

Chapter 3 - The Environmentally Preferable Alternative and FAA's Preferred Alternative

In accordance with FAA Order 5050.4A, paragraph 81(b), this chapter identifies the Environmentally Preferable Alternative of the four action alternatives and FAA's Preferred Alternative, and provides the reasons for those choices.

Appendices

In addition to the analyses identified above, Volume A of the Final EIS includes four appendices, with a total of eight components, that contain technical data and other material in support of the information presented in the main body of Volume A of the Final EIS.

A.1.4 Summary Description of Alternatives

The alternatives evaluated in the Final EIS are the end result of over nine years of the Master Plan process, ongoing scientific study, several hundred informal community meetings, and extensive formal public comment periods for identification of project issues for the environmental analysis. In addition to the No Action/No Project Alternative, the Final EIS analyzes a total of four "build" alternatives. The following provides a summary description of the five alternatives studied in detail relative to the LAX Master Plan. A more detailed description of each alternative is provided in Chapter 3, *Alternatives*, in Part I, Volume 1, of the Final EIS.

Table AES-2, Summary of Activity - Comparison of Alternatives, and **Table AES-3**, Summary of Features - Comparison of Alternatives, present key physical characteristics and projected activity levels of each build alternative as an aid to comparison to the No Action/No Project Alternative, the CEQA Environmental Baseline, and the "unconstrained" airport (e.g., number of runways, number of passengers accommodated, tons of air freight accommodated, daily flights, land acquisition).

Table AES-2

Summary of Activity - Comparison of Alternatives

Activity/Facility	Environmental Baseline (1996)	Unconstrained Forecast	Planning Year 2015				
			NA/NP ⁷	A	B	C	D
Passenger Activity¹							
Million Annual Passengers (MAP)	58.0	97.9	78.7	97.9	97.9	89.6	78.9
Domestic MAP (w/Commuters)	43.9	60.9	49.9	60.9	60.9	54.9	48.6
International MAP	14.0	37.1	28.9	37.0	37.0	34.6	30.3
Design Day ² Passengers	186,512	326,380	262,329	326,329	326,329	298,588	262,758
Peak Hour Passengers	16,682	30,218	20,884	28,142	28,142	24,519	20,404
Passengers per Departure	90.76	122.98	127.47	133.09	133.09	145.09	127.68
Cargo Activity (Tons per year)	1,896,764	4,172,000	3,120,000	4,172,000	4,172,000	4,172,000	3,120,000
Aircraft Activity							
Total Annual Aircraft Operations ³	763,866	1,004,591	783,430	935,140	935,140	797,249	784,126
Total Domestic (incl. Hawaii)	386,733	421,138	383,245	431,390	431,390	401,669	350,791
International	91,641	217,818	168,773	217,818	217,818	203,393	179,592
Commuter	233,832	280,335	160,437	200,632	200,632	108,905	182,767
All Cargo	23,682	48,300	35,994	48,300	48,300	48,300	35,994
General Aviation	27,978	37,000	34,982	37,000	37,000	34,982	34,982
Design Day Operations ⁴	2,235	2,921	2,279	2,719	2,719	2,319	2,279
All Weather Peak Hour Operations ⁵	150	N/A	144	176	181	145	146
Three Hour Average Operations ⁶	145	N/A	140	172	172	138	141
Annual Cancellations	2,050	N/A	10,126	15,586	9,108	15,910	9,719
All Weather Average Delay (minutes per operation)	8.69	N/A	13.33	9.86	10.88	13.81	11.56

¹ Totals may not add due to rounding.

² A Design Day is a 24-hour period at LAX representing an average day of the peak activity month.

³ Total Annual Aircraft Operations includes air carrier, cargo, general aviation, and military operations for the baseline or planning year.

⁴ Design Day Operations are the operations that make up the 24-hour period at LAX representing an average day of the peak activity month.

⁵ All Weather Peak Hour Operations are the weighted averages of the maximum number of operations in an hour in each operating configuration under the alternative.

⁶ Three Hour Average Operations are the weighted averages of each of the operating configuration's maximum average number of operations in a 3-hour time period.

⁷ NA/NP = No Action/No Project Alternative.

Source: Landrum & Brown, 1999, 2003.

Table AES-3
Summary of Features - Comparison of Alternatives

Facility	1996 Baseline	Planning Year 2015					
		Unconstrained	NA/NP ¹	A	B	C	D
Runway Development							
North Airfield							
(6L/24R)	8,925 ft	6 runways 3 independent approaches 2,500- 3,400 foot lateral runway separation.	8,925 ft	6,700 ft (new runway)	10,000 ft (relocate 135 ft north, extend 600 ft to the east and 475 ft to the west)	9,400 ft (relocate 340 ft north, extend 500 ft to west)	10,420 ft (extend 1,495 ft to west)
(6C/24C)	none	Takeoff runway length of 10,000-12,000 feet. Landing runway length of 9,000- 10,000 feet.	none	12,000 ft (reconstruct 6L/24R, move 400 ft south, extend 3,075 ft to the east)	none	none	none
(6R/24L)	10,285 ft	Commuter runway length of 6,000 feet.	10,285 ft	12,000 ft (relocate 500 ft south, extend 1,715 ft to the east)	12,000 ft (relocate 35 ft north, extend 1,715 ft to the east)	12,000 ft (extend 2,900 ft to east shorten west end by 1,185 ft)	11,700 ft (extend 135 ft to west extend 1,280 ft east, move 340 ft south of existing centerline)
South Airfield							
(7L/25R)	12,091 ft		12,091 ft	12,000 ft	12,000 ft (relocate 555 ft north, shorten east end 91 ft)	12,091 ft	12,091 ft
(7C/25C)	none		none	None	12,000 ft (relocate 7R/25L, 500 ft north and 950 ft east)	none	none
(7R/25L)	11,096 ft		11,096 ft	12,000 ft (relocate 156 ft south)	6,700 ft (new runway)	11,096 ft (relocate 50 ft south of existing centerline)	11,096 ft (relocate 50 ft south of existing centerline)

A.1 Executive Summary

Table AES-3

Summary of Features - Comparison of Alternatives

Facility	1996 Baseline	Planning Year 2015					
		Unconstrained	NA/NP ¹	A	B	C	D
Terminals							
Central Terminal Area							
Nominal Aircraft Gates	133		115	78	77	97	153
Narrow Body Equivalent Gates (NBEG) ³	150.9		148.3	93.9	92.5	121.6	178.9
Square Feet (SF) of Building Space	3,997,000		3,997,000	4,149,000	3,542,000	4,224,000	6,550,000
Remote Gates (nominal/NBEG) ³	32/41.3		48/55.1	N/A	N/A	N/A	N/A
New West Terminal Area							
Nominal Aircraft Gates	N/A	N/A	N/A	121	122	71	N/A
Narrow Body Equivalent Gates (NBEG) ³	N/A	N/A	N/A	162.5	164	100.6	N/A
Square Feet of Building Space	N/A	N/A	N/A	6,270,000	6,170,000	3,095,000	N/A
Total All Terminals							
Nominal Aircraft Gates	165	214	163	199	199	168	153
Narrow Body Equivalent Gates (NBEG) ³	192.2	276	194.2	256.5	256.5	222.2	178.9
GTC Building Area	N/A	N/A	N/A	N/A	N/A	N/A	200,000 ²
ITC Building Area	N/A	N/A	N/A	N/A	N/A	N/A	50,000 ²
Total Square Feet of Terminal Building Space	3,997,000	7,786,800	3,997,000	10,419,000	9,712,000	7,319,000	6,800,000 ²
Transit							
Green Line Transit	to EI Segundo	N/A	to EI Segundo	to West Terminal	to West Terminal	to West Terminal	to ITC
Parking Stalls							
On-Airport Short-Term	8,441	16,000	9,127	15,500	15,500	15,500	13,380
On-Airport Long-Term	12,985	12,500	12,985	12,514	12,514	12,514	8,732
Off-Airport Long-Term	12,500	15,750	13,500	8,607	6,387	11,477	12,890
Total Public Stalls	33,926	44,250	35,612	36,621	34,401	39,441	35,002
Employee Parking Stalls	8,990	12,400	8,990	12,000	13,748	14,265	13,600

Table AES-3

Summary of Features - Comparison of Alternatives

Facility	1996 Baseline	Planning Year 2015					
		Alternative					
		Unconstrained	NA/NP ¹	A	B	C	D
On-Airport Rent-A-Car Acres⁷	52	101	82	78	78	78	180
Cargo							
Annual Tons	1,896,764	4,172,000	3,120,000	4,172,000	4,172,000	4,172,000	3,120,000
Square Feet of Building Space	1,910,752	4,735,305	2,342,052	4,518,000	4,871,000	4,903,000	2,342,000
Acres of Apron/Ramp Space	77	159	77	128	104	164	77
Total Cargo Acres	197	473	197	436	450	473	197
Ancillary (acres)							
General Aviation	14	14	14	5	4	6	6
Ground Services	9	13	9	4	6	9	4
Airline Admin & Maintenance	295	415	295	72	92	87	31
LAWA & FAA	30	43	30	8	7	6	5
Flight Kitchens	10	18	10	13	16	11	2
Fuel Farm	20	36	20	13	off-site	32	14
Aircraft Rescue and Firefighting	1	1	1	2	1	2	1
Miscellaneous ⁸	5	10	5	9	8	11	9
Total Ancillary Acres	384	550	384	126	134	164	72
Land Acquisition							
Total Net Acres		N/A	148 ⁹	273	345	216	78 ¹⁰
Single Family Dwelling Units		N/A	279	57	57	57	0
Multiple Family Dwelling Units		N/A	2,285	27	27	27	0
Library		N/A	N/A	N/A	N/A	N/A	N/A
Schools		N/A	98 th St. School	Private elementary (1) and vacant comm. college	Private elementary (1) and vacant comm. college	Private elementary (1) and vacant comm. college	Private elementary (1) and Hollywood CPR
Remote Airport Parking Stalls		N/A		4,893	7,113	2,023	3,676
Rent-A-Car Space		N/A		47 acres	35 acres	52 acres	9 acres
Number of Businesses		N/A		330	323	239	34 ¹⁰
Office Use Acquired (SF)		N/A		997,936	1,140,000	603,020	245,481 ¹⁰
Retail Use Acquired (SF)		N/A		151,806	126,586	199,707	57,943
Hotel Use (SF)/Rooms Acquired		N/A		1,330,622/1,929	1,404,933/2,083	374,653/729	63,595/154

A.1 Executive Summary

Table AES-3
Summary of Features - Comparison of Alternatives

Facility	1996 Baseline	Planning Year 2015				
		Unconstrained	NA/NP ¹	Alternative		
			A	B	C	D
Bus. Park/Light Industrial (SF) Acquired		N/A	868,262	1,921,164	895,217	96,901
Freight Light Industrial (SF)		N/A	1,724,486	1,784,799	686,138	166,893 ¹⁰
Total SF of Commercial Building Space		N/A	5,164,540	6,468,930	2,758,735	630,813 ¹⁰
Estimated Market Value		N/A	\$1.06 billion	\$1.36 billion	\$743.5 million	\$155.9 million
Collateral Development						
LAX Northside		N/A	4.5 MSF ⁴	N/A	N/A	4.5 MSF ^{4,5}
Westchester Southside		N/A	N/A	2.62 MSF ⁴	2.62 MSF ⁴	N/A
Continental City		N/A	3.1 MSF ⁴	airport use	airport use	airport use
Manchester Square		N/A	vacant	Independent LAWA development ⁶	airport use	airport use
Belford		N/A	vacant	Airport	airport use	vacant

¹ NA/NP = No Action/No Project Alternative.

² Estimated future building space requirement. Actual building size will be refined as part of project-level design activities.

³ This table uses methodology for calculating NBEG based on a wingspan size factor for each nominal gate position based on the largest aircraft that can be accommodated on a particular gate.

⁴ MSF = Million Square Feet.

⁵ Under Alternative D, the existing vehicle trip cap for LAX Northside would be reduced to limit vehicle trips to a level comparable to that of the Westchester Southside project. As such, full development of the 4.5 million square feet of uses currently entitled for LAX Northside would not occur under Alternative D. As the exact nature and amount of land uses have not been specified to correspond with this cap, it is assumed, for purposes of impacts analysis that LAX Northside would be fully built out relative to all environmental topics except traffic and traffic-related issues such as air pollutant emissions and noise.

⁶ Under Alternative A, Manchester Square is assumed to be redeveloped with commercial/light industrial uses independent of the Master Plan.

⁷ Only ready-return (does not include storage support).

⁸ Includes airport police, central utility plant, LNG/CNG station, ground run-up enclosures, and Coast Guard building.

⁹ The acres acquired under the No Action/No Project Alternative are not part of the LAX Master Plan. This acquisition program has been underway for several years as a noise mitigation program for the Manchester Square and Belford areas. The projected land acquisition for Alternatives A, B, C, and D assume that the 148 acres have been acquired.

¹⁰ Subsequent to the analysis of impacts associated with relocation of residences and businesses conducted for the Final EIR, a field survey was completed during preparation of the April 2004 LAX Master Plan Program Draft Relocation Plan to provide more current statistics for the land and associated uses that would be acquired under Alternative D. These updated property statistics, as described and analyzed in the (First) Addendum to the Final EIR and also included as part of the Final EIS, are provided herein.

Source: Landrum & Brown, 2000, 2003.

No Action/No Project Alternative⁴

Section 1502.14(d) of the Council on Environmental Quality's (CEQ) NEPA implementation regulations requires the alternatives analysis in an EIS to include the "alternative of no action." The No Action/No Project Alternative addressed in the Final EIS includes, but is not limited to, anticipated operational changes such as the introduction of larger aircraft, as well as airport improvements that are otherwise entitled, approved, under construction completed between 19979 when FAA issued its Notice of Intent to prepare an EIS), and January 2001 (when FAA and the City of Los Angeles published the Draft EIS/EIR). These facilities include taxiway improvements, passenger terminal improvements, reconstruction of an on-airport auto parking structure, cargo facility improvements, demolition of facilities on acquired real estate, and collateral development. The No Action/No Project Alternative assumes that passenger and cargo volumes would continue to increase in response to projected demand. In addition, the No Action/No Project Alternative includes additional projects and actions that are consistent with the 1981 Los Angeles International Airport Interim Plan,⁵ and would reasonably be expected to occur in the foreseeable future, if the LAX Master Plan were not approved and/or that are predictable responses to increasing congestion at LAX that would be implemented in the absence of FAA action.

This alternative involves the continuation of the existing plans, policies and operations at LAX into the future and assumes that certain projects (e.g., LAX Northside and Continental City) initiated under the existing 1981 Los Angeles International Airport Interim Plan will continue. See **Figure AES-1**, No Action/No Project Alternative - 2015.

This alternative would fall short of meeting the projected unconstrained demand for aviation services at LAX by accommodating approximately 78.7 MAP (a shortfall of approximately 19.2 million) and 3.1 million tons (MAT) of cargo (a shortfall of approximately 1 million tons) in 2015. With only the improvements anticipated under the No Action/No Project Alternative, operations at these activity levels (i.e., 78.7 MAP and 3.1 MAT) in 2015 at LAX would be very inefficient and congested, and the quality of passenger/visitor service at LAX would be poor.

The entire LAX Northside project on 340 acres of vacant land would be developed with 4.5 million square feet of commercial and airport-related industrial land uses. Also, the Continental City project at the southeast corner of the airport would be developed with approximately 3.1 million square feet of office and retail uses. The Manchester Square area is being purchased for noise mitigation purposes as part of an ongoing action by LAWA; for this alternative, it is assumed that the purchased property would remain undeveloped.

Added Runway North (Alternative A)

A new runway would be added to the north airfield complex, and three existing runways would be lengthened; all runways would be further separated from one another (see **Figure AES-2**, Alternative A - 2015, Added Runway North). Unlike the other build options, Alternative A does not contemplate development of the Manchester Square property that is being acquired as part of the LAX noise mitigation program.

⁴ As discussed in subsection 3.2.1, *Summary of Alternatives*, in Part 1 of the Final EIS, NEPA requires the alternatives analysis to include the alternative of "no action" (40 C.F.R. §1502.14(d)). The "no action" alternative under NEPA includes the consequences of predictable actions by others in the absence of federal action or approval of the project. CEQA requires analysis of a "no project" alternative which reflects the existing conditions as well as accounts for what would be reasonably expected in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. Because the NEPA "no action" alternative and the CEQA "no project" alternatives address the same types of considerations, the environmental documents have referred to the "no build" as the "no action/no project alternative."

⁵ Without approval of the LAX Master Plan, the Community Plan currently in effect for LAX is the 1981 *Los Angeles International Airport Interim Plan* (Interim Plan). The Interim Plan was intended as a short-term, general guide for coordinating the development of airport facilities by the City of Los Angeles with that of the surrounding communities. The Interim Plan states that major policies for airport capacity, roadway access, adjacent land use compatibility, and environmental impacts would be addressed in a new plan, to be initiated following adoption of the Interim Plan. The Interim Plan includes policies that generally address land use compatibility; regional airport development; improved ground access, cargo facilities, pedestrian circulation, and parking; and measures to reduce noise, air pollution and other adverse end consequences.

A.1 Executive Summary

This alternative would fully meet the projected unconstrained demand⁶ for aviation services at LAX by accommodating approximately 97.9 MAP and 4.17 million tons of cargo in 2015.

A new passenger terminal complex would be constructed at the west end of the airport on Pershing Drive connected to the I-105 and I-405 freeways by a ring road encircling the airport. A separate roadway called the LAX Expressway would be built along side the I-405 and would provide direct freeway access to the airport via a connection to the ring road. New midfield concourses would be connected to the West Terminal and the existing Central Terminal Area (CTA) by an Automated People Mover (APM). New air cargo facilities would be built on newly acquired land east of the airport (see **Figure AES-2**, Alternative A - 2015, Added Runway North).

Alternative A would require the acquisition of approximately 273 acres of property. The LAX Northside project would be reconfigured into a smaller, 2.62-million-square-foot mixed use development and would be renamed the Westchester Southside project. The Continental City site would be used for air cargo facilities.

Added Runway South (Alternative B)

A new runway would be added to the south airfield complex, and three existing runways would be lengthened; all runways would be further separated from one another.

This alternative would fully meet the projected unconstrained demand for aviation services at LAX by accommodating approximately 97.9 MAP and 4.17 million tons of cargo in 2015.

As with Alternative A, a new passenger terminal complex would be constructed at the west end of the airport on Pershing Drive connected to the I-105 and I-405 freeways by a ring road encircling the airport. A separate roadway called the LAX Expressway would be built along side the I-405 and would provide direct freeway access to the airport and a connection to the ring road. New midfield concourses would be connected to the West Terminal and the existing CTA by an APM. New air cargo facilities would be built on newly acquired land east of the airport (see **Figure AES-3**, Alternative B - 2015, Added Runway South). Under Alternative B, the fuel farm would be relocated off-airport to either the Scattergood Electric Generating Station located in Los Angeles or the oil refinery located south of the airport in El Segundo.

Alternative B would require the acquisition of approximately 345 acres of property. As with Alternative A, the LAX Northside project would be reconfigured into a smaller, 2.62-million-square-foot mixed use development and would be renamed the Westchester Southside project. The Continental City site would be used for air cargo facilities.

No Additional Runway (Alternative C)

The number of runways would stay the same at four. Two existing runways would be moved, two runways lengthened and all runways further separated from one another to improve operational efficiency.

This alternative would not fully meet the projected unconstrained demand for aviation services at LAX. It would fully accommodate the cargo demand of 4.2 million tons in 2015. However, it would accommodate approximately 89.6 MAP (a shortfall of approximately 8.3 MAP i.e., the difference between projected demand of 97.9 MAP and capacity of Alternative C, 89.6 MAP) in 2015.

As with Alternatives A and B, a new passenger terminal complex would be constructed at the west end of the airport on Pershing Drive connected to the I-105 and I-405 freeways by a ring road encircling the airport. A separate roadway called the LAX Expressway would be built along side the I-405 and would provide direct freeway access to the airport via a connection to the ring road. New midfield concourses would be connected to the West Terminal and the existing CTA by an APM. New air cargo facilities would be built on newly acquired land east of the airport (see **Figure AES-4**, Alternative C - 2015, No Additional Runway).

Alternative C would require the acquisition of approximately 216 acres of property. The LAX Northside project would be reconfigured into a smaller, 2.62-million-square-foot mixed use development and would be renamed the Westchester Southside project. The Continental City site would be used for maintenance and ancillary facilities.

⁶ Unconstrained forecasts assume that all facilities will be provided to serve the market demand.

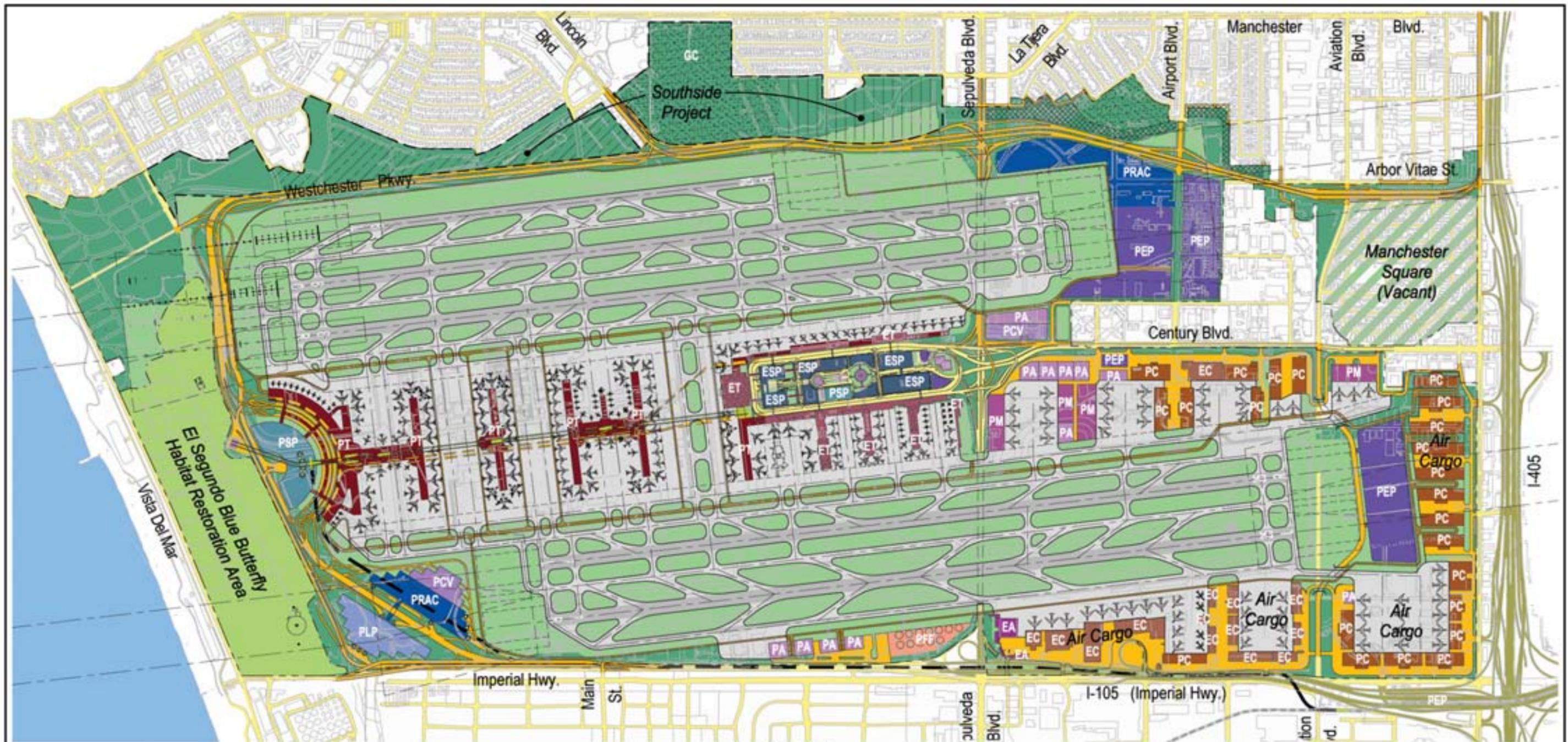


LEGEND

- | | | |
|---|------------------------------------|---|
| Airport Property | Existing Ancillary Facilities | High Density Mixed Use (Hotel, Office, Retail) |
| Existing El Segundo Blue Butterfly Habitat Restoration Area | Existing Fuel Farm | Medium Density Commercial (Hotel, Office, Retail) |
| Existing Runways | Existing Short-Term Public Parking | R/D Business Park |
| Existing Taxiways/Aircraft Aprons | Existing Long-Term Public Parking | Airport Related |
| Existing Terminal Buildings | Existing Rental Car | Golf Course/Open Space/Recreation |
| Existing Cargo Buildings | Planned Cargo Buildings | Residential ANMP Acquisition |
| Existing Roadways | Planned Public Parking Facilities | |
| Existing Light Rail Transit | Planned Taxiway Improvements | |



Prepared by: Landrum & Brown, March 2004



LEGEND

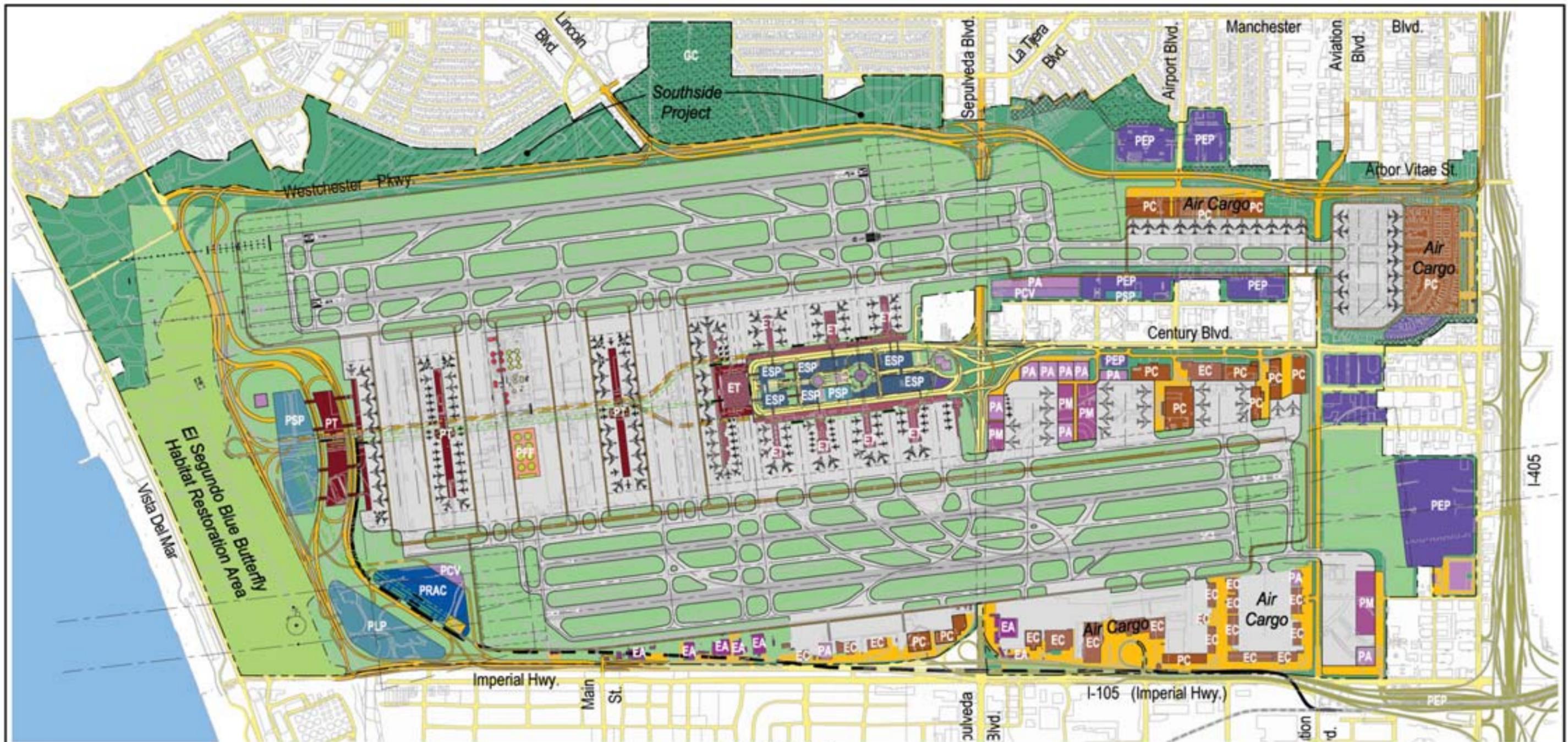
--- Airport Property Boundary Line	EA Existing Ancillary Facility	Proposed Runways	Proposed Airport Service Pavement	PRAC Proposed Rental Car Facility
Green Airfield/Airport Open Space	ESP Existing Short-Term Public Parking	Proposed Taxiways/Aircraft Aprons	PFF Proposed Fuel Farm	Berms
ET Existing Terminal Buildings	Existing Roadways	PT Proposed Terminals	Proposed Airside Service Roads	Medium Density Commercial (Hotel, Office, Retail)
EC Existing Cargo Building	Existing El Segundo Blue Butterfly Habitat Restoration Area	PC Proposed Cargo Building	Proposed People Mover	R/D Business Park
EM Existing Maintenance Facility	Existing Light Rail Transit	PM Proposed Maintenance Facility	PCV Proposed Commercial Vehicle Holding Area	Airport Related
400' 800' 2,400'	Proposed Light Rail Transit (Above Grade)	PA Proposed Ancillary Facility	PEP Proposed Employee Parking	GC Golf Course/Recreation
800' 0 1,600'	Proposed Light Rail Transit (Below Grade)	PSP Proposed Short-Term Public Parking	PLP Proposed Long-Term Public Parking	Open Space/Landscape Buffers
Prepared by: Landrum & Brown, October 2000				Residential ANMP Acquisition
				Navigation Aids



LEGEND

--- Airport Property Boundary Line	EA Existing Ancillary Facility	Proposed Runways	Proposed Airport Service Pavement	PRAC Proposed Rental Car Facility
Airfield/Airport Open Space	ESP Existing Short-Term Public Parking	Proposed Taxiways/Aircraft Aprons	PFF Proposed Fuel Farm	Berms
ET Existing Terminal Buildings	Existing Roadways	Proposed Terminals	Proposed Airside Service Roads	Medium Density Commercial (Hotel, Office, Retail)
EC Existing Cargo Building	Existing El Segundo Blue Butterfly Habitat Restoration Area	PC Proposed Cargo Building	Proposed People Mover	R/D Business Park
EM Existing Maintenance Facility	Existing Light Rail Transit	PM Proposed Maintenance Facility	PCV Proposed Commercial Vehicle Holding Area	Airport Related
400' 800' 2,400'	Proposed Light Rail Transit (Above Grade)	PA Proposed Ancillary Facility	PEP Proposed Employee Parking	GC Golf Course/Recreation
800' 0 1,600'	Proposed Light Rail Transit (Below Grade)	PSP Proposed Short-Term Public Parking	PLP Proposed Long-Term Public Parking	Open Space/Landscape Buffers
				--- Navigational Aids

Prepared by: Landrum & Brown, October 2000



LEGEND

--- Airport Property Boundary Line	EA Existing Ancillary Facility	Proposed Runways	Proposed Airport Service Pavement	PRAC Proposed Rental Car Facility
Green Airfield/Airport Open Space	ESP Existing Short-Term Public Parking	Proposed Taxiways/Aircraft Aprons	PFF Proposed Fuel Farm	Berms
ET Existing Terminal Buildings	Existing Roadways	PT Proposed Terminals	Proposed Airside Service Roads	Medium Density Commercial (Hotel, Office, Retail)
EC Existing Cargo Building	Existing El Segundo Blue Butterfly Habitat Restoration Area	PC Proposed Cargo Building	Proposed People Mover	R/D Business Park
EM Existing Maintenance Facility	Existing Light Rail Transit	PM Proposed Maintenance Facility	PCV Proposed Commercial Vehicle Holding Area	Airport Related
400' 800' 2,400'	Proposed Light Rail Transit (Above Grade)	PA Proposed Ancillary Facility	PEP Proposed Employee Parking	GC Golf Course/Recreation
800' 0 1,600'	Proposed Light Rail Transit (Below Grade)	PSP Proposed Short-Term Public Parking	PLP Proposed Long-Term Public Parking	Open Space/Landscape Buffers
North Arrow				--- Navigational Aids

Prepared by: Landrum & Brown, October 2000

Alternative C was identified as the LAWA staff-preferred alternative in the 2001 Draft EIS/EIR. Subsequently, Alternative D, described below, was added and identified as the LAWA staff-preferred alternative.

The Enhanced Safety and Security Plan (Alternative D)

Following the publication of the Draft LAX Master Plan and the Draft EIS/EIR in January 2001, comments received during the public comment period for the Draft EIS/EIR called for a regional approach alternative, whereby growth at LAX would be planned so as to encourage other airports to accommodate a larger share of future air travel demand. In addition, the terrorist attacks that occurred on September 11, 2001, greatly elevated the issue of airport security. In response to these events, the newly elected Mayor of Los Angeles directed the Los Angeles Board of Airport Commissioners to develop a new LAX Master Plan alternative that, consistent with public comment calling for a regional approach alternative, would be designed to accommodate passenger and cargo activity levels at LAX that would approximate those of the No Action/No Project Alternative, have fewer environmental impacts than the No Action/No Project Alternative and, in light of the events of September 11, 2001, would be designed to enhance airport safety and security. Alternative D, the Enhanced Safety and Security Plan, was developed in consultation with LAWA staff and the FAA as a fifth alternative within the existing Master Plan process. In December 2004, the Los Angeles City Council adopted the Final LAX Master Plan for Alternative D as the strategic framework for long-term airport development and took other final actions associated with the approval of Alternative D.

Enhanced airfield safety would be achieved through airfield facility modifications that would mitigate the primary causes of runway incursions at LAX. The number of runways would stay the same at four. Two existing runways would be moved, two runways would be lengthened, and all runways further separated from one another to improve operational efficiency and safety.

Alternative D emphasizes the maintenance of LAX's role as an international gateway. It encourages a long-term regional approach to serving air traffic demand in the Los Angeles basin by designing facilities at LAX to accommodate passenger and cargo activity levels comparable to the No Action/No Project Alternative activity level, while designing facilities that would allow air carriers to emphasize international routes at LAX.⁷

Alternative D would enhance security by limiting access by private vehicles to the main airport infrastructure to reduce the risk to airport users. The existing public parking structures in the CTA would be relocated and would be replaced by new centralized passenger terminals. Existing Terminals 1 through 7 would be reconfigured. The Tom Bradley International Terminal (TBIT) would be reconfigured with the addition of a new North/South Linear Concourse. A West Satellite Concourse would be built west of the TBIT.

A new Ground Transportation Center (GTC) and an Intermodal Transportation Center (ITC) would be constructed east of Aviation Boulevard and would become the primary access points for all passenger drop-off and pick-up and vehicle parking. Passengers and employees would access the CTA via an APM system from the new GTC, ITC, and consolidated Rent-A-Car (RAC) facilities. Intersection improvements would be made to the off-airport transportation network to accommodate the shift in traffic patterns from the CTA to the GTC and ITC areas. Some cargo facilities would be modified under Alternative D, with the overall square footage being equivalent to the No Action/No Project Alternative (see **Figure AES-5**, Alternative D - 2015, Enhanced Safety and Security Plan).

⁷ Alternative D is better able to accommodate long-haul and international service as proposed gates, taxiways and terminal facilities are developed that meet the size requirements of wide-body aircraft. Today, LAX has a limited number of wide-body gates that are each constrained in number, size (both wing-span space and depth), taxiway access (all have single taxiway access) and holdroom space. Nineteen of these wide-body gates are remote gates requiring passengers to be bussed to the gate on the airside roads. None of the existing gates at LAX are sized to accommodate the Airbus A380 aircraft despite the fact that its launch carriers plan to serve LAX with this aircraft in the Fall of 2006. The passenger demand forecast for LAX shows very strong international growth continuing in the future. The unconstrained passenger forecast shows that international demand could grow to over half of the total passengers served. With limited facilities and constrained operations, airlines in the future will have to choose which passengers it will serve at LAX. In a market environment, the carriers will choose to serve the highest yielding passengers at LAX when limited facilities do not allow all passengers to be served. Other airports in the Los Angeles region will have additional domestic service available to absorb the excess local domestic demand not served at LAX.

A.1 Executive Summary

Alternative D would require the acquisition of approximately 78⁸ acres of property, the least amount of land acquisition of all the proposed build alternatives. The 340-acre, LAX Northside project described in the No Action/No Project Alternative that is currently entitled for 4.5 million square feet of development, would be developed for Alternative D; however, under Alternative D, the existing trip cap that exists for LAX Northside would be reduced to limit vehicle trips to a level comparable to that associated with the 2.6-million-square-foot Westchester Southside development proposed under Alternatives A, B, and C.

A.1.4.1 Environmentally Preferable Alternative

Of the five alternatives considered for the LAX Master Plan (i.e., the four build alternatives - Alternatives A, B, C, and D, and the No Action/No Project Alternative), Alternative D, the Enhanced Safety and Security Plan, in conjunction with the various Master Plan commitments and mitigation measures, is the Environmentally Preferable Alternative. This is based on the fact that the nature and extent of development proposed under Alternative D are considerably less intense than those of the other build alternatives, leading to relatively fewer and lesser environmental impacts. Also, Alternative D will result in fewer and less intense environmental impacts when compared to the No Action/No Project Alternative.

A.1.4.2 FAA Preferred Alternative

Alternative D, the Enhanced Safety and Security Plan, in conjunction with the various Master Plan commitments and mitigation measures, has been determined by the FAA to be the "preferred alternative" for addressing existing and future aircraft operations while enhancing airfield safety and security at Los Angeles International Airport.

A.1.5 Specific Federal Environmental Analysis

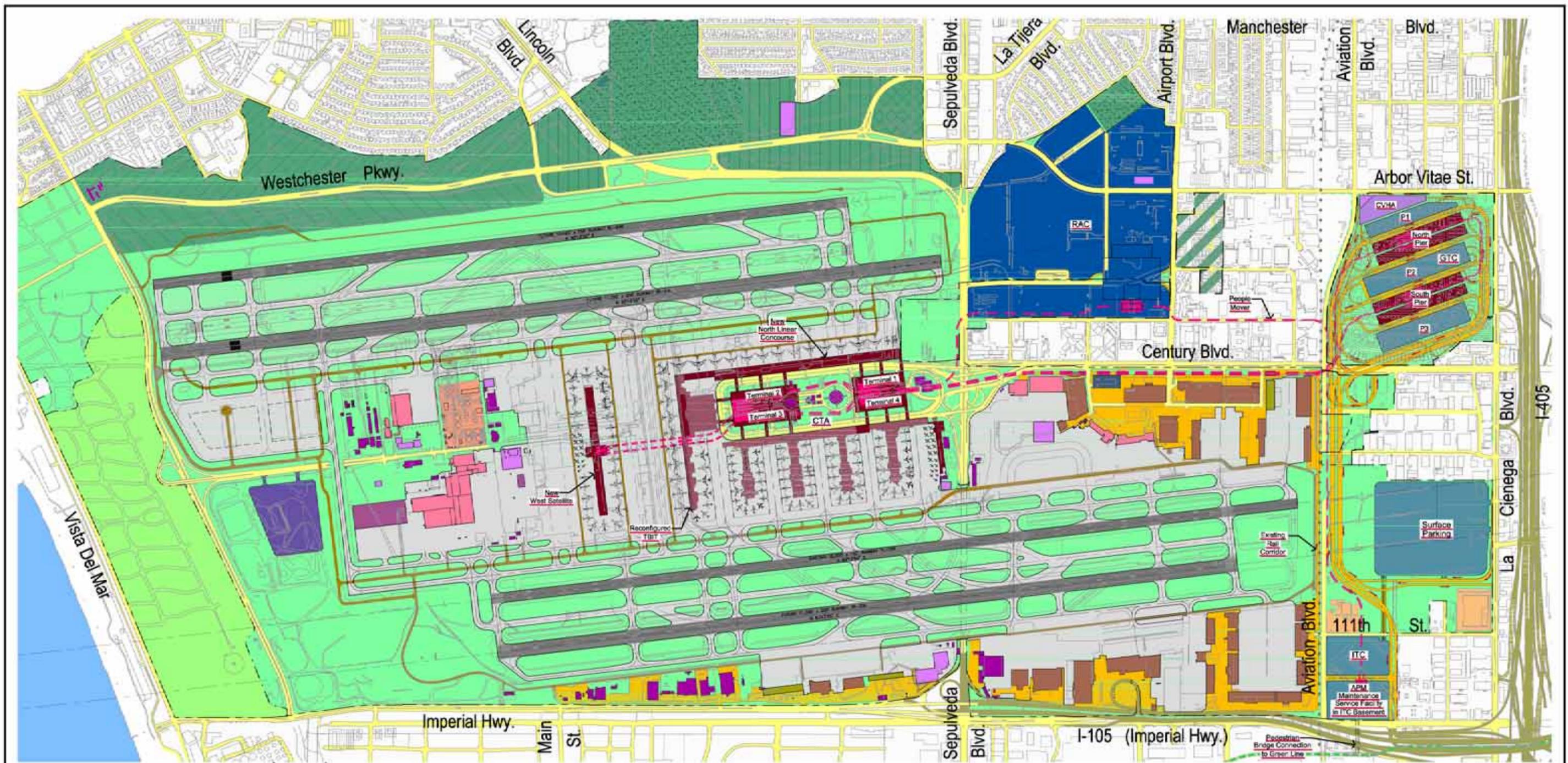
This overview section summarizes key environmental impacts associated with the topics addressed in Volume A of the Final EIS, namely Off-Airport Surface Transportation, Environmental Justice (NEPA Analysis), Air Quality, Endangered and Threatened Species of Flora and Fauna, and Coastal Zone Management and Coastal Barriers. For purposes of FAA's NEPA analysis, these summaries replace the summaries provided in Part I of the Final EIS. The environmental analysis presented in Volume A serves to clarify, amend, and refine the information presented in other portions of the Final EIS, based on certain information becoming available and events occurring subsequent to completion of Volumes 1 through 4 of the Final EIS.

In addition, a comprehensive summary of recommended Master Plan commitments and mitigation measures proposed to be implemented by LAWA for each build alternative is included at the end of this Executive Summary.

A.1.5.1 Off-Airport Surface Transportation

Each of the alternatives, including the No Action/No Project Alternative would affect off-airport surface transportation. The effects are manifested through changes in the nature, volume, and distribution characteristics of vehicle trips associated with the land uses within the Master Plan area, as well as changes in travel modes (i.e., increased opportunities for public transportation access at the airport, which would help reduce trips in private vehicles). Additionally, each of the build alternatives would affect off-airport surface transportation through improvements proposed to the off-airport circulation system, which includes improvements to numerous streets and intersections in the vicinity of the airport, and, under Alternatives A, B, and C, the construction of the LAX Expressway and ring road to provide direct access to Interstate 405 (I-405) and I-105.

⁸ This figure has been revised since completion of Volumes 1 through 4 of the Final EIS to reflect more current statistics for the land and associated uses that would be acquired under Alternative D. These updated property statistics are described and analyzed in the (First) Addendum to the Final EIR and as also included as part of the Final EIS.



Legend

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



Prepared by Landrum & Brown, April 2003

As discussed and analyzed in Section 4.3.2, *Off-Airport Surface Transportation*, of Part 1 of the Final EIS, disruption of airport area roads will take place during construction. Analysis reveals that the process of constructing improvements to the airport under any of the build alternatives would result in substantial, albeit temporary, adverse effects to the local roadway system that would not otherwise occur under the No Action/No Project Alternative and cannot be completely mitigated. Under the construction phasing assumed for Alternatives A, B, and C, the most intense period of impact will take place three to four years into the project. Under the currently recommended construction phasing for Alternative D, the most intense period of construction traffic impact would take place in about year 2008.

In 2015, at completion of the build alternatives, it is projected that numerous off-airport transportation facilities (i.e., intersections, street segments, freeway segments, and freeway ramps) would operate at a poor level of service (i.e., operate in a manner considered to be "deficient") due to a combination of project-related traffic and, moreover, anticipated increases in background (i.e., non-project) traffic. The nature and number of such facilities are summarized below, based on the original traffic analysis completed for Part I of the Final EIS:

Facility Type	Number of Deficient Facilities in 2015 (Unmitigated)				
	2015 NA/NP	2015 Alt A	2015 Alt B	2015 Alt C	2015 Alt D
Intersections (61 total)	40	35	31	31	32
Street Links	9	10	10	10	12
Freeway Segments	4	5	5	5	5
Freeway Ramps	2	1	0	1	3
Total Facilities	55	51	46	47	52
Additional Intersections (24 total)	n/a	n/a	n/a	7	18

As indicated above, 61 intersections were analyzed for all five alternatives. The analysis evaluated the extent to which traffic associated with each build alternative would adversely affect off-airport intersections, as compared to the No Action/No Project Alternative (i.e., would increase traffic over and above that which would otherwise occur under the No Action/No Project Alternative to an extent that a substantial deterioration in the operating characteristics of an intersection occurs). The original analysis, which assumed a substantially larger Playa Vista project, found that Alternative A would adversely affect 19 intersections, Alternative B would adversely affect 20 intersections, and Alternative C would adversely affect 17 intersections. Alternative D would adversely affect 22 of the 61 intersections analyzed, as well as 10 of 24 additional intersections evaluated specifically for Alternative D. Based on the off-airport surface transportation mitigation programs formulated for the build alternatives, it was determined that all of the adversely affected intersections could be fully mitigated, with the following exceptions: six intersections would not be fully mitigated (i.e., would still be adversely impacted even with the proposed mitigation measures) under Alternatives A and B; eight intersections would not be fully mitigated under Alternative C, and three intersections would not be fully mitigated under Alternative D.

Subsequent to completion of the original traffic analysis presented in Part I of the Final EIS, the City of Los Angeles approved, on September 22, 2004, a much smaller Phase II for the Playa Vista planned development than was assumed in the original traffic analysis. As a major development project located in the vicinity of LAX, the Playa Vista project contributes a substantial portion of the background traffic assumed in the evaluation of impacts of the LAX Master Plan project. In light of the reduction in Phase II of the Playa Vista project, and reduction in background traffic relative to LAX associated with the approved version of Phase II, the FAA and LAWA completed a revised traffic analysis regarding the LAX Master Plan to assess changes in impacts and associated changes in mitigation requirements resulting from the reduction in Playa Vista background traffic. The revised traffic analysis for Alternative D, which included reevaluation of the No Action/No Project Alternative with the reduced Playa Vista project, found that the number of deficient facilities in 2015 would be reduced from 55 to 47 for the No Action/No Project Alternative and from 51 to 49 for Alternative D, as compared to the results of the original traffic analysis. Regarding intersection impacts of Alternative D, as compared to the No Action/No Project Alternative, the revised analysis found that the number of adversely affected intersections would be reduced from 32 to 25, compared to the results of the original analysis. All but two of the adversely impacted intersections could be fully mitigated (i.e., two of the 25 intersections would still be adversely affected even with

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implementation of the proposed mitigation measures). It is expected that, similar to Alternative D, the overall traffic conditions in 2015 under Alternatives A, B, and C would be better than those identified in the original traffic analysis, once the reduction in Playa Vista traffic is taken into account. Given that the nature of the change addressed in the revised traffic analysis, that being the reduction in traffic from the Playa Vista project, applies equally to the background traffic used in evaluating all five alternatives, the comparative ranking of the four build alternatives relative to off-airport traffic impacts would not be expected to change from that of the original traffic analysis.

A.1.5.2 Environmental Justice (NEPA Analysis)

"Environmental Justice" refers to the concept that minority or low-income populations should not be disproportionately exposed to adverse environmental impacts caused by federal action. To prevent this outcome, federal Executive Order (EO) 12898 directs each federal agency "to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." U.S. Department of Transportation Order 5610.2, incorporates the principles of environmental justice into existing agency programs, policies, and activities. Volume A of the Final EIS provides a separate analysis of environmental justice for purposes of NEPA. Part 1 of the Final EIS presents environmental justice findings for CEQA purposes and for use in the City's decision-making process.

Public Involvement: A fundamental principle of environmental justice is public participation in the decision-making process. As more fully described in Section A.2.2, *Environmental Justice (NEPA Analysis)*, in Volume A of the Final EIS, a number of outreach efforts have been undertaken within nearby communities. Since the LAX Master Plan was initiated, and prior to publication of the Draft EIS/EIR, LAWA staff met on more than 100 occasions with members of low-income and/or minority communities or their representatives. In addition to these community meetings, LAWA and FAA held public meetings in affected communities to identify the appropriate scope of the Draft EIS/EIR in accordance with CEQA and NEPA. Subsequent to the release of the Draft EIS/EIR, a series of community workshops on Environmental Justice were held beginning in May 2001. Four workshops were held in the communities of Inglewood, Lennox, and South Los Angeles. Notices and key documents, including a comprehensive summary of the Draft EIS/EIR, were translated into Spanish. In addition, important community input on environmental justice was also received during the more than 9-month public circulation period for the Draft EIS/EIR.

In association with public circulation of the Supplement to the Draft EIS/EIR, three additional environmental justice workshops, using outreach methods and a format similar to the earlier workshops, were held in Inglewood, Lennox, and South Los Angeles during July and August of 2003. Further input was also obtained during the public circulation period at twelve public hearings conducted for the Supplement to the Draft EIS/EIR, and more recently, a LAWA environmental justice working group in conjunction with the Mayor's office conducted additional outreach to local organizations, environmental groups, and civic, religious, and business leaders in adjacent communities.

Defining an Environmental Justice Impact: DOT Order 5610.2 defines a "disproportionately high and adverse effect on minority and low-income populations" as an adverse effect that:

- (1) is predominantly borne by a minority population and/or a low-income population; or
- (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority and/or non-low-income population.

DOT Order 5610.2 also states that mitigation and enhancement measures and offsetting benefits may be taken into account in determining whether there is a disproportionately high and adverse effect.

Key Conclusions: The findings of the environmental justice analysis are based on detailed analysis available in relevant sections of Part I of the Final EIS (which discuss impacts related to other resource categories such as air quality, noise, surface transportation, etc.), Volume A of the Final EIS, and related technical reports and appendices. From those sections, the impacts that would result from Alternatives A, B, C, and D and that have the potential to affect minority and/or low-income communities disproportionately when compared against the No Action/No Project Alternative were identified. Based on the LAWA-approved mitigation program prepared pursuant to CEQA, mitigation is also identified that

would address impacts identified under the NEPA analysis. Because LAWA's mitigation program identified mitigation necessary to address significant environmental impacts as identified under CEQA standards, such measures not only meet, but often exceed, what would otherwise be necessary to avoid, offset, minimize, or reduce the potential for significant impacts on minority and/or low-income areas identified under the NEPA analysis. Taking into consideration the impacts identified under NEPA standards and the mitigation for such impacts, the analysis then identifies any disproportionately high and adverse effects that may be anticipated to occur under each of the action alternatives.

The key findings relevant to the NEPA analysis in compliance with EO 12898 and DOT Order 5610.2, and based upon CEQ guidance "Environmental Justice Guidance under the National Environmental Policy Act," are outlined below.

Noise

Significant noise impacts, as defined by a 1.5 CNEL or higher increase at or above the 65 CNEL, would occur under Alternatives A, B, and C compared to the No Action/No Project Alternative with the majority of impacts occurring in minority and/or low-income communities. Under Alternative D, no significant noise impacts are anticipated within minority and/or low-income communities as no noise-sensitive uses within these areas would experience an increase in noise of 1.5 CNEL or higher at or above the 65 CNEL noise level.

Adverse impacts, that would be experienced by noise-sensitive uses exposed to 65 CNEL noise levels would occur under Alternatives A, B, C, and D. Such adverse effects are not considered significant under Federal standards.

For Alternatives A, B, and C, noise impacts on minority and/or low-income communities are considered disproportionately high and adverse for residential populations and public schools prior to implementation of mitigation measures, since there would be substantially greater noise impacts in these communities compared to non-minority/non-low-income communities.

For Alternatives A, B, and C, mitigation measures presented in Part I of the Final EIS, and new environmental justice mitigation measures presented in Section A.2.2, *Environmental Justice (NEPA Analysis)*, of Volume A of the Final EIS, would address both significant and adverse impacts, including the potential for adverse interim noise effects within minority and/or low-income areas prior to completion of soundproofing. However, if the availability of comprehensive mitigation is not sufficient to avoid or minimize the significant aircraft noise impacts, Alternatives A, B, and C, would still have some residual disproportionately high and adverse effect on minority and/or low-income populations.

Under Alternative D, there would be no significant noise impacts in minority and/or low-income communities as defined by a 1.5 CNEL or higher increase at or above 65 CNEL noise levels. Although some areas within minority and/or low-income communities would be newly exposed to 65 CNEL or higher noise levels, Alternative D would provide an overall reduction in population exposed to noise levels of 65 CNEL or greater in these communities compared to the No Action/No Project Alternative. New exposure to noise levels of 65 CNEL would not be considered a significant impact under federal standards. However, mitigation measures adopted by LAWA in the CEQA process and presented in Section 4.2, *Land Use*, of Part I of the Final EIS and Section A.2.2, *Environmental Justice (NEPA Analysis)*, of Volume A of the Final EIS, would address adverse effects associated with new exposure to 65 CNEL or greater noise levels within these areas. This includes new environmental justice mitigation measures developed to address the potential for adverse interim noise effects within minority and/or low-income areas prior to completion of soundproofing.

Air Quality and Health Effects

Both criteria and toxic air pollutants have the potential to adversely affect the health of individuals within minority and/or low-income communities. However, given the lack of federal standards for ambient concentrations of toxic air pollutants and for assessing potential acute non-cancer health hazards, no findings are made regarding the potential for significant or disproportionately high and adverse impacts on minority and/or low-income communities associated with toxic air pollutants. Instead, the Final EIS discloses information concerning health risks from the Human Health Risk Assessment prepared by the City of Los Angeles pursuant to CEQA, which presents a qualitative comparison of relative health risks associated with toxic air pollutants. Findings regarding environmental justice impacts associated with criteria pollutants are provided below.

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Alternatives A, B, and C would each result in adverse air quality effects. In the Interim Year, concentrations of nitrogen dioxide (NO₂) and particulate matter (PM₁₀) are expected to exceed the NAAQS under Alternatives A, B, and C, and concentrations of 8-hour carbon monoxide (CO) are projected to exceed the NAAQS under Alternative A. These exceedances would not occur under the No Action/No Project Alternative. In 2015, none of these alternatives would exceed the NAAQS. As the NAAQS are health-based standards, the expected Interim Year exceedances under Alternatives A, B, and C could result in adverse health effects. The exceedance of the CO NAAQS under Alternative A is predicted to occur in areas located away from minority and/or low-income populations and, because it is a highly localized pollutant, is not expected to result in a disproportionately high and adverse impact on these communities. Exceedances of the PM₁₀ NAAQS under Alternatives A, B, and C, and of the NO₂ NAAQS under Alternative A, are not expected to fall within minority and/or low-income communities. Although, in the absence of conclusive data, it is possible that these exceedances could occur within minority and/or low-income communities, and that pollutant concentrations could be disproportionately high and adverse. Under Alternatives B and C, exceedances of the NAAQS for NO₂ in the Interim Year are expected to occur within minority and/or low-income communities in the study area, and are predicted to result in disproportionately high and adverse impacts to these communities.

Pollutant concentrations under Alternative D would be lower than the NAAQS for all criteria pollutants in both the Interim Year and 2015 and no adverse, criteria pollutant related health impacts to the minority and/or low-income populations within the study area are anticipated to occur.

Surface Transportation

The majority of surface transportation impacts under Alternatives A, B, and C would occur in non-minority and/or non-low-income areas west of I-405 and therefore would not have a disproportionately high and adverse effect on minority and/or low-income areas. Although under Alternative D the majority of impacted intersections would be located in minority and/or low-income communities, with mitigation there would be no disproportionately high and adverse effects.⁹ However, the FAA and LAWA will take into consideration the special needs of minority and low-income individuals who rely heavily on public transportation in implementing traffic mitigation measures and Master Plan commitments.

Relocation

There is no potential for disproportionately high and adverse effects on minority and low-income communities due to relocation of residents and businesses under Alternatives A, B, C, and D with implementation of Master Plan commitments and mitigation measures presented in Section 4.4.2, *Relocation of Residences or Businesses*, of Part I of the Final EIS. These commitments and mitigation measures address the special needs and concerns of minority business owners. Acquisition mitigation under Mitigation Measure MM-RBR-2, Relocation Opportunities through Aircraft Noise Mitigation Program, may also provide benefits to minority and low-income communities through relocation of airport dependent businesses to areas impacted by noise that are proposed for conversion to compatible land uses while also supporting local employment and economic development.

Environmental Justice Program: The environmental justice community outreach process was developed to assure an effective dialogue with minority and low-income communities affected by LAX in order to best respond to the needs of the various communities as Master Plan commitments and mitigation measures associated with the LAX Master Plan are developed and implemented. These mitigation measures and Master Plan commitments constitute LAWA's Environmental Justice Program. Although the analysis in Section A.2.2, *Environmental Justice (NEPA Analysis)*, of Volume A of the Final EIS, finds that there would be no disproportionately high and adverse effects on minority and/or low-income communities associated with Alternative D, the preferred alternative, even in the absence of disproportionately high and adverse effects under the Federal analysis, mitigation measures and Master Plan commitments are identified by LAWA to address environmental justice concerns under CEQA.

⁹ Under the original traffic analysis, the majority of impacted intersections would be located in non-minority and low-income communities. Based on the revised traffic analysis, which accounted for the reduced Playa Vista trips assumptions and updated and modified the findings of the original analysis, the majority of the impacted intersections would be located in minority and low-income communities. This is because the areas benefited by the reduced Playa Vista project largely occur in the immediate vicinity of the Playa Vista project, which is located in a non-minority and/or low-income area. Mitigation measures are provided for all of the impacted intersections.

The following mitigation measures and Master Plan commitments are proposed for implementation by LAWA and are presented in subsection A.2.2.6, *Environmental Justice Program*, in Volume A of the Final EIS:

Mitigation Measures

Environmental Justice

- ◆ MM-EJ-1. Expedite Residential Soundproofing for Qualifying Property Owners (Alternatives A, C, and D).
- ◆ MM-EJ-1. Expedite Residential Soundproofing for Qualifying Property Owners (Alternative B).

Aircraft Noise/Land Use

- ◆ MM-LU-1. Implement Revised Aircraft Noise Mitigation Program (Alternatives A, B, C, and D).
- ◆ MM-LU-3. Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn (Alternatives A, B, C, and D).
- ◆ MM-LU-4. Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise (Alternatives A, B, C, and D).
- ◆ MM-LU-5. Upgrade and Expand Noise Monitoring Program (Alternatives A, B, C, and D).
- ◆ MM-N-5. Conduct Part 161 Study to Make Over-Ocean Procedures Mandatory (Alternatives A, B, C, and D).

Off-Airport Surface Transportation

- ◆ MM-ST-6. Add New Traffic Lanes (Alternative D).
- ◆ MM-ST-7. Restripe Existing Facilities (Alternative D).
- ◆ MM-ST-8. Add ATSAC, ATCS or Equivalent (Alternative D).
- ◆ MM-ST-10. Modify Signal Timing (Alternative D).
- ◆ MM-ST-12. Provide New Ramps Connecting I-105 to LAX Between Aviation Boulevard and La Cienega Boulevard (Alternative D).
- ◆ MM-ST-13. Create a New Intersection at I-405 and Lennox Boulevard (Alternative D).
- ◆ MM-ST-15. Provide Fair-Share Contributions to Transit Improvements (Alternative D).
- ◆ MM-ST-16. Provide Fair-Share Contributions to LA County's Project to Extend the Marina Expressway (Alternative D).

Air Quality

- ◆ MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality (Alternatives A, B, C, and D).
- ◆ MM-AQ-2. Construction-Related Measure (Alternatives A, B, C, and D).
- ◆ MM-AQ-3. Transportation-Related Measure (Alternatives A, B, C, and D).
- ◆ MM-AQ-4. Operations-Related Measure (Alternatives A, B, C, and D).

Master Plan Commitments

Environmental Justice

- ◆ EJ-1. Aviation Curriculum (Alternatives A, B, C, and D).
- ◆ EJ-2. Aviation Academy (Alternatives A, B, C, and D).
- ◆ EJ-3. Job Outreach Center (Alternatives A, B, C, and D).
- ◆ EJ-4. Community Mitigation Monitoring (Alternatives A, B, C, and D).

Relocation of Residences or Businesses

- ◆ RBR-1. Residential and Business Relocation Program (Alternatives A, B, C, and D).

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Air Quality

- ◆ AQ-1. Air Quality Source Apportionment Study (Alternatives A, B, C, and D).
- ◆ AQ-2. School Air Filters (Alternatives A, B, C, and D).
- ◆ AQ-3. Mobile Health Research Lab (Alternatives A, B, C, and D).

Off-Airport Surface Transportation

- ◆ ST-23. Expand Gateway LAX Improvements/Greening of Impacted Communities (Alternatives A, B, C, and D).

Related Topics: More than a dozen environmental disciplines are relevant to the environmental justice topic. The sections in Part I of the Final EIS that served as a starting point for this analysis are:

- ◆ 4.1, *Noise*
- ◆ 4.2, *Land Use*
- ◆ 4.3, *Surface Transportation*
- ◆ 4.4.2, *Relocation of Residences or Businesses*
- ◆ 4.6, *Air Quality*
- ◆ 4.9, *Historic/Architectural and Archaeological/Cultural and Paleontological Resources*
- ◆ 4.18, *Light Emissions*
- ◆ 4.20, *Construction Impacts*
- ◆ 4.21, *Design, Art and Architecture Application/Aesthetics*
- ◆ 4.24.1, *Human Health Risk Assessment*

A.1.5.3 Air Quality

The alternatives would affect air quality by changing the amount of emissions released by sources at or near LAX, as well as by changing the locations of those emission sources. The changes can be positive or negative. Airport infrastructure development in some cases can support increases in activity levels at the airport (such as the number of aircraft operations and the number of vehicles accessing the airport) and, thus, increase emissions. However, infrastructure improvements can also reduce congestion (through airfield and roadway changes) and reduce the use of auxiliary power units at the gates (by providing ground-based electrical power and air conditioning).

One of the criteria used to develop the LAX Master Plan alternatives was to mitigate or reduce, to the extent feasible, the environmental impacts associated with airport operations. Therefore, various design features were incorporated into the alternatives to reduce air quality impacts. For example, in all of the build alternatives:

- ◆ Improvements to the roadways and improved parking facilities would reduce automobile idling time, which in turn would reduce motor vehicle air emissions.
- ◆ Modifications to the airfield taxiways and runways would reduce airfield delay and congestion, thus decreasing aircraft idling times and air emissions.
- ◆ Installation of preconditioned air and electrical power hookups at terminal gates would allow airlines to minimize the use of auxiliary power units (on-board turbines).
- ◆ Increased separation of aircraft and ground support equipment from vehicles accessing the airport (such as automobiles and shuttles) would reduce the airport-generated peak air pollutant concentrations in community locations.

In addition to the design features associated with the Master Plan, LAWA has prepared an extensive list of CEQA-related air quality mitigation measure components that it proposes to implement for emission control purposes. These mitigation components were developed from reviews of mitigation measures and plans used at other airports, extensions of ongoing LAWA environmental policies, and public comments received on the Draft EIS/EIR and the Supplement to the Draft EIS/EIR. These mitigation measures include the following general approaches to reduce air quality impacts:

- ◆ *LAX Master Plan Mitigation Plan for Air Quality* to expand and revise the existing air quality mitigation programs at LAX in consultation with FAA, the U.S. Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD).
- ◆ *Transportation-Related Measure* to develop and construct at least eight additional FlyAway service terminals; other components may be included.
- ◆ *Operations-Related Measure* to convert ground support equipment to extremely low emission technology such as electric power, fuel cells, or future technology developments; other components may be included.
- ◆ *Construction-Related Measure* to reduce construction equipment and activity emissions. LAWA would implement steps to reduce fugitive dust and engine emissions from construction activities. These steps would include: requiring the use of emissions-reduction engine and fuel technology; requiring watering or soil stabilization; paving on-site construction routes; covering truck beds; requiring construction-vehicle wheel washing facilities at entrances to public roads; minimizing the use of portable generators; specifying clean diesel technology with emission control devices for all portable generators; and using an on-site rock crushing facility to reuse rock/concrete, thus reducing off-site haul truck trips.

Approach to Analysis: Five criteria pollutants were evaluated, including sulfur dioxide (SO₂), carbon monoxide (CO), particulate matter (PM₁₀), nitrogen dioxide (NO₂), and ozone (O₃). The evaluation of O₃ was conducted using the standard practice of evaluating volatile organic compounds (VOC) and nitrogen oxides (NO_x), which are key components in the formation of ozone. Although lead (Pb) is a criteria pollutant, it was not included in the analysis since airport operations are expected to have negligible emission potential for this pollutant.

Data collection studies and modeling analyses have been conducted to estimate the impact that LAX activities would have on future air quality around the airport. Data on existing aircraft operations, traffic counts, and other airport tenant operations were collected for 1996 baseline conditions. Supplemental information was collected to characterize Year 2000 conditions. Forecasts of future year activity were developed and emission inventories were estimated for the 1996 baseline, Year 2000 conditions, and future conditions under the No Action/No Project Alternative and the four build alternatives. Both unmitigated and mitigated emission inventories were developed for each build alternative.

The emission inventories were used with air dispersion models to predict future ambient air pollutant concentrations. For NEPA purposes, estimated emissions for each build alternative were compared to those for the No Action/No Project Alternative, and modeled pollutant concentrations for each build alternative (including future background concentrations) were compared to National Ambient Air Quality Standards (NAAQS).

The impact that the design features and recommended air quality mitigation measures for the Master Plan have on air quality is best seen by comparing the estimated future emission inventories for each build alternative to those for the No Action/No Project Alternative as well as by comparing the resulting air pollutant concentrations predicted for each build alternative (including future background concentrations) to the NAAQS.

Emissions: Alternatives A, B, C, and D would have lower total (on-airport plus off-airport plus construction) mitigated VOC emissions in 2015 than the No Action/No Project Alternative. In addition, Alternative D would have lower mitigated CO, NO_x, SO₂, and PM₁₀ emissions in 2015 than the No Action/No Project Alternative. Finally, Alternative D would have the lowest mitigated criteria pollutant emissions of the four build alternatives in 2015.

Comparing the mitigated operation and construction emissions of the build alternatives to the emissions under the No Action/No Project Alternative indicates that:

- ◆ Total mitigated emissions of NO_x and PM₁₀ estimated for Alternatives A, B, and C would be greater than emissions estimated for the No Action/No Project Alternative in each year analyzed. Total mitigated VOC emissions for Alternatives A, B, and C would be lower than those estimated for the No Action/No Project Alternative in each year analyzed. Total mitigated emissions of CO and SO₂ estimated for Alternatives A, B, and C would be greater than those estimated for the No Action/No Project Alternative in 2015 only.

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- ◆ Total mitigated emissions of SO₂ and PM₁₀ estimated for Alternative D would be greater than emissions estimated for the No Action/No Project Alternative in the interim year only. Total mitigated emissions of VOC, CO, and NO_x estimated for Alternative D would be lower than emissions estimated for the No Action/No Project Alternative in each year analyzed.

Ambient Air Pollutant Concentrations: As noted in subsection 4.6.4, *Thresholds of Significance*, of Part I of the Final EIS, the federal concentration thresholds are the NAAQS. The relative concentrations of Alternatives A, B, C, and D, and the No Action/No Project Alternative compared to the NAAQS¹⁰ are shown in **Impact Comparison AES-1**, Mitigated Interim Year Concentrations Compared to Most Stringent National Ambient Air Quality Standards, and **Impact Comparison AES-2**, Mitigated 2015 Concentrations Compared to Most Stringent National Ambient Air Quality Standards. Any values that exceed 100 percent indicate that the most stringent NAAQS was exceeded. Alternative D is the only build alternative that meets (has maximum concentrations that are predicted to be less than) the NAAQS for all criteria pollutants in all years analyzed. For the interim year of 2005, Alternatives A, B, and C have maximum concentrations that are predicted to exceed the NAAQS for both PM₁₀ and NO₂, and Alternative A has maximum concentrations that are predicted to exceed the NAAQS for CO.

Comparative Analysis of the Alternatives: Differences between emissions and dispersion analysis results between the alternatives are explained by several factors that each contribute to impacts in different areas around the airport:

- ◆ Alternatives A, B, C, and D would allow more efficient aircraft operations and improved traffic flows on and near LAX compared to the No Action/No Project Alternative. The result would be fewer emissions from aircraft taxi/idle, Ground Support Equipment (GSE), and gasoline and diesel vehicles when compared to the No Action/No Project Alternative.
- ◆ Alternative D CO, VOC, NO_x, SO₂, and PM₁₀ emissions would be lower than those emissions for Alternatives A, B, and C, due to lower passenger levels and fewer aircraft operations.
- ◆ Fenceline and runway configurations vary among the alternatives. The concentration differences associated with Alternative D compared to Alternatives A, B, and C are due in large part to the runway configurations. The runway configurations proposed under Alternatives A, B, and C would result in runways that would be closer to residences than the configuration proposed under Alternative D. Alternative D does not include the proposed West Terminal Area (WTA) that is included in Alternatives A, B, and C and has little to no traffic traveling to the existing Central Terminal Area (CTA). Parking and traffic emissions would primarily occur around the proposed Ground Transportation Center (GTC) and Intermodal Transportation Center (ITC), unique to this build alternative.
- ◆ Alternative D has lower passenger levels and fewer overall aircraft operations than Alternatives A, B, or C, resulting in generally lower impacts to air quality than the other build alternatives.

General Conformity Determination: A demonstration of conformity with the purpose of the State Implementation Plan (SIP) is required for proposed federal actions in a federal nonattainment or maintenance area when incremental emission rates attributable to the proposed federal action would exceed the general conformity applicability thresholds. Since LAWA and the FAA have selected Alternative D as the preferred alternative for the LAX Master Plan, the FAA has evaluated general conformity for proposed federal actions to approve and support Alternative D. The criteria pollutants potentially subject to general conformity in the South Coast Air Basin include CO, VOC, NO_x, NO₂, and PM₁₀ because the South Coast Air Basin is in nonattainment or maintenance status for these criteria pollutants. The incremental emissions of VOC and of CO under Alternative D are less than the general conformity de minimis threshold emission rates and Alternative D is not regionally significant for either VOC or CO. Therefore, no further evaluation of these pollutants was required for general conformity purposes. Because the incremental emissions of NO_x, NO₂, and PM₁₀ would exceed the respective general conformity de minimis threshold emission rates, a detailed general conformity evaluation and written determination were required for these pollutants. The general conformity determination provided a detailed evaluation of these pollutants. FAA published the draft general conformity determination for this

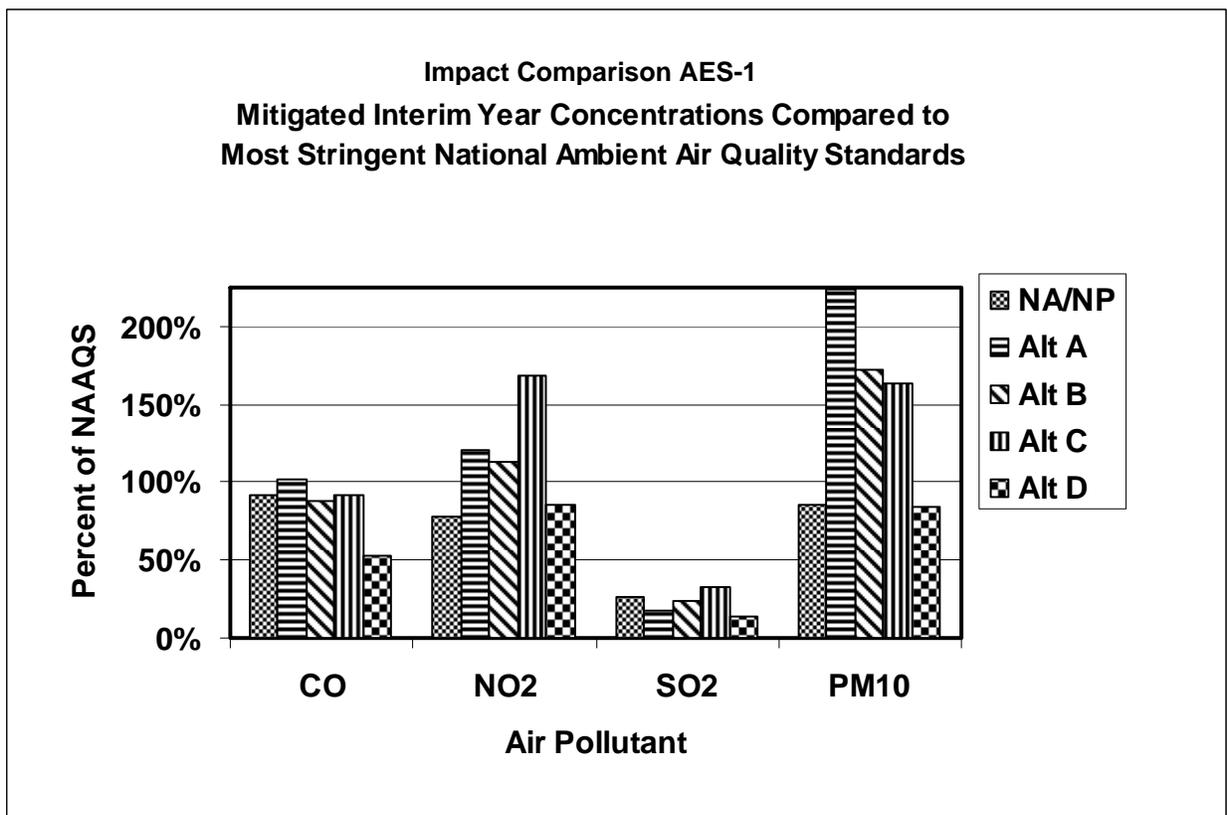
¹⁰ The NAAQS are: for CO - 9 ppm 8-hour average and 35 ppm 1-hour average; for NO₂ - 0.053 ppm annual average; for SO₂ - 0.03 ppm annual average, 0.14 ppm 24-hour average, and 0.50 ppm 3-hour average; and for PM₁₀ - 50 µg/m³ annual average and 150 µg/m³ 24-hour average. For a pollutant with more than one NAAQS (CO, SO₂, PM₁₀), the "most stringent" standard is that which generated the highest percent values in the figures.

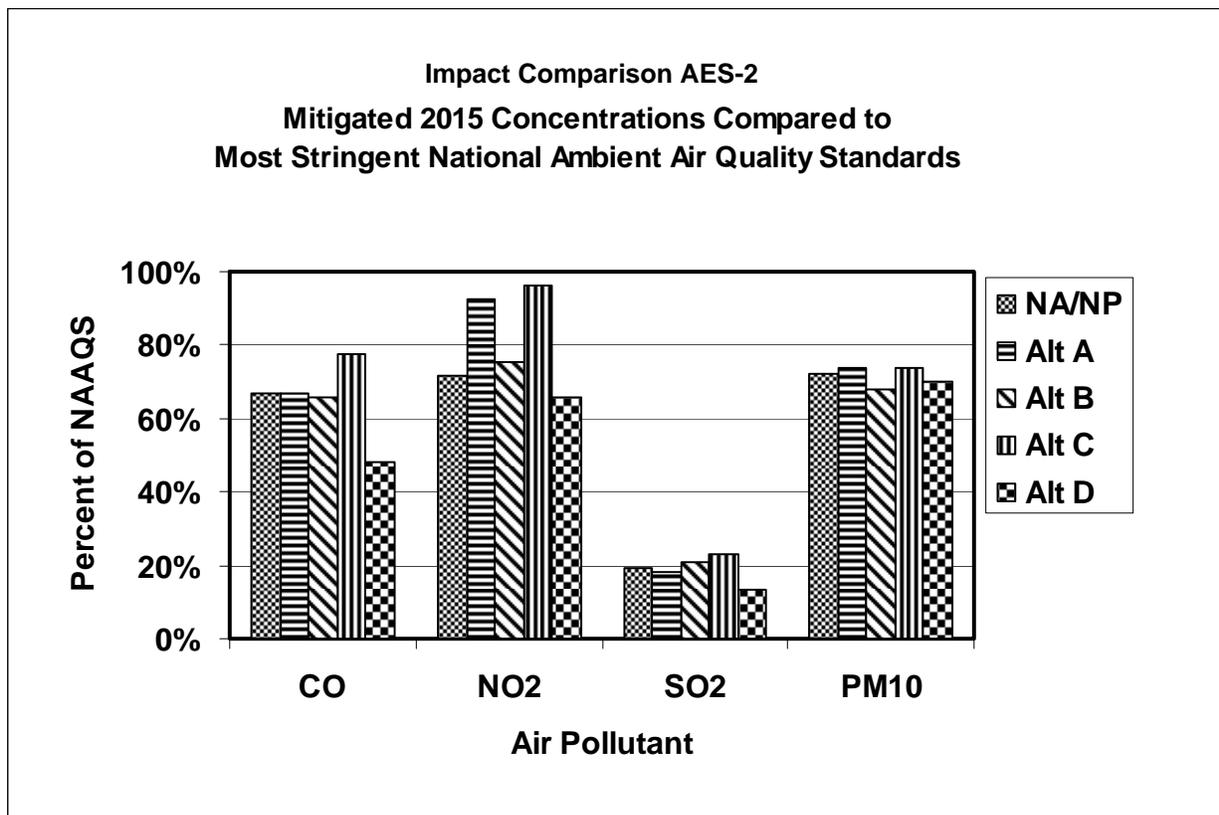
proposed action on January 9, 2004, and provided opportunity for a 30-day public review. FAA published the final general conformity determination for Alternative D concurrently with the publication of this Final EIS, and it is included in Appendix A-2a, *Clean Air Act Final General Conformity Determination*.

The following points summarize the findings of the general conformity determination.

- ◆ Alternative D is not subject to a general conformity determination for CO or VOC because the net emissions associated with Alternative D are less than the general conformity de minimis thresholds and they are not regionally significant.
- ◆ Alternative D conforms to the purpose of the SIP for NO_x (and NO₂ by equivalency) because the net emissions associated with Alternative D, taken together with all other NO_x emissions in the South Coast Air Basin, would not exceed the emissions budgets in the approved SIP for the years required for the general conformity evaluation.
- ◆ Alternative D conforms to the purpose of the SIP for PM₁₀ because the predicted peak concentrations for combined operational and construction emissions for Alternative D as designed, when added to the future background concentrations, would be less than the annual and 24-hour PM₁₀ NAAQS for the years required for the general conformity evaluation.

Therefore, FAA concluded that Alternative D as designed conforms to the purpose of the approved SIP and is consistent with all applicable requirements.





A.1.5.4 Endangered and Threatened Species of Flora and Fauna

An analysis of potential impacts to species officially designated as endangered or threatened was undertaken for the LAX Master Plan alternatives. Results of the analysis determined that the Master Plan alternatives may have significant impacts on local populations of two federally-listed wildlife species, the Riverside fairy shrimp (*Streptocephalus woottoni*), and the El Segundo blue butterfly (*Euphilotes battoides allyni*). Proposed mitigation measures would reduce the impact to these species below the level of significance. Section 7 consultation regarding Alternative D was initiated in September 2000 and concluded on April 20, 2004, when the USFWS issued a Biological Opinion for Alternative D of the LAX Master Plan (i.e., the proposed action), which is included in Appendix F-E of the Final EIS. The Biological Opinion concludes that Alternative D will not jeopardize the continued existence of the Riverside fairy shrimp or the El Segundo blue butterfly.

Subsequent to the issuance of the Biological Opinion for Alternative D, the USFWS proposed to designate critical habitat for the Riverside fairy shrimp, including areas within LAX boundaries. The area proposed for designation as critical habitat encompasses approximately 108 acres within the AOA at LAX. Of the 108 acres, approximately 85 acres were previously determined to be non-essential to the survival of the species pursuant to the April 20, 2004 Biological Opinion issued by the USFWS, because they contain neither ephemeral wetted areas occupied by Riverside fairy shrimp cysts nor their contributory watersheds. Cysts (dormant eggs) of federally endangered Riverside fairy shrimp occupy 1.3 acres of degraded wetland habitat on the airfield, as disclosed in the Biological Assessment and Biological Opinion prepared for the LAX Master Plan. Although not all of the 1.3 acres of occupied Riverside fairy shrimp habitat are encompassed within the area proposed for designation as critical habitat, 1.26 acres of the 1.3 acres of occupied habitat, as well as an additional 22 acres of associated watersheds (which areas were addressed in the April 20, 2004 Biological Opinion), are contained within areas proposed for designation as critical habitat. The 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.¹¹ Impacts to areas proposed to be designated as critical habitat for the Riverside fairy shrimp are also presented in this Final EIS for purposes of disclosure.

Riverside Fairy Shrimp: Under the No Action/No Project Alternative, environmental impacts to the Riverside fairy shrimp would include 1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp that would be subject to indirect impacts from ongoing airfield operations and maintenance. Of the 1.3 acres of degraded habitat containing embedded cysts of the Riverside fairy shrimp, 1.26 acres of degraded wetland habitat and 22 acres of associated watersheds are contained within areas proposed for designation as critical habitat and would be subject to indirect impacts from ongoing airfield operations. The FAA has initiated Section 7 consultation to address the need for routine ongoing operations and maintenance within the AOA. Section 7 consultation is currently on-going.

- ◆ Under Alternatives A, B, and C, impacts to the Riverside fairy shrimp would include 1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp that would be directly impacted by the conversion to developed (airfield) uses. Impacts to areas proposed for designation as critical habitat for the Riverside fairy shrimp include 1.26 acres of the 1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp and 22 acres of associated watershed. Under Alternatives A, B, and C the permanent conversion of 1.3 acres of degraded wetland habitat that contain embedded cysts of the Riverside fairy shrimp as well as conversion of areas that have been proposed for designation as critical habitat for the Riverside fairy shrimp by the USFWS would trigger the need for a Section 7 consultation with the USFWS to determine whether the impact would jeopardize the continued existence of the species.
- ◆ Under Alternative D, 0.04 acre (1,853 square feet) of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp would be directly affected as a result of construction staging, airfield operations and maintenance, and/or airfield improvements. Potential indirect impacts to 1.26 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp 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 consisting of associated watersheds (22 acres). Implementation of recommended mitigation measures, which incorporate the conservation measures detailed in the April 20, 2004 Biological Opinion, would result in no adverse effects to the Riverside fairy shrimp nor result in adverse modification of the proposed critical habitat areas.

EI Segundo Blue Butterfly: The federally endangered EI Segundo blue butterfly is present within extant and restored Southern Fore dune and Southern Dune Scrub within the Los Angeles/EI Segundo Dunes.

- ◆ Alternative A would result in the conversion of 8,514 square feet (0.20 acre) of occupied habitat of the EI Segundo blue butterfly in the Habitat Restoration Area from installation of navigational aids and associated service roads; Alternative B would result in the conversion of 2,316 square feet (0.05 acre) of occupied habitat in the Habitat Restoration Area. This conversion would trigger the need for a Section 7 consultation with the USFWS to determine whether the impacts would jeopardize the continued existence of the species. The proposed mitigation measures, as modified through Section 7 consultation, would result in no adverse effects to the EI Segundo blue butterfly.
- ◆ No conversion of occupied habitat would occur under the No Action/No Project Alternative or under Alternative C.
- ◆ Alternative D would result in the conversion of 10,597 square feet (0.24 acre) of occupied habitat of the EI Segundo blue butterfly in the Habitat Restoration Area from installation of navigational aids and associated service roads. This conversion is considered to be a significant impact. With implementation of the proposed mitigation measures, which incorporate the conservation measures detailed in the Biological Opinion, Alternative D would result in no adverse effects to the EI Segundo blue butterfly.

American Peregrine Falcon: No direct impacts to American peregrine falcon would occur under any of the alternatives because this species does not occupy habitat in the proposed developed facilities, construction staging, or associated support activities areas. Potential indirect impacts associated with

¹¹ A Section 7 Consultation between the USFWS and the FAA is currently in progress for ongoing operations and maintenance activities within the Airfield Operations Area at LAX. That Consultation is for existing activities that are not particular to, or specifically proposed, by the LAX Master Plan.

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changes in light, air emissions, and noise resulting from the build alternatives would not affect the continued existence of the species or otherwise result in adverse effects.

Environmental Action Plan: Habitat replacement and relocation techniques would be utilized to mitigate the impact on the two affected species below the threshold of significance.

- ◆ To mitigate impacts to the Riverside fairy shrimp under Alternatives A, B, and C, the entire 1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp would be replaced at a 3:1 ratio at a suitable alternative location where the Riverside fairy shrimp would be able to complete its life cycle. Under Alternative D, 0.04 acre (1,853 square feet) would be replaced at a mitigation ratio of 3:1 at a suitable alternative location. The 1.26 acres retained on the LAX airfield would be avoided through the implementation of construction avoidance measures, including BMPs and the creation of a buffer area around the degraded wetland habitat. The replacement habitat has been identified in coordination with the U.S. Fish and Wildlife Service (USFWS). Values of the new habitat are expected to be higher than the current values of the existing habitat.
- ◆ To mitigate impacts to the El Segundo blue butterfly, suitable replacement habitat would be created, in conformance with the Biological Opinion, to compensate for the loss of currently occupied habitat. El Segundo blue butterfly pupae will also be relocated in coordination with the USFWS in order to minimize impacts to the butterfly within the Habitat Restoration Area. Construction would be scheduled outside the flight season of the butterfly. Additionally, to mitigate potential impacts to state-designated sensitive habitat resulting from removal of existing navigational aid foundations and footings, suitable replacement habitat would be created, as described in the Los Angeles/El Segundo Dunes Habitat Restoration Plan prepared in support of the California Coastal Commission's concurrence with the FAA's Consistency Determination.

A.1.5.5 Coastal Zone Management and Coastal Barriers

This analysis focuses on potential impacts to coastal resources as recognized through the federal Coastal Zone Management Act and the California Coastal Act. A federal law protecting coastal barrier systems does not apply to projects in Southern California since all the U.S. coastal barrier systems are located on the Atlantic and Gulf coasts.

The coastal zone in the vicinity of LAX extends south along the east (inland) side of Pershing Drive to the south edge of the Imperial Highway right-of-way. The boundary then extends west to Vista del Mar and south along the east side of Vista del Mar.

Sensitive Natural Resources Within Coastal Zone

Under the No Action/No Project Alternative, no improvements are planned in the coastal zone. All Master Plan build alternatives would require relocation of, and improvements to, navigational aids and associated access roads currently located in the Los Angeles/El Segundo Dunes (Dunes). The relocation of navigational aids would occur in conjunction with, and as a result of, the lengthening, relocation, and/or addition of runways proposed under each alternative. For Alternatives A, B, and D, navigational aid relocation would occur within dunes habitat occupied by the federally-endangered El Segundo blue butterfly and would affect state-designated sensitive habitat within the Dunes. Relocation of navigational aids under Alternative C would not occur within habitat occupied by the El Segundo blue butterfly but would still directly impact state-designated sensitive habitat within the Dunes. Habitat revegetation and other measures are proposed to fully mitigate the resultant impacts.

Alternatives A, B, and C include improvements and modification to the existing configuration of Pershing Drive to provide vehicle access to the new West Terminal Area. Improvements would include widening the road to add additional lanes. The increase in roadway width would not affect state-designated sensitive habitat or other natural or artificial coastal resources.

Alternative B would involve the construction of an off-site fuel farm. This would require the construction of an underground pipeline in the existing road right-of-way for Vista del Mar, located within the coastal zone; however, it would not adversely affect coastal zone resources. No other alternative would have fuel farm impacts to the coastal zone.

Coastal Access

Currently coastal access from LAX is available via vehicle and bicycle, and for pedestrians. Under the No Action/No Project Alternative, vehicle, bicycle, and pedestrian access to the coast are not expected to be affected by construction activities (i.e., construction associated with development of the LAX Northside project).

Under Alternatives A, B, and C, improvements associated with the ring road would result in changes in near-term (i.e., construction-related) and long-term vehicular movement from areas north of LAX. Direct coastal access currently provided to El Segundo by Imperial Highway would be eliminated; however, residents in this area could reach the coast through nearby alternative routes. The changes in access routes may lengthen travel times to the coast from certain areas in the northern portion of El Segundo. Under Alternative D, all existing coastal access routes would remain in their existing configurations and vehicle, bicycle, and pedestrian access to the coast is not expected to be significantly affected by construction activities.

Alternatives A, B, and C would remove the existing bicycle lanes along Westchester Parkway, but the lost bicycle lanes would be replaced with a Class I bicycle path provided as part of the Westchester Southside development project. Alternatives A, B, and C would also remove existing bicycle lanes along Imperial Highway, but the lost bicycle lanes would be replaced as part of a Master Plan commitment. Alternative D would not alter existing bicycle access to the coast.

Under all alternatives, the existing levels of coastal access for pedestrians would not notably change.

Consistency with the California Coastal Act

Pursuant to the Coastal Zone Management Act, the FAA has evaluated the City of Los Angeles' preferred Alternative D for consistency with the California Coastal Management Program. FAA prepared a Consistency Determination for the improvements proposed within the coastal zone under Alternative D, specifically the relocation and improvement of existing navigational aids, and concluded that such improvements are consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program (see Appendix A-3a, *Coastal Zone Management Act (CZMA) Consistency Determination by FAA*, of Volume A of the Final EIS). Additionally, LAWA prepared a Consistency Certification addressing other improvements associated with Alternative D that would occur outside of the coastal zone, but have the potential to impact coastal resources, and concluded that such improvements would not conflict with the enforceable policies of the California Coastal Management Program. The California Coastal Commission concurred with the FAA's Consistency Determination on November 17, 2004 (see Appendix A-3d, *California Coastal Commission Staff Report and Letter of Concurrence*, of Volume A of the Final EIS).

A.1.6 Summary of Master Plan Commitments and Mitigation Measures for Alternatives A, B, C, and D

Following is a comprehensive listing of Master Plan commitments and mitigation measures associated with the build alternatives that have been proposed by LAWA for implementation pursuant to CEQA¹² (**Table AES-4**, Master Plan Commitments and Mitigation Measures Proposed for the LAX Master Plan Build Alternatives). This table is inclusive of all environmental topics addressed in Chapter 4, *Affected Environment, Consequences, and Mitigation Measures*, in Part I of the Final EIS. The comprehensive mitigation program presented in **Table AES-4** addresses all of the significant impacts identified through the CEQA analysis. Although the table contains some mitigation measures and/or Master Plan commitments relevant only to the CEQA analysis, and not necessarily identified by FAA as potential mitigation under the NEPA analysis, the comprehensive program proposed by LAWA is presented below for informational purposes. For this Final EIS, the FAA has reviewed all of the measures presented in

¹² LAWA has indicated that it intends to implement the Master Plan commitments and mitigation measures identified in the following table to the extent that the use of airport revenue to fund such measures is permissible under federal law and policies, or LAWA is able to develop other state or federal funding sources.

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Table AES-4 and preliminarily identified the minimum measures that FAA anticipates identifying as conditions of approval for any alternative selected by FAA for implementation in the Record of Decision.

Master Plan commitments are primarily activities, policies, and practices proposed by LAWA to be implemented pursuant to CEQA in conjunction with implementation of any of the four build alternatives. These commitments are in addition to proposed mitigation measures, which have been identified by LAWA pursuant to CEQA to reduce or avoid potential adverse impacts of the LAX Master Plan build alternatives. In some instances, the principal mitigation measure described is a Mitigation Plan that will be formulated with performance standards, lists of feasible mitigation measures, and commitments to implement the mitigation.

A.1.7 Approval of EIS

After careful and thorough consideration of the facts contained herein, and following consideration of the views of the public and those Federal agencies having jurisdiction by law or special expertise with respect to the environmental impacts described, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101(a) of the National Environmental Policy Act of 1969.

APPROVED: Mark A. McClardy JAN 10 2005
Mark A. McClardy Date
Manager, Airports Division
Western-Pacific Region

DISAPPROVED: _____
Mark A. McClardy Date
Manager, Airports Division
Western-Pacific Region

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Table AES-4

Master Plan Commitments and Mitigation Measures Proposed for the LAX Master Plan Build Alternatives

Discipline	Alternative A - Added Runway North		Alternative B - Added Runway South		Alternative C - No Additional Runway		Alternative D - Enhanced Safety and Security Plan	
	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures
4.1 Noise	<p>**N-1. Maintenance of Applicable Elements of Existing Aircraft Noise Abatement Program.</p>	<p>MM-N-1. Reserve Runway 6L/24R for Arrival Traffic Only. **MM-N-4. Update the Aircraft Noise Abatement Program Elements as Applicable to Adapt to the Future Airfield Configuration. MM-N-5. Conduct Part 161 Study to Make Over-Ocean Procedures Mandatory. MM-N-6. Construct Noise Barrier (Soundwall) Adjacent to Areas Significantly Impacted by Road Traffic Noise. MM-N-7. Construction Noise Control Plan. MM-N-8. Construction Staging. MM-N-9. Equipment Replacement. MM-N-10. Construction Scheduling. See also Section 4.2, <i>Land Use</i>.</p>	<p>**N-1. Maintenance of Applicable Elements of Existing Aircraft Noise Abatement Program.</p>	<p>MM-N-2. Reserve Runway 25L for Arrival Traffic. MM-N-3. Reserve Runway 7R for Departure Traffic. **MM-N-4. Update the Aircraft Noise Abatement Program Elements as Applicable to Adapt to the Future Airfield Configuration. MM-N-5. Conduct Part 161 Study to Make Over-Ocean Procedures Mandatory. MM-N-6. Construct Noise Barrier (Soundwall) Adjacent to Areas Significantly Impacted by Road Traffic Noise. MM-N-7. Construction Noise Control Plan. MM-N-8. Construction Staging. MM-N-9. Equipment Replacement. MM-N-10. Construction Scheduling. See also Section 4.2, <i>Land Use</i>.</p>	<p>**N-1. Maintenance of Applicable Elements of Existing Aircraft Noise Abatement Program.</p>	<p>**MM-N-4. Update the Aircraft Noise Abatement Program Elements as Applicable to Adapt to the Future Airfield Configuration. MM-N-5. Conduct Part 161 Study to Make Over-Ocean Procedures Mandatory. MM-N-6. Construct Noise Barrier (Soundwall) Adjacent to Areas Significantly Impacted by Road Traffic Noise. MM-N-7. Construction Noise Control Plan. MM-N-8. Construction Staging. MM-N-9. Equipment Replacement. MM-N-10. Construction Scheduling. See also Section 4.2, <i>Land Use</i>.</p>	<p>**N-1. Maintenance of Applicable Elements of Existing Aircraft Noise Abatement Program.</p>	<p>**MM-N-4. Update the Aircraft Noise Abatement Program Elements as Applicable to Adapt to the Future Airfield Configuration. MM-N-5. Conduct Part 161 Study to Make Over-Ocean Procedures Mandatory. MM-N-7. Construction Noise Control Plan. MM-N-8. Construction Staging. MM-N-9. Equipment Replacement. MM-N-10. Construction Scheduling. See also Section 4.2, <i>Land Use</i>.</p>
4.2 Land Use	<p>LU-1. Incorporation of City of Los Angeles Ordinance No. 159,526 [Q] Zoning Conditions for LAX Northside into the LAX Northside/Westchester Southside Project. LU-2. Establishment of a Landscape Maintenance Program for Parcels Acquired Due to Airport Expansion. LU-3. Comply with City of Los Angeles Transportation Element Bicycle Plan. LU-4. Neighborhood Compatibility Program. See also Sections 4.1, 4.3, 4.4.2, 4.18, 4.20, and 4.21.</p>	<p>**MM-LU-1. Implement Revised Aircraft Noise Mitigation Program. MM-LU-2. Incorporate Residential Dwelling Units Exposed to Single Event Awakenings Threshold into Aircraft Noise Mitigation Program. MM-LU-3. Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn. MM-LU-4. Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise. MM-LU-5. Upgrade and Expand Noise Monitoring Program. See also Sections 4.1, 4.10, 4.11, 4.18, and 4.21.</p>	<p>LU-1. Incorporation of City of Los Angeles Ordinance No. 159,526 [Q] Zoning Conditions for LAX Northside into the LAX Northside/Westchester Southside Project. LU-2. Establishment of a Landscape Maintenance Program for Parcels Acquired Due to Airport Expansion. LU-3. Comply with City of Los Angeles Transportation Element Bicycle Plan. LU-4. Neighborhood Compatibility Program. See also Sections 4.1, 4.3, 4.4.2, 4.18, 4.20, and 4.21.</p>	<p>**MM-LU-1. Implement Revised Aircraft Noise Mitigation Program. MM-LU-2. Incorporate Residential Dwelling Units Exposed to Single Event Awakenings Threshold into Aircraft Noise Mitigation Program. MM-LU-3. Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn. MM-LU-4. Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise. MM-LU-5. Upgrade and Expand Noise Monitoring Program. See also Sections 4.1, 4.10, 4.11, 4.18, and 4.21.</p>	<p>LU-1. Incorporation of City of Los Angeles Ordinance No. 159,526 [Q] Zoning Conditions for LAX Northside into the LAX Northside/Westchester Southside Project. LU-2. Establishment of a Landscape Maintenance Program for Parcels Acquired Due to Airport Expansion. LU-3. Comply with City of Los Angeles Transportation Element Bicycle Plan. LU-4. Neighborhood Compatibility Program. See also Sections 4.1, 4.3, 4.4.2, 4.18, 4.20, and 4.21.</p>	<p>**MM-LU-1. Implement Revised Aircraft Noise Mitigation Program. MM-LU-2. Incorporate Residential Dwelling Units Exposed to Single Event Awakenings Threshold into Aircraft Noise Mitigation Program. MM-LU-3. Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn. MM-LU-4. Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise. MM-LU-5. Upgrade and Expand Noise Monitoring Program. See also Sections 4.1, 4.10, 4.18, and 4.21.</p>	<p>LU-1. Incorporation of City of Los Angeles Ordinance No. 159,526 [Q] Zoning Conditions for LAX Northside into the LAX Northside/Westchester Southside Project. LU-2. Establishment of a Landscape Maintenance Program for Parcels Acquired Due to Airport Expansion. LU-4. Neighborhood Compatibility Program. LU-5. Comply with City of Los Angeles Transportation Element Bicycle Plan. See also Sections 4.1, 4.3, 4.4.2, 4.18, 4.20, and 4.21.</p>	<p>MM-LU-1. Implement Revised Aircraft Noise Mitigation Program. MM-LU-2. Incorporate Residential Dwelling Units Exposed to Single Event Awakenings Threshold into Aircraft Noise Mitigation Program. MM-LU-3. Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn. MM-LU-4. Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise. MM-LU-5. Upgrade and Expand Noise Monitoring Program. See also Sections 4.1, 4.10, and 4.11.</p>
4.3 Surface Transportation 4.3.1 On-Airport	<p>ST-1. Adequate West Terminal Design. ST-2. Non-Peak CTA Deliveries. ST-3. Construction Traffic Uses Upper Level. ST-4. Limited Short-Term Lane Closures. ST-5. Additional Lot C Shuttles. ST-6. Removal of Spoil Material.</p>	<p>None Required/None Available.</p>	<p>ST-1. Adequate West Terminal Design. ST-2. Non-Peak CTA Deliveries. ST-3. Construction Traffic Uses Upper Level. ST-4. Limited Short-Term Lane Closures. ST-5. Additional Lot C Shuttles. ST-6. Removal of Spoil Material.</p>	<p>None Required/None Available.</p>	<p>ST-1. Adequate West Terminal Design. ST-2. Non-Peak CTA Deliveries. ST-3. Construction Traffic Uses Upper Level. ST-4. Limited Short-Term Lane Closures. ST-5. Additional Lot C Shuttles. ST-6. Removal of Spoil Material.</p>	<p>None Required/None Available.</p>	<p>ST-2. Non-Peak CTA Deliveries. ST-7. Adequate GTC, ITC, and APM Design. ST-8. Limited Short-Term Lane Closures.</p>	<p>MM-ST-1. Require CTA Construction Vehicles to Use Designated Lanes. MM-ST-2. Modify CTA Signage. MM-ST-3. Develop Designated Shuttle Stops for Labor Buses and ITC-CTA Buses.</p>

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Discipline	Alternative A - Added Runway North		Alternative B - Added Runway South		Alternative C - No Additional Runway		Alternative D - Enhanced Safety and Security Plan	
	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures
4.3.2 Off-Airport	<p>ST-9. Construction Deliveries. Off-Ramp to Emerson Street. ST-10. Designated Truck Routes. ST-11. Stockpile Locations. ST-12. Designated Truck Delivery Hours. ST-13. Construction Employee Parking Locations. ST-14. Construction Employee Shift Hours. ST-15. Separation of Construction Traffic. ST-16. Designated Haul Routes. ST-17. Maintenance of Haul Routes. ST-18. Construction Traffic Management Plan. ST-19. Closure Restrictions of Existing Roadways. ST-23. Expanded Gateway LAX Improvements/Greening of Impacted Communities. See also Sections 4.2, <i>Land Use</i>, and 4.20, <i>Construction Impacts</i>.</p>	<p>MM-ST-4. Add Right-Turn Off-Ramp to Emerson Street. MM-ST-5. Widen Arbor Vitae Street from Four to Six Lanes. MM-ST-6. Add New Traffic Lanes. MM-ST-7. Restripe Existing Facilities. MM-ST-8. Add ATCS or Equivalent. MM-ST-9. Add ATCS or Equivalent. MM-ST-10. Modify Signal Phasing. MM-ST-14. Ground Transportation/Construction Coordination Office Outreach Program.</p>	<p>ST-9. Construction Deliveries. ST-10. Designated Truck Routes. ST-11. Stockpile Locations. ST-12. Designated Truck Delivery Hours. ST-13. Construction Employee Parking Locations. ST-14. Construction Employee Shift Hours. ST-15. Separation of Construction Traffic. ST-16. Designated Haul Routes. ST-17. Maintenance of Haul Routes. ST-18. Construction Traffic Management Plan. ST-19. Closure Restrictions of Existing Roadways. ST-23. Expanded Gateway LAX Improvements/Greening of Impacted Communities. See also Sections 4.2, <i>Land Use</i>, and 4.20, <i>Construction Impacts</i>.</p>	<p>MM-ST-4. Add Right-Turn Off-Ramp to Emerson Street. MM-ST-5. Widen Arbor Vitae Street from Four to Six Lanes. MM-ST-6. Add New Traffic Lanes. MM-ST-7. Restripe Existing Facilities. MM-ST-8. Add ATCS or Equivalent. MM-ST-9. Add ATCS or Equivalent. MM-ST-10. Modify Signal Phasing. MM-ST-11. Provide A One-Way Southbound Extension of Airport Boulevard Connecting to a Right-Turn-Only On-Ramp to the Ring Road near Westchester Parkway. MM-ST-14. Ground Transportation/Construction Coordination Office Outreach Program.</p>	<p>ST-9. Construction Deliveries. ST-10. Designated Truck Routes. ST-11. Stockpile Locations. ST-12. Designated Truck Delivery Hours. ST-13. Construction Employee Parking Locations. ST-14. Construction Employee Shift Hours. ST-15. Separation of Construction Traffic. ST-16. Designated Haul Routes. ST-17. Maintenance of Haul Routes. ST-18. Construction Traffic Management Plan. ST-19. Closure Restrictions of Existing Roadways. ST-23. Expanded Gateway LAX Improvements/Greening of Impacted Communities. See also Sections 4.2, <i>Land Use</i>, and 4.20, <i>Construction Impacts</i>.</p>	<p>MM-ST-4. Add Right-Turn Off-Ramp to Emerson Street. MM-ST-5. Widen Arbor Vitae Street from Four to Six Lanes. MM-ST-6. Add New Traffic Lanes. MM-ST-7. Restripe Existing Facilities. MM-ST-8. Add ATCS or Equivalent. MM-ST-9. Add ATCS or Equivalent. MM-ST-10. Modify Signal Phasing. MM-ST-14. Ground Transportation/Construction Coordination Office Outreach Program.</p>	<p>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-19. Closure Restrictions of Existing Roadways. ST-20. Stockpile Locations. ST-21. Construction Employee Parking Locations. ST-22. Designated Truck Routes. ST-23. Expanded Gateway LAX Improvements/Greening of Impacted Communities. ST-24. Fair-Share Contribution to CMP Improvements. See also Sections 4.2, <i>Land Use</i>, and 4.20, <i>Construction Impacts</i>.</p>	<p>MM-ST-6. Add New Traffic Lanes. MM-ST-7. Restripe Existing Facilities. MM-ST-8. Add ATCS, ATCS, or Equivalent. MM-ST-10. Modify Signal Phasing. MM-ST-12. Provide New Ramps Connecting I-105 to LAX Between Aviation Boulevard and La Cienega Boulevard. MM-ST-13. Create A New Interchange at I-405 and Lennox Boulevard. MM-ST-14. Ground Transportation/Construction Coordination Office Outreach Program. MM-ST-15. Provide Fair-Share Contributions to Transit Improvements. MM-ST-16. Provide Fair-Share Contribution to LA County's Project to Extend the Marina Expressway.</p>
4.4 Social Impacts								
4.4.1 Employment/Socio-Economics	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.
4.4.2 Relocation of Residences or Businesses	<p>**RBR-1. Residential and Business Relocation Program.</p>	<p>MM-RBR-1. Phasing for Business Relocations. MM-RBR-2. Relocation Opportunities through Aircraft Noise Mitigation Program.</p>	<p>**RBR-1. Residential and Business Relocation Program.</p>	<p>MM-RBR-1. Phasing for Business Relocations. MM-RBR-2. Relocation Opportunities through Aircraft Noise Mitigation Program.</p>	<p>**RBR-1. Residential and Business Relocation Program.</p>	<p>MM-RBR-1. Phasing for Business Relocations. MM-RBR-2. Relocation Opportunities through Aircraft Noise Mitigation Program.</p>	<p>**RBR-1. Residential and Business Relocation Program.</p>	<p>MM-RBR-1. Phasing for Business Relocations. MM-RBR-2. Relocation Opportunities through Aircraft Noise Mitigation Program.</p>
4.4.3 Environmental Justice	<p>EJ-1. Aviation Curriculum. EJ-2. Aviation Academy. EJ-3. Job Outreach Center. EJ-4. Community Mitigation Monitoring. See also Sections 4.3, <i>Surface Transportation</i>, 4.4.2, <i>Relocation of Residences or Businesses</i>, and 4.6, <i>Air Quality</i>.</p>	<p>**MM-EJ-1. Expedite Residential Soundproofing for Qualifying Property Owners. See also Sections 4.1, <i>Noise</i>, 4.2, <i>Land Use</i>, and 4.6, <i>Air Quality</i>.</p>	<p>EJ-1. Aviation Curriculum. EJ-2. Aviation Academy. EJ-3. Job Outreach Center. EJ-4. Community Mitigation Monitoring. See also Sections 4.3, <i>Surface Transportation</i>, 4.4.2, <i>Relocation of Residences or Businesses</i>, and 4.6, <i>Air Quality</i>.</p>	<p>**MM-EJ-2. Expedite Residential Soundproofing for Qualifying Property Owners. See also Sections 4.1, <i>Noise</i>, 4.2, <i>Land Use</i>, and 4.6, <i>Air Quality</i>.</p>	<p>EJ-1. Aviation Curriculum. EJ-2. Aviation Academy. EJ-3. Job Outreach Center. EJ-4. Community Mitigation Monitoring. See also Sections 4.3, <i>Surface Transportation</i>, 4.4.2, <i>Relocation of Residences or Businesses</i>, and 4.6, <i>Air Quality</i>.</p>	<p>**MM-EJ-1. Expedite Residential Soundproofing for Qualifying Property Owners. See also Sections 4.1, <i>Noise</i>, 4.2, <i>Land Use</i>, 4.4.2, and 4.6, <i>Air Quality</i>.</p>	<p>EJ-1. Aviation Curriculum. EJ-2. Aviation Academy. EJ-3. Job Outreach Center. EJ-4. Community Mitigation Monitoring. See also Sections 4.3, <i>Surface Transportation</i>, 4.4.2, <i>Relocation of Residences or Businesses</i>, and 4.6, <i>Air Quality</i>.</p>	<p>MM-EJ-1. Expedite Residential Soundproofing for Qualifying Property Owners. See also Sections 4.1, <i>Noise</i>, 4.2, <i>Land Use</i>, 4.4.2, and 4.6, <i>Air Quality</i>.</p>

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	Master Plan Commitments	Mitigation Measures						
4.4.4 Community Disruption from Alteration of Surface Transportation Patterns	See Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , 4.4.2, <i>Relocation of Residences or Businesses</i> , and 4.20, <i>Construction Impacts</i> .	None Required/None Available.	See Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , 4.4.2, <i>Relocation of Residences or Businesses</i> , and 4.20, <i>Construction Impacts</i> .	None Required/None Available.	See Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , 4.4.2, <i>Relocation of Residences or Businesses</i> , and 4.20, <i>Construction Impacts</i> .	None Required/None Available.	See Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , 4.4.2, <i>Relocation of Residences or Businesses</i> , and 4.20, <i>Construction Impacts</i> .	None Available.
4.5 Induced Socio-Economic Impacts (Growth Inducement)	None Applicable.	None Required.						
4.6 Air Quality	AQ-1. Air Quality Source Apportionment Study. AQ-2. School Air Filters. AQ-3. Mobile Health Research Lab.	**MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality. **MM-AQ-2. Construction-Related Measure. **MM-AQ-3. Transportation-Related Measure. **MM-AQ-4. Operations-Related Measure.	AQ-1. Air Quality Source Apportionment Study. AQ-2. School Air Filters. AQ-3. Mobile Health Research Lab.	**MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality. **MM-AQ-2. Construction-Related Measure. **MM-AQ-3. Transportation-Related Measure. **MM-AQ-4. Operations-Related Measure.	AQ-1. Air Quality Source Apportionment Study. AQ-2. School Air Filters. AQ-3. Mobile Health Research Lab.	**MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality. **MM-AQ-2. Construction-Related Measure. **MM-AQ-3. Transportation-Related Measure. **MM-AQ-4. Operations-Related Measure.	AQ-1. Air Quality Source Apportionment Study. AQ-2. School Air Filters. AQ-3. Mobile Health Research Lab.	**MM-AQ-1. LAX Master Plan - Mitigation Plan for Air Quality. **MM-AQ-2. Construction-Related Measure. **MM-AQ-3. Transportation-Related Measure. **MM-AQ-4. Operations-Related Measure.
4.7 Hydrology and Water Quality	HWQ-1. Conceptual Drainage Plan.	MM-HWQ-1. Upgrade Regional Drainage Facilities.	HWQ-1. Conceptual Drainage Plan.	MM-HWQ-1. Upgrade Regional Drainage Facilities.	HWQ-1. Conceptual Drainage Plan.	MM-HWQ-1. Upgrade Regional Drainage Facilities.	HWQ-1. Conceptual Drainage Plan.	MM-HWQ-1. Upgrade Regional Drainage Facilities.
4.8 DOT, Section 4(f)	See Section 4.9.1, <i>Historic/Architectural and Archaeological/Cultural Resources</i> .	See Sections 4.9.1, <i>Historic/Architectural and Archaeological/Cultural Resources</i> , and 4.10, <i>Biotic Communities</i> .	None Applicable.	See Sections 4.9.1, <i>Historic/Architectural and Archaeological/Cultural Resources</i> , and 4.10, <i>Biotic Communities</i> .	See Section 4.9.1, <i>Historic/Architectural and Archaeological/Cultural Resources</i> .	See Section 4.9.1, <i>Historic/Architectural and Archaeological/Cultural Resources</i> .	None Applicable.	See Sections 4.9.1, <i>Historic/Architectural and Archaeological/Cultural Resources</i> , and 4.10, <i>Biotic Communities</i> .

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	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures
4.9 Historic/Architectural and Archaeological/Cultural and Paleontological Resources								
4.9.1 Historic/Architectural and Archaeological/Cultural Resources	**HR-1. Preservation of Historic Resources.	**MM-HA-1. Historic American Buildings Survey (HABS) Document. MM-HA-2. Historic Educational Materials. **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.	**HR-1. Preservation of Historic Resources.	**MM-HA-1. Historic American Buildings Survey (HABS) Document. MM-HA-2. Historic Educational Materials. **MM-HA-3. Hangar One Relocation. **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.	**HR-1. Preservation of Historic Resources.	**MM-HA-1. Historic American Buildings Survey (HABS) Document. MM-HA-2. Historic Educational Materials. **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.	HR-1. Preservation of Historic Resources.	**MM-HA-1. Historic American Buildings Survey (HABS) Document. MM-HA-2. Historic Educational Materials. **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-11 Navigational Aids Relocation and Improvements.
4.9.2 Paleontological Resources (CEQA)	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.	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.	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.	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.
4.10 Biotic Communities	None Applicable.	**MM-BC-1. Conservation of State-Designated Sensitive Habitat Within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area. MM-BC-2. Conservation of Floral Resources: Lewis' Evening Primrose. MM-BC-3. Conservation of Floral Resources: Mature Tree Replacement. MM-BC-4. Conservation of Faunal Resources. MM-BC-5. Replacement of Habitat Units. **MM-BC-10. Replacement of State-Designated Sensitive Habitat.	None Applicable.	**MM-BC-1. Conservation of State-Designated Sensitive Habitat Within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area. MM-BC-2. Conservation of Floral Resources: Lewis' Evening Primrose. MM-BC-3. Conservation of Floral Resources: Mature Tree Replacement. MM-BC-4. Conservation of Faunal Resources. MM-BC-6. Replacement of Habitat Units. **MM-BC-11. Replacement of State-Designated Sensitive Habitat.	None Applicable.	**MM-BC-1. Conservation of State-Designated Sensitive Habitat Within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area. MM-BC-2. Conservation of Floral Resources: Lewis' Evening Primrose. MM-BC-3. Conservation of Floral Resources: Mature Tree Replacement. MM-BC-4. Conservation of Faunal Resources. MM-BC-7. Replacement of Habitat Units. **MM-BC-12. Replacement of State-Designated Sensitive Habitat.	None Applicable.	**MM-BC-1. Conservation of State-Designated Sensitive Habitat Within and Adjacent to the El Segundo Blue Butterfly Habitat Restoration Area. MM-BC-2. Conservation of Floral Resources: Lewis' Evening Primrose. MM-BC-3. Conservation of Floral Resources: Mature Tree Replacement. MM-BC-8. Replacement of Habitat Units. MM-BC-9. Conservation of Faunal Resources. **MM-BC-13. Replacement of State-Designated Sensitive Habitat.

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	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures
4.11 Endangered and Threatened Species of Flora and Fauna	None Applicable.	**MM-ET-1. Riverside Fairy Shrimp Habitat Restoration. **MM-ET-2. El Segundo Blue Butterfly Conservation: Habitat Restoration. **MM-ET-3. El Segundo Blue Butterfly Conservation: Dust Control.	None Applicable.	**MM-ET-1. Riverside Fairy Shrimp Habitat Restoration. **MM-ET-2. El Segundo Blue Butterfly Conservation: Habitat Restoration. **MM-ET-3. El Segundo Blue Butterfly Conservation: Dust Control.	None Applicable.	**MM-ET-1. Riverside Fairy Shrimp Habitat Restoration. **MM-ET-3. El Segundo Blue Butterfly Conservation: Dust Control.	None Applicable.	**MM-ET-1. Riverside Fairy Shrimp Habitat Restoration. **MM-ET-3. El Segundo Blue Butterfly Conservation: Dust Control. **MM-ET-4. El Segundo Blue Butterfly Conservation: Habitat Restoration.
4.12 Wetlands	None Applicable.	See Section 4.11, <i>Endangered and Threatened Species of Flora and Fauna.</i>	None Applicable.	See Section 4.11, <i>Endangered and Threatened Species of Flora and Fauna.</i>	None Applicable.	See Section 4.11, <i>Endangered and Threatened Species of Flora and Fauna.</i>	None Applicable.	See Section 4.11, <i>Endangered and Threatened Species of Flora and Fauna.</i>
4.13 Floodplains	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.
4.14 Coastal Resources	See Section 4.2, <i>Land Use.</i>	See Sections 4.10, <i>Biotic Communities</i> , and 4.11, <i>Endangered and Threatened Species of Flora and Fauna.</i>	See Section 4.2, <i>Land Use.</i>	See Sections 4.10, <i>Biotic Communities</i> , and 4.11, <i>Endangered and Threatened Species of Flora and Fauna.</i>	See Section 4.2, <i>Land Use.</i>	See Sections 4.10, <i>Biotic Communities</i> , and 4.11, <i>Endangered and Threatened Species of Flora and Fauna.</i>	None Applicable.	See Sections 4.9.1, <i>Historic/Architectural and Archaeological/Cultural Resources</i> , 4.10, <i>Biotic Communities</i> , and 4.11, <i>Endangered and Threatened Species of Flora and Fauna.</i>
4.15 Wild and Scenic Rivers	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.
4.16 Farmlands	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.
4.17 Energy Supply and Natural Resources								
4.17.1 Energy Supply	E-1. Energy Conservation and Efficiency Program. E-2. Coordination with Utility Providers. PU-1. Develop a Utility Relocation Program.	None Required.	E-1. Energy Conservation and Efficiency Program. E-2. Coordination with Utility Providers. PU-1. Develop a Utility Relocation Program.	None Required.	E-1. Energy Conservation and Efficiency Program. E-2. Coordination with Utility Providers. PU-1. Develop a Utility Relocation Program.	None Required.	E-1. Energy Conservation and Efficiency Program. E-2. Coordination with Utility Providers. PU-1. Develop a Utility Relocation Program.	None Required.
4.17.2 Natural Resources	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.
4.18 Light Emissions	LI-2. Use of Non-Glare Generating Building Materials. LI-3. Lighting Controls. See also Section 4.2, <i>Land Use.</i>	MM-LI-1. LAX Expressway Lighting Assessment.	LI-1. Ring Road Landscaping. LI-2. Use of Non-Glare Generating Building Materials. LI-3. Lighting Controls. See also Section 4.2, <i>Land Use.</i>	MM-LI-1. LAX Expressway Lighting Assessment.	LI-2. Use of Non-Glare Generating Building Materials. LI-3. Lighting Controls. See also Section 4.2, <i>Land Use.</i>	MM-LI-1. LAX Expressway Lighting Assessment.	LI-2. Use of Non-Glare Generating Building Materials. LI-3. Lighting Controls. See also Section 4.2, <i>Land Use.</i>	None Required.

Note: Those Master Plan commitments and mitigation measures marked with a double-asterisk (**) have been identified preliminarily by the FAA as the minimum mitigation measures that are currently anticipated to be a condition of approval for the selected alternative. The designation of Master Plan commitments and mitigation measures that will comprise a condition of approval for the project will occur in conjunction with development of the Record of Decision.

Table AES-4

Master Plan Commitments and Mitigation Measures Proposed for the LAX Master Plan Build Alternatives

Discipline	Alternative A - Added Runway North		Alternative B - Added Runway South		Alternative C - No Additional Runway		Alternative D - Enhanced Safety and Security Plan	
	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures	Master Plan Commitments	Mitigation Measures
4.19 Solid Waste	SW-1. Implement an Enhanced Recycling Program. SW-2. Requirements for the Use of Recycled Materials During Construction. SW-3. Requirements for the Recycling of Construction and Demolition Waste.	MM-SW-1. Provide Landfill Capacity to Accommodate Cumulative Solid Waste.	SW-1. Implement an Enhanced Recycling Program. SW-2. Requirements for the Use of Recycled Materials During Construction. SW-3. Requirements for the Recycling of Construction and Demolition Waste.	MM-SW-1. Provide Landfill Capacity to Accommodate Cumulative Solid Waste.	SW-1. Implement an Enhanced Recycling Program. SW-2. Requirements for the Use of Recycled Materials During Construction. SW-3. Requirements for the Recycling of Construction and Demolition Waste.	MM-SW-1. Provide Landfill Capacity to Accommodate Cumulative Solid Waste.	SW-1. Implement an Enhanced Recycling Program. SW-2. Requirements for the Use of Recycled Materials During Construction. SW-3. Requirements for the Recycling of Construction and Demolition Waste.	None Required.
4.20 Construction Impacts	C-1. Establishment of a Ground Transportation/ Construction Coordination Office. C-2. Construction Personnel Airport Orientation.	Construction-related mitigation measures are listed under the appropriate discipline.	C-1. Establishment of a Ground Transportation/ Construction Coordination Office. C-2. Construction Personnel Airport Orientation.	Construction-related mitigation measures are listed under the appropriate discipline.	C-1. Establishment of a Ground Transportation/ Construction Coordination Office. C-2. Construction Personnel Airport Orientation.	Construction-related mitigation measures are listed under the appropriate discipline.	C-1. Establishment of a Ground Transportation/ Construction Coordination Office. C-2. Construction Personnel Airport Orientation.	Construction-related mitigation measures are listed under the appropriate discipline.
4.21 Design, Art and Architectural Application/Aesthetics	DA-1. Provide and Maintain Airport Buffer Areas. DA-2. Update and Integrate Design Plans and Guidelines. DA-3. Undergrounding of Utility Lines. See also Section 4.2, <i>Land Use</i> .	MM-DA-1. Construction Fencing. MM-DA-2. LAX Expressway View Analysis.	DA-1. Provide and Maintain Airport Buffer Areas. DA-2. Update and Integrate Design Plans and Guidelines. DA-3. Undergrounding of Utility Lines. See also Sections 4.2, <i>Land Use</i> , and 4.18, <i>Light Emissions</i> .	MM-DA-1. Construction Fencing. MM-DA-2. LAX Expressway View Analysis. MM-DA-3(a). Scattergood Visual Effects. MM-DA-3(b). Scattergood Visual Effects.	DA-1. Provide and Maintain Airport Buffer Areas. DA-2. Update and Integrate Design Plans and Guidelines. DA-3. Undergrounding of Utility Lines. See also Section 4.2, <i>Land Use</i> .	MM-DA-1. Construction Fencing. MM-DA-2. LAX Expressway View Analysis.	DA-1. Provide and Maintain Airport Buffer Areas. DA-2. Update and Integrate Design Plans and Guidelines. DA-3. Scattergood Visual Effects. See also Section 4.2, <i>Land Use</i> .	MM-DA-1. Construction Fencing.
4.22 Earth/Geology (CEQA)	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.
4.23 Hazardous Materials	HM-1. Ensure Continued Implementation of Existing Remediation Efforts. HM-2. Handling of Contaminated Materials Encountered During Construction. See also Sections 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	None Required.	HM-1. Ensure Continued Implementation of Existing Remediation Efforts. HM-2. Handling of Contaminated Materials Encountered During Construction. See also Sections 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	None Required.	HM-1. Ensure Continued Implementation of Existing Remediation Efforts. HM-2. Handling of Contaminated Materials Encountered During Construction. See also Sections 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	None Required.	HM-1. Ensure Continued Implementation of Existing Remediation Efforts. HM-2. Handling of Contaminated Materials Encountered During Construction. See also Sections 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	None Required.
4.24 Human Health and Safety (CEQA)								
4.24.1 Human Health Risk Assessment (CEQA)	None Applicable.	See Section 4.6, <i>Air Quality</i> .	None Applicable.	See Section 4.6, <i>Air Quality</i> .	None Applicable.	See Section 4.6, <i>Air Quality</i> .	None Applicable	None Required.
4.24.2 Health Effects of Noise (CEQA)	See Section 4.1, <i>Noise</i> .	See Sections 4.1, <i>Noise</i> , and 4.2, <i>Land Use</i> .	See Section 4.1, <i>Noise</i> .	See Sections 4.1, <i>Noise</i> , and 4.2, <i>Land Use</i> .	See Section 4.1, <i>Noise</i> .	See Sections 4.1, <i>Noise</i> , and 4.2, <i>Land Use</i> .	See Section 4.1, <i>Noise</i> .	See Sections 4.1, <i>Noise</i> , and 4.2, <i>Land Use</i> .
4.24.3 Safety (CEQA)	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.	None Applicable.	None Required.

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Table AES-4

Master Plan Commitments and Mitigation Measures Proposed for the LAX Master Plan Build Alternatives

Discipline	Alternative A - Added Runway North		Alternative B - Added Runway South		Alternative C - No Additional Runway		Alternative D - Enhanced Safety and Security Plan	
	Master Plan Commitments	Mitigation Measures						
4.25 Public Utilities (CEQA)								
4.25.1 Water Use (CEQA)	W-1. Maximize Use of Reclaimed Water. W-2. Enhance Existing Water Conservation Program. PU-1. Develop a Utility Relocation Program.	None Required.	W-1. Maximize Use of Reclaimed Water. W-2. Enhance Existing Water Conservation Program. PU-1. Develop a Utility Relocation Program.	None Required.	W-1. Maximize Use of Reclaimed Water. W-2. Enhance Existing Water Conservation Program. PU-1. Develop a Utility Relocation Program.	None Required.	W-1. Maximize Use of Reclaimed Water. W-2. Enhance Existing Water Conservation Program. PU-1. Develop a Utility Relocation Program.	None Required.
4.25.2 Wastewater (CEQA)	PU-1. Develop a Utility Relocation Program.	MM-WW-1. Provide Additional Wastewater Treatment Capacity to Accommodate Cumulative Flows.	PU-1. Develop a Utility Relocation Program.	MM-WW-1. Provide Additional Wastewater Treatment Capacity to Accommodate Cumulative Flows.	PU-1. Develop a Utility Relocation Program.	MM-WW-1. Provide Additional Wastewater Treatment Capacity to Accommodate Cumulative Flows.	PU-1. Develop a Utility Relocation Program.	MM-WW-1. Provide Additional Wastewater Treatment Capacity to Accommodate Cumulative Flows.
4.26 Public Services (CEQA)								
4.26.1 Fire Protection	FP-1. LAFD Design Recommendations. PS-1. Fire and Police Facility Relocation Plan. PS-2. Fire and Police Facility Space and Siting Requirements. See also Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Section 4.3, <i>Surface Transportation</i> .	FP-1. LAFD Design Recommendations. PS-1. Fire and Police Facility Relocation Plan. PS-2. Fire and Police Facility Space and Siting Requirements. See also Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Section 4.3, <i>Surface Transportation</i> .	FP-1. LAFD Design Recommendations. PS-1. Fire and Police Facility Relocation Plan. PS-2. Fire and Police Facility Space and Siting Requirements. See also Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Section 4.3, <i>Surface Transportation</i> .	FP-1. LAFD Design Recommendations. PS-1. Fire and Police Facility Relocation Plan. PS-2. Fire and Police Facility Space and Siting Requirements. See also Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Section 4.3, <i>Surface Transportation</i> .
4.26.2 Law Enforcement (CEQA)	LE-1. Routine Evaluation of Manpower and Equipment Needs. LE-2. Plan Review. PS-1. Fire and Police Facility Relocation Plan. PS-2. Fire and Police Facility Space and Siting Requirements. See also Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Section 4.3, <i>Surface Transportation</i> .	LE-1. Routine Evaluation of Manpower and Equipment Needs. LE-2. Plan Review. PS-1. Fire and Police Facility Relocation Plan. PS-2. Fire and Police Facility Space and Siting Requirements. See also Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Section 4.3, <i>Surface Transportation</i> .	LE-1. Routine Evaluation of Manpower and Equipment Needs. LE-2. Plan Review. PS-1. Fire and Police Facility Relocation Plan. PS-2. Fire and Police Facility Space and Siting Requirements. See also Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Section 4.3, <i>Surface Transportation</i> .	LE-1. Routine Evaluation of Manpower and Equipment Needs. LE-2. Plan Review. PS-1. Fire and Police Facility Relocation Plan. PS-2. Fire and Police Facility Space and Siting Requirements. See also Sections 4.2, <i>Land Use</i> , 4.3, <i>Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Section 4.3, <i>Surface Transportation</i> .
4.26.3 Parks and Recreation (CEQA)	None Applicable.	None Required.						
4.26.4 Libraries (CEQA)	None Applicable.	None Required.						
4.27 Schools (CEQA)	See Sections 4.3.2, <i>Off-Airport Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Sections, 4.1, <i>Noise</i> , and 4.2, <i>Land Use</i> .	See Sections 4.3.2, <i>Off-Airport Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Sections, 4.1, <i>Noise</i> , and 4.2, <i>Land Use</i> .	See Sections 4.3.2, <i>Off-Airport Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Sections, 4.1, <i>Noise</i> , and 4.2, <i>Land Use</i> .	See Sections 4.3.2, <i>Off-Airport Surface Transportation</i> , and 4.20, <i>Construction Impacts</i> .	See Sections, 4.1, <i>Noise</i> , and 4.2, <i>Land Use</i> .

Note: Those Master Plan commitments and mitigation measures marked with a double-asterisk (**) have been identified preliminarily by the FAA as the minimum mitigation measures that are currently anticipated to be a condition of approval for the selected alternative. The designation of Master Plan commitments and mitigation measures that will comprise a condition of approval for the project will occur in conjunction with development of the Record of Decision.

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A.2 ADDITIONAL NEPA INFORMATION PERTAINING TO ENVIRONMENTAL CONSEQUENCES

This chapter presents information and analyses that, for purposes of NEPA, supplement or replace the discussion of environmental consequences for certain resource categories included in Part I of the Final EIS. Relative to environmental justice, the discussion presented here in Volume A replaces the discussion of environmental consequences contained in Part I of the Final EIS and in the (First) Addendum to the Final EIR published in September 2004.¹³ The remaining resource categories addressed in this chapter, which include Off-Airport Surface Transportation, Air Quality, Endangered and Threatened Species of Flora and Fauna, and Coastal Zone Management and Coastal Barriers, as well as the appendices to this Volume A, supplement the discussion of environmental consequences contained in Part I of the Final EIS.

A.2.1 Off-Airport Surface Transportation

This section augments the discussion of the off-airport surface transportation analysis presented in Section 4.3.1, *Off-Airport Surface Transportation*, of Part I of the Final EIS. The discussion provided below is based on the information and analysis of, and the supporting technical appendices within, the Third Addendum to the Final EIR, which is a part of the LAX Master Plan Final EIS.

A.2.1.1 Background

The traffic analysis for the LAX Master Plan began in 1995, and has proceeded in parallel with the environmental review process for a large mixed-use development project, known as the Playa Vista project, located north of LAX. Throughout the LAX Master Plan process, development proposed at Playa Vista has been treated as a related project. This means that all of the proposed Playa Vista development as defined in 1995 has been assumed to be in place by the year 2015. Phase I of the Playa Vista project, which has been partially constructed, was assumed to be completed by 2005. The transportation improvements approved as mitigation measures for Playa Vista Phase I have been included in the baseline transportation system for both the 2005 and 2015 analyses of the LAX Master Plan Improvements addressed in Part I of the Final EIS. Since there was no approval for proposed mitigation measures in Playa Vista Phase II, none of the Phase II transportation improvements have been included in the baseline assumptions for the LAX Master Plan traffic analysis. This created a conservative or "worst-case" scenario for the LAX Master Plan analysis of year 2015 conditions by adding all of the proposed Playa Vista Phase II traffic, but none of the Playa Vista Phase II transportation mitigations. As a result, the LAX Master Plan traffic analysis reflected in Part I of the Final EIS tended to analyze traffic conditions that are worse than will actually occur when Playa Vista Phase II is developed and its mitigation measures are implemented.

The traffic analysis presented in Part I of the Final EIS assumed a fully mitigated Playa Vista Phase I in the underlying assumptions (as represented in the No Action/No Project Alternative conditions). No transportation improvements (in other words, mitigation) associated with Phase II of Playa Vista have been assumed in any of the LAX Master Plan traffic analyses. When Playa Vista Phase II is built, additional transportation improvements, representing mitigation of its impacts, will be built as well. The addition of these Playa Vista transportation improvements will make the transportation system work better than indicated in the traffic analysis presented in Part I of the Final EIS. It is the responsibility of the Playa Vista developer to implement the transportation improvements as mitigation for their Phase II impacts.

On September 22, 2004, the Los Angeles City Council approved the Playa Vista Phase II development, now referred to as the Village at Playa Vista, as a much smaller, less intense development project than was originally proposed. The projected level of traffic generated from buildout of this final phase of Playa Vista is approximately one-seventh of that originally assumed for Playa Vista Phase II in the off-airport

¹³ The (First) Addendum to the Final EIR published by LAWA in September 2004 has been adopted as part of the FAA's Final EIS except as it pertains to the federal Environmental Justice analysis and findings.

A.2.1 Off-Airport Surface Transportation

surface transportation study of the LAX Master Plan addressed in Part I of the Final EIS. In terms of new traffic generation, the planned Playa Vista project is, by far, the largest single contributor to background project traffic included in the LAX Master Plan traffic study, and is located only a few miles north of LAX. While the reductions to Playa Vista do not change the characteristics of the proposed improvements at LAX, they do change the background conditions against which the project transportation impacts are identified and mitigated. Based on a substantial reduction in the volume of background traffic that would result from the reduction in development proposed at Playa Vista, it was considered possible, if not likely, that the future (2015) traffic conditions with the reduced background traffic and the LAX Master Plan buildout traffic would be different than presented at that time in the LAX traffic analysis. Once the Playa Vista development was officially acted upon by the City in September 2004, which provided certainty that future development at Playa Vista would, in fact, be substantially less than assumed in the original traffic analysis for the LAX Master Plan, a revised traffic report was developed using the new Playa Vista traffic projections. The following provides a description of the changes to the Phase II Playa Vista project, the methodology used to incorporate the reduced Playa Vista development assumptions in the traffic analysis for Alternative D, and updates to baseline assumptions at intersections in the Project vicinity that were reflected in the various scenarios modeled. The scenarios modeled include the No Action/No Project Alternative in 2015 and Alternative D in 2015, which provide the basis for the NEPA analysis presented herein. In addition, the revised traffic analysis included the Adjusted Environmental Baseline scenario, which was used by the City of Los Angeles in assessing impacts relative to CEQA. Some discussion related to the Adjusted Environmental Baseline and CEQA impacts is also provided herein for informational purposes only, to help illustrate where and how the conclusions of the revised traffic analysis differ from those of the original traffic analysis; however, only the comparison between the No Action/No Project Alternative scenario and the Alternative D scenario is relevant to the federal decision-making process under NEPA. Following these discussions is a description of the changes to future traffic conditions and impacts associated with Alternative D as a result of the reduced Phase II development at Playa Vista, and a revised surface transportation mitigation program for Alternative D in light of such changes. Also presented thereafter is a discussion of how the nature of the Playa Vista changes and the results of the revised traffic analysis relate to Alternatives A, B, and C.

A.2.1.2 Additional Information and Analysis

A.2.1.2.1 Changes to the Definition of Playa Vista

The changes to the Playa Vista project occur in Phase II. This phase has been substantially reduced in scale, as shown in **Table A2.1-1**, Original and Reduced Definitions of Playa Vista. As the table shows, the reduction results in a 49 percent decrease in trip generation for Playa Vista, Phase II (otherwise called the Village at Playa Vista) during the AM peak hour, a 52 percent decrease in trip generation during the PM peak hour, and nearly a 59 percent decrease in trip generation during the airport peak hour.

Table A2.1-1

Original and Reduced Definitions of Playa Vista

Land Use Type	Original Definition			Reduced Definition ¹		
	Phase I	Phase II	Total	Phase I	Phase II	Total
Dwelling Units	3,246	9,839	13,085	3,246	2,600	5,846
Retail Square Feet	35,000	560,000	595,000	35,000	150,000	185,000
Office Square Feet	2,000,000	2,073,050	4,073,050	2,000,000	175,000	2,175,000
Studio Square Feet	1,000,000	0	1,000,000	1,000,000	0	1,000,000
Community-Serving Uses (s.f.)	120,000	520,000	640,000	120,000	40,000	160,000
Hotel Rooms	0	750	750	0	0	0
Marina (Boat Slips)	0	750	750	0	0	0
Trip Generation						
AM Peak Hour Trip-Ends ²	5,117	7,696	12,813	5,117	1,448	6,565
PM Peak Hour Trip-Ends ²	6,021	10,517	16,538	6,021	1,910	7,931
Airport Peak Hour Trip-Ends ³	3,914	8,560	12,474	3,914	1,242	5,156

¹ Source: LADOT, Initial Traffic Impact Assessment for the Proposed Village at Playa Vista Project (EIR No. ENV-2002-6129-EIR, August 11, 2003).

² Source: Kaku Associates, Playa Vista project trip tables.

³ Source: Parsons, 2004.

A.2.1.2.2 Methodology Used in Incorporating Reduced Playa Vista Assumptions in the Transportation Analysis

As indicated above, the revised traffic analysis was initiated for the LAX Master Plan following the reduction in the development proposed for Playa Vista. The analysis was undertaken to assess the nature and extent to which future (2015) traffic conditions with the reduced background traffic and the LAX Master Plan buildout traffic would be different than presented in Part I of the Final EIS. The revised traffic analysis focused on the off-airport surface transportation impacts and the attendant mitigation measures associated with Alternative D, which is the preferred alternative. Inasmuch as the revised traffic analysis was intended to account for the substantial reduction in trip generation associated with the reduction in the Playa Vista project that, in turn, would reduce the background traffic to which the LAX Master Plan trips would be added, it was anticipated that future (2015) overall traffic conditions (i.e., background traffic plus LAX Master Plan traffic) would be better than those determined in the original traffic analysis. That theory was substantiated by the results of the revised analysis, as summarized below in subsection A.2.1.2.4.2.

Transportation impacts were determined using the LAX Ground Access Model. In simple terms, new Playa Vista Phase II trip tables were obtained from the Playa Vista traffic consultant, and inserted to replace the previous Playa Vista Phase II trip tables used in the traffic model during previous analyses. After this change was made, the analysis was conducted in similar fashion to the previous LAX Master Plan analyses.

In order to analyze LAX Master Plan Alternative D with the "new" Playa Vista definition, Playa Vista trip tables for three scenarios were produced: adjusted environmental baseline (assuming 1996 LAX trips plus year 2015 background trips), No Action/No Project (assuming 2015 LAX trips with no LAX Master Plan plus year 2015 background trips), and Alternative D (assuming 2015 LAX trips with adoption of the LAX Master Plan plus year 2015 background trips). Each of these requires a different adjustment to the Playa Vista trip tables to retain the correct number of trips to and from each zone within that project. As indicated above, the NEPA analysis completed for the LAX Master Plan is based on the comparison of impacts between the No Action/No Project Alternative and the four build alternatives. The adjusted environmental baseline scenario, which relates only to the CEQA analysis, is also presented below for informational purposes. The most notable element of the LAX Master Plan project in terms of interaction with the Playa Vista project is not the Airport itself, but a component included in the Master Plan, the LAX Northside Project. This project component, which is included in the No Action/No Project Alternative and, in reduced scale in Alternative D, results in a larger number of trips between the Playa Vista development than does the Airport proper.

A.2.1 Off-Airport Surface Transportation

The reduced Playa Vista trip tables contained trips traveling between Playa Vista and LAX (including LAX Northside). For the LAX scenarios that were to be analyzed, (adjusted environmental baseline, No Action/No Project, and Alternative D) the number of trips between LAX and Playa Vista required modifications. The basic tenets for, and sequence of, these modifications were:

- ◆ Maintain the total number of trips into and out of each Playa Vista zone as provided by the Playa Vista consultant;
- ◆ Maintain the total number of trips into and out of each LAX zone for that alternative as determined by previous airport trip generation estimates;
- ◆ Adjust the number of airport trips to and from Playa Vista, consistent with the reduction in Playa Vista trips compared to the previous Playa Vista assumptions; and
- ◆ Adjust the number of airport trips to all non-Playa Vista zones and adjust the number of Playa Vista trips from the reduced Playa Vista development to all non-airport zones such that the total number of airport trips and the total number of trips from the reduced Playa Vista development are held constant.

Since the Playa Vista analysis included only AM and PM trips, a methodology was required to produce the Airport Peak trip tables. Through consultation with the Los Angeles Department of Transportation (LADOT) (who performed an analysis of peaking characteristics in the area) it was decided that the magnitude of trips for the Airport Peak Hour should be 65 percent of the number of trips in the PM Hour. In order to preserve the mix of directionality (inbound vs. outbound) the AM trips were added to the PM trips, and trips were then factored so that the total number equaled 65 percent of the PM total. For example, a zone might have 100 origins and 200 destinations (300 total trips) in the AM peak hour, with 300 origins and 150 destinations (450 total trips) in the PM peak hour. The airport peak hour would have a total of 293 trips (65 percent of 450 PM peak hour trips). The directionality would be determined by the following formulas:

$$\text{Airport peak origins} = \left[\frac{100 \text{ AM origins} + 300 \text{ PM origins}}{300 \text{ AM trips} + 450 \text{ PM trips}} \right] \times 293$$

$$\text{Airport peak destinations} = 293 - \text{Airport peak origins}$$

This process resulted in nine Playa Vista trip tables: one for each of the three time periods (AM, PM, and Airport Peak (AP)) in each of the three alternatives (adjusted environmental baseline, No Action/No Project, and LAX Master Plan Alternative D). Once these trip tables were completed, the transportation impact and mitigation process was performed in similar fashion to the previous analyses.

A.2.1.2.3 Updates to Baseline Assumptions at Intersections

In addition to the changes to the trip tables described above, modifications were made to baseline assumptions at several intersections to incorporate recent physical changes that have occurred to the intersections and/or updated information on planned improvements. This type of updating process is common for transportation planning studies and is consistent with the overall approach used in the transportation impact analysis for the LAX Master Plan Draft EIS/EIR, Supplement to the Draft EIS/EIR, and Part I of the Final EIS. Some updates were made as a result to public comments received during the public review process; these updates are documented in Part II, *Responses to Comments*, of the Final EIS. The updates to the baseline assumptions are accounted for in the Adjusted Environmental Baseline conditions and in the No Action/No Project conditions, which extend from the baseline conditions.

A.2.1.2.4 Future Conditions With Reduction in Playa Vista Development

This section describes future year 2015 conditions with the reduced Phase II development at Playa Vista. After incorporating the reduced Playa Vista development assumptions, the following 2015 scenarios were analyzed in detail:

- ◆ Adjusted environmental baseline;
- ◆ No Action/No Project; and
- ◆ LAX Master Plan, Alternative D.

A.2.1.2.4.1 Changes in Traffic Volumes Due to Reduction in Playa Vista Development

As described in subsection A.2.1.2.1 above, the reduction in the Playa Vista Phase II development results in decreases in the trip generation for each of the three peak hours ranging from approximately 6,200 to approximately 8,600 vehicle trips. This reduction in Playa Vista trip generation results in decreased traffic volumes throughout the study area.

Figure A2.1-1, Differences in Traffic Volumes - 2015 PM Peak Hour, Adjusted Environmental Baseline with Reduced Playa Vista - Adjusted Environmental Baseline with Original Playa Vista, shows how the reduction of the Playa Vista development affects traffic in the PM peak hour of the 2015 adjusted environmental baseline. **Figure A2.1-2**, Differences in Traffic Volumes - 2015 PM Peak Hour, No Action/No Project with Reduced Playa Vista - No Action/No Project with Original Playa Vista, shows how the reduction of the Playa Vista development affects traffic in the PM peak hour of the 2015 No Action/No Project scenario. **Figure A2.1-3**, Differences in Traffic Volumes - 2015 PM Peak Hour, Alternative D with Reduced Playa Vista - Alternative D with Original Playa Vista, shows how the reduction of the Playa Vista development affects traffic in the PM peak hour of the 2015 Master Plan Alternative D scenario. In all three figures, green lines represent reductions in traffic volumes while red lines represent increases in traffic volumes. The magnitudes of the changes are indicated by the widths of the lines. In general, similar results occur in the AM peak and airport peak hours (i.e., the differences in changes for the three peak hour periods are relatively minor and would not be discernable from the line widths shown in the three figures referenced above).

A.2.1 Off-Airport Surface Transportation

Figure A2.1-1
Differences in Traffic Volumes - 2015 PM Peak Hour Adj. Env. Baseline with
Reduced Playa Vista - Adj. Env. Baseline with Original Playa Vista



Figure A2.1-2
Differences in Traffic Volumes - 2015 PM Peak Hour No Action/No Project with
Reduced Playa Vista - No Action/No Project with Original Playa Vista

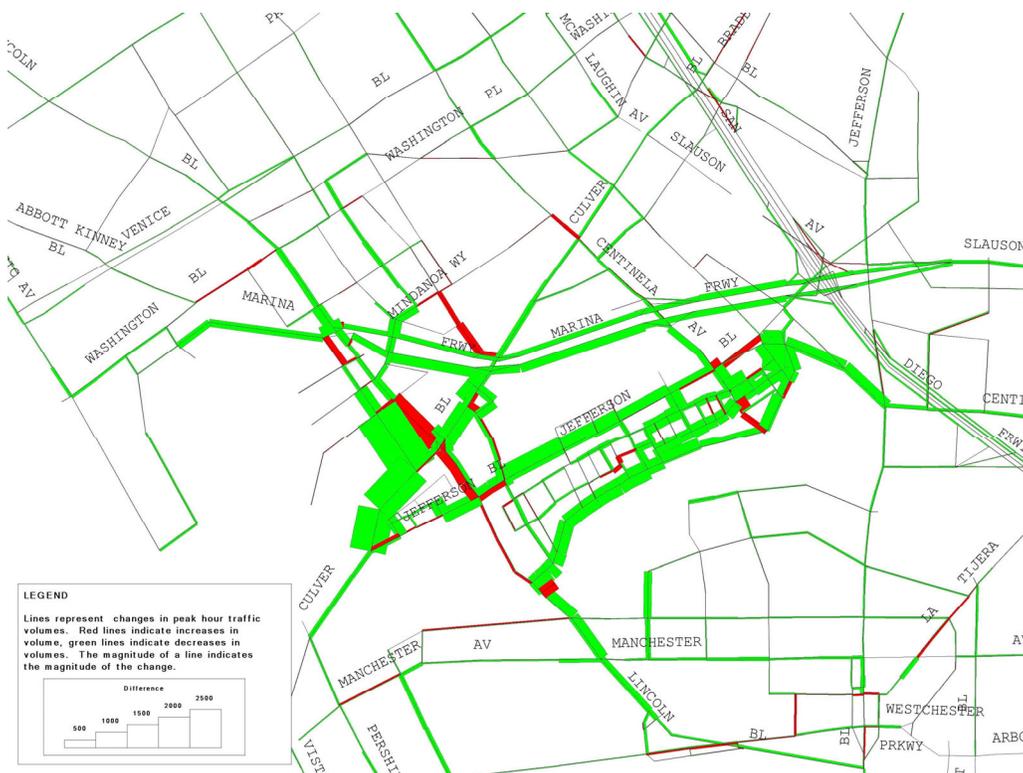


Figure A2.1-3
Differences in Traffic Volumes - 2015 PM Peak Hour
Alternative D with Reduced Playa Vista - Alternative D with Original Playa Vista



The largest reductions in traffic volumes occur near Playa Vista, and the magnitude of the reduction decreases as the distance from Playa Vista increases. Small increases in traffic volumes occur at various locations, which indicate a change in some travel paths as adjustments are made to access streets that have become less congested due to the reduction in Playa Vista. The locations and magnitudes of the changes are similar between the adjusted environmental baseline scenario, the No Action/No Project scenario, and the Alternative D scenario.

A.2.1.2.4.2 Impacts of Master Plan Alternative D Compared to the No Action/No Project Alternative

Future Transportation Deficiencies

Table A2.1-2, Existing and Future Transportation Deficiencies with Original and Reduced Playa Vista Assumptions, is an update to Table F4.3.2-3, Existing and Future Transportation Deficiencies, in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS. As shown in **Table A2.1-2**, the total number of surface transportation deficiencies (intersections, street links, freeway segments, and freeway ramps) is lower with the reduced Playa Vista assumptions than with the original Playa Vista assumptions used in the LAX Master Plan traffic analyses. For Alternative D, the number of deficient intersections drops from 50 (32 + 18) to 44 (30 + 14) and the number of deficient street links drops from 12 to 9. Deficient freeway segments and ramps increase by one each. Detailed level-of-service summaries for intersections modeled for the Adjusted Environmental Baseline and Alternative D scenarios are included in Appendix AD(3)-A1 of the Third Addendum to the Final EIR. Detailed level-of-service summaries for arterial links, freeway ramps, and freeway segments modeled for the Adjusted Environmental Baseline and Alternative D scenarios are included in Appendix AD(D)-A3 of the Third Addendum to the Final EIR. Comparable information for the No Action/No Project Alternative is included in Appendix A-4 of Volume A of the Final EIS.

With reduced Playa Vista, there are slightly (2) more deficiencies in Alternative D than in No Action/No Project (one intersection and one freeway ramp). The increased number of deficiencies is, however, addressed by the off-airport mitigation program.

A.2.1 Off-Airport Surface Transportation

Table A2.1-2

Existing and Future Transportation Deficiencies with Original and Reduced Playa Vista Assumptions

	Baseline	With Original Playa Vista			With Reduced Playa Vista ⁴		
		2015 AEB	2015 NA/NP	2015 Alt D ³	2015 AEB	2015 NA/NP	2015 Alt D
Deficient ¹ Intersections (61 total)	18	34	40	32	21	29	30
Deficient Street Links	6	8	9	12	8	9	9
Deficient Freeway Segments	3	4	4	5	5	6	6
Deficient Freeway Ramps	2	1	2	3	1	3	4
Total Deficient Facilities	29	47	55	52	35	47	49
Add'l Deficient Intersections (24 total) ²	n/a	16 ³	n/a	18	12	16	14

¹ An intersection or surface street is deficient (City of Los Angeles Department of Transportation standard) if its level of service is E or F. A freeway or freeway ramp is deficient (Los Angeles County Congestion Management Program standard) if its level of service is F.

² 14 additional intersections north of LAX were analyzed for Adjusted Environmental Baseline and LAX Master Plan Alternatives C and D only (refer to Section 2.1 of Technical Report S-2b, *Supplemental Off-Airport Surface Transportation Technical Report*). 10 additional intersections east of the I-405 Freeway were analyzed for Adjusted Environmental Baseline and Alternative D only (refer to Section 2.1 of Technical Report S-2b).

³ Analysis of intersections in these instances is based on a refined Adjusted Environmental Baseline, as described in Section 2.2 of Technical Report S-2b.

⁴ Analysis in these instances is based on a refined network and a reduced development for Playa Vista, as described in subsection A.2.1.2.1 of this section, and further refined to be consistent with *LADOT Master Plan Alternative D Project*, dated April 15, 2004.

Source: Parsons, 2004.

Impacted Intersections

The primary objective of the surface transportation impact analysis is to identify the impact that the proposed project has on the surrounding transportation system. The potential for creating an adverse traffic impact increases as the amount of background traffic increases. Conversely, as the level of background traffic is reduced, the potential of creating a project-related traffic impact also is reduced.

Table A.2.1-3, Alternative D Impacted Intersections (2015 - Compared to No Action/No Project Alternative) With Reduced Playa Vista Assumptions, provides an update, using the reduced Playa Vista trip generation, to Table F4.3.2-18, Alternative D Impacted Intersections (2015 - Compared to No Action/No Project Alternative), in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS. Whereas the original traffic analysis completed for Part I of the Final EIS, which assumed the larger Playa Vista development proposal, identified 32 impacted intersections for Alternative D, as compared to the No Action/No Project Alternative, the revised traffic analysis, which reflects the reduced Playa Vista project, indicates that the number of impacted intersections is reduced to 25.

Table A2.1-3

**Alternative D Affected Intersections
(2015 - Compared to No Action/No Project Alternative)
With Reduced Playa Vista Assumptions**

Intersection Number	Intersection Name
Original Study Intersections	
3	Airport Blvd. and Arbor Vitae St.
7	Aviation Blvd. and Arbor Vitae St.
8	Arbor Vitae St. and La Cienega Blvd.
11	Aviation Blvd. and Century Blvd.
26	Century Blvd and La Cienega Blvd.
27	Century Blvd. and Sepulveda Blvd.
34	Douglas St. and Imperial Hwy.
40	Florence Ave. and La Cienega Blvd.
45	I-105 Fwy/Continental City Dr. and Imperial Hwy.
46	I-405 Northbound Ramps and Imperial Hwy.
47	Main St. and Imperial Hwy.
49	Pershing Dr. and Imperial Hwy.
51	Vista Del Mar and Imperial Hwy.
52	Imperial Hwy. And La Cienega Blvd.
67	La Cienega Blvd. and 111th St.
71	La Cienega Blvd. and Lennox Blvd.
72	La Cienega Blvd. and Manchester Blvd.
99	Manchester Ave. and Sepulveda Blvd.
111	La Cienega Blvd. and I-405 SB Ramps North of Century Blvd.
Alternatives C and D Only	
20	Centinela Ave and La Cienega Blvd.
Alternative D Only	
42	Hawthorne Blvd and Imperial Hwy.
309	Hawthorne Blvd. and Lennox Blvd.
310	Inglewood Ave. and Lennox Blvd.
502	Inglewood Ave. and Arbor Vitae St.
506	La Brea Ave. and Arbor Vitae St.

Source: Parsons Transportation Group.

A.2.1.2.4.3 Traffic Mitigation

Two Alternative D Traffic Mitigation Plans (Adjusted Environmental Baseline Comparison) have been prepared and were designed to mitigate significant impacts disclosed under the CEQA analysis. The mitigation program developed to address CEQA significant impacts is used here for NEPA purposes as well.¹⁴

The Recommended Traffic Mitigation Plan includes the Lennox Boulevard Interchange on the I-405 Freeway as a mitigation; the Alternative Traffic Mitigation Plan does not include the interchange as a mitigation.

Recommended Traffic Mitigation Plan

For Alternative D with the reduced Phase II Playa Vista development, a traffic mitigation plan was prepared to address significant impacts projected to occur at project buildout in year 2015. This preferred, recommended traffic mitigation plan is shown in **Table A2.1-4**, Alternative D Recommended 2015 Mitigation Plan with Lennox Boulevard Interchange on the I-405 Freeway (Adjusted Environmental

¹⁴ The CEQA analysis, comparing Alternative D to the adjusted environmental baseline, disclosed a greater number of deficient intersections, street links, and freeway segments and ramps, as well as a greater number and severity of projected-related impacts than the NEPA analysis discloses. Because the nature and extent of impacts identified in the CEQA analysis are greater than those of the NEPA analysis, the extent of mitigation proposed to address the CEQA impacts is considered to be greater than that which would otherwise be required to address the NEPA impacts alone. Thus, the mitigation programs identified below in Tables A2.1-4 and A2.1-6 is based upon the CEQA analysis, using the environmental baseline comparison, which does not represent the NEPA analysis, but fully meets and exceeds appropriate mitigation for NEPA purposes.

A.2.1 Off-Airport Surface Transportation

Baseline Comparison). This plan assumes that Mitigation Measure MM-ST-13, Create a New Interchange at I-405 and Lennox Boulevard, is implemented. In part, this mitigation states:

Create a New Interchange at I-405 Freeway and Lennox Boulevard. This interchange shall provide grade-separated ramps from I-405 directly into airport property, and vice-versa. It shall be located approximately mid-way between Century Boulevard and Imperial Highway.

Table A2.1-4 is intended to replace the mitigation plan shown in Table F4.3.2-29, Year 2015 Alternative D Mitigation Plan (Adjusted Environmental Baseline Comparison), in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS. Those mitigations which were proposed to occur by Year 2008, per Table F4.3.2-28, *Year 2008 Alternative D Mitigation Plan (Adjusted Environmental Baseline Comparison)*, of Part I of the Final EIS, are still planned to be implemented by that date, provided that the improvement remains necessary in the traffic mitigation plan using the reduced Playa Vista trip generations. In light of the fact that the 2008 off-airport traffic impacts analysis presented in Part I of the Final EIS is intended to address impacts anticipated to occur during the peak construction year for Alternative D, the more detailed evaluation of those Master Plan projects contributing to those peak construction year impacts, which would be required in conjunction with additional project-level environmental evaluation of such projects, would serve as the basis and opportunity to incorporate refinements to the 2008 mitigation plan assuming the reduced Playa Vista II traffic generation numbers.

It should be noted that the mitigation plan presented in **Table A2.1-4** provides mitigation for all 25 of the impacted intersections identified above in **Table A2.1-3**, in addition to mitigation for other intersections identified in the CEQA analysis as being significantly impacted.

Table A2.1-4

**Alternative D Recommended 2015 Mitigation Plan with
Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 3	Airport and Arbor Vitae	AM	N/A	Mitigation for this impact is to restripe to provide a northbound right-turn lane. The NB lane configuration will change from 1 LT, 1 TH, 1 TH/RT to 1 LT, 2 TH, 1 RT.	0.692	B
		PM	N/A		0.661	B
		AP	N/A		0.721	C
Intersection 7	Arbor Vitae and Aviation	AM	N/A	The impact at this intersection is mitigated through the construction of the Lennox Boulevard Interchange on the I-405 Freeway.	0.600	A
		PM	N/A		0.775	C
		AP	N/A		0.837	D
Intersection 8	Arbor Vitae and La Cienega	AM	N/A	The Arbor Vitae Street bridge (east leg of the intersection) is proposed to be widened by Caltrans to a width of 103 feet. Project Component Improvements call for widening the south side of Arbor Vitae Street west of La Cienega Blvd. and the west side of La Cienega Blvd. south of Arbor Vitae Street to achieve standard City of LA street widths. Mitigation of this impact involves 1) the addition of an EB right-turn lane, 2) widening the east side of La Cienega Blvd. by construction of retaining walls within Caltrans' right-of-way to provide a NB right-turn lane, 3) the addition of an optional through/right lane westbound, and 3) upgrading the signal to ATSAC/ATCS equivalent. The resulting lane configuration is: NB - 1 LT, 2 TH, 1 RT; SB - 1 LT, 1 TH, 1 TH/RT; EB - 1 LT, 3 TH, 1 RT; WB - 1 LT, 2 TH, 1 TH/RT, 1 RT.	0.669	B
		PM	N/A		0.836	D
		AP	N/A		0.811	D

A.2.1 Off-Airport Surface Transportation

Table A2.1-4

**Alternative D Recommended 2015 Mitigation Plan with
Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 10	Aviation and 111th St	AM	N/A	Project Component Improvements call for widening the east side of Aviation Boulevard north and south of 111 th Street, and widening 111 th Street east of Aviation Boulevard to achieve City of LA standards. Traffic mitigation involves providing a second SB left-turn lane and a second WB right-turn lane. The resulting lane configuration is NB - 1 LT, 3 TH, 1 RT; SB - 2 LT, 2 TH, 1 TH/RT; EB - 1 LT, 1 TH/RT; WB - 1 LT, 1 TH, 2 RT.	0.547	A
		PM	N/A		0.579	A
		AP	N/A		0.596	A
Intersection 11	Aviation and Century	AM	N/A	Project Component Improvements call for widening the east side of Aviation Blvd north and south of Century Blvd to achieve standard City of LA street widths. The traffic mitigation involves the addition of an exclusive right-turn lane for northbound traffic and a second left turn lane for WB traffic. Resulting lane configuration is: N/B - 2 LT, 3 THRU, 1 RT; S/B - 2 LT, 2 THRU, 1 THRU/RT; E/B - 1 LT, 3 THRU, 1 THRU/RT; W/B - 2 LT, 4 TH, 1 RT.	0.588	A
		PM	N/A		0.885	D
		AP	N/A		0.909	E
Intersection 12	Aviation and El Segundo	AM	N/A	Intersectional analysis assumed proposed improvements by County of LA is completed as separate project. Mitigation of this impact involves 1) upgrading the signal to ATSAC/ATCS equivalent, and 2) restriping the EB approach from 1 LT, 3 TH, 1 RT to 1 LT, 3 TH, 1 TH/RT.	0.837	D
		PM	N/A		0.937	E
		AP	N/A		0.909	E
Intersection 13	Aviation and Imperial	AM	N/A	Project Component Improvements call for widening the east side of Aviation Boulevard north of Imperial Highway to achieve City of LA standard street widths. Mitigation for this impact involves 1) restriping the NB approach from 2 LT, 2 TH, 1 RT to 2 LT, 3 TH, 1 RT, and 2) providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	0.715	C
		PM	N/A		0.976	E
		AP	N/A		0.772	C
Intersection 14	Aviation and Manchester	AM	N/A	Mitigation for this impact involves 1) restriping both EB and WB lane configuration from 1 LT, 2 TH, 1 RT to 1 LT, 2 TH, 1 TH/RT, and 2) upgrading the traffic signal to ATSAC/ATCS equivalent. This proposal would require the elimination of parking on the south side of Manchester Blvd. east of Aviation Blvd. and on the north side of Manchester Blvd. west of Aviation Blvd. in order to provide appropriate merging distances.	0.830	D
		PM	N/A		0.864	D
		AP	N/A		1.151	F
Intersection 15	Aviation and Rosecrans	AM	N/A	Intersectional analysis assumes proposed improvement by the City of Hawthorne is completed. Mitigation for this impact involves upgrading the signal to ATSAC/ATCS equivalent.	0.923	E
		PM	N/A		1.083	F
		AP	N/A		1.157	F
Intersection 16	Bali and Lincoln	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to LA County's Route 90 At-Grade Extension Project from Lincoln Blvd. to Admiralty Way.	0.586	A
		PM	N/A		0.851	D
		AP	N/A		0.504	A

A.2.1 Off-Airport Surface Transportation

Table A2.1-4

Alternative D Recommended 2015 Mitigation Plan with Lennox Boulevard Interchange on the I-405 Freeway (Adjusted Environmental Baseline Comparison)

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 20	Centinela and La Cienega	AM	N/A	Mitigation for this impact involves 1) removing the median islands on La Cienega Boulevard north and south of Centinela Avenue in order to restripe the NB and SB lane configurations from 1 LT, 2 TH, 1 TH/RT to 2 LT, 2 TH, 1 TH/RT, and 2) restriping the WB approach from 1 LT, 3 TH, 1 RT to 2 LT, 2 TH, 1 TH/RT.	1.036	F
		PM	N/A		1.111	F
		AP	N/A		0.994	E
Intersection 22	Centinela and Sepulveda	AM	N/A	Mitigation for this impact involves removing the median island on the east leg from the intersection to the underpass of the I-405 Freeway in order to restripe the WB approach from 2 LT, 1 TH, 1 TH/RT to 2 LT, 2 TH, 1 RT	1.127	F
		PM	N/A		1.031	F
		AP	N/A		0.777	C
Intersection 25	Century and Hawthorne/La Brea	AM	N/A	Mitigation for this impact involves the removal of the raised median island on La Brea Ave/Hawthorne Blvd south of Century Blvd. in order to install an additional NB left turn lane. The NB lane configuration would change from 1 LT, 3 TH, 1 TH/RT to 2 LT, 3 TH, 1 TH/RT.	0.784	C
		PM	N/A		0.876	D
		AP	N/A		0.971	E
Intersection 26	Century and La Cienega	AM	N/A	Project Component Improvements call for restriping the intersection to provide the following lane configuration: N/B - 1 LT, 2 TH, 1 TH/RT, 1 RT; S/B - 1 LT, 3 TH, 1 RT; E/B - 1 LT, 3 TH, 2 RT; W/B - 1 LT, 3 TH, 1 TH/RT. This intersection is partially mitigated in all three time periods.	0.888	D
		PM	N/A		1.102	F
		AP	N/A		0.806	D
Intersection 27	Century and Sepulveda	AM	N/A	Mitigation of this impact involves reconfiguring the west leg of the intersection to allow for authorized vehicles only into the Central Terminal Area and trimming the median island on the north leg of the intersection in order to restripe the WB lanes from 1 LT, 1 LT/TH, 2 RT to 2 LT, 1 LT/TH, 1 RT	0.738	C
		PM	N/A		0.746	C
		AP	N/A		0.550	A
Intersection 34	Douglas and Imperial	AM	N/A	Mitigation or this impact involves changing the NB RTOR from Auto to Free. To accommodate this movement, one EB through lane would need to be removed from Imperial Highway between Nash Street and Douglas Street.	0.296	A
		PM	N/A		0.567	A
		AP	N/A		0.315	A
Intersection 35	El Segundo and Sepulveda	AM	N/A	Mitigation for this impact involves 1) providing EB right-turn overlap arrow, and 2) upgrading the signal to ATSAC/ATCS or equivalent.	1.099	F
		PM	N/A		1.127	F
		AP	N/A		0.988	E
Intersection 36	Grand and Vista del Mar	AM	N/A	Mitigation for this impact involves restriping the WB approach from 1 LT, 1 LT/TH, 1 RT to 1 LT, 1 LT/TH/RT, 1 RT.	0.803	D
		PM	N/A		0.433	A
		AP	N/A		0.416	A
Intersection 40	Florence and La Cienega	AM	N/A	Mitigation for this impact involves 1) changing the NB/SB phasing from Split to Protective-Var; 2) restriping the SB lanes from 1 LT, 1 LT/TH, 1 TH, 1 RT to 2 LT, 1 TH, 1 TH/RT; and 3) upgrading the signal to ATSAC/ATCS equivalent.	0.718	C
		PM	N/A		0.967	E
		AP	N/A		1.390	F

A.2.1 Off-Airport Surface Transportation

Table A2.1-4

**Alternative D Recommended 2015 Mitigation Plan with
Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 42	Hawthorne and Imperial	AM	N/A	Mitigation for this impact involves 1) upgrading the signal to ATSAC/ATCS equivalent, and 2) changing the SB lane configuration from 1 LT, 2 TH, 1 TH/RT to 1 LT, 3 TH, 1 RT. The removal of a short stretch of parking on the west side of Hawthorne Blvd. north of Imperial Highway is required.	0.595	A
		PM	N/A		0.738	C
		AP	N/A		0.875	D
Intersection 43	Highland/Vista del Mar and Rosecrans	AM	N/A	Mitigation for this impact involves upgrading the signal to provide a WB right-turn overlap arrow.	1.127	F
		PM	N/A		1.293	F
		AP	N/A		0.746	C
Intersection 44	Howard Hughes Pkwy and Sepulveda	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to MTA's proposed Metro Rapid Program or other enhancements to benefit transit traveling to and from LAX.	0.592	A
		PM	N/A		0.842	D
		AP	N/A		0.548	A
Intersection 45	I-105 Fwy/Continental City and Imperial	AM	N/A	Project Mitigation Improvements call for the installation of a north leg of this at-grade intersection. The SB approach will be planned as 3 LT and 2 RT. Project Component Improvements also call for widening the north side of Imperial Highway west of Continental City Drive in order to install a third WB through lane. The mitigation of this impact involves widening Imperial Highway east of Continental City Drive in order to install two WB right-turn lanes. The WB lane configuration will be changed from 2 LT, 3 TH to 1 LT, 3 TH, 2 RT. The mitigation of this impact also involves widening the south side of Imperial Highway west of Continental City Drive in order to retain the EB lane configuration of 3 TH, 1 RT.	0.467	A
		PM	N/A		0.558	A
		AP	N/A		0.667	B
Intersection 46	I-405 Fwy NB Ramps at Imperial	AM	N/A	Mitigation for this impact calls for widening the off-ramp to change the NB lane configuration from 1 LT, 1 RT to 2 LT, 1 LT/RT.	0.381	A
		PM	N/A		0.507	A
		AP	N/A		0.741	C
Intersection 47	Imperial and Main	AM	N/A	Mitigation for this impact involves narrowing the median island on the east leg and restriping the WB approach from 1 LT, 2 TH to 2 LT, 2 TH.	0.603	B
		PM	N/A		0.817	D
		AP	N/A		0.500	A
Intersection 49	Imperial and Pershing	AM	N/A	Mitigation for this impact involves widening the north side of Imperial Highway east of Pershing Drive to install a second right-turn lane. The WB lane configuration would change from 1 LT, 2 TH, 1 RT to 1 LT, 2 TH, 2 RT. Also, the median on the east leg of the intersection is to be narrowed to allow 3 receiving lanes for a SB triple left-turn movement. The SB lane configuration is to be changed from 1 LT, 1 LT/THRU/RT, 1 RT to 2 LT, 1 LT/THRU, 1 RT.	0.632	B
		PM	N/A		0.645	B
		AP	N/A		0.360	A
Intersection 50	Imperial and Sepulveda	AM	N/A	Mitigation for this impact upgrading the signal to provide overlap arrows for both the NB and WB approaches.	0.816	D
		PM	N/A		1.015	E
		AP	N/A		0.888	D
Intersection 51	Imperial and Vista del Mar	AM	N/A	Mitigation for this impact involves upgrading the signal to provide an overlap arrow for the NB approach.	0.770	C
		PM	N/A		0.593	A
		AP	N/A		0.565	A

A.2.1 Off-Airport Surface Transportation

Table A2.1-4

Alternative D Recommended 2015 Mitigation Plan with Lennox Boulevard Interchange on the I-405 Freeway (Adjusted Environmental Baseline Comparison)

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation		
					V/C	LOS	
Intersection 52	Imperial and La Cienega	AM	N/A	This intersection remains unmitigated during the PM and AP hours.	0.664	B	
		PM	N/A		0.770	C	
		AP	N/A		0.866	D	
Intersection 57	Jefferson and Lincoln	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	0.714	C	
		PM	N/A		0.995	E	
		AP	N/A		[a]	0.784	C
Intersection 67	La Cienega and 111th	AM	N/A	Project Component Improvements call for widening the south side of 111 th Street west of La Cienega Blvd. and the removal of the median island on La Cienega Blvd. south of 111 th Street. Mitigation for this impact involves the removal of the median island on the north leg to provide a second NB left-turn lane. This will require the removal of parking on the east side of La Cienega Boulevard. The resulting lane configuration is: NB - 2 LT, 3 TH; SB - 2 TH, 1 TH/RT; EB - 2 LT, 2 RT.	0.419	A	
		PM	N/A		0.327	A	
		AP	N/A		0.659	B	
Intersection 71	La Cienega and Lennox	AM	N/A	With the proposed new interchange providing full access to the I-405 Freeway from Lennox, this signalized intersection will be removed.	N/A	N/A	
		PM	N/A		N/A	N/A	
		AP	N/A		N/A	N/A	
Intersection 72	La Cienega and Manchester	AM	N/A	Mitigation for this impact involves 1) changing the NB/SB phasing from Split to Prot-Var, and 2) restriping La Cienega Blvd from north of Florence Avenue to south of Olive Street in order to change the SB approach from 1 LT, 1 LT/TH, 1 TH, 1 TH/RT to 2 LT, 1 TH, 1 TH/RT.	0.703	C	
		PM	N/A		0.744	C	
		AP	N/A		1.147	F	
Intersection 82	La Tijera and Manchester	AM	N/A	Mitigation for this impact involves changing the eastbound RT lane to a TH/RT lane on Manchester Ave. This may require the removal of parking on Manchester Ave., east of La Tijera Blvd. during the PM peak hour.	0.579	A	
		PM	N/A		0.704	C	
		AP	N/A		0.618	B	
Intersection 83	La Tijera and Sepulveda	AM	N/A	The mitigation for this impact involves changing the WB lane configuration from 1 LT, 1 TH, 1 TH/RT to 1 LT, 2 TH, 1 RT and the EB lane configuration from 1 LT, 2 TH, 1 RT to 1 LT, 2 TH, 1 TH/RT. This will require the removal of parking from both the north and south sides of La Tijera Blvd east of Sepulveda Blvd. during the AM and PM peak periods. In addition, provide a fair-share contribution to MTA's proposed Metro Rapid Program or other enhancements to benefit transit to and from LAX.	0.798	C	
		PM	N/A		[a]	0.759	C
		AP	N/A		0.404	A	
Intersection 87	Lincoln and 83 rd	AM	N/A	Mitigation for this impact involves 1) widening and restriping the EB approach from 1 LT, 1 TH/RT to 2 LT, 1 TH/RT and 2) upgrading the signal to provide a WB right-turn overlap arrow.	0.829	D	
		PM	N/A		0.990	E	
		AP	N/A		0.723	C	

A.2.1 Off-Airport Surface Transportation

Table A2.1-4

**Alternative D Recommended 2015 Mitigation Plan with
Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 88	Lincoln and Manchester	AM	N/A	Mitigation for this impact involves 1) widening the north and south legs of the intersection to provide right-turn lanes, 2) removing the median island on the east leg of the intersection to install a second WB left turn lane, and 3) providing a fair-share contribution to the MTA's Metro Rapid Program or other enhancements to benefit transit traveling to and from LAX. The lane configurations would be: NB - 1 LT, 4 TH, 1 RT; SB - 1 LT, 3 TH, 1 RT; WB - 2 LT, 2 TH, 1 RT; EB - 2 LT, 2 TH, 1 TH/RT.	0.779	C
		PM	N/A		[a]	F
		AP	N/A		0.648	B
Intersection 89	Lincoln and Marina Expwy	AM	N/A	Mitigation for this impact is to provide a fair-share contribution to LA County's Route 90 At-Grade Extension Project from Lincoln Blvd to Admiralty Way.	0.808	D
		PM	N/A		0.918	E
		AP	N/A		[b]	C
Intersection 91	Lincoln and Mindanao	AM	N/A	Mitigation for this impact is to provide a fair-share contribution to LA County's Route 90 At-Grade Extension Project from Lincoln Blvd to Admiralty Way.	0.923	E
		PM	N/A		[b]	E
		AP	N/A		0.832	D
Intersection 94	Lincoln and Teale	AM	N/A	Intersectional analysis assumed full build-out of the intersection by Playa Vista mitigation plans were already in place. Mitigation for this impact involves providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	0.700	B
		PM	N/A		0.951	E
		AP	N/A		[a]	A
Intersection 99	Manchester and Sepulveda	AM	N/A	Mitigation for this impact involves 1) restricting parking on the north side of Manchester Avenue during the PM peak period to allow the WB approach to be restriped as 1 LT, 2 TH, 1 RT, and 2) upgrading the signal to provide a WB right-turn overlap arrow.	0.811	D
		PM	N/A		0.984	E
		AP	N/A		0.690	B
Intersection 100	Mariposa and Sepulveda	AM	N/A	Mitigation for this impact involves upgrading the signal to ATSAC/ATCS equivalent.	0.845	D
		PM	N/A		0.955	E
		AP	N/A		0.935	E
Intersection 103	Rosecrans and Sepulveda	AM	N/A	Mitigation for this impact involves upgrading the signal to ATSAC/ATCS equivalent.	1.162	F
		PM	N/A		1.554	F
		AP	N/A		1.106	F
Intersection 105	Sepulveda and I-105 ramp N/O ¹⁷ Imperial	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	1.167	F
		PM	N/A		1.013	F
		AP	N/A		[a]	D
Intersection 106	Sepulveda and 76 th /77 th	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	0.669	B
		PM	N/A		0.704	C
		AP	N/A		[a]	B
Intersection 111	La Cienega and I-405 Ramps N/O Century	AM	N/A	The impact at this intersection is mitigated through the Project Component Improvements which call for widening the west side of La Cienega Blvd to provide an additional through lane for NB and SB traffic, and through the construction of the Lennox Blvd interchange on the I-405 Freeway.	0.687	B
		PM	N/A		0.684	B
		AP	N/A		0.715	C

A.2.1 Off-Airport Surface Transportation

Table A2.1-4

**Alternative D Recommended 2015 Mitigation Plan with
Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 136	Sepulveda and 79th/80th	AM	N/A	Mitigation for this impact involves widening the north side of 79 th Street to allow the WB approach to be restriped with 1 LT, 1 TH, 1 TH/RT.	0.740	C
		PM	N/A		0.795	C
		AP	N/A		0.503	A
Intersection 137	Sepulveda and 83 rd	AM	N/A	Mitigation for this impact involves restriping the WB approach from 1 LT, 1 TH/RT to 1 LT, 1 TH, 1 RT.	0.685	B
		PM	N/A		0.853	D
		AP	N/A		0.417	A
Intersection 309	Hawthorne and Lennox	AM	N/A	The impact of this intersection is mitigated through the construction of the Lennox Boulevard interchange.	0.551	A
		PM	N/A		0.656	B
		AP	N/A		0.740	C
Intersection 310	Inglewood and Lennox	AM	N/A	The impact of this intersection is mitigated through the construction of the Lennox Boulevard interchange.	0.653	B
		PM	N/A		0.715	C
		AP	N/A		0.659	B
Intersection 312	El Segundo and La Cienega	AM	N/A	Mitigation of this impact involves upgrading the traffic signal to ATSAC/ATCS equivalent.	0.605	B
		PM	N/A		0.599	A
		AP	N/A		0.426	A
Intersection 502	Arbor Vitae and Inglewood	AM	N/A	Mitigation of this impact involves restriping the SB lane configuration from 1 LT/TH/RT to 1 LT/TH, 1 RT. This would require the removal of parking on the west side of Inglewood Avenue north of Arbor Vitae Street.	0.739	C
		PM	N/A		0.770	C
		AP	N/A		0.821	D
Intersection 503	Century and Inglewood	AM	N/A	Mitigation of this impact involves upgrading the traffic signal to ATSAC/ATCS equivalent.	0.697	B
		PM	N/A		0.697	B
		AP	N/A		0.813	D
Intersection 505	Imperial and Inglewood	AM	N/A	Mitigation of this impact involves upgrading the traffic signal to ATSAC/ATCS equivalent.	0.869	D
		PM	N/A		1.038	F
		AP	N/A		0.966	E
Intersection 506	Arbor Vitae and La Brea	AM	N/A	Mitigation of this impact involves upgrading the traffic signal to ATSAC/ATCS equivalent.	0.609	B
		PM	N/A		0.616	B
		AP	N/A		0.846	D
Link 1	Lincoln S/O Venice	AM	NB	Fair share contributions to regional transit service will mitigate the impacts to this link.	0.689	B
			SB		0.859	D
		PM	NB		0.917	E
			SB		[a]	
		AP	SB		0.853	D
	NB	0.695	B			
	SB	0.735	C			
Link 5	Overland S/O Venice	AM	NB	Fair share contributions to regional transit service will mitigate the impacts to this link.	1.232	F
			SB		[a]	
			NB		1.674	F
		PM	NB		1.483	F
			SB		[a]	
		AP	NB		1.769	F
	SB	[a]				
	NB	1.490	F			
	SB	[a]				
	NB	1.791	F			
	SB	[a]				

A.2.1 Off-Airport Surface Transportation

Table A2.1-4

**Alternative D Recommended 2015 Mitigation Plan with
Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Link 8	Centinela E/O La Brea	AM	EB	Integration of an ATSAC/ATCS equivalent signal improvement will mitigate the impacts to this link.	0.377	A
			WB		0.883	D
		PM	EB		0.681	B
			WB		1.148	F
		AP	EB		0.709	C
WB	0.531		A			
Link 13	Imperial W/O La Brea	AM	EB	Integration of an ATSAC/ATCS equivalent signal improvement will mitigate the impacts to this link.	0.238	A
			WB		0.344	A
		PM	EB		0.548	A
			WB		0.343	A
		AP	EB		0.688	A
WB	0.695		A			
Link 15	Sepulveda N/O Rosecrans		NB	Integration of an ATSAC/ATCS equivalent signal improvement will mitigate the impacts to this link.	0.891	D
			SB		0.195	A
			NB		0.419	A
			SB		0.816	D
			NB		0.458	A
			SB		0.496	A
Link 21	Lincoln S/O Jefferson	AM	NB	Fair share contributions to regional transit service will mitigate the impacts to this link.	0.636	B
			SB		0.302	A
		PM	NB		0.944	E
			SB		[a]	B
		AP	NB		0.578	A
SB	0.567		A			
Link 28	El Segundo W/O Hawthorne	AM	EB	Integration of an ATSAC/ATCS equivalent signal improvement will mitigate the impacts to this link.	0.120	A
			WB		0.480	A
		PM	EB		0.763	C
			WB		0.345	A
		AP	EB		0.684	B
WB	0.858		D			
Ramp 14	I-405 SB off-ramp at La Cienega N/O Century	AM		The impact at this ramp is mitigated through the construction of the I-105 ramps and the Lennox Boulevard interchange on the I-405 Freeway.	0.763	N/A
		PM			0.483	N/A
		AP			0.809	N/A
Ramp 19	I-405 NB on-ramp at Century EB	AM		The impact at this ramp is mitigated through the construction of the I-105 ramps and the Lennox Boulevard interchange on the I-405 Freeway.	0.608	N/A
		PM			0.860	N/A
		AP			0.546	N/A
Ramp 26	I-405 SB on-ramp at El Segundo	AM		This ramp is mitigated through fair-share mitigation of future ramp widening.	0.118	N/A
		PM			0.530	N/A
		AP			0.152	N/A

A.2.1 Off-Airport Surface Transportation

Table A2.1-4

**Alternative D Recommended 2015 Mitigation Plan with
Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Ramp 35	I-105 WB off-ramp at Nash	AM		The impact at this ramp is mitigated through the construction of the I-105 ramps and the Lennox Boulevard interchange on the I-405 Freeway.	1.150	N/A
		PM			0.240	N/A
		AP			0.629	N/A

[a] = The final volume-to-capacity ratio does not reflect the anticipated trip reduction benefit of the transit enhancement proposed at this intersection.

[b] = The final volume-to-capacity ratio does not reflect the anticipated benefit of LA County's *Marina Expressway (SR-90) Connector Road to Admiralty Way* project, which is currently under environmental review. Date of completion is targeted for 2011.

Abbreviation Key:

V/C = Volume to Capacity ratio

LOS = Level of Service

N/A = Not Applicable

EB = Eastbound

E/O = East of

NB = Northbound

N/O = North of

SB = Southbound

S/O = South of

WB = Westbound

W/O = West of

LT = Left Turn

RT = Right Turn

TH = Through

AM = Morning Peak Hour

AP = Airport Peak Hour

PM = Afternoon Peak Hour

RTOR = Right Turn on Red

ATSAC = Automated Traffic Surveillance and Control

ATCS = Adaptive Traffic Control System

MTA = Metropolitan Transportation Authority

Source: Parsons, LADOT, 2004.

Table A2.1-5, Changes to 2015 Traffic Mitigation Plan - Preferred Traffic Mitigation Plan with the Lennox Boulevard Interchange, shows the differences between the Alternative D traffic mitigation plan presented in Part I of the Final EIS (using the previous Playa Vista trip generation assumptions) and the currently proposed 2015 traffic mitigation plan with the updated (reduced) Playa Vista trip generation assumptions.

The currently recommended mitigation plan in the reduced Playa Vista scenario is similar in magnitude to the original recommended mitigation plan, but it does have some differences. While the need for improvements is reduced or eliminated at some locations, new or additional improvements are required at others, compared to the original mitigation plan for Alternative D.

Table A2.1-5

**Changes to 2015 Traffic Mitigation Plan -
Preferred Traffic Mitigation Plan with the Lennox Blvd Interchange**

Facility Number	Facility Name	Improvements
Intersection 3	Airport and Arbor Vitae	No Change.
Intersection 7	Arbor Vitae and Aviation	The street widening of Arbor Vitae Street above and beyond the Project Component Improvements is no longer needed. This additional widening would have created a second WB left-turn lane.
Intersection 8	Arbor Vitae and La Cienega	The addition of a NB through lane is replaced with the addition of a NB right-turn lane. This will eliminate the need for a retaining wall and street widening on the east side of La Cienega Boulevard north of Arbor Vitae Street. A signal upgrade to ATSAC/ATCS equivalent has been added.
Intersection 10	Aviation and 111th St	No Change.
Intersection 11	Aviation and Century	A right-turn only lane for NB traffic and a second left-turn lane for westbound traffic have been added to the proposed mitigation. This widening is above and beyond the Project Component Improvements.
Intersection 12	Aviation and El Segundo	No Change.
Intersection 13	Aviation and Imperial	A mitigation has been added to provide a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.
Intersection 14	Aviation and Manchester	No Change.
Intersection 15	Aviation and Rosecrans	The mitigation has been revised from installing a NB right-turn overlap arrow to upgrading the signal to ATSAC/ATCS equivalent.
Intersection 16	Bali and Lincoln	No Change.
Intersection 17	Centinela and Culver	Restriping the SB approach from 1 LT, 1 TH, 1 TH/RT to 1 LT, 2 TH, 1 RT is no longer needed. There is no longer a project-related significant impact at this intersection.
Intersection 18	Centinela and Jefferson	Intersection no longer has a project-related significant impact.
Intersection 20	Centinela and La Cienega	No Change.
Intersection 22	Centinela and Sepulveda	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. Other mitigation elements remain unchanged.
Intersection 25	Century and Hawthorne/La Brea	The removal of the raised median island and restriping on La Brea Ave north of Century Blvd. in order to install an additional SB left- turn lane is no longer needed. Other mitigation elements remain unchanged.
Intersection 26	Century and La Cienega	No Change.

A.2.1 Off-Airport Surface Transportation

Table A2.1-5

Changes to 2015 Traffic Mitigation Plan -
Preferred Traffic Mitigation Plan with the Lennox Blvd Interchange

Facility Number	Facility Name	Improvements
Intersection 27	Century and Sepulveda	No Change.
Intersection 34	Douglas and Imperial	No Change.
Intersection 35	El Segundo and Sepulveda	No Change.
Intersection 36	Grand and Vista del Mar	No Change.
Intersection 40	Florence and La Cienega	No Change.
Intersection 42	Hawthorne and Imperial	No Change.
Intersection 43	Highland/Vista del Mar and Rosecrans	No Change.
Intersection 44	Howard Hughes Pkwy and Sepulveda	No Change.
Intersection 45	I-105 Fwy/Continental City and Imperial	No Change. Clarification that widening is required on the south side of Imperial Highway west of Continental City Drive to retain the EB lane configuration of 3 TH, 1 RT.
Intersection 46	I-405 Fwy NB Ramps at Imperial	Upgrading the signal to ATSC/ATCS equivalent is no longer required. The widening of the off-ramp remains as a mitigation.
Intersection 47	Imperial and Main	No Change.
Intersection 49	Imperial and Pershing	No Change.
Intersection 50	Imperial and Sepulveda	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. Other mitigation elements remain unchanged.
Intersection 51	Imperial and Vista del Mar	The mitigation to change the westbound phasing from Perm. to Split is no longer required.
Intersection 52	Imperial and La Cienega	No Change. This intersection remains unmitigated during the PM and AP hours.

Table A2.1-5

**Changes to 2015 Traffic Mitigation Plan -
Preferred Traffic Mitigation Plan with the Lennox Blvd Interchange**

Facility Number	Facility Name	Improvements
Intersection 57	Jefferson and Lincoln	Restriping the NB approach from 1 LT, 3 TH, 1 TH/RT, 1 RT to 1 LT, 4 TH, 1 RT is no longer available as a mitigation. Mitigation to provide a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX remains.
Intersection 67	La Cienega and 111th	Mitigation was added to provide a second NB left-turn lane. This will require the removal of the median on the north leg of the intersection and the removal of parking on the east side of La Cienega Boulevard.
Intersection 71	La Cienega and Lennox	No Change.
Intersection 72	La Cienega and Manchester	No Change.
Intersection 81	La Tijera and Lincoln	Intersection no longer has a project-related significant impact. Originally was a temporary, less than significant impact.
Intersection 82	La Tijera and Manchester	No Change.
Intersection 83	La Tijera and Sepulveda	Mitigations have been added to 1) change the EB lane configuration from 1 LT, 2 TH, 1 RT to 1 LT, 2 TH, 1 TH/RT, and 2) provide a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.
Intersection 87	Lincoln and 83 rd	No Change.
Intersection 88	Lincoln and Manchester	No Change.
Intersection 89	Lincoln and Marina Expwy	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. Providing a fair-share contribution to LA County's Route 90 At-Grade Extension Project from Lincoln Blvd to Admiralty Way remains.
Intersection 90	Lincoln and Maxella	Providing a fair-share contribution to LA County's Route 90 At-Grade Extension Project from Lincoln Blvd to Admiralty Way is no longer needed. There is no longer a project-related significant impact at this intersection.
Intersection 91	Lincoln and Mindanao	No Change.
Intersection 94	Lincoln and Teale	The mitigation to provide a NB right-turn overlap arrow has been removed. Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX remains as a mitigation.
Intersection 99	Manchester and Sepulveda	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. Restriping the WB approach to install an optional through lane has been revised to installing a right-turn lane. The addition of a WB overlap arrow remain as a mitigation.

A.2.1 Off-Airport Surface Transportation

Table A2.1-5

Changes to 2015 Traffic Mitigation Plan - Preferred Traffic Mitigation Plan with the Lennox Blvd Interchange

Facility Number	Facility Name	Improvements
Intersection 100	Mariposa and Sepulveda	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. Upgrading the signal to ATSAC/ATCS equivalent remains as a mitigation.
Intersection 103	Rosecrans and Sepulveda	No Change.
Intersection 105	Sepulveda and I-105 ramp N/O ¹⁷ Imperial	Upgrading the signal to ATSAC/ATCS equivalent is no longer available as a mitigation. Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX remains as a mitigation.
Intersection 106	Sepulveda and 76 th /77 th	No Change.
Intersection 109	Sepulveda and Westchester	Intersection no longer has a project-related significant impact. Originally was a temporary, less than significant impact.
Intersection 111	La Cienega and I-405 Ramps N/O Century	No Change.
Intersection 136	Sepulveda and 79 th /80 th	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. Widening the north side of 79 th /80 th Street and restriping the WB approach remains as a mitigation.
Intersection 137	Sepulveda and 83rd	Mitigation has been revised from providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX to the following: Restripe the WB approach from 1 LT, 1 TH/RT to 1 LT, 1 TH, 1RT.
Intersection 309	Hawthorne and Lennox	No Change.
Intersection 310	Inglewood and Lennox	No Change.
Intersection 312	El Segundo and La Cienega	No Change.
Intersection 502	Arbor Vitae and Inglewood	Revision to this mitigation involves a minor change to the SB lane configuration.
Intersection 503	Century and Inglewood	No Change.
Intersection 505	Imperial and Inglewood	Restriping the SB approach from 1 LT, 1 LT/TH, to 1 LT, 1 TH, 1 RT is no longer needed. Mitigation to upgrade the signal to ATSAC/ATCS equivalent remains unchanged.
Intersection 506	Arbor Vitae and La Brea	No Change.
Link 1	Lincoln S/O Venice	No Change.
Link 2	Centinela S/O Venice	Fair share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 3	Sawtelle S/O Venice	Fair share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.

Table A2.1-5

Changes to 2015 Traffic Mitigation Plan - Preferred Traffic Mitigation Plan with the Lennox Blvd Interchange

Facility Number	Facility Name	Improvements
Link 4	Sepulveda S/O Venice	Fair share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 5	Overland S/O Venice	No Change.
Link 8	Centinela E/O LaBrea	No Change.
Link 13	Imperial W/O LaBrea	No Change.
Link 15	Sepulveda N/O Rosecrans	This new impact is mitigated through the integration of an ATSAC/ATCS equivalent signal improvement.
Link 20	Jefferson E/O Lincoln	Fair share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 21	Lincoln S/O Jefferson	No Change.
Link 22	Culver W/O Jefferson	Fair share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 28	El Segundo W/O Hawthorne	No Change.
Ramp 14	I-405 SB off-ramp at La Cienega N/O Century	This new impact is mitigated through the construction of the I-105 ramps and the Lennox Boulevard interchange on the I-405 Freeway.
Ramp 19	I-405 NB on-Ramp and Century	No Change.
Ramp 26	I-405 SB on-ramp and El Segundo	No Change.
Ramp 35	I-105 WB off-ramp and Nash	No Change.

Source: LAWA, 2004.

Alternative Traffic Mitigation Plan

An alternative mitigation plan, shown on **Table A2.1-6**, Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway (Adjusted Environmental Baseline Comparison), does not include the proposed Lennox Boulevard Interchange on the I-405 Freeway. It does include the proposed I-105 ramps directly to and from the new on-airport roadways between La Cienega Boulevard and Aviation Boulevard. This alternative mitigation plan would be used if approval for the Lennox Boulevard interchange is not received from Caltrans or the Federal Highway Administration. This is the same assumption used in preparation of the alternative transportation mitigation plan in Part I of the Final EIS. **Table A2.1-7**, Changes to 2015 Traffic Mitigation Plan - Alternative Traffic Mitigation Plan without the Lennox Boulevard Interchange, shows the differences between the Alternative D traffic mitigation plan in Part I of the Final EIS (using the previous Playa Vista trip generation assumptions) and the proposed traffic mitigation plan with the updated (reduced) Playa Vista trip generation assumptions.

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 3	Airport and Arbor Vitae	AM	N/A	Mitigation for this impact is to restripe to provide a northbound right-turn lane. The NB lane configuration will change from 1 LT, 1 TH, 1 TH/RT to 1 LT, 2 TH, 1 RT.	0.695	B
		PM	N/A		0.725	C
		AP	N/A		0.732	C
Intersection 7	Arbor Vitae and Aviation	AM	N/A	Project component improvements call for widening the south side of Arbor Vitae Street east and west of Aviation Boulevard and widening the east and west sides of Aviation Blvd south of Arbor Vitae Street in order to achieve standard City of LA street widths. Mitigation of this impact involves additional widening to add a second westbound left turn lane. Resulting lane configuration is: NB - 1 LT, 2 TH, 1 RT; SB - 1 LT, 1 TH, 1 TH/RT; EB - 1 LT, 2 TH, 1 TH/RT; WB - 2 LT, 2 TH, 1 RT. This intersection remains only partially mitigated.	0.699	B
		PM	N/A		0.816	D
		AP	N/A		0.881	D
Intersection 8	Arbor Vitae and La Cienega	AM	N/A	The Arbor Vitae Street bridge (east leg of the intersection) is proposed to be widened by Caltrans to a width of 103 feet. Project Component Improvements call for widening the south side of Arbor Vitae Street west of La Cienega Blvd. and the west side of La Cienega Blvd. south of Arbor Vitae Street to achieve standard City of LA street widths. Mitigation of this impact involves 1) the addition of an EB right-turn lane, 2) widening the east side of La Cienega Blvd. by construction of retaining walls within Caltrans' right-of-way to provide a NB right-turn lane, 3) the addition of an optional through/right lane westbound, and 3) upgrading the signal to ATSAC/ATCS equivalent. The resulting lane configuration is: NB - 1 LT, 2 TH, 1 RT; SB - 1 LT, 1 TH, 1 TH/RT; EB - 1 LT, 3 TH, 1 RT; WB - 1 LT, 2 TH, 1 TH/RT, 1 RT. In addition, provide a fair-share contribution to the MTA's Metro Rapid Program or other enhancements to benefit transit traveling to and from LAX.	0.847 [a]	D
		PM	N/A		0.923	E
		AP	N/A		0.910	E
Intersection 10	Aviation and 111th St	AM	N/A	Project Component Improvements call for widening the east side of Aviation Boulevard north and south of 111 th Street, and widening 111 th Street east of Aviation Boulevard to achieve City of LA standards.	0.699	B
		PM	N/A		0.688	B
		AP	N/A		0.809	D

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

**Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 11	Aviation and Century	AM	N/A	Project Component Improvements call for widening the east side of Aviation Blvd north and south of Century Blvd to achieve standard City of LA street widths. The traffic mitigation involves the addition of an exclusive right-turn lane for northbound traffic and a second left-turn lane for westbound traffic. Resulting lane configuration is: N/B - 2 LT, 3 TH, 1 RT; S/B - 2 LT, 2 TH, 1 TH/RT; E/B - 1 LT, 3 TH, 1 TH/RT; W/B - 2 LT, 4 TH, 1 RT. In addition, provide a fair-share contribution to the MTA's Metro Rapid Program or other enhancements to benefit transit traveling to and from LAX.	0.723	C
		PM	N/A		0.974 [a]	E
		AP	N/A		0.989	E
Intersection 12	Aviation and El Segundo	AM	N/A	Intersectional analysis assumed proposed improvements by County of LA is completed as separate project. Mitigation of this impact is to upgrade the signal to ATSAC/ATCS equivalent.	0.835	D
		PM	N/A		0.936	E
		AP	N/A		0.909	E
Intersection 13	Aviation and Imperial	AM	N/A	Project Component Improvements call for widening the east side of Aviation Boulevard north of Imperial Highway to achieve City of LA standard street widths. Mitigation for this impact involves restriping the NB approach from 2 LT, 2 TH, 1 RT to 2 LT, 3 TH, 1 RT. In addition, provide a fair-share contribution to the MTA's Metro Rapid Program or other enhancements to benefit transit traveling to and from LAX.	0.671	B
		PM	N/A		0.996 [a]	E
		AP	N/A		0.816	D
Intersection 14	Aviation and Manchester	AM	N/A	Mitigation for this impact involves 1) restriping both EB and WB lane configuration from 1 LT, 2 TH, 1 RT to 1 LT, 2 TH, 1 TH/RT, and 2) upgrading the traffic signal to ATSAC/ATCS equivalent. This proposal would require the elimination of parking on the south side of Manchester Blvd. east of Aviation Blvd. and on the north side of Manchester Blvd. west of Aviation Blvd. in order to provide appropriate merging distances.	0.845	D
		PM	N/A		0.897	D
		AP	N/A		1.171	F
Intersection 15	Aviation and Rosecrans	AM	N/A	Intersectional analysis assumes proposed improvement by the City of Hawthorne is completed. Mitigation for this impact involves upgrading the signal to ATSAC/ATCS equivalent.	0.921	E
		PM	N/A		1.093	F
		AP	N/A		1.195	F
Intersection 16	Bali and Lincoln	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to LA County's Route 90 At-Grade Extension Project from Lincoln Blvd. to Admiralty Way.	0.582	A
		PM	N/A		0.856 [b]	D
		AP	N/A		0.520	A

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 20	Centinela and La Cienega	AM	N/A	Mitigation for this impact involves the removal of the median islands on La Cienega Boulevard north and south of Centinela Avenue and restriping the NB and SB lane configurations from 1 LT, 2 TH, 1 TH/RT to 2 LT, 2 TH, 1 TH/RT.	0.995	E
		PM	N/A		1.146	F
		AP	N/A		0.933	E
Intersection 22	Centinela and Sepulveda	AM	N/A	Mitigation for this impact involves removing the median island on the east leg from the intersection to the underpass of the I-405 Freeway in order to restripe the WB approach from 2 LT, 1 TH, 1 TH/RT to 2 LT, 2 TH, 1 RT	1.136	F
		PM	N/A		1.022	F
		AP	N/A		0.774	C
Intersection 25	Century and Hawthorne/La Brea	AM	N/A	Mitigation for this impact involves the removal of the raised median island on La Brea Ave/Hawthorne Blvd south of Century Blvd. in order to install an additional NB left turn lane. The NB lane configuration would change from 1 LT, 3 TH, 1 TH/RT to 2 LT, 3 TH, 1 TH/RT.	0.791	C
		PM	N/A		0.844	D
		AP	N/A		0.887	D
Intersection 26	Century and La Cienega	AM	N/A	Project Component Improvements call for restriping the intersection to provide the following lane configuration: N/B - 1 LT, 2 TH, 1 TH/RT, 1 RT; S/B - 1 LT, 3 TH, 1 RT; E/B - 1 LT, 3 TH, 2 RT; W/B - 1 LT, 3 TH, 1 TH/RT. This intersection is partially mitigated in all three time periods.	1.343	F
		PM	N/A		1.192	F
		AP	N/A		1.273	F
Intersection 27	Century and Sepulveda	AM	N/A	Mitigation of this impact involves reconfiguring the west leg of the intersection to allow for authorized vehicles only into the Central Terminal Area and trimming the median island on the north leg of the intersection in order to restripe the WB lanes from 1 LT, 1 LT/TH, 2 RT to 2 LT, 1 LT/TH, 1 RT	0.735	C
		PM	N/A		0.750	C
		AP	N/A		0.559	A
Intersection 34	Douglas and Imperial	AM	N/A	Mitigation of this impact involves changing the NB RTOR from Auto to Free. To accommodate this movement, one EB through lane would need to be removed from Imperial Highway between Nash Street and Douglas Street.	0.291	A
		PM	N/A		0.607	B
		AP	N/A		0.295	A
Intersection 35	El Segundo and Sepulveda	AM	N/A	Mitigation for this impact involves upgrading the signal to ATSAC/ATCS or equivalent.	1.098	F
		PM	N/A		1.123	F
		AP	N/A		1.040	F

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

**Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 36	Grand and Vista del Mar	AM	N/A	Mitigation for this impact involves restriping the WB approach from 1 LT, 1 LT/TH, 1 RT to 1 LT, 1 LT/TH/RT, 1 RT,	0.810	D
		PM	N/A		0.436	A
		AP	N/A		0.419	A
Intersection 40	Florence and La Cienega	AM	N/A	Mitigation for this impact involves 1) changing the NB/SB phasing from Split to Protective-Var; 2) restriping the SB lanes from 1 LT, 1 LT/TH, 1 TH, 1 RT to 2 LT, 1 TH, 1 TH/RT; and 3) upgrading the signal to ATSAC/ATCS equivalent.	0.712	C
		PM	N/A		1.018	F
		AP	N/A		1.376	F
Intersection 42	Hawthorne and Imperial	AM	N/A	Mitigation for this impact involves 1) upgrading the signal to ATSAC/ATCS equivalent, and 2) changing the SB lane configuration from 1 LT, 2 TH, 1 TH/RT to 1 LT, 3 TH, 1 RT. The removal of a short stretch of parking on the west side of Hawthorne Blvd. north of Imperial Highway is required.	0.605	B
		PM	N/A		0.719	C
		AP	N/A		0.873	D
Intersection 43	Highland/Vista del Mar and Rosecrans	AM	N/A	Mitigation for this impact involves upgrading the signal to provide a WB right-turn overlap arrow.	1.127	F
		PM	N/A		1.329	F
		AP	N/A		0.740	C
Intersection 44	Howard Hughes Pkwy and Sepulveda	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to MTA's proposed Metro Rapid Program or other enhancements to benefit transit traveling to and from LAX.	0.599	A
		PM	N/A		0.842	D
		AP	N/A		0.550	A
Intersection 45	I-105 Fwy/Continental City and Imperial	AM	N/A	Project Mitigation Improvements call for the installation of a north leg of this at-grade intersection. The SB approach will be planned as 3 LT and 2 RT. Project Component Improvements also call for widening the north side of Imperial Highway west of Continental City Drive in order to install a third WB through lane. The mitigation of this impact involves widening the north and south sides of Imperial Highway east of Continental City Drive in order to install two WB right-turn lanes. The WB lane configuration will be changed from 2 LT, 3 TH to 1 LT, 3 TH, 2 RT. An additional mitigation for this impact involves widening the south side of Imperial Highway west of Continental City Drive in order to retain the EB lane configuration of 3 TH, 1 RT. Finally, provide a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	0.499	A
		PM	N/A		0.625	B
		AP	N/A		0.725	C
					[a]	

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 46	I-405 Fwy NB Ramps at Imperial	AM	N/A	Mitigation for this impact calls for 1) widening the off-ramp to change the NB lane configuration from 1 LT, 1 RT to 2 LT, 1 LT/RT and 2) upgrading the signal to ATSC/ATCS or equivalent.	0.301	A
		PM	N/A		0.365	A
		AP	N/A		0.687	B
Intersection 47	Imperial and Main	AM	N/A	Mitigation for this impact involves narrowing the median island on the east leg and restriping the WB approach from 1 LT, 2 TH to 2 LT, 2 TH.	0.606	B
		PM	N/A		0.819	D
		AP	N/A		0.494	A
Intersection 49	Imperial and Pershing	AM	N/A	Mitigation for this impact involves widening the north side of Imperial Highway east of Pershing Drive to install a second right-turn lane. The WB lane configuration would change from 1 LT, 2 TH, 1 RT to 1 LT, 2 TH, 2 RT. Also, the median on the east leg of the intersection is to be narrowed to allow 3 receiving lanes for a SB triple left-turn movement. The SB lane configuration is to be changed from 1 LT, 1 LT/THRU/RT, 1 RT to 2 LT, 1 LT/THRU, 1 RT.	0.637	B
		PM	N/A		0.644	B
		AP	N/A		0.358	A
Intersection 50	Imperial and Sepulveda	AM	N/A	Mitigation for this impact upgrading the signal to provide overlap arrows for both the NB and WB approaches.	0.815	D
		PM	N/A		1.034	F
		AP	N/A		0.904	E
Intersection 51	Imperial and Vista del Mar	AM	N/A	Mitigation for this impact involves upgrading the signal to provide an overlap arrow for the NB approach.	0.769	C
		PM	N/A		0.594	A
		AP	N/A		0.560	A
Intersection 52	Imperial and La Cienega	AM	N/A	This intersection remains unmitigated during the AM hour, when it will operate at LOS C, and AP, when it will operate at LOS D.	0.765	C
		PM	N/A		0.678	B
		AP	N/A		0.880	D
Intersection 57	Jefferson and Lincoln	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	0.723	C
		PM	N/A		0.993	E
		AP	N/A		[a] 0.804	D

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

**Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 67	La Cienega and 111th	AM	N/A	Project Component Improvements call for widening the south side of 111 th Street west of La Cienega Blvd. and the removal of the median island on La Cienega Blvd. south of 111 th Street. Mitigation for this impact involves the removal of the median island on the north leg to provide a second NB left-turn lane and a SB right-turn lane. This will require the removal of parking on the east side of La Cienega Boulevard. The resulting lane configuration is: NB - 2 LT, 2 TH; SB - 3 TH, 1 RT; EB - 2 LT, 2 RT. Mitigation also calls for changing the NB phasing from Perm. to Prot-Fix.	0.390	A
		PM	N/A		0.294	A
		AP	N/A		0.678	B
Intersection 71	La Cienega and Lennox	AM	N/A	Project component improvements call for widening the west side of La Cienega Boulevard north and south of Lennox Boulevard. This lane configuration would be: NB - 3 TH, 1 RT; SB - 2 LT, 3 TH, 1 free RT, EB - 2 LT, 2 RT; WB - 3 LT, 1 free RT. Additional mitigation of this impact involves upgrading the signal to provide a NB right-turn overlap arrow.	0.381	A
		PM	N/A		0.598	A
		AP	N/A		0.669	B
Intersection 72	La Cienega and Manchester	AM	N/A	Mitigation for this impact involves 1) changing the NB/SB phasing from Split to Prot-Var, and 2) restriping La Cienega Blvd from north of Florence Avenue to south of Olive Street in order to change the SB approach from 1 LT, 1 LT/TH, 1 TH, 1 TH/RT to 2 LT, 1 TH, 1 TH/RT.	0.732	C
		PM	N/A		0.764	C
		AP	N/A		1.202	F
Intersection 82	La Tijera and Manchester	AM	N/A	Mitigation for this impact involves changing the eastbound RT lane to a TH/RT lane on Manchester Ave. This may require the removal of parking on Manchester Ave., east of La Tijera Blvd. during the PM peak hour.	0.584	A
		PM	N/A		0.715	C
		AP	N/A		0.620	B
Intersection 83	La Tijera and Sepulveda	AM	N/A	The mitigation for this impact involves changing the WB lane configuration from 1 LT, 1 TH, 1 TH/RT to 1 LT, 2 TH, 1 RT and the EB lane configuration from 1 LT, 2 TH, 1 RT to 1 LT, 2 TH, 1 TH/RT. This will require the removal of parking from both the north and south sides of La Tijera Blvd east of Sepulveda Blvd. during the AM and PM peak periods. In addition, provide a fair-share contribution to MTA's proposed Metro Rapid Program or other enhancements to benefit transit to and from LAX.	0.806 [a]	D
		PM	N/A		0.762	C
		AP	N/A		0.405	A
Intersection 87	Lincoln and 83 rd	AM	N/A	Mitigation for this impact involves 1) widening and restriping the EB approach from 1 LT, 1 TH/RT to 2 LT, 1 TH/RT and 2) upgrading the signal to provide a WB right-turn overlap arrow.	0.830	D
		PM	N/A		0.983	E
		AP	N/A		0.726	C

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 88	Lincoln and Manchester	AM	N/A	Mitigation for this impact involves widening all four legs of the intersection to allow the following lane configuration: NB - 1 LT, 4 TH, 1 RT; SB - 1 LT, 3 TH, 1 RT; WB - 2 LT, 2 TH, 1 RT; EB - 2 LT, 2 TH, 1 TH/RT. An additional mitigation will be to provide a fair-share contribution to the MTA's Metro Rapid Program or other enhancements to benefit transit traveling to and from LAX.	0.789 [a]	C
		PM	N/A		1.043	F
		AP	N/A		0.667	B
Intersection 89	Lincoln and Marina Expwy	AM	N/A	Mitigation for this impact is to provide a fair-share contribution to LA County's Route 90 At-Grade Extension Project from Lincoln Blvd to Admiralty Way.	0.815	D
		PM	N/A		0.921 [b]	E
		AP	N/A		0.767	C
Intersection 91	Lincoln and Mindanao	AM	N/A	Mitigation for this impact is to provide a fair-share contribution to LA County's Route 90 At-Grade Extension Project from Lincoln Blvd to Admiralty Way.	0.923 [b]	E
		PM	N/A		0.944	E
		AP	N/A		0.840	D
Intersection 94	Lincoln and Teale	AM	N/A	Intersectional analysis assumed full build-out of the intersection by Playa Vista mitigation plans were already in place. Mitigation for this impact involves providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	0.699	B
		PM	N/A		0.940 [a]	E
		AP	N/A		0.554	A
Intersection 99	Manchester and Sepulveda	AM	N/A	Mitigation for this impact involves 1) restricting parking on the north side of Manchester Avenue during the PM peak period to allow the WB approach to be restriped as 1 LT, 2 TH, 1 RT, and 2) upgrading the signal to provide a WB right-turn overlap arrow.	0.818	D
		PM	N/A		0.982	E
		AP	N/A		0.690	B
Intersection 100	Mariposa and Sepulveda	AM	N/A	Mitigation for this impact involves upgrading the signal to ATSAC/ATCS equivalent.	0.853	D
		PM	N/A		0.956	E
		AP	N/A		0.936	E
Intersection 103	Rosecrans and Sepulveda	AM	N/A	Mitigation for this impact involves upgrading the signal to ATSAC/ATCS equivalent.	1.157	F
		PM	N/A		1.566	F
		AP	N/A		1.107	F

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

**Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 105	Sepulveda and I-105 ramp N/O ¹⁷ Imperial	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	1.168	F
		PM	N/A		1.107	F
		AP	N/A		[a] 0.859	D
Intersection 106	Sepulveda and 76 th /77 th	AM	N/A	Mitigation for this impact involves providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.	0.668	B
		PM	N/A		0.701	C
		AP	N/A		[a] 0.654	B
Intersection 111	La Cienega and I-405 Ramps N/O Century	AM	N/A	Project Component Improvements call for widening the west side of La Cienega Blvd to provide an additional through lane for NB and SB traffic. Mitigation of this impact involves widening the off-ramp to provide an additional lane. Resulting lane configuration is: NB - 3 TH, 1 RT; SB - 1 LT, 3 TH; WB - 2 LT, 1 LT/RT	0.689	B
		PM	N/A		0.361	A
		AP	N/A		0.651	B
Intersection 136	Sepulveda and 79 th /80 th	AM	N/A	Mitigation for this impact involves widening the north side of 79 th Street to allow the WB approach to be restriped with 1 LT, 1 TH, 1 TH/RT.	0.731	C
		PM	N/A		0.793	C
		AP	N/A		0.502	A
Intersection 137	Sepulveda and 83 rd	AM	N/A	Mitigation for this impact involves restriping the WB approach from 1 LT, 1 TH/RT to 1 LT, 1 TH, 1 RT.	0.674	B
		PM	N/A		0.849	D
		AP	N/A		0.408	A
Intersection 309	Hawthorne and Lennox	AM	N/A	Mitigation for this impact involves revising the signal phasing for the NB and SB approaches from protected to permissive left turns.	0.697	B
		PM	N/A		0.873	D
		AP	N/A		1.025	F
Intersection 310	Inglewood and Lennox	AM	N/A	Mitigation of this impact involves 1) upgrading the signal to ATSAC/ATCS equivalent, 2) restriping the WB approach to 1 LT/TH, 1 RT, and 3) restriping to install a NB right turn lane. This mitigation will require the removal of parking on Inglewood Avenue south of Lennox Boulevard.	0.786	C
		PM	N/A		0.979	E
		AP	N/A		1.073	F
Intersection 312	El Segundo and La Cienega	AM	N/A	Mitigation for this impact involves upgrading the signal to ATSAC/ATCS equivalent.	0.616	B
		PM	N/A		0.587	A
		AP	N/A		0.466	A

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Intersection 502	Arbor Vitae and Inglewood	AM	N/A	Mitigation of this impact involves restriping the SB lane configuration from 1 LT/TH/RT to 1 LT/TH, 1 RT. This mitigation will require the removal of parking on the west side of Inglewood Avenue north of Arbor Vitae Street.	0.737	C
		PM	N/A		0.765	C
		AP	N/A		0.783	C
Intersection 506	Arbor Vitae and La Brea	AM	N/A	Mitigation for this impact involves upgrading the signal to ATSAC/ATCS equivalent.	0.610	B
		PM	N/A		0.598	A
		AP	N/A		0.816	D
Link 5	Overland S/O Venice	AM	NB	A fair share contribution to regional transit service will mitigate the impact to this link.	1.249	F
			SB		[a]	F
		PM	NB		1.684	F
			SB		[a]	F
		AP	NB		1.482	F
			SB		1.757	F
Link 8	Centinela E/O La Brea	AM	NB	Integration of an ATSAC/ATCS equivalent signal improvement will mitigate the impact to this link.	1.484	F
			SB		[a]	F
		PM	NB		1.798	F
			SB		[a]	F
		AP	NB		0.380	A
			SB		0.883	D
Link 13	Imperial W/O La Brea	AM	NB	Integration of an ATSAC/ATCS equivalent signal improvement will mitigate the impact to this link.	0.886	D
			SB		[a]	F
		PM	NB		1.143	F
			SB		0.702	C
		AP	NB		0.518	A
			SB		0.258	A
Link 15	Sepulveda N/O Rosecrans	AM	EB	Integration of an ATSAC/ATCS equivalent signal improvement will mitigate the impact to this link.	0.345	A
			WB		0.517	A
		PM	EB		0.295	A
			WB		0.698	B
		AP	EB		0.636	B
			WB		0.636	B
Link 28	El Segundo W/O Hawthorne	AM	NB	Integration of an ATSAC/ATCS equivalent signal improvement will mitigate the impact to this link.	0.893	D
			SB		0.196	A
		PM	NB		0.425	A
			SB		0.815	D
		AP	NB		0.464	A
			SB		0.496	A
Link 28	El Segundo W/O Hawthorne	AM	EB	Integration of an ATSAC/ATCS equivalent signal improvement will mitigate the impact to this link.	0.115	A
			WB		0.479	A
		PM	EB		0.742	C
			WB		0.341	A
		AP	EB		0.670	B
			WB		0.856	D

A.2.1 Off-Airport Surface Transportation

Table A2.1-6

**Alternative D 2015 Mitigation Plan without Lennox Boulevard Interchange on the I-405 Freeway
(Adjusted Environmental Baseline Comparison)**

Facility Number	Facility Name	Peak Hour	Direction	Improvements	Conditions After Mitigation	
					V/C	LOS
Ramp 14	-405 SB off-ramp at La Cienega N/O Century	AM	N/A	The impact at this ramp is mitigated through a fair-share contribution to a future ramp widening.	0.442	N/A
		PM	N/A		0.300	N/A
		AP	N/A		0.667	N/A
Ramp 19	I-405 NB on-ramp at Century EB	AM	N/A	The impact at this ramp is mitigated through a fair-share contribution to a future ramp widening.	0.380	N/A
		PM	N/A		0.590	N/A
		AP	N/A		0.379	N/A
Ramp 26	I-405 SB On-ramp at El Segundo	AM	N/A	The impact at this ramp is mitigated through a fair-share contribution to a future ramp widening.	0.120	N/A
		PM	N/A		0.534	N/A
		AP	N/A		0.155	N/A
Ramp 35	I-105 WB off-ramp at Nash	AM	N/A	The impact at this ramp is mitigated through a fair-share contribution to a future ramp widening.	0.585	N/A
		PM	N/A		0.166	N/A
		AP	N/A		0.338	N/A

[a] = The final volume-to-capacity ratio does not reflect the anticipated trip reduction benefit of the transit enhancement proposed at this intersection.

[b] = The final volume-to-capacity ratio does not reflect the anticipated benefit of LA County's *Marina Expressway (SR-90) Connector Road to Admiralty Way* project, which is currently under environmental review. Date of completion is targeted for 2011.

Abbreviation Key:

V/C = Volume to Capacity ratio

LOS = Level of Service

N/A = Not Applicable

EB = Eastbound

E/O = East of

NB = Northbound

N/O – North of

SB = Southbound

S/O = South of

WB = Westbound

W/O – West of

LT = Left Turn

RT = Right Turn

TH = Through

AM = Morning Peak Hour

AP = Airport Peak Hour

PM = Afternoon Peak Hour

RTOR = Right Turn on Red

ATSAC = Automated Traffic Surveillance and Control

ATCS = Adaptive Traffic Control System

MTA = Metropolitan Transportation Authority

Source: Parsons, LADOT, 2004.

A.2.1 Off-Airport Surface Transportation

Table A2.1-7

Changes to 2015 Traffic Mitigation Plan Alternative Traffic Mitigation Plan without the Lennox Blvd Interchange

Facility Number	Facility Name	Improvements
Intersection 3	Airport and Arbor Vitae	Mitigation for this new impact involves restriping the northbound approach to provide a right-turn lane. The NB lane configuration will change from 1 LT, 1 TH/RT to 1 LT, 2 TH, 1 RT.
Intersection 4	Airport and Century	Restriping the WB approach from 4 TH, 1 RT to 3 TH, 1 TH/RT, 1 RT is no longer needed. There is no longer a project-related significant impact at this intersection.
Intersection 6	Airport and Manchester	Restriping the westbound approach to 1 LT, 3 TH, 1 RT is no longer needed. There is no longer a project-related significant impact at this intersection.
Intersection 7	Arbor Vitae and Aviation	No Change.
Intersection 8	Arbor Vitae and La Cienega	The addition of a NB through lane is replaced with the addition of a NB right-turn lane. This will eliminate the need for a retaining wall and street widening on the east side of La Cienega Boulevard north of Arbor Vitae Street. A signal upgrade to ATSAC/ATCS equivalent has been added. A fair-share contribution to the MTA's Metro Rapid Program or other enhancements to benefit transit traveling to and from LAX has also been added.
Intersection 10	Aviation and 111th St	Mitigation to provide an optional westbound through/right-turn lane is no longer needed. Other improvement measures remain.
Intersection 11	Aviation and Century	A mitigation has been added to provide a fair-share contribution to the MTA's Metro Rapid Program or other enhancements to benefit transit traveling to and from LAX.
Intersection 12	Aviation and El Segundo	Restriping the EB approach from 1 LT, 3 TH, 1 RT to 1 LT, 3 TH, 1 TH/RT is no longer needed. Upgrading the signal to ATSAC/ATCS equivalent remains as a mitigation.
Intersection 13	Aviation and Imperial	No Change.
Intersection 14	Aviation and Manchester	No Change.
Intersection 15	Aviation and Rosecrans	The mitigation has been revised from installing a NB right-turn overlap arrow to upgrading the signal to ATSAC/ATCS equivalent.
Intersection 16	Bali and Lincoln	No Change.
Intersection 17	Centinela and Culver	Restriping the SB approach is no longer needed. There is no longer a project-related significant impact at this intersection.
Intersection 18	Centinela and Jefferson	The mitigation to upgrade the signal to provide a SB right-turn overlap arrow is no longer needed. There is no longer a project-related significant impact at this intersection.
Intersection 20	Centinela and La Cienega	Restriping the WB approach is no longer needed. Other mitigation elements remain unchanged.
Intersection	Centinela and Sepulveda	Providing a fair-share contribution to MTA's Metro Rapid Program or other

Table A2.1-7

**Changes to 2015 Traffic Mitigation Plan
Alternative Traffic Mitigation Plan without the Lennox Blvd Interchange**

Facility Number	Facility Name	Improvements
22		enhancements to benefit transit to and from LAX is no longer needed. Other mitigation elements remain unchanged.
Intersection 25	Century and Hawthorne/La Brea	The removal of the raised median island and restriping on La Brea Ave. north of Century Blvd. in order to install an additional SB left- turn lane is no longer needed. Other mitigation elements remain unchanged.
Intersection 26	Century and La Cienega	No Change.
Intersection 27	Century and Sepulveda	No Change.
Intersection 34	Douglas and Imperial	No Change.
Intersection 35	El Segundo and Sepulveda	The EB right-turn overlap arrow is no longer needed. Upgrading the signal to ATSA/ATCS equivalent remains as a mitigation.
Intersection 36	Grand and Vista del Mar	No Change.
Intersection 39	Fiji and Lincoln	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed and a fair-share contribution to LA County's Route 90 At-Grade Extension Project are no longer needed. There is no longer a project-related significant impact at this intersection.
Intersection 40	Florence and La Cienega	No Change.
Intersection 42	Hawthorne and Imperial	No Change.
Intersection 43	Highland/Vista del Mar and Rosecrans	No Change.
Intersection 44	Howard Hughes Pkwy and Sepulveda	No Change.
Intersection 45	I-105 Fwy/Continental City and Imperial	No Change. Clarification that widening is required on the south side of Imperial Highway west of Continental City Drive to retain the EB lane configuration of 3 TH, 1 RT.
Intersection 46	I-405 Fwy NB Ramps at Imperial	No Change.
Intersection 47	Imperial and Main	No Change.
Intersection 49	Imperial and Pershing	No Change.

A.2.1 Off-Airport Surface Transportation

Table A2.1-7

**Changes to 2015 Traffic Mitigation Plan
Alternative Traffic Mitigation Plan without the Lennox Blvd Interchange**

Facility Number	Facility Name	Improvements
Intersection 50	Imperial and Sepulveda	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. Other mitigation elements remain unchanged.
Intersection 51	Imperial and Vista del Mar	The mitigation to change the westbound phasing from Perm. to Split is no longer needed.
Intersection 52	Imperial and La Cienega	No Change. This intersection remains unmitigated during the AM and airport peak hours.
Intersection 57	Jefferson and Lincoln	Restriping the northbound approach is no longer available as a mitigation. Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX remains as a mitigation.
Intersection 67	La Cienega and 111th	A mitigation has been also added to change the northbound phasing from Perm to Prot-Fix. Clarification for NB lane configuration.
Intersection 71	La Cienega and Lennox	The westbound lane configuration has been changed from 2 LT, 1 RT to 3 LT, 1 free RT.
Intersection 72	La Cienega and Manchester	No Change.
Intersection 82	La Tijera and Manchester	No Change.
Intersection 83	La Tijera and Sepulveda	Mitigations have been added to 1) change the EB lane configuration from 1 LT, 2 TH, 1 RT to 1 LT, 2 TH, 1 TH/RT, and 2) provide a fair-share contribution to MTA's Metro Rapid Program or other enhancements that benefit transit traveling to and from LAX.
Intersection 87	Lincoln and 83 ^d	No Change.
Intersection 88	Lincoln and Manchester	Eastbound lane configuration changes from 2 LT, 2 TH, 1 RT to 2 LT, 2 TH, 1 TH/RT. All other mitigation measures remain unchanged.
Intersection 89	Lincoln and Marina Expwy	No Change.
Intersection 90	Lincoln and Maxella	Providing a fair-share contribution to LA County's Route 90 At-Grade Extension Project from Lincoln Blvd to Admiralty Way is no longer needed. There is no longer a project-related significant impact at this intersection.
Intersection 91	Lincoln and Mindanao	No Change.
Intersection 94	Lincoln and Teale	The mitigation to provide a NB right-turn overlap arrow has been removed. Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX remains as a mitigation.

Table A2.1-7

**Changes to 2015 Traffic Mitigation Plan
Alternative Traffic Mitigation Plan without the Lennox Blvd Interchange**

Facility Number	Facility Name	Improvements
Intersection 99	Manchester and Sepulveda	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. The proposed WB approach changes from 2 LT, 2 TH, 1 TH/RT to 1 LT, 2 TH, 1 RT. The addition of a WB overlap arrow and the removal of parking on the north side of Manchester Avenue during the PM peak hour remain as mitigations.
Intersection 100	Mariposa and Sepulveda	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. Upgrading the signal to ATSAC/ATCS equivalent remains as a mitigation.
Intersection 103	Rosecrans and Sepulveda	No Change.
Intersection 105	Sepulveda and I-105 ramp N/O ¹⁷ Imperial	Upgrading the signal to ATSAC/ATCS equivalent is no longer available as a mitigation. As a replacement, providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX has been added as a mitigation.
Intersection 106	Sepulveda and 76 th /77 th	No Change.
Intersection 111	La Cienega and I-405 Ramps N/O Century	No Change.
Intersection 136	Sepulveda and 79 th /80 th	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer required. Widening the north side of 79 th /80 th St to allow the WB approach to be restriped with 1 LT, 1 TH, 1 TH/RT remains as a mitigation.
Intersection 137	Sepulveda and 83rd	Mitigation has been revised from providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX to the following: Restripe the WB approach from 1 LT, 1 TH/RT to 1 LT, 1 TH, 1RT.
Intersection 309	Hawthorne and Lennox	No Change.
Intersection 310	Inglewood and Lennox	Mitigations have been added to 1) upgrade the signal to ATSAC/ATCS or equivalent and 2) restriping the WB approach to 1 LT/TH, 1 RT.
Intersection 312	El Segundo and La Cienega	No Change.
Intersection 502	Arbor Vitae and Inglewood	Revision to this mitigation involves a minor change to the SB lane configuration.
Intersection 506	Arbor Vitae and La Brea	Providing a fair-share contribution to MTA's Metro Rapid Program or other enhancements to benefit transit to and from LAX is no longer needed. Upgrading the signal to ATSAC/ATCS equivalent remains as a mitigation.
Link 1	Lincoln S/O Venice	A fair-share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 2	Centinela S/O Venice	A fair-share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 3	Sawtelle S/O Venice	A fair-share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 4	Sepulveda S/O Venice	A fair-share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.

A.2.1 Off-Airport Surface Transportation

Table A2.1-7

**Changes to 2015 Traffic Mitigation Plan
Alternative Traffic Mitigation Plan without the Lennox Blvd Interchange**

Facility Number	Facility Name	Improvements
Link 5	Overland S/O Venice	No Change.
Link 8	Centinela E/O La Brea	No Change.
Link 13	Imperial W/O La Brea	No Change.
Link 15	Sepulveda N/O Rosecrans	This new impact is mitigated through the integration of an ATSAC/ATCS equivalent signal improvement.
Link 20	Jefferson E/O Lincoln	A fair-share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 21	Lincoln S/O Jefferson	A fair-share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 22	Culver W/O Jefferson	A fair-share contribution to regional transit service is no longer required. There is no longer a project-related significant impact to this link.
Link 28	El Segundo W/O Hawthorne	No Change.
Ramp 14	I-405 SB off-ramp at La Cienega N/O Century	This new impact is mitigated through a fair-share contribution to widening this ramp.
Ramp 19	I-405 NB on-ramp at Century Blvd	No Change.
Ramp 26	I-405 SB on-ramp at El Segundo	No Change.
Ramp 35	I-105 off-ramp at Nash	No Change.

Source: LAWA, 2004.

The alternative mitigation plan in the reduced Playa Vista scenario is also similar in magnitude to the original alternative mitigation plan presented in Attachment F of Technical Report S-2b, *Supplemental Off-Airport Surface Transportation Technical Report*, of Part I of the Final EIS, but it also has some differences. While the need for facility improvements is reduced or eliminated at some locations, new or additional improvements is required at others, compared to the original alternative mitigation plan for Alternative D. One new intersectional impact at Intersection # 3, Airport Boulevard Arbor Vitae Street, is created. This impact is fully mitigated by restriping the northbound lanes to add a right-turn only lane.

Traffic Mitigation Phasing Plan

A detailed recommended traffic mitigation phasing plan that shows the mitigation measures to be constructed prior to the opening of specific Alternative D facilities, based on the traffic analysis with the reduced Playa Vista scenario, is shown in **Table A2.1-8**, Recommended Off-Airport Surface Transportation Phasing Plan (with Lennox Boulevard Interchange). This includes the proposed Lennox Boulevard interchange on the I-405 Freeway as a mitigation element. For comparison, Table F4.3.2-30, *Off-Airport Surface Transportation Phasing Plan*, of Part I of the Final EIS presents the recommended traffic mitigation phasing plan for Alternative D based on the Playa Vista development scenario originally assumed in the traffic analysis. An alternative traffic mitigation phasing plan, without the Lennox Boulevard interchange, is shown in **Table A2.1-9**, Alternative Off-Airport Surface Transportation Phasing Plan (without Lennox Boulevard Interchange), based on the reduced Playa Vista scenario. It should be

A.2.1 Off-Airport Surface Transportation

noted that, as indicated above, the mitigation programs described herein were developed based on the CEQA analysis, which disclosed a greater number and severity of project-related impacts than would otherwise occur based on the NEPA analysis. While the nature of, and terminology within, the mitigation programs are primarily CEQA-oriented, the mitigation programs described herein fully meet and exceed appropriate mitigation for NEPA purposes.

Table A2.1-8

**Recommended Off-Airport Surface Transportation Phasing Plan
(with Lennox Boulevard Interchange)**

This Table Replaces Table F4.3.2-30 in Section 4.3.2 of Part I of the Final EIS

Phase	Facility	Mitigation Measures Needed
1A	West Employee Parking Garage	<ul style="list-style-type: none"> ◆ Complete off-site intersectional improvements at: <ul style="list-style-type: none"> ◆ Grand Avenue and Vista del Mar ◆ Highland Avenue/Vista del Mar and Rosecrans Boulevard ◆ Imperial Highway and Main Street ◆ Imperial Highway and Pershing Drive ◆ Imperial Highway and Sepulveda Boulevard ◆ Imperial Highway and Vista del Mar ◆ Lincoln Boulevard and Manchester Avenue ◆ Rosecrans Avenue and Sepulveda Boulevard ◆ 83rd Street and Lincoln Boulevard; ◆ Provide a fair-share contribution to LA County's "Marina Expressway to Admiralty Way" project OR complete alternative off-site intersectional improvements at the following intersections: <ul style="list-style-type: none"> ◆ Bali Way and Lincoln Boulevard ◆ Lincoln Boulevard and Marina Expressway ◆ Lincoln Boulevard and Mindanao Way ◆ Provide a fair-share contribution toward the LAC-MTA's Metro Rapid Bus Line Expansion Program (possible concepts include but are not limited to paying for larger buses from those planned by the LAC-MTA or paying the cost of retrofitting some buses to better accommodate airline passengers and their baggage to and from LAX) OR other enhancements to benefit transit to and from LAX (possible concepts include but are not limited to traffic signal priority improvements for bus flow, transit marketing, airport employee and/or air passenger fare subsidies) to mitigate the following intersections: <ul style="list-style-type: none"> ◆ Jefferson Boulevard and Lincoln Boulevard ◆ Lincoln Boulevard and Manchester Avenue ◆ Lincoln Boulevard and Teale Street
1B	Intermodal Transportation Center (ITC)	<ul style="list-style-type: none"> ◆ Complete pedestrian connection between ITC and Green Line light rail station south of Imperial Highway; ◆ Complete the project-component widening of Aviation Boulevard between Century Boulevard and Imperial Highway. ◆ Complete the project-component roadway improvements (discontinuous widening) along 111th Street between Aviation Boulevard and La Cienega Boulevard. This includes the mitigation of adding the optional through/right lane for WB traffic at Aviation Boulevard; ◆ Widen the northbound I-405 off-ramp at Imperial Highway; ◆ Provide a "fair-share" contribution towards a ramp widening project at the southbound I-405 Freeway on-ramp at El Segundo Boulevard. ◆ Provide a "fair-share" contribution toward the LAC-MTA's Metro Rapid Bus Line Expansion Program (possible concepts include but are not limited to paying for larger buses from those planned by the LAC-MTA or paying the cost

A.2.1 Off-Airport Surface Transportation

Table A2.1-8

Recommended Off-Airport Surface Transportation Phasing Plan (with Lennox Boulevard Interchange)

This Table Replaces Table F4.3.2-30 in Section 4.3.2 of Part I of the Final EIS

Phase	Facility	Mitigation Measures Needed
		<p>of retrofitting some buses to better accommodate airline passengers and their baggage to and from LAX) OR other enhancements to benefit transit to and from LAX (possible concepts include but are not limited to traffic signal priority improvements for bus flow, transit marketing, airport employee and/or air passenger fare subsidies) to mitigate the following intersections:</p> <ul style="list-style-type: none"> ◆ Aviation Boulevard and Imperial Highway ◆ Howard Hughes Parkway and Sepulveda Boulevard ◆ 76th St/77th St and Sepulveda Boulevard ◆ I-105 Freeway westbound off-ramp at N/B Sepulveda Blvd <p>◆ Complete off-site intersectional improvements at:</p> <ul style="list-style-type: none"> ◆ I-105 Freeway ramps/Continental City Drive & Imperial Highway (at-grade intersectional improvement only) ◆ I-405 northbound off-ramp at Imperial Highway ◆ Aviation Boulevard and El Segundo Boulevard ◆ Aviation Boulevard and Imperial Highway ◆ Aviation Boulevard and Rosecrans Boulevard ◆ Aviation Boulevard and 111th Street ◆ Centinela Avenue and Sepulveda Boulevard ◆ Douglas Street and Imperial Highway ◆ El Segundo Boulevard and La Cienega Boulevard ◆ La Cienega Boulevard and 111th Street ◆ Manchester Avenue and Sepulveda Boulevard ◆ Mariposa Avenue and Sepulveda Boulevard ◆ 79th Street/80th Street and Sepulveda Boulevard ◆ 83rd Street and Sepulveda Boulevard
1C	Southeast Surface Parking	<p>◆ Complete construction of the project-component internal airport roadway serving the surface parking lot.</p>
1D	Consolidated Rent-a-Car Center	<p>◆ Complete off-site intersectional improvements at:</p> <ul style="list-style-type: none"> ◆ Airport Boulevard and Arbor Vitae Street ◆ Century Boulevard and Sepulveda Boulevard ◆ La Tijera Boulevard and Manchester Avenue ◆ La Tijera Boulevard and Sepulveda Boulevard <p>◆ Provide a "fair-share" contribution toward the LAC-MTA's Metro Rapid Bus Line Expansion Program (possible concepts include but are not limited to paying for larger buses from those planned by the LAC-MTA or paying the cost of retrofitting some buses to better accommodate airline passengers and their baggage to and from LAX) OR other enhancements to benefit transit to and from LAX (possible concepts include but are not limited to traffic signal priority improvements for bus flow, transit marketing, airport employee and/or air passenger fare subsidies) to mitigate the following intersections:</p> <ul style="list-style-type: none"> ◆ La Tijera Boulevard and Sepulveda Boulevard
1F	Ground Transportation Center (including Commercial Vehicle Holding Area)	<p>◆ Complete project-component GTC/ITC Roadways and Century Bridge;</p> <p>◆ Complete project-component realignment of 104th Street east of the internal airport roadways to connect to 102nd Street</p> <p>◆ Complete project-component widening of Arbor Vitae Street between Aviation Blvd and La Cienega Blvd;</p> <p>◆ Complete project-component widening of Aviation Boulevard between Arbor Vitae Street and Century Boulevard;</p>

Table A2.1-8

**Recommended Off-Airport Surface Transportation Phasing Plan
(with Lennox Boulevard Interchange)**

This Table Replaces Table F4.3.2-30 in Section 4.3.2 of Part I of the Final EIS

Phase	Facility	Mitigation Measures Needed
		<ul style="list-style-type: none"> ◆ Complete project-component roadway improvements on La Cienega Boulevard between Arbor Vitae Street and Imperial Highway; ◆ Complete project-component roadway improvements on Century Boulevard between Aviation Boulevard and Glasgow Place; ◆ Complete off-site intersectional improvements at: <ul style="list-style-type: none"> ◆ Arbor Vitae Street and Inglewood Avenue ◆ Arbor Vitae Street and La Brea Avenue; ◆ Arbor Vitae Street and La Cienega Boulevard ◆ Aviation Boulevard and Century Boulevard ◆ Aviation Boulevard and Manchester Boulevard ◆ Centinela Avenue and La Cienega Boulevard ◆ Century Boulevard and Hawthorne Blvd/La Brea Avenue ◆ Century Boulevard and Inglewood Avenue ◆ El Segundo Boulevard and Sepulveda Boulevard ◆ Florence Avenue and La Cienega Boulevard ◆ Hawthorne Boulevard and Imperial Highway ◆ Imperial Highway and Inglewood Avenue ◆ La Cienega Boulevard and Manchester Boulevard ◆ Begin construction of direct connection between I-105 Freeway ramps and internal airport roadways east of ITC (See Note 7); ◆ Begin construction of I-405 Interchange at Lennox Boulevard (See Note 7)

Notes:

- 1 For a detailed description of intersectional improvements, see Table A2.1-4.
- 2 LADOT may recommend that temporary Certificates of Occupancy be granted in the event of any delay: 1) by Caltrans on encroachment permits, or 2) in obtaining required approvals from other City departments, government agencies or jurisdictions through no fault of Los Angeles World Airports, provided that LAWA has demonstrated reasonable efforts and due diligence to the satisfaction of LADOT.
- 3 In all cases, except as noted in (2) above, the required Traffic Mitigation or Project Component of each sub-phase for the corresponding land use sub-phase shall be guaranteed to the satisfaction of LADOT and City of Los Angeles Public Works prior to the issuance of any Building Permit and completed prior to the issuance of any Certificate of Occupancy permit.
- 4 Where appropriate, as determined by LAWA and LADOT, revisions may be made to this Phasing Plan.
- 5 Appropriate transit improvements to the LAC-MTA bus system to and from LAX and "fair-share" contributions to the LA County's "Marina Expressway to Admiralty Way" project must be agreed upon by LAWA, LADOT, FAA, and the respective outside agency. Depending on the outcome of the negotiations to determine LAWA's appropriate level and types of transit improvement or "fair-share" contribution, this phasing plan may be altered at the discretion of LADOT. FAA approval may still be required for substitute mitigations. Mitigation measures are applicable only to the extent that the use of airport revenue to fund such measures is permissible under federal law and policies.
- 6 In the event the applicant is unable to obtain necessary construction permits from the concerned agencies in a timely fashion, a temporary certificate of occupancy may be granted by the City provided the applicant has demonstrated reasonable efforts to complete the necessary designs and improvements to the satisfaction of LADOT. Should any improvement not receive required approval, the City may substitute an alternative measure of an equivalent effectiveness.
- 7 LAWA will strive for completion of both the direct freeway connections from the I-405 Freeway at Lennox Boulevard and from the I-105 Freeway onto the airport roadways east of the ITC. If these freeway improvements are not completed in time for the opening of the GTC, LAWA may be required to implement substitute mitigation improvements prior to opening the GTC, including, but not limited to, Changeable Message Signs to direct traffic and/or Closed Circuit Television Cameras to monitor traffic flow, to the satisfaction of LADOT.
- 8 For proposed LAX Master Plan facilities not listed, such as the CTA Landside Terminals, South CTA Concourse Rework, Satellite Concourse, Tom Bradley International Terminal Rework, North CTA Concourse, or LAX Northside, there are no traffic mitigations or project components to be specifically phased with the construction of those components.
- 9 Prior to the issuance of any final certificate of occupancy in the final phase of the Off-Airport Transportation Phasing Plan, all required improvements in the entire phasing plan shall be funded, completed, or resolved to the satisfaction of LADOT.

Source: LAWA, 2004.

A.2.1 Off-Airport Surface Transportation

Table A2.1-9

Alternative Off-Airport Surface Transportation Phasing Plan (without Lennox Boulevard Interchange)

Phase	Facility	Mitigation Measures Needed
1A	West Employee Parking Garage	<ul style="list-style-type: none"> ◆ Complete off-site intersectional improvements at: <ul style="list-style-type: none"> ◆ Grand Avenue and Vista del Mar ◆ Highland Avenue/Vista del Mar and Rosecrans Boulevard ◆ Imperial Highway and Main Street ◆ Imperial Highway and Pershing Drive ◆ Imperial Highway and Sepulveda Boulevard ◆ Imperial Highway and Vista del Mar ◆ Lincoln Boulevard and Manchester Avenue ◆ Rosecrans Avenue and Sepulveda Boulevard ◆ 83rd Street and Lincoln Boulevard; ◆ Provide a fair-share contribution to LA County's "Marina Expressway to Admiralty Way" project OR complete alternative off-site intersectional improvements at the following intersections: <ul style="list-style-type: none"> ◆ Bali Way and Lincoln Boulevard ◆ Lincoln Boulevard and Marina Expressway ◆ Lincoln Boulevard and Mindanao Way ◆ Provide a fair-share contribution toward the LAC-MTA's Metro Rapid Bus Line Expansion Program (possible concepts include but are not limited to paying for larger buses from those planned by the LAC-MTA or paying the cost of retrofitting some buses to better accommodate airline passengers and their baggage to and from LAX) OR other enhancements to benefit transit to and from LAX (possible concepts include but are not limited to traffic signal priority improvements for bus flow, transit marketing, airport employee and/or air passenger fare subsidies) to mitigate the following intersections: <ul style="list-style-type: none"> ◆ Jefferson Boulevard and Lincoln Boulevard ◆ Lincoln Boulevard and Manchester Avenue ◆ Lincoln Boulevard and Teale Street
1B	Intermodal Transportation Center (ITC)	<ul style="list-style-type: none"> ◆ Complete pedestrian connection between ITC and Green Line light rail station south of Imperial Highway; ◆ Complete the project-component widening of Aviation Boulevard between Century Boulevard and Imperial Highway. ◆ Complete the project-component roadway improvements (discontinuous widening) along 111th Street between Aviation Boulevard and La Cienega Boulevard. ◆ Widen the northbound I-405 off-ramp at Imperial Highway; ◆ Widen the southbound I-405 off-ramp north of Century Boulevard; ◆ Provide a "fair-share" contribution toward the LAC-MTA's Metro Rapid Bus Line Expansion Program (possible concepts include but are not limited to paying for larger buses from those planned by the LAC-MTA or paying the cost of retrofitting some buses to better accommodate airline passengers and their baggage to and from LAX) OR other enhancements to benefit transit to and from LAX (possible concepts include but are not limited to traffic signal priority improvements for bus flow, transit marketing, airport employee and/or air passenger fare subsidies) to mitigate the following intersections: <ul style="list-style-type: none"> ◆ Aviation Boulevard and Imperial Highway ◆ Howard Hughes Parkway and Sepulveda Boulevard ◆ 76th St/77th St and Sepulveda Boulevard ◆ I-105 Freeway westbound off-ramp at N/B Sepulveda Blvd ◆ I-105 Freeway ramps/Continental City and Imperial Highway

A.2.1 Off-Airport Surface Transportation

Table A2.1-9

**Alternative Off-Airport Surface Transportation Phasing Plan
(without Lennox Boulevard Interchange)**

Phase	Facility	Mitigation Measures Needed
		<ul style="list-style-type: none"> ◆ Complete off-site intersectional improvements at: <ul style="list-style-type: none"> • I-105 Freeway ramps/Continental City Drive & Imperial Highway (at-grade intersectional improvement only) ◆ I-405 northbound off-ramp at Imperial Highway ◆ Aviation Boulevard and El Segundo Boulevard ◆ Aviation Boulevard and Imperial Highway ◆ Aviation Boulevard and Rosecrans Boulevard ◆ Centinela Avenue and Sepulveda Boulevard ◆ Douglas Street and Imperial Highway ◆ El Segundo Boulevard and La Cienega Boulevard ◆ Hawthorne Boulevard and Lennox Boulevard ◆ Inglewood Avenue and Lennox Boulevard ◆ La Cienega Boulevard and 111th Street ◆ La Cienega Boulevard and Lennox Boulevard ◆ Manchester Avenue and Sepulveda Boulevard ◆ Mariposa Avenue and Sepulveda Boulevard ◆ 79th Street/80th Street and Sepulveda Boulevard ◆ 83rd Street and Sepulveda Boulevard
1C	Southeast Surface Parking	<ul style="list-style-type: none"> ◆ Complete construction of the project-component internal airport roadway serving the surface parking lot.
1D	Consolidated Rent-a-Car Center	<ul style="list-style-type: none"> ◆ Complete off-site intersectional improvements at: <ul style="list-style-type: none"> ◆ Airport Boulevard and Arbor Vitae Street ◆ Century Boulevard and Sepulveda Boulevard ◆ Centinela Avenue and Jefferson Boulevard ◆ La Tijera Boulevard and Manchester Avenue ◆ La Tijera Boulevard and Sepulveda Boulevard ◆ Provide a "fair-share" contribution toward the LAC-MTA's Metro Rapid Bus Line Expansion Program (possible concepts include but are not limited to paying for larger buses from those planned by the LAC-MTA or paying the cost of retrofitting some buses to better accommodate airline passengers and their baggage to and from LAX) OR other enhancements to benefit transit to and from LAX (possible concepts include but are not limited to traffic signal priority improvements for bus flow, transit marketing, airport employee and/or air passenger fare subsidies) to mitigate the following intersections: <ul style="list-style-type: none"> ◆ La Tijera Boulevard and Sepulveda Boulevard
1F	Ground Transportation Center (including Commercial Vehicle Holding Area)	<ul style="list-style-type: none"> ◆ Complete project-component GTC/ITC Roadways and Century Bridge; ◆ Complete project-component realignment of 104th Street east of the internal airport roadways to connect to 102nd Street ◆ Complete project-component widening of Arbor Vitae Street between Aviation Blvd and La Cienega Blvd; ◆ Complete project-component widening of Aviation Boulevard between Arbor Vitae Street and Century Boulevard; ◆ Complete project-component roadway improvements on La Cienega Boulevard between Arbor Vitae Street and Imperial Highway; ◆ Complete project-component roadway improvements on Century Boulevard between Aviation Boulevard and Glasgow Place; ◆ Complete off-site intersectional improvements at: <ul style="list-style-type: none"> ◆ Arbor Vitae Street and Aviation Boulevard

A.2.1 Off-Airport Surface Transportation

Table A2.1-9

Alternative Off-Airport Surface Transportation Phasing Plan (without Lennox Boulevard Interchange)

Phase	Facility	Mitigation Measures Needed
		<ul style="list-style-type: none"> ◆ Arbor Vitae Street and Inglewood Avenue ◆ Arbor Vitae Street and La Brea Avenue; ◆ Arbor Vitae Street and La Cienega Boulevard ◆ Aviation Boulevard and Century Boulevard ◆ Aviation Boulevard and Manchester Boulevard ◆ Centinela Avenue and La Cienega Boulevard ◆ Century Boulevard and Hawthorne Blvd/La Brea Avenue ◆ El Segundo Boulevard and Sepulveda Boulevard ◆ Florence Avenue and La Cienega Boulevard ◆ Hawthorne Boulevard and Imperial Highway ◆ La Cienega Boulevard and Manchester Boulevard
		<ul style="list-style-type: none"> ◆ Provide a "fair-share" contribution toward the LAC-MTA's Metro Rapid Bus Line Expansion Program (possible concepts include but are not limited to paying for larger buses from those planned by the LAC-MTA or paying the cost of retrofitting some buses to better accommodate airline passengers and their baggage to and from LAX) OR other enhancements to benefit transit to and from LAX (possible concepts include but are not limited to traffic signal priority improvements for bus flow, transit marketing, airport employee and/or air passenger fare subsidies) to mitigate the following intersections: <ul style="list-style-type: none"> ◆ Arbor Vitae Street and La Cienega Boulevard ◆ Aviation Boulevard and Century Boulevard
		<ul style="list-style-type: none"> ◆ Begin construction of direct connection between I-105 Freeway ramps and internal airport roadways east of ITC (See Note 7);

Notes:

- 1 For a detailed description of intersectional improvements, see Table A2.1-6.
- 2 LADOT may recommend that temporary Certificates of Occupancy be granted in the event of any delay: 1) by Caltrans on encroachment permits, or 2) in obtaining required approvals from other City departments, government agencies or jurisdictions through no fault of Los Angeles World Airports, provided that LAWA has demonstrated reasonable efforts and due diligence to the satisfaction of LADOT.
- 3 In all cases, except as noted in (2) above, the required Traffic Mitigation or Project Component of each sub-phase for the corresponding land use sub-phase shall be guaranteed to the satisfaction of LADOT and City of Los Angeles Public Works prior to the issuance of any Building Permit and completed prior to the issuance of any Certificate of Occupancy permit.
- 4 Where appropriate, as determined by LAWA and LADOT, revisions may be made to this Phasing Plan.
- 5 Appropriate transit improvements to the LAC-MTA bus system to and from LAX and "fair-share" contributions to the LA County's "Marina Expressway to Admiralty Way" project must be agreed upon by LAWA, LADOT, FAA, and the respective outside agency. Depending on the outcome of the negotiations to determine LAWA's appropriate level and types of transit improvement or "fair-share" contribution, this phasing plan may be altered at the discretion of LADOT. FAA approval may still be required for substitute mitigations. Mitigation measures are applicable only to the extent that the use of airport revenue to fund such measures is permissible under federal law and policies.
- 6 In the event the applicant is unable to obtain necessary construction permits from the concerned agencies in a timely fashion, a temporary certificate of occupancy may be granted by the City provided the applicant has demonstrated reasonable efforts to complete the necessary designs and improvements to the satisfaction of LADOT. Should any improvement not receive required approval, the City may substitute an alternative measure of an equivalent effectiveness.
- 7 LAWA will strive for completion of the direct freeway connection from the I-105 Freeway onto the airport roadways east of the ITC. If this freeway improvement is not completed in time for the opening of the GTC, LAWA may be required to implement substitute mitigation improvements prior to opening the GTC, including, but not limited to, Changeable Message Signs to direct traffic and/or Closed Circuit Television Cameras to monitor traffic flow, to the satisfaction of LADOT.
- 8 For proposed LAX Master Plan facilities not listed, such as the CTA Landside Terminals, South CTA Concourse Rework, Satellite Concourse, Tom Bradley International Terminal Rework, North CTA Concourse, or LAX Northside, there are no traffic mitigations or project components to be specifically phased with the construction of those components.
- 9 Prior to the issuance of any final certificate of occupancy in the final phase of the Off-Airport Transportation Phasing Plan, all required improvements in the entire phasing plan shall be funded, completed, or resolved to the satisfaction of LADOT.

Source: LAWA, 2004.

A.2.1.3 Conclusions Regarding Alternative D

A.2.1.3.1 Traffic Impacts

As expected, by using the updated trip generations for the less intense Playa Vista development, the total number of deficient off-airport surface transportation facilities in 2015 for the No Action/No Project Alternative and for Alternative D was reduced. With respect to the number of impacted intersections associated with Alternative D, as compared to the No Action/No Project Alternative, the total would be reduced from 32 impacted intersections based on the original Playa Vista assumptions to 25 impacted intersections based on the reduced Playa Vista assumptions. All 25 of the impacted intersections would be fully mitigated through the mitigation plan developed in conjunction with the CEQA impacts analysis.

Conclusion: In light of the analysis and findings presented above relative to the revised traffic analysis completed for Alternative D using the reduced Playa Vista traffic generation, future (2015) post-mitigation traffic conditions at buildout of Alternative D would be generally better than originally anticipated in Part I of the Final EIS.

A.2.1.3.2 Air Quality Implications

It should be noted that in addition to post-mitigation traffic conditions in 2015 being generally better than originally anticipated, the related air quality conditions in 2015 would also be generally better than anticipated in Part I of the Final EIS. The substantial reduction in the development proposed for Playa Vista would reduce the vehicle trip generation to approximately one-seventh of the amount originally anticipated for Playa Vista, which, in turn, would result in a substantial reduction in vehicle miles traveled and the associated mobile source air pollutant emissions. The reductions in mobile source emissions would reduce the pollutant load contributions to the background ambient air quality, which, in turn, would reduce ambient air quality concentrations estimated in Part I of the Final EIS for future (2015) conditions with Project emissions (i.e., Project-related emissions added to lower background concentrations would result in lower total concentrations).

Table F4.6-13, Unmitigated Local CO Concentrations at Off-Airport Intersections (Including Background), in Part I of the Final EIS presents the results of the carbon monoxide (CO) hot spot analysis completed for all of the alternatives. The analysis identified 17 intersections that, based on traffic volumes and operating characteristics (i.e., Level of Service) were considered to have the greatest potential to exceed either the CO California Ambient Air Quality Standard (CAAQS) or National Ambient Air Quality Standard (NAAQS). Such standards include the 1-hour CAAQS of 20 parts per million (ppm) and the 1-hour NAAQS of 35 ppm. Both the 8-hour CAAQS and NAAQS are 9 ppm. As indicated in Table F4.6-13, the highest 1-hour concentration predicted for 2015, without mitigation, is 5.3 ppm, which is well below the most stringent of the CAAQS or NAAQS (i.e., it is approximately one-fourth of the CAAQS of 20 ppm). It is important to note that the predicted concentration includes a background concentration of 4.2 ppm; hence, the project-related contribution to the predicted peak concentration is only 1.1 ppm. Relative to predicted 8-hour concentrations, the highest concentration predicted for 2015, without mitigation, is 3.9 ppm, which is also well below both the CAAQS and NAAQS (i.e., is less than one-half of both the CAAQS and NAAQS of 9 ppm). The predicted peak 8-hour concentration includes a background concentration of 3.2 ppm; hence, the project-related contribution is only 0.7 ppm.

In light of the revised traffic analysis indicating that, in general, the traffic volumes at many intersections would decrease based on the reduction in the Playa Vista traffic assumptions, coupled with traffic volume increases at some intersections based primarily on changes in travel patterns, a sensitivity analysis with respect to CO hot spots was completed. The purpose of this analysis was to assess what level of traffic increase would be necessary to create a situation whereby an exceedance of either the CO CAAQS or NAAQS would occur (i.e., a CO hot spot would be created), thus changing the results initially presented in Part I of the Final EIS. A review of **Figure A2.1-3, Differences in Traffic Volumes - 2015 PM Peak Hour, Alternative D with Reduced Playa Vista - Alternative D with Original Playa Vista**, presented above, was conducted to determine whether any of the 17 intersections listed in Table F4.6-13 from Part I of the Final EIS were located along any of the corridors projected in the revised traffic analysis to experience an increase in traffic, as compared to the original traffic analysis. It was concluded that those intersections falling within the corridors of projected change would experience both an increase in traffic at certain segments of the intersection, but also a decrease at other segments (i.e., traffic on the east-west lanes might increase while the traffic on the north-south lanes decreases). There was no outright increase in

A.2.1 Off-Airport Surface Transportation

traffic at all segments of the intersections occurring along the change corridors. The intersection of Lincoln Boulevard and Washington Street, which is indicated in the revised traffic analysis as having a slight increase in traffic on Washington Street west of Lincoln Boulevard, was selected for the sensitivity analysis, given that it was one of the 17 intersections and is projected to have high traffic volumes and poor operating characteristics (i.e., PM peak-hour volume-to-capacity ratio of 1.126 in 2015). The peak 1-hour CO concentration predicted at this intersection under Alternative D in 2015 is 4.8 ppm.

Carbon monoxide concentrations were modeled for the intersection based on several changes in key factors that influence concentrations, such as traffic volumes, travel speed, and signal cycle time (i.e., the amount of time that the signal light is red). Based on a doubling of traffic at the subject intersection, the peak 1-hour CO concentration increased by only 0.5 ppm, which would still result in the project plus background concentrations being well below both the CAAQS and NAAQS of 9 ppm. Reducing the travel speed to one-half of that assumed in the original analysis would increase the peak 1-hour CO concentration by only 0.1 ppm. Doubling the signal wait time would increase the peak 1-hour CO concentration by less than 0.01 ppm. Relative to peak 8-hour concentrations, a doubling of traffic at the subject intersection would increase the CO concentration by only 0.23 ppm, reducing the travel speed to one-half of the original assumption would increase the CO concentration by 0.09 ppm, and doubling the signal wait time would increase the concentration by less than 0.01 ppm. Based on the sensitivity analysis described above, it is estimated that traffic would need to increase by more than five-fold and travel speeds would need to be reduced by two- to four-fold in order for CO concentrations at the subject intersection to come close to exceeding either the CAAQS or NAAQS. Such increases in traffic would be impossible at the subject intersection, given that the volume-to-capacity ratio for the intersection in 2015 is already projected to be 1.126 (i.e., the volume of traffic would exceed the design capacity of the intersection by 12.6 percent without the five-fold increase in traffic); notwithstanding that the results of the revised traffic analysis indicated that there would be nowhere near this level of traffic increase at any intersection in the study area.

The basic conclusions of the sensitivity analysis described above relative to the intersection of Lincoln Boulevard and Washington Street are also applicable to the other 16 intersections identified in Table F4.6-13, given the fact that there is only a 0.7 ppm difference between the highest 1-hour concentration and the lowest 1-hour concentration predicted for Alternative D in 2015, and there is only a 0.3 ppm difference between the highest and lowest values for 8-hour concentrations. It should also be noted that the basic conclusions described above relative to Alternative D would also be applicable to Alternatives A, B, and C, given the fact that, as shown in Table F4.6-13, the predicted CO concentrations for those alternatives are generally lower than those of Alternative D, and there is little variability between the highest concentrations and the lowest concentrations.

Based on the above sensitivity analysis, it is not reasonably foreseeable that any increase in traffic attributable to the redistribution of travel patterns under the reduced Playa Vista traffic assumptions would result in any exceedances of the CO CAAQS or NAAQS (i.e., create CO hot spots) at intersections within the study area under any of the action alternatives.

Based on the above, traffic conditions and associated air quality conditions projected for future (2015) buildout of the LAX Master Plan would likely, with the reduced Playa Vista project, be generally better than indicated in Part I of the Final EIS.

A.2.1.4 Relationship to Alternatives A, B, and C

In light of the basis for, and the results of, the revised traffic analysis that focused on Alternative D, it was determined unnecessary to complete a revised traffic analysis for Alternatives A, B, and C. More specifically, the basis for reevaluating Alternative D was to account for the reduction in future (2015) background traffic attributable to the reduction of the Playa Vista project. There were no changes in the characteristics of, or trip generation from, Alternative D; only the assumptions regarding background traffic changed. The background traffic assumed for Alternative D is exactly the same for all of the other alternatives, including Alternatives A, B, and C, and there have been no changes in the characteristics of, or trip generation from, those other alternatives. Based on the only change assumed in the revised traffic analysis for Alternative D being the reduction in future background traffic, which is common to all other alternatives, the overall change in traffic impacts associated with Alternative D attributable to the reduction in the Playa Vista project would also extend to the other build alternatives. As was anticipated in initiating the revised traffic analysis, the results of the traffic modeling for Alternative D found that, while

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the exact nature and extent of changes in impacts may have varied on a facility-by-facility (i.e., intersection-by-intersection, link-by-link, etc.) basis in comparing the results of the revised analysis to the results of the original analysis, the overall future traffic conditions within the traffic study area generally improved with the reduction in background traffic and the overall extent and severity of impacts associated with Alternative D were slightly reduced. The future conditions and Alternative D impacts reflected in the revised analysis were not, however, radically different from those of the original analysis; hence, the refinements necessary to align the proposed mitigation program with the changes in impacts were relatively minor.

Based on the revised traffic analysis completed for Alternative D, it is reasonable to project that the overall future (2015) traffic conditions associated with Alternatives A, B, and C would also be generally improved with the reduced Playa Vista project (e.g., reduced background traffic) and the off-airport traffic impacts specific to each alternative would be slightly reduced as compared to the those presented in the original traffic analysis. Similar to Alternative D, the changes in conditions and impacts associated with Alternatives A, B, and C may also vary on a facility-by-facility basis, however, the overall conclusions associated with reevaluating those alternatives based on a reduced Playa Vista project would likely mimic the reduced impacts identified for Alternative D. This is because the only change in assumptions is the reduction in future background traffic, which is common to all alternatives, and thus would not be expected to result in impacts associated with Alternative A, B, or C of a radically different nature from those identified for Alternative D.

While it is unlikely that the comparative ranking of Alternatives A, B, C, and D relative to off-airport surface transportation impacts would change with the reduced Playa Vista traffic assumptions applied to all, the overall ranking of the four build alternatives, taking into account the comparative impacts of all environmental disciplines, would not change relative to the FAA's identification of Alternative D as being the Environmentally Preferable Alternative. As described in Chapter A.3, *The Environmentally Preferable Alternative and FAA's Preferred Alternative*, of Volume A, Alternative D results in the lowest total exposure of dwellings, population, and non-residential noise-sensitive parcels to significant aircraft noise impacts in 2015 relative to Alternatives A, B, and C. Additionally, the expansion plans associated with Alternatives A, B, and C would conflict with the SCAG 2001 RTP policy framework calling for no increase in capacity of LAX, whereas Alternative D is compatible with the SCAG RTP. Also, Alternative D would have the lowest amount of long-term operational emissions of all five alternatives, including the No Action/No Project Alternative, based on the airfield improvements and local surface transportation improvements associated with Alternative D and the lower airport activity levels associated with Alternative D compared to the other build alternatives. On balance, Alternative D would remain the environmentally preferable alternative even in the unlikely event that traffic impacts associated with Alternatives A, B, and C turned out to be considerably better than those of Alternative D based on the reduced Playa Vista traffic. Regarding FAA's selection of a preferred alternative, all other considerations outside of environmental consequences that led to selection of Alternative D as the preferred alternative remain unchanged. Thus, in light of the fact that environmental considerations continue to support identification of Alternative D as the environmentally preferable alternative, Alternative D remains FAA's selection as the preferred alternative despite the new information regarding changes to the Playa Vista project and its impacts on traffic.

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A.2.2 Environmental Justice (NEPA Analysis)

A.2.2.1 Introduction

This section addresses the requirements of Executive Order (EO) 12898, and U.S. Department of Transportation (DOT) Order 5610.2. This section provides information related to General Approach and Methodology, Affected Environment, Environmental Consequences, Findings, and the Environmental Justice Program. Pursuant to federal laws, regulations and guidelines, the analysis uses the No Action/No Project Alternative as the benchmark of comparison. As a result, the discussions of Approach and Methodology, Environmental Consequences, Findings, and the Environmental Justice Program differ from the Environmental Justice discussion presented in the Final EIR.¹⁵ The Affected Environment discussion is the same as presented in the Final EIR. This section also includes changes in the terminology used to describe "benefit" proposals that were developed to address environmental justice concerns.¹⁶ Supporting information is provided in Appendix F, *Environmental Justice Technical Report*, and Appendix S-D, *Supplemental Environmental Justice Technical Report*.

In light of the refinements and modifications made to the environmental justice analysis for purposes of this Final EIS, certain refinements and modifications were also made to related topical and individual responses to comments submitted on the Draft EIS/EIR and on the Supplement to the Draft EIS/EIR, as presented in Volume II of the Final EIS. Please refer to Appendix A-1, *Topical Response TR-EJ-4: Modifications to Responses to Comments Related to Environmental Justice For NEPA Purposes*, for a discussion of revisions to environmental justice topical responses; changes to key environmental justice cross-references; and a matrix of individual comments, the responses to which are to be considered in light of the information presented below.

Federal Environmental Justice Requirements

EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," directs each federal agency "to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. . . ." ¹⁷

By way of DOT Order 5610.2, "Environmental Justice in Minority Populations and Low-Income Populations," the DOT has adopted a policy to incorporate environmental justice principles into existing agency programs, policies, and activities.¹⁸ It is DOT's policy to promote the principles of environmental justice by fully considering them throughout the planning and decision-making processes. For federal purposes, disproportionately high and adverse human health or environmental effects consist of only those impacts attributable to implementation of the proposed action, and do not include existing impacts that have resulted, or future impacts that may result, absent implementation of the proposed federal action (i.e., those that would occur with the No Action/No Project Alternative).

¹⁵ The Final EIR had erroneously indicated that the FAA's Environmental Justice analysis would use the CEQA methodology for certain analyses in the environmental justice section of the Final EIS. This statement has been corrected and clarified in the (First) Addendum to the Final EIR as also included as part of the Final EIS to accurately reflect FAA's independent analysis and methodology.

¹⁶ To correspond more directly to the physical effects of the proposed Master Plan, and to provide an implementation approach that is coordinated through the Mitigation Monitoring and Reporting Program, LAWA decided to refer to the previously termed environmental justice "benefits," as presented in the Final EIR, as "Master Plan commitments." Additionally, Master Plan Commitment ST-23, Expanded Gateway LAX Improvements/Greening of Impacted Communities, is now incorporated into Section 4.3.2, *Off-Airport Surface Transportation*, and benefits related to air quality are incorporated into Section 4.6, *Air Quality*, as Master Plan Commitment AQ-1, Air Quality Source Apportionment Study (previously listed as an Air Toxic Study benefit), Master Plan Commitment AQ-2, School Air Filters, and Master Plan Commitment AQ-3, Mobile Health Research Lab (previously listed as a Mobile Health Clinic benefit). The benefits for Neighborhood Cultural/Artistic Projects, a Nature Center, and Health Risk Assessments are no longer proposed, based on the fact that further evaluation of those measures determined they were not related to impacts of the proposed Master Plan and were not feasible to fund and implement. As stated in Part I of the Final EIS, all of the proposals for Master Plan commitments may be influenced by funding constraints, such as legal limitations placed on the use of airport revenue, although LAWA will investigate, pursue, and implement such proposals as feasible and allowable by law.

¹⁷ Executive Order 12898, 59 Federal Register 7629 (1994).

¹⁸ U.S. Department of Transportation Order 5610.2, Environmental Justice in Minority Populations and Low-Income Populations, December 10, 1997.

A.2.2 Environmental Justice (NEPA Analysis)

This evaluation of the proposed LAX Master Plan alternatives' effects on minority and low-income communities was completed in light of these federal directives on environmental justice.

Early Public Involvement in the LAX Master Plan Process

To further the goals of environmental justice, and in accordance with both federal and state directives, LAWA initiated a number of outreach efforts with nearby communities. During the five years leading up to publication of the Draft EIS/EIR, LAWA held a number of meetings, presentations, and discussions with specific focus on the LAX Master Plan in order to seek community input and maintain dialog with the community as the process moved along. LAWA staff met with neighborhood groups, homeowner associations, small business groups, minority and women owned business groups and local political leaders to seek their input, guidance, and ideas regarding the effort to modernize the airport. Since the LAX Master Plan process was initiated, and prior to publication of the Draft EIS/EIR, members of the Board of Airport Commissioners, and LAWA executive staff and their representatives, met on more than 126 occasions with members of low-income and minority communities or their representatives. A listing of these meetings by organization and date is provided in **Table A2.2-1**, Summary of LAWA Outreach Efforts in Low-Income and Minority Communities.

Table A2.2-1

Summary of LAWA Outreach Efforts in Low-Income and Minority Communities

Name of Organization¹	Date
Manchester Square Neighborhood Watch	6/13/95
Crenshaw Community Planning Advisory Board	7/20/95
91st Street Homeowners Association	8/1/95
Inglewood Chamber of Commerce	8/10/95
Korean American Chamber of Commerce of Los Angeles	11/27/95
Asian Business League	1/9/96
Inglewood Public Forum	1/23/96
Inglewood/Airport Area Chamber of Commerce	3/27/96
Hawthorne Rotary Club	4/10/96
Women's Transportation Seminar	4/19/96
Asian Business Association, Minority Business Opportunity Committee	5/8/96
Black Business Association	5/8/96
100 Black Men	5/21/96
Greater Watts/Willowbrook Chamber	5/30/96
Inglewood City Council	6/4/96
100 Black Men	6/4/96
Black Business Association	6/18/96
Minority Business Opportunity Committee Workshop	6/19/96
Inglewood Employment Services/Innovative Educational Systems	6/20/96
National Association of Minority Contractors	6/21/96
Black Business Association	7/2/96
Inglewood City Councilmember Curran Price	7/2/96
Black Business Association	7/10/96
Latin Business Association	7/18/96
Councilmember Mike Hernandez	7/23/96
Wilmington Chamber of Commerce	7/24/96
Inglewood Chamber of Commerce	7/26/96
African American Chamber of Commerce	7/30/96
Hawthorne Chamber of Commerce, Executive Committee	8/14/96
Chinese International Transportation Professional Association	8/27/96
East Los Angeles Chamber of Commerce	8/28/96
United Chamber of Commerce	9/11/96
91st Street Homeowners Association	10/8/96
Black Business Association	10/17/96
Main Street Inglewood	10/25/96
Hawthorne President's Council	11/4/96
Filipino Business Association	11/7/96
Manchester Square Tour	11/7/96
Inglewood Continental Conversation/Inglewood Chamber of Commerce	11/12/96
Hawthorne President's Council	1/13/97
Congressman Xavier Becerra	1/13/97
Inglewood Public Forum	1/29/97

A.2.2 Environmental Justice (NEPA Analysis)

Table A2.2-1

Summary of LAWA Outreach Efforts in Low-Income and Minority Communities

Name of Organization ¹	Date
Hawthorne/Lennox Public Forum	2/6/97
City of Inglewood	2/12/97
Women in Transportation Seminar	2/20/97
Hawthorne City Council	2/24/97
East Los Angeles Chamber of Commerce	2/26/97
Manchester Square Neighborhood Watch	3/4/97
Latin Business Association	3/20/97
Playa del Rey Women's Club	4/8/97
NAACP Board of Directors	4/8/97
83rd Street Homeowners Association	4/28/97
91st Street Homeowners Association	6/11/97
Master Plan Public Scoping Meeting - Inglewood	7/12/97
Master Plan Public Scoping Meeting - Hawthorne	7/15/97
Hawthorne School District	7/22/97
Vermont Slauson Economic Development Corporation	7/28/97
Lennox Coordinating Council	8/7/97
82nd Street Block Club	10/11/97
Inglewood 1st District Block Club Coordinator	10/31/97
Past President, Inglewood/Airport Chamber of Commerce	11/5/97
Manchester Square Residents	11/10/97
Supervisor Yvonne Burke's Office	11/12/97
91st Street Homeowners Association	11/12/97
Councilmember Richard Alatorre	11/13/97
Inglewood 2000	11/13/97
Inglewood City Staff Member	11/13/97
Hawthorne Chamber of Commerce	11/14/97
Lennox Town Hall W/Supervisor Yvonne Burke	11/17/97
Inglewood 2000	11/18/97
Supervisor Yvonne Burke's Office	12/10/97
Inglewood City Staff Member	12/11/97
Inglewood Mayor Dorn	12/12/97
Greater Los Angeles African American Chamber of Commerce	12/18/97
Danny Bakewell	1/6/98
Manchester Square Leaders	1/12/98
Children's Dental Center, Inglewood	1/12/98
Inglewood Councilmember Garland Hardeman	1/20/98
Inglewood Community Forum	1/20/98
Inglewood Councilmember Jerome Horton	1/21/98
Inglewood Democratic Club	1/21/98
Inglewood Councilmember Jose Fernandez	1/22/98
Inglewood 2000	1/27/98
Eighth District Empowerment Congress	1/31/98
Manchester Square Leaders	2/3/98
Councilmember Garland Hardeman Community Meeting	2/7/98
Manchester Square Neighborhood Watch	2/10/98
Supervisor Yvonne Burke	2/12/98
Office of Councilmember Mark Ridley-Thomas	2/13/98
Office of Councilmember Nate Holden	2/13/98
Inglewood/Airport Chamber of Commerce	2/26/98
Southwest Area Empowerment Assembly	2/28/98
91st Street Homeowners Association	3/21/98
Assembly member Ed Vincent	3/27/98
Manchester Square Neighborhood Watch	4/7/98
Wiseburn School District	4/14/98
Hawthorne School District	4/16/98
NAACP	5/16/98
Inglewood Chamber of Commerce, Government Affairs Committee	5/28/99
Asia Pacific Airport Symposium	6/7/99
Carlton Square Homeowners Association	8/7/99
City of Lynwood	8/17/99
Mayor Dorn, City of Inglewood	8/23/99
City of Compton	9/14/99
Inglewood Chamber	9/21/99
Elected Official Representatives	9/22/99
Japan Business Association of Southern California	9/23/99

A.2.2 Environmental Justice (NEPA Analysis)

Table A2.2-1

Summary of LAWA Outreach Efforts in Low-Income and Minority Communities

Name of Organization ¹	Date
Korean American Federation of Los Angeles	10/12/99
City of Maywood	10/13/99
Asian Media Day	10/14/99
Mayor Dorn's Town Hall Meeting	10/23/99
Hong Kong Association of Southern California	10/27/99
Lakewood Rotary	10/28/99
Asian-American Economic Development Enterprises	2/19/00
Filipino-American Society of Architects & Engineers	2/24/00
South Gate City Council	3/14/00
Korean-American Chamber of Commerce	3/21/00
Congressman Xavier Becerra	4/17/00
Pacific Rim Business Symposium	6/8/00
Lawndale Rotary	6/20/00
Chinese Chamber of Commerce	7/12/00
Antonio Villaraigosa	7/19/00
National Forum For Black Public Administrators	8/2/00
Lynwood City Council	8/9/00
City of Lynwood	8/17/00
Women's Transportation Coalition	10/5/00
Total Given	126

¹ Listing represents a summary of meetings, presentations, and discussions that dealt specifically with the Draft LAX Master Plan in order to seek input and maintain a dialog with communities as the Master Plan process has moved forward.

Source: LAWA, 2000.

In addition to these community meetings focused on the LAX Master Plan, LAWA and the FAA held public meetings in affected communities to identify the appropriate scope of the Draft EIS/EIR in accordance with NEPA and CEQA.

Subsequent to the public release of the Draft EIS/EIR, LAWA held a series of four community workshops on environmental justice beginning in May 2001. These workshops were held in the communities of Inglewood, Lennox, and South Los Angeles and were widely noticed to residents within a 10-mile radius of each meeting site. The format of the workshops included a number of stations staffed by LAWA employees and/or technical consultants where graphic illustrations and/or written materials were provided to inform attendees about the concept of environmental justice and potential environmental effects associated with the proposed LAX Master Plan alternatives. Information was also provided regarding ongoing LAWA programs, such as the Aircraft Noise Mitigation Program. Materials were provided in both English and Spanish and Spanish translators (including bi-lingual LAWA staff), assisted at each workshop. Comments were received orally and in written form to gain an understanding of community concerns and needs and potential environmental justice mitigation programs.

While the workshops described above were focused on environmental justice, important community input on the issue was also received during the more than 9-month public circulation period for the Draft EIS/EIR. During this period, comments addressing environmental justice concerns were received in writing and at nine public hearings focused on the Draft EIS/EIR. Three of these hearings included workshops with information booths on environmental justice, where materials were provided and technical staff was available to answer questions and receive comments.

In association with public circulation of the Supplement to the Draft EIS/EIR, three additional environmental justice workshops, using outreach methods and a format similar to the earlier workshops, were held in Inglewood, Lennox, and South Los Angeles during July and August of 2003. Further input was also obtained during the public circulation period at twelve public hearings conducted for the Supplement to the Draft EIS/EIR. More recently, a LAWA environmental justice working group, in conjunction with the Mayor's office, conducted additional outreach to local organizations, environmental groups, civic, religious and business leaders in adjacent communities.

The public input received throughout the environmental justice community outreach process was instrumental in defining the mitigation and Master Plan commitment proposals presented below in subsection A.2.2.6, *Environmental Justice Program*, and in Chapter 5 of the (First) Addendum to the Final EIR, which is also included as part of the Final EIS.

A.2.2.2 General Approach and Methodology

In complying with EO 12898, this environmental justice analysis follows the analytical process outlined in DOT Order 5610.2 and guidance issued by the Council on Environmental Quality (CEQ) "Environmental Justice Guidance under the National Environmental Policy Act."¹⁹

As stated above, EO 12898 directs each federal agency "to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. . . ."

DOT Order 5610.2 defines a "disproportionately high and adverse effect on minority and low-income populations" as an adverse effect that: "(1) is predominantly borne by a minority population and/or low-income population; or (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or low-income population." DOT Order 5610.2 also states that "[i]n making determinations regarding disproportionately high and adverse effects . . . mitigation and enhancement measures. . . and all offsetting benefits to the affected minority and low-income population may be taken into account"

Appendix A to the CEQ guidance document provides further guidance for federal agencies on key terms used in EO 12898. In defining "disproportionately high and adverse human health effects," Appendix A provides:

When determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:

- (a) Whether the health effects, which may be measured in risks and rates, are significant (as employed by NEPA), or above generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death; and
- (b) Whether the risk or rate of hazard exposure by a minority population, low-income population, or Indian tribe to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group; and
- (c) Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

And in defining "disproportionately high and adverse environmental effects," Appendix A provides:

When determining whether environmental impacts are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:

- (a) Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on the natural or physical environment; and
- (b) Whether environmental effects are significant (as employed by NEPA) and are or may be having an adverse impact on minority populations, low-income populations, or Indian tribes that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group and

¹⁹ Council on Environmental Quality, Executive Office of the President, Environmental Justice Guidance under the National Environmental Policy Act, December 10, 1997.

A.2.2 Environmental Justice (NEPA Analysis)

- (c) Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

As a starting point for identifying potential disproportionately high and adverse effects on minority and/or low-income population, this environmental justice analysis identifies the resource categories that show the potential for significant adverse impacts that would result from Alternatives A, B, C, and D when compared against the conditions that would otherwise occur in the future without the project, as represented by the No Action/No Project Alternative and as presented in other sections of Part I of the Final EIS. Next, in the event that the build alternatives would result in significant adverse impacts on certain resource categories, which would not occur under the No Action/No Project Alternative, the analysis assesses whether any of the significant adverse impacts might effect minority and/or low-income communities, and if so, whether those significant impacts might fall disproportionately on minority and/or low-income communities. Where significant adverse impacts fall disproportionately on minority and/or low-income communities, the analysis then identifies mitigation measures that avoid, offset, minimize, or reduce the disproportionate effects or the potential for disproportionate effects. Finally, the analysis identifies any situations in which the proposed mitigation may be inadequate to fully address these effects. The FAA's findings regarding the potential for disproportionately high and adverse human health or environmental effects on minority and low-income populations as a result of the LAX Master Plan are presented in subsection A.2.2.5 below.

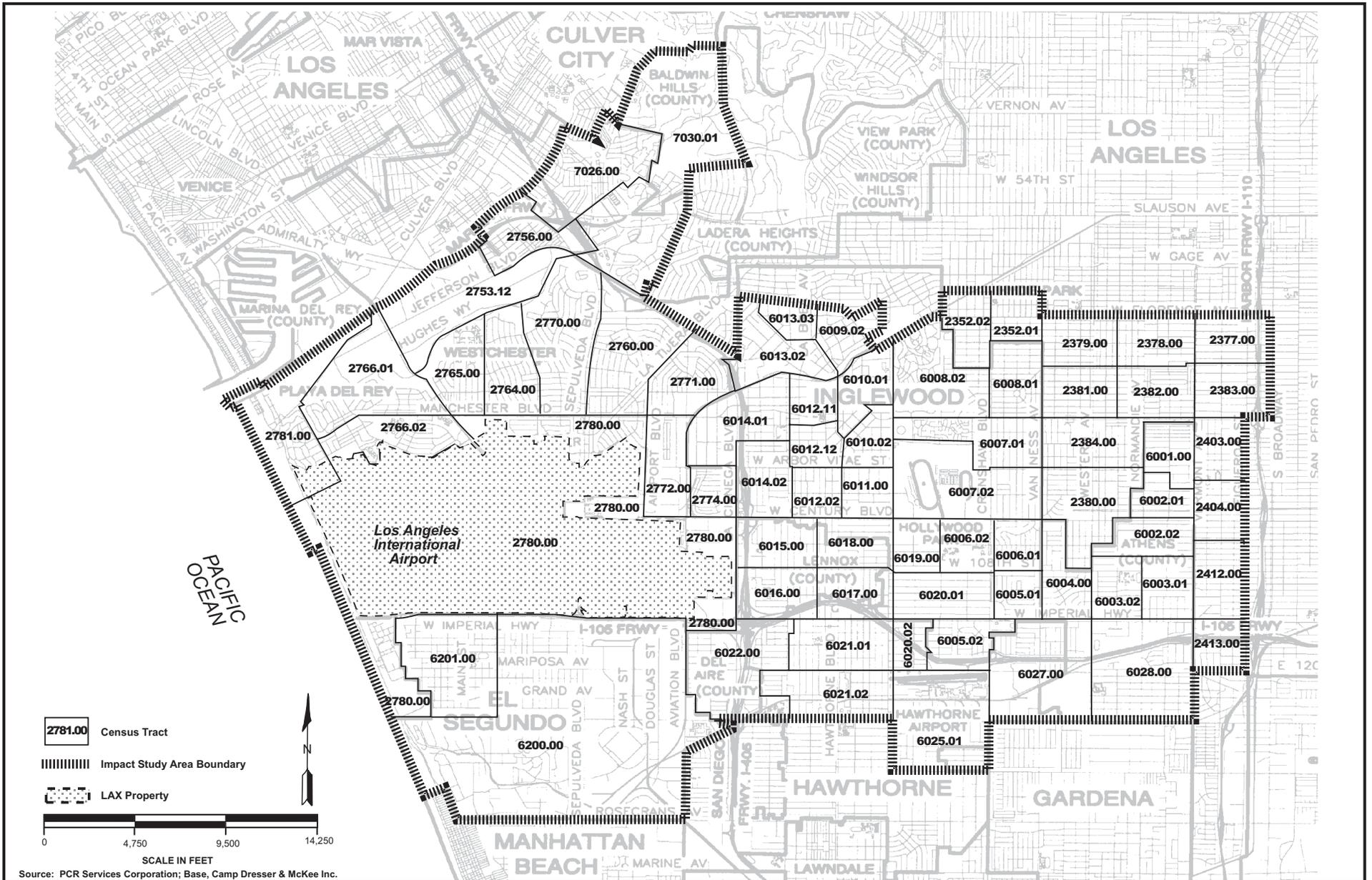
Demographic Analysis

A key step in the environmental justice analysis is to identify the minority and low-income communities that might be adversely affected by the proposed project. For this analysis, the study area, defined as the area in which the collective environmental effects resulting from the Master Plan alternatives would be likely to occur, extends beyond the areas immediately adjacent to LAX to include those neighborhoods potentially affected by aircraft noise (defined by the future aircraft noise contours) and aircraft or airport-related emissions, as well as airport-related traffic impacts, including congestion, noise and air pollution. For purposes of demographic analysis, and due to the size of the study area, its outer boundaries have been drawn along the boundaries of potentially affected census tracts. The study area includes portions of the following jurisdictions: Los Angeles, El Segundo, Inglewood, Hawthorne, and unincorporated areas of Los Angeles County. This area, comprised of 69 census tracts (1990 Census), is shown in **Figure A2.2-1**, Environmental Justice Study Area.

To assess impacts on minority and low-income populations at a neighborhood or sub-community level, this environmental justice analysis identified minority and low-income census tracts within the study area. This allowed comparison with other census tracts within the overall study area where necessary to determine if effects might be more severe or of greater magnitude within the minority or low-income areas.²⁰

Data from the 1990 U.S. Census was used for initial identification of minority and low-income status within the study area. U.S. Census data was deemed to be the most reliable and detailed source of demographic information available at the time the Draft EIS/EIR was prepared. Subsequent to publication of the Draft EIS/EIR and the initial identification of minority and low-income populations, data from the 2000 U.S. Census became available, and the identification of minority and low-income populations has been reassessed; however, as further described below, the changes in census data do not materially change the findings of the analysis presented in the Draft EIS/EIR or Supplement to the Draft EIS/EIR, therefore, 1990 Census data continue to serve as the basis for determination of adverse effects on minority communities in the environmental justice analysis presented herein. For purposes of

²⁰ In some cases, the minority census tracts correspond with boundaries of political jurisdictions, while in other cases they represent areas developed for the Census that do not necessarily reflect a cohesive community. Nonetheless, for ease of reference minority and low-income census tracts are identified as "communities" throughout this analysis.



**LAX Master Plan
Final EIS**

Environmental Justice Study Area

Figure
A2.2-1

this analysis and consistent with guidance developed by the federal Interagency Working Group established by Executive Order 12898, minority communities were identified where the minority population of a census tract was greater than 50 percent.²¹

DOT Order 5610.2 defines low-income populations as those individuals whose median household income is at or below the U.S. Department of Health and Human Services poverty guidelines, which was \$17,050 for a family of four in the year 2000. The 1990 U.S. Census data used in this analysis reported families below the poverty level based on \$12,674 for a family of four in 1989. Because 1990 U.S. Census data was deemed to be the most reliable information available at the time the Draft EIS/EIR was prepared, the analysis generally applies 1990 U.S. Census data to determine adverse effects on low-income communities. For purposes of this environmental justice analysis, if a particular census tract's proportion of population below poverty level according to the 1990 U.S. Census is greater than that of Los Angeles County as a whole (15 percent), the census tract is considered to be low income.

Basis of Comparison

For purposes of this analysis, if the build alternative would result in potentially significant adverse environmental impacts when compared to the No Action/No Project Alternative, additional analysis was undertaken to determine if the significant impacts disproportionately affected minority or low-income communities. The determination of disproportionate impact was based on whether significant adverse effects fall predominantly or more severely on minority and low-income communities.²² If such effects fall predominantly (or more severely) on minority or low-income communities, the effects may be disproportionate. In determining whether significant adverse effects fall predominately (or more severely) on minority and low-income communities, the adequacy of mitigation measures to fully address these effects were also taken into account.

A.2.2.3 Affected Environment

Historic Background

Mines Field, the predecessor of LAX, was leased by the City of Los Angeles in 1920 for use as an airfield with one east-west 2,000-foot runway and two hangars. In 1937, the City of Los Angeles purchased Mines Field, and a series of airport expansions began. At that time and up to the advent of commercial jet service in 1959, residential and other land use development occurred around the airport without notable conflict with airport operations. In the 1960s, however, with construction of a new north runway complex and the growth in jet aircraft operations, aircraft noise could no longer be contained within the airport boundary, and land use compatibility issues arose. Since the early 1960s, efforts have been ongoing to reconcile airport operations with the needs of surrounding communities.

From the early 1960s to the early 1970s, areas exposed to noise levels of 65 CNEL or greater from LAX were predominantly White. Airport acquisition of residential areas west of LAX, coupled with demographic shifts, have resulted in a reversal of that situation. For example, until the mid-1960s, the

²¹ "Minority" means a person who is: Black (having origins in any of the black racial groups of Africa); Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or Southern American, or other Spanish culture or origin, regardless of race); Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition). Interagency Working Group on Environmental Justice (IWG). Draft Guidance for Federal Agencies on Key Terms in Executive Order 12898. August 8, 1995.

²² Where adverse effects fall more or less equally on everyone within a geographically-defined community (for example, noise and air pollution), a comparison of this kind was deemed to be more relevant than the kind of statistical analysis typically used in Title VI investigations. For example, in investigating whether the State of Louisiana violated Title VI in permitting facilities subject to the toxic release inventory (TRI), EPA looked at the percentage of African-Americans in proximity to TRI facilities and compared these statistics with the percentage of African-Americans in the statewide population. See "Draft Revised Guidance for Investigating Title VI Administrative Complaints Challenging Permits" (June 16, 2000). A related method evaluates whether adverse effects resulting from project development fall on minority and low-income individuals at a statistically higher rate than on non-minority and higher-income individuals (or on the population at large). For example, a comparison of lifetime cancer risks among minority and low-income populations compared with the cancer risk of the statewide population might reveal a statistically meaningful difference, which in turn could suggest that minority and low-income populations were disproportionately exposed to carcinogens.

A.2.2 Environmental Justice (NEPA Analysis)

City of Inglewood was almost exclusively White and still maintained a 77 percent White majority by 1970. However, by 1980, the minority population had increased to nearly 75 percent in the City of Inglewood.²³

The FAA and the City of Los Angeles, through LAWA, has a long-standing interest in the environmental effects of LAX on the City of Inglewood. In the early 1970s, the City of Los Angeles instituted the so-called "Over-the-Ocean" approach for nighttime aircraft operations from 12:00 midnight to 6:00 a.m. This was done in an effort to reduce the adverse noise effects of aircraft over-flying the communities to the east of the airport, including the City of Inglewood. The City of Los Angeles prepared one of the first Airport Noise Compatibility Programs (NCP) pursuant to the Aviation Safety and Noise Abatement Act of 1979 (now recodified at 49 U.S.C., Section 47501 et seq.). The FAA approved the NCP for LAX on April 4, 1985. Since 1986, the FAA has provided approximately \$85.7 million to the City of Inglewood through federal grants. The City of Los Angeles, through LAWA, has provided approximately \$23.3 million to the City of Inglewood as matching funds for federal grants. The FAA approved an application at LAX to use \$440 million in Passenger Facility Charge funds for additional noise mitigation including sound insulation and land acquisition. The initial grants given to the City of Inglewood were used to acquire noise-sensitive land uses within the 65 CNEL noise contour and the land use subsequently changed. Included in the \$85.7 million total, recent federal grants provided to the City of Inglewood are specifically for residential sound insulation.

In 1998, the Secretary of the U.S. Department of Housing and Urban Development issued a Certificate of National Merit to the Century Project Area - Inglewood, California for work accomplished by the FAA and the City of Inglewood in reducing the number of people affected by airport noise of 65 CNEL and greater through land use changes.

In February 2001, a Memorandum of Understanding (MOU) was entered into between the City of Los Angeles and the City of Inglewood²⁴ to establish cooperation in pursuing and implementing certain new measures designed to study and mitigate the possible adverse environmental effects on Inglewood of existing and potential future operations and improvements at LAX. As further described in Technical Report S-1, *Land Use Technical Report* (subsection 2.2.2.2), of Part I of the Final EIS, the MOU includes proposals intended to extend and expedite sound insulation as well as reduce exposure to high levels of aircraft noise.

Los Angeles County Demographics

Los Angeles County provides a context for population, ethnicity, and income status. According to the 1990 U.S. Census, the county had a total population of 8,863,164 and was comprised of 41.0 percent White; 37.3 percent Hispanic; 10.7 percent Black; 10.4 percent Asian American; 0.5 percent American Indian and Alaskan Native; and 0.2 percent Other Race. Based on Los Angeles County 1990 Census data, the county's aggregate minority population was 59.2 percent, while 15.1 percent of the population was below the defined poverty level. The 2000 U.S. Census indicated that the county's aggregate minority population had grown to 69 percent, and the percent of the population below the defined poverty level had increased to 18 percent, as shown in **Table A2.2-2**, 1990 - 2000 U.S. Census: Changes in Environmental Justice Study Area.

²³ City of Inglewood, Inglewood General Plan Housing Element, May 1993.

²⁴ Memorandum of Understanding between the City of Los Angeles and the City of Inglewood, approved February 6, 2001.

A.2.2 Environmental Justice (NEPA Analysis)

Table A2.2-2

1990 - 2000 U.S. Census: Changes in Environmental Justice Study Area

	1990 Census	2000 Census	Change ¹
Study Area			
Number of Census Tracts in Study Area	69	79	+10
Number of Minority Census Tracts in Study Area	54	64	+10
Number of Low-Income Census Tracts in Study Area	33	45	+12
Percent Minority Population in Study Area	78%	84%	+6%
Percent Below Poverty Population in Study Area	18%	23%	+5%
Population in Study Area	345,287	359,681	+14,394 (+4%)
Los Angeles County			
Los Angeles County Population	8,863,164	9,519,338	+656,174 (+7%)
Percent Minority in Los Angeles County	59%	69%	+10%
Percent Below Poverty in Los Angeles County	15%	18%	+3%

¹ Percent change represents overall percentage point increases.

Source: 1990 U.S. Census; 2000 U.S. Census.

Study Area Demographics

The total population in the study area was 345,287 according to the 1990 Census. Based on the 1990 Census, population groups within the study area consisted of 41.6 percent Black; 32.2 percent Hispanic; 21.9 percent White; 0.2 percent American Indian and Alaskan Native; 3.8 percent Asian American; and 0.3 percent Other Race. Other population characteristics for the study area in 1990 are shown in **Table A2.2-3**, Demographic Characteristics of Study Area (1990 Census).

As shown in **Table A2.2-2**, the 2000 U.S. Census counted 359,681 residents in the study area, an increase of 4.2 percent from 1990. Based on the 2000 Census, population groups within the study area consisted of 37.4 percent Black, 40.5 percent Hispanic, 16 percent White, 0.2 percent American Indian and Alaskan Native, 3.2 percent Asian, 0.3 percent Native Hawaiian and Other Pacific Islanders, and 2.4 percent Other (including two or more races).

Using the 2000 U.S. Census, there are 79 census tracts in the study area, an increase of ten compared to the 1990 U.S. Census. This increase in the number of census tracts within the study area is due to changes in census tract boundaries. A summary comparison of the differences in the 1990 and 2000 census tracts relative to the County as a whole is provided in **Table A2.2-2**.

Table A2.2-3

Demographic Characteristics of Study Area (1990 Census)

Percent Speaking English at Home	Percent Speaking Spanish at Home	Percent Speaking Other Language at Home	Percent Age 65 and Above	Percent with Children in Household	Percent Unemployed
64.6%	30.0%	5.3%	8.0%	35.7%	9.2%

Source: 1990 U.S. Census STF3.

Minority Composition

Demographic data identify both the total numbers and general distribution of minority and low-income populations.²⁵ At the individual census tract level, 54 of the 69 total census tracts within the study area were considered to be minority in 1990, meaning that they had more than 50 percent minority population. The geographic distribution of these census tracts within the study area is illustrated in **Figure A2.2-2**, *Minority Census Tracts Within Study Area (1990 Census)*. This data reveals a readily discernible pattern of minority and low-income communities in the areas surrounding LAX. While the areas to the north and south of LAX are predominantly non-minority, the area east of I-405 within the study area is predominantly minority. Furthermore, within these areas east of I-405 minority populations are heavily concentrated: 39 of the 69 minority census tracts within the study area have minority percentages greater than 90 percent. The uneven distribution of minorities throughout the study area, as evidenced by the data showing that most census tracts have less than 20 percent or greater than 90 percent minorities, increases the potential for differential impacts on minorities and non-minorities.

Based on the 2000 Census, 64 of the 79 census tracts in the study area are considered to be minority tracts. The general pattern of minority and low-income populations within the study area based on the 2000 U.S. Census, as shown in **Figure A2.2-3**, *Minority and/or Low-Income Census Tracts - 2000 Census Changes*, has not changed since the 1990 U.S. Census; minority and low-income communities remain concentrated in areas east of LAX.

Figure A2.2-3 illustrates the demographic changes in the Environmental Justice Study Area. Three census tracts (2756.01, 7030.01, and 6022) that were non-minority in 1990 are now minority tracts based on the 2000 Census. Census Tract 2756.01 is a consolidation of 1990 Census Tracts 2753.12 (a non-minority tract in 1990) and 2756 (a minority tract in 1990). The consolidated 2000 Census Tract 2756.01 is considered to be a minority tract. Census Tracts 6022 and 7030.01 were not subject to substantial boundary changes in the 2000 U.S. Census; however, they both experienced substantial population growth over the past decade. Census Tract 6022 has a minority population of 70 percent and Census Tract 7030.01 has a minority population of 60.3 percent.

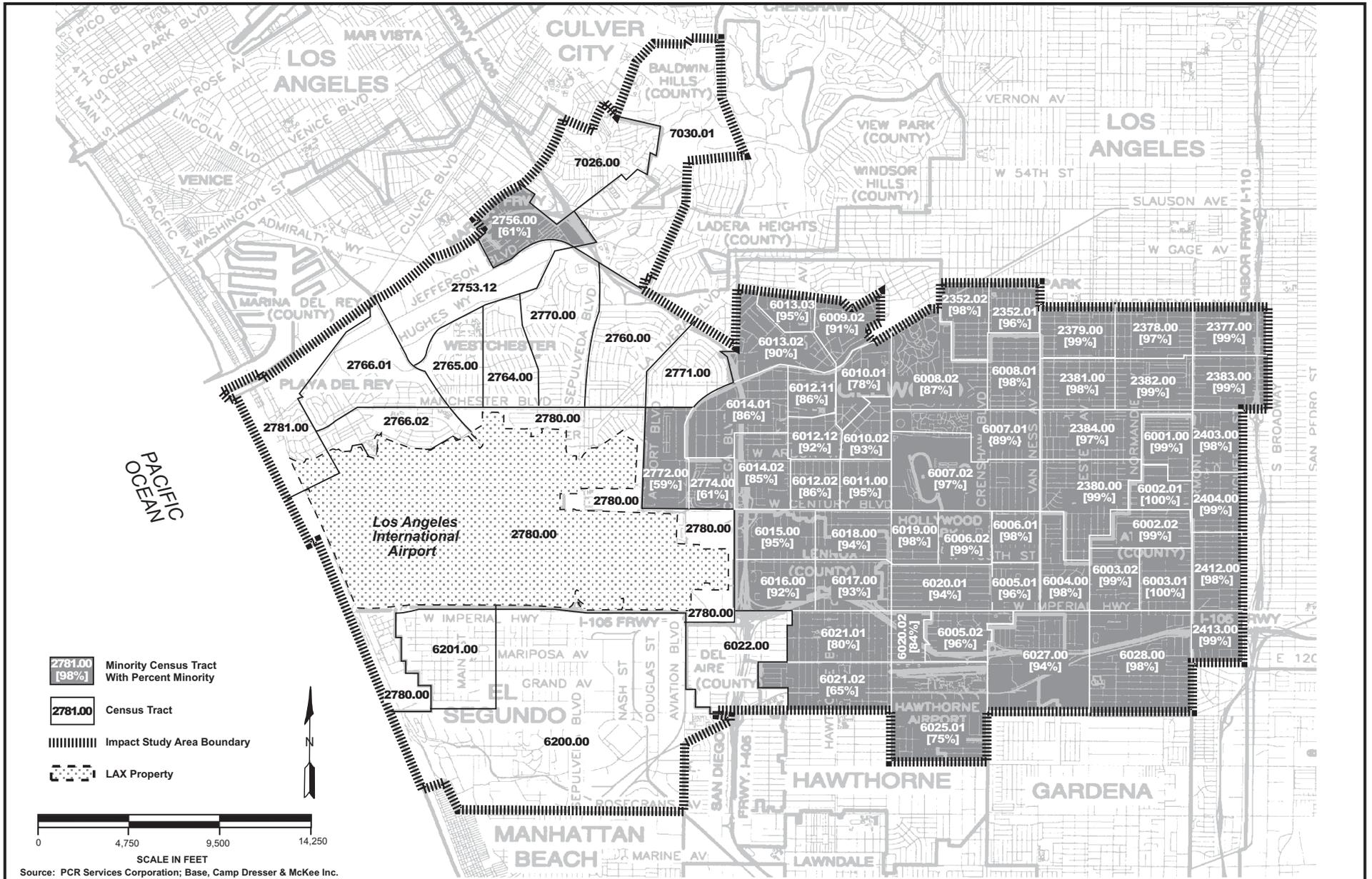
Low-Income Composition

Based on the 1990 U.S. Census, of the 69 total census tracts within the study area, 33 are considered to be low-income (having more than the county average of 15 percent of the resident population below poverty level). The geographic distribution of low-income census tracts is illustrated in **Figure A2.2-4**, *Low-Income Census Tracts Within Study Area (1990 Census)*. It should be noted that 32 of the 33 census tracts identified as being low-income are also minority communities (defined as greater than 50 percent minority).

Of the 79 census tracts in the study area identified in the 2000 U.S. Census, 45 are considered to be low-income tracts. As illustrated in **Figure A2.2-3**, and similar to the 1990 U.S. Census, these 45 census tracts are primarily located east of LAX, in Inglewood, Hawthorne, and Lennox.

Nine census tracts (6013.03, 6012.11, 2774, 6004, 6003.02, 2412, 6025.01, 6021.05, and 6021.06) were not low-income in 1990 and are now low-income census tracts based on the 2000 U.S. Census. Census Tracts 6021.05 and 6021.06 were newly formed in the 2000 U.S. Census due to a split in 1990 U.S. Census Tract 6021.02. Although these census tracts were not considered low-income in 1990, all nine were identified as minority tracts and, therefore, this change does not alter their status as minority/low-income census tracts for purposes of the environmental justice analysis.

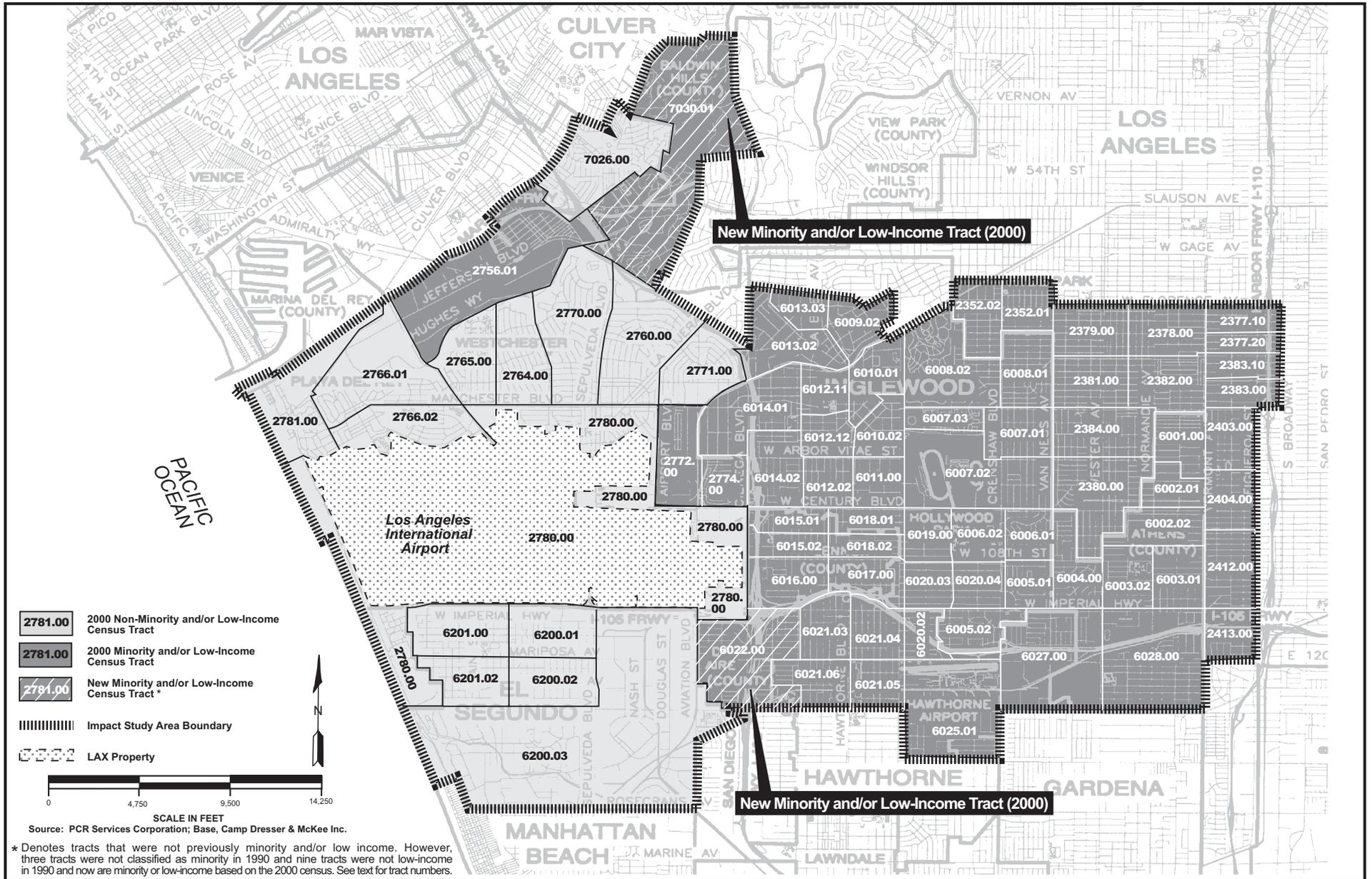
²⁵ See Appendix F, *Environmental Justice Technical Report*, Table 3, *Minority, and Low-Income Census Tracts Within Study Area*, identifying the 1990 census tracts within the study area, the total tract population, the minority and non-minority populations residing in the census tract, and the percentage of the population in the tract that was classified as a minority population. For comparison purposes, Table 3 also presents the minority status of the United States, California, and Los Angeles County.



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**Minority Census Tracts Within Study Area
(1990 Census)**

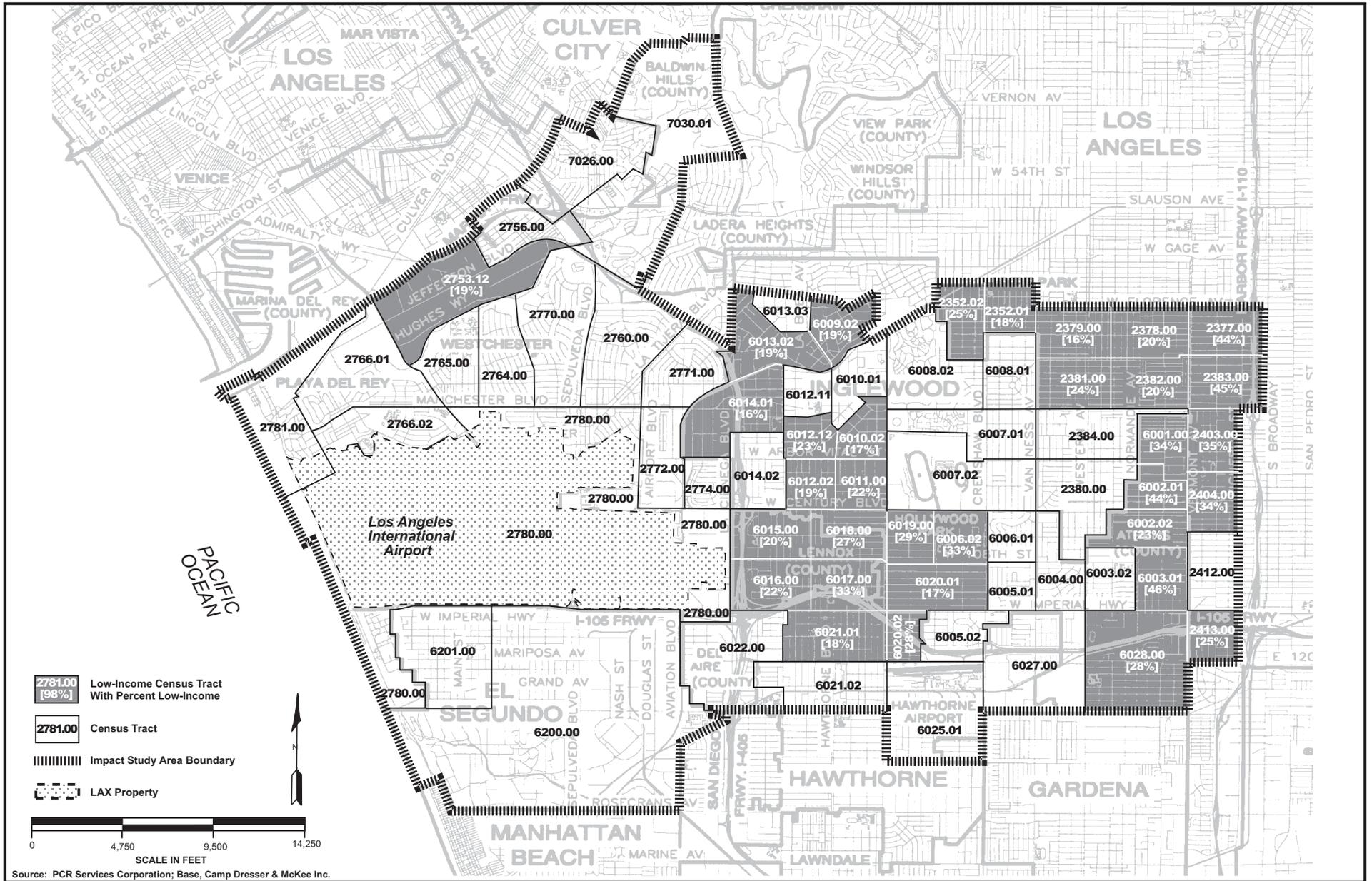
Figure
A2.2-2



**LAX Master Plan
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**Minority and/or Low-Income Census Tracts-
2000 Census Changes**

Figure
A2.2-3



**LAX Master Plan
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**Low-Income Census Tracts Within Study Area
(1990 Census)**

Figure
A2.2-4

A.2.2 Environmental Justice (NEPA Analysis)

Minority and Low-Income Composition

When comparing the 1990 and 2000 U.S. Census, the population within the study area has, overall, become increasingly minority and low-income. This increase in minority and low-income populations corresponds with an overall increase in population within the study area and within Los Angeles County. However, as shown in **Table A2.2-2**, the County's population has increased by approximately 7 percent while population in the study area has increased by 4 percent. As a component of the total population, minority, and low-income populations in the County between 1990 and 2000 increased by 10 percent and 3 percent, respectively. In the study area for the same period, the concentration of minority and low-income populations increased by 6 percent and 5 percent, respectively.

Figure A2.2-3 illustrates that for the study area as a whole, the increase in area defined as either minority or low-income communities based on the 2000 U.S. Census, focuses on two census tracts (7030.01 and 6022). The limited change in areas considered minority or low-income is largely due to overall population growth, as previously discussed. The changes in these two census tracts are generally reflective of broad based changes in demographics that have occurred in both the State of California and in the County. These two census tracts, newly identified as minority and/or low-income in the 2000 U.S. Census, are located north of Westchester in the City of Culver City and the unincorporated community of Baldwin Hills, and southeast of LAX in the unincorporated community of Del Aire.

Existing Conditions

As described above, and as illustrated in **Figure A2.2-2**, **Figure A2.2-3**, and **Figure A2.2-4**, minority and low-income residential communities within the study area are currently concentrated east of LAX, separated from the airport by predominantly commercial and industrial airport-related land uses and the I-405 freeway. In contrast, residential areas of El Segundo and Playa del Rey/Westchester, to the immediate north and south of the airport, do not have high concentrations of minority or low-income populations. LAX has always had an east-west runway configuration to take advantage of the prevailing wind pattern and to maximize efficient use of airspace. The combination of the long-standing runway orientation and more recent changes in the demographic patterns in the area around LAX means that minority and low-income residential communities are directly under the primary arrival flight path. The primary effects on minority and low-income communities from current airport operations are therefore mostly associated with aircraft noise. While residential areas of El Segundo and Playa del Rey/Westchester directly adjacent to the airport are also exposed to high levels of side-line noise, the areas of exposure to noise levels of 65 CNEL or greater are much smaller in comparison to the residential communities to the east. El Segundo and Playa del Rey/Westchester are exposed to other impacts from airport operations, including surface traffic congestion and emissions, ground level noise, and visual intrusions. Further details regarding existing conditions for individual resource categories are discussed below in subsection A.2.2.4, *Environmental Consequences*, and under their respective section headings in Chapter 5, *Affected Environment, Consequences, and Mitigation Measures*, of Part I of the Final EIS.

A.2.2.4 Environmental Consequences

The following analysis addresses whether the build alternatives may result in disproportionately high and adverse effects on minority and/or low-income populations when compared to the No Action/No Project Alternative. The starting point for this analysis is the identification of resource categories that show the potential for significant impacts from the build alternatives, when compared to the No Action/No Project Alternative under the general NEPA analysis presented elsewhere in this Final EIS. Only those resource categories meeting this criteria, and which further have a potential to disproportionately impact minority and/or low-income communities are examined. Other environmental resource categories that either do not identify significant adverse impacts under the NEPA analysis or that do not have the potential for disproportionate effects on minority or low-income populations are discussed in their respective sections of Part 1 of the Final EIS. The extent of discussion and analysis varies by topic based on the level of analysis required to determine whether there are disproportionately high and adverse effects on minority and/or low-income communities.

Environmental effects associated with the LAX Expressway and the potential for related disproportionate effects on minority and/or low-income communities are evaluated in Appendix K, *Supplemental Environmental Evaluation for LAX Expressway and State Route 1 Improvements*, of Part I of the Final EIS and summarized in this section.

Aircraft Noise/Land Use

This subsection identifies noise-sensitive uses that would be exposed to noise levels at or above 65 CNEL under the build and No Action/No Project alternatives for the same year (2015). It also identifies noise sensitive uses that, under the build alternatives, would experience noise increases of 1.5 CNEL or higher at or above the 65 CNEL contour,²⁶ when compared to conditions under the No Action/No Project Alternative for 2015. When potentially significant noise impacts are identified within minority and/or low-income areas, an assessment is then made as to whether there would be disproportionately high and adverse impacts on those communities.

Background

Most of the adverse noise effects from aircraft operations have historically occurred, and will continue to occur to the east and west of the airport. An advantage of the airport's proximity to the Pacific Ocean is that aircraft normally can take off over the ocean, thus, reducing noise effects on residential areas. Consequently, most of the arriving flights approach LAX from the east. Additionally, nighttime operational procedures call for both takeoffs and approaches over the ocean, further reducing noise impacts to residential areas. During periods when the wind direction shifts (approximately 6 percent of the time) planes arrive from the west (over the ocean) and depart over the communities to the east. As a result of the runway orientation, the minority and low-income communities to the east bear the greatest burden of aircraft noise from LAX. Although there has been progress under the current Aircraft Noise Mitigation Program (ANMP) within minority and low-income communities, large areas remain exposed to noise levels of 65 CNEL or greater. Of the estimated \$485 million dollars committed to noise mitigation (sound insulation or property acquisition) by LAWA and the FAA between 1984 and 1999, approximately 94 percent of the funding has been directed toward predominantly minority and/or low-income areas.²⁷ Of the approximately 2,840 residential units within the ANMP boundaries that have been converted from incompatible to compatible use (either through sound insulation or acquisition), as reported by LAWA in September 2000, approximately 60 percent of the mitigation has occurred in minority and/or low-income areas, even though minority and low-income communities constitute more than 80 percent of the area exposed to noise levels of 65 CNEL or greater. This somewhat slower rate of progress in mitigating adverse noise effects within minority and/or low-income communities despite a greater share of available funding is largely the result of decisions made by local leaders or community members to pursue an acquisition approach instead of sound insulation. Acquisition typically involves higher costs per unit as an initial investment, and a longer timetable for implementation. Implementation of the current ANMP also has been hampered by the existence of substandard or non-code compliant housing stock in some of the most heavily noise-impacted areas.²⁸ Additionally, sizeable residential areas within these communities are zoned or designated for non-residential use. Prior to a recent change in the ANMP by LAWA, ANMP criteria did not allow for sound insulation of residential properties that were intended, based on zoning and/or land use designations, to be converted to non-residential use. The criteria were changed in an effort to eliminate this impediment to mitigation within the City of Los Angeles. However, it may not be a priority or policy of other jurisdictions implementing the ANMP to provide sound insulation to residential properties that have inconsistent zoning or general plan designations.

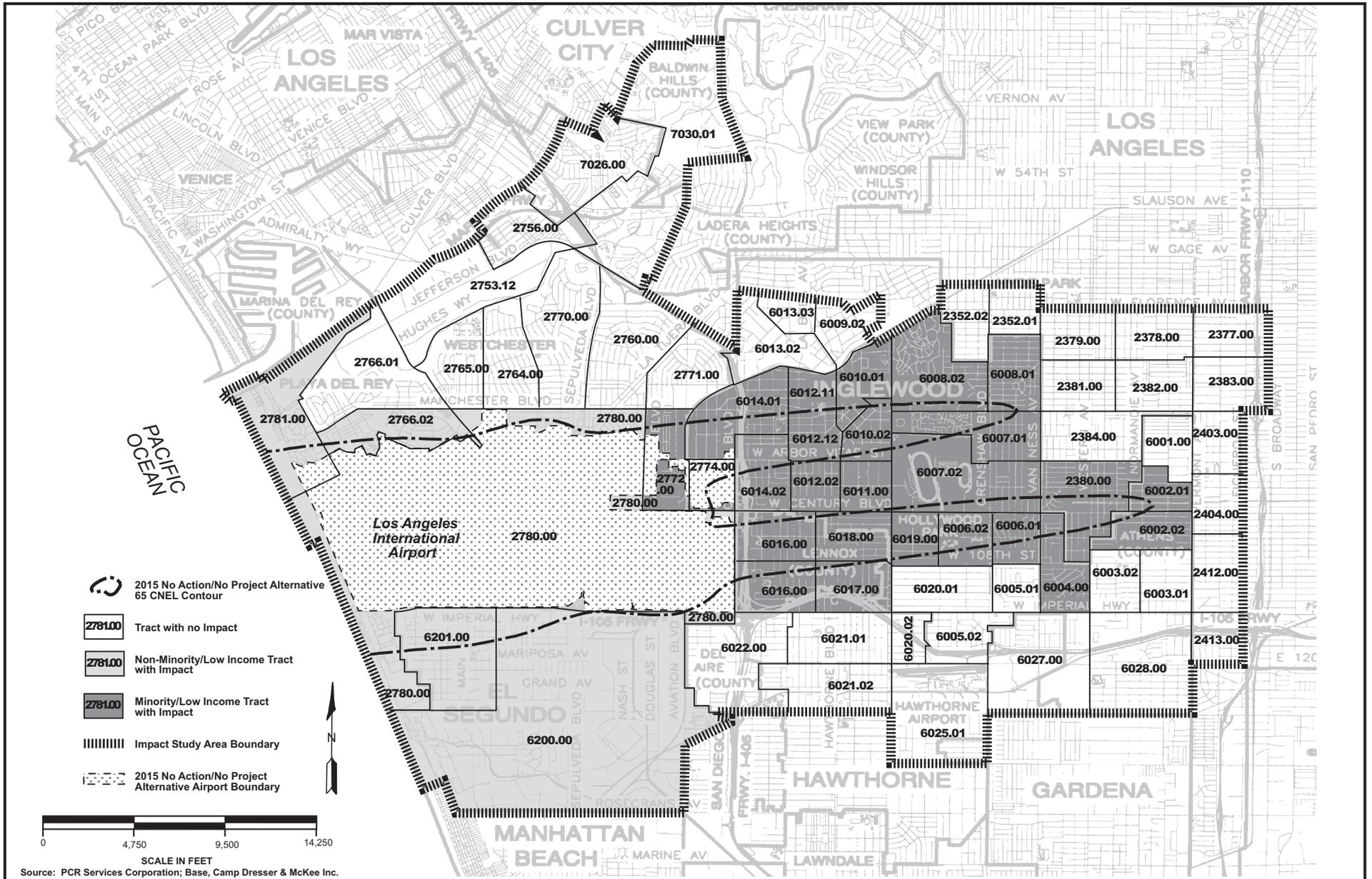
No Action/No Project Alternative

As shown on **Figure A2.2-5**. No Action/No Project Alternative 65 CNEL Noise Contour, under the No Action/No Project Alternative, most of the noise effects from future aircraft operations associated with exposure to 65 CNEL noise levels would continue to occur to the east of the airport. Under the No Action/No Project Alternative, aircraft would continue to depart over the ocean and arrive from the east and nighttime operational procedures would remain in effect. Minority and/or low-income communities to

²⁶ As defined by FAA Order 5050.4A.

²⁷ LAWA, Community Affairs Office.

²⁸ For instance, based on information provided by LAWA and Los Angeles County Residential Sound Insulation Program staff in December 2003, approximately 40 percent of residential units in the community of Lennox have major code violations (e.g., illegal building additions or converted garages), and approximately 90 percent of units within Los Angeles County ANMP areas have at least minor code violations (e.g., no smoke detectors, ground fault interrupters), with many properties also having illegally converted garages. As a result, these properties are not eligible, or the owners are not willing to receive sound insulation, because the code violations would need to be corrected prior to issuance of a building permit for sound insulation.



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No Action/No Project Alternative 65 CNEL Noise Contour

Figure
A2.2-5

A.2.2 Environmental Justice (NEPA Analysis)

A.2.2 Environmental Justice (NEPA Analysis)

the east would continue to bear the greatest burden of aircraft noise from LAX. As presented in **Table A2.2-4**, Change in Exposure of Noise-Sensitive Land Uses to 65+ CNEL Noise Contour 2015 in Minority and/or Low-Income Communities 2015 Alternatives A, B, C, and D Compared to No Action/No Project Alternative, under future 2015 conditions, the No Action/No Project Alternative would expose approximately 44,330 individuals to noise levels of 65 CNEL or greater with an estimated 31,923 individuals (or approximately 72 percent of this population) located in minority and/or low-income communities. Under the No Action/No Project Alternative, the ANMP would continue to provide sound insulation or pursue property acquisition to address these noise effects in areas within the ANMP boundaries.

Table A2.2-4

**Change in Exposure of Noise-Sensitive Land Uses to 65+ CNEL Noise Contour
in Minority and/or Low-Income Communities 2015
Alternatives A, B, C, and D Compared to No Action/No Project Alternative**

	Alternative				
	NA/NP	A	B	C	D
Exposure to 65+ CNEL					
Total Population Exposed	44,330	44,380	60,830	44,580	42,980
Population Exposed in Minority/Low-Income Areas	31,923	35,518	45,809	35,763	30,085
Population Exposed in Non-Minority/Non-Low-Income Areas	12,407	8,862	15,021	8,817	12,895
Change in Overall Population Exposed in Minority/Low-income Areas	NA	3,595	13,886	3,840	-1,838
Total Population Newly Exposed	N/A	9,370	23,360	6,000	1,960
Population Newly Exposed in Minority/Low-Income Areas	NA	8,350	19,540	5,060	1,630
Population Newly Exposed in Non-Minority/Non-Low-Income Areas	N/A	1,020	3,820	940	330
Parks					
Total Parks Newly Exposed	NA	7	7		
Parks Newly Exposed in Minority/Low-Income Areas	NA	5	5	3	0
Parks Exposed in Non-Minority/Non-Low-Income Areas	N/A	2	2	2	0
Public Schools					
Total Public Schools Newly Exposed	NA	5	9	5	3
Public Schools Newly Exposed in Minority/Low-Income Areas	NA	5	7	4	3
Public Schools Exposed in Non-Minority/Non-Low-Income Areas	N/A	0	2	1	0
Libraries					
Total Libraries Newly Exposed	NA	1	1	1	0
Total Libraries Newly Exposed in Minority/Low-Income Areas	N/A	1	1	1	0
Total Libraries Newly Exposed in Non-Minority/Non-Low-Income Areas	N/A	0	0	0	0

Source: PCR Services Corporation, 2004.

Alternatives A, B, and C

As shown in **Figure A2.2-6**, Alternative A 2015 vs. No Action/No Project Alternative Significant Noise Increases, **Figure A2.2-7**, Alternative B 2015 vs. No Action/No Project Alternative Significant Noise Increases, **Figure A2.2-8**, Alternative C 2015 vs. No Action/No Project Alternative Significant Noise Increases, and as summarized in **Table A2.2-5**, Significant Aircraft Noise Effects on Minority and/or Low-Income Communities 2015 Alternatives A, B, C, and D Compared to No Action/No Project Alternative, there would be significant noise impacts within minority and/or low income areas under Alternatives A, B, and C as these areas would experience at least a 1.5 CNEL increase in noise levels within the 65 CNEL noise contour, when compared to conditions under the No Action/No Project Alternative for the same year (2015). Under Alternatives A, B, and C, certain noise-sensitive uses within the 60-65 CNEL contours would also experience noise level increases of 3 CNEL.²⁹ Although these 3 CNEL increases are not considered significant noise impacts under NEPA, noise-sensitive uses affected by such increases are identified for informational purposes in Table S20, LAX Master Plan Supplement to the Draft EIS/EIR Grid

²⁹ According to the Federal Interagency Committee On Noise, Federal Agency Review of Selected Airport Noise Analysis Issues (1992), and FAA Order 5050.4A, if a proposed project will cause noise-sensitive areas to experience an increase in noise of 1.5 CNEL or more at or above the 65 CNEL, then noise-sensitive uses experiencing an increase an increase of 3 CNEL within the 60 to 65 CNEL contour should be identified. This information is provided for informational purposes.

A.2.2 Environmental Justice (NEPA Analysis)

Points within Future Alternatives that Experience Significant or Other Reportable Increases in CNEL – Comparison of Future Alternatives to 1996 Baseline, Year 2000 Conditions, and 2015 No Action/No Project Alternative, in Appendix S-C1, *Supplemental Aircraft Noise Technical Report*, of Part I of the Final EIS. In summary, under Alternative A, two churches, two hospitals, and one public school would experience such an increase. The two hospitals and public school are located in minority and/or low-income areas in the City of Inglewood. Under Alternative B, 13 churches, 1 hospital, 2 public schools, and 1 library would experience such an increase. Of these sensitive receptors, 11 churches are located in minority and/or low-income communities in the City of Los Angeles, City of Inglewood, and County of Los Angeles; 2 public schools are located in minority and/or low-income areas in the City of Inglewood; and 1 library in minority and/or low-income areas in Los Angeles County. Under Alternative C, four churches would experience this increase, three of which are located in minority and/or low-income areas in the City of Los Angeles.

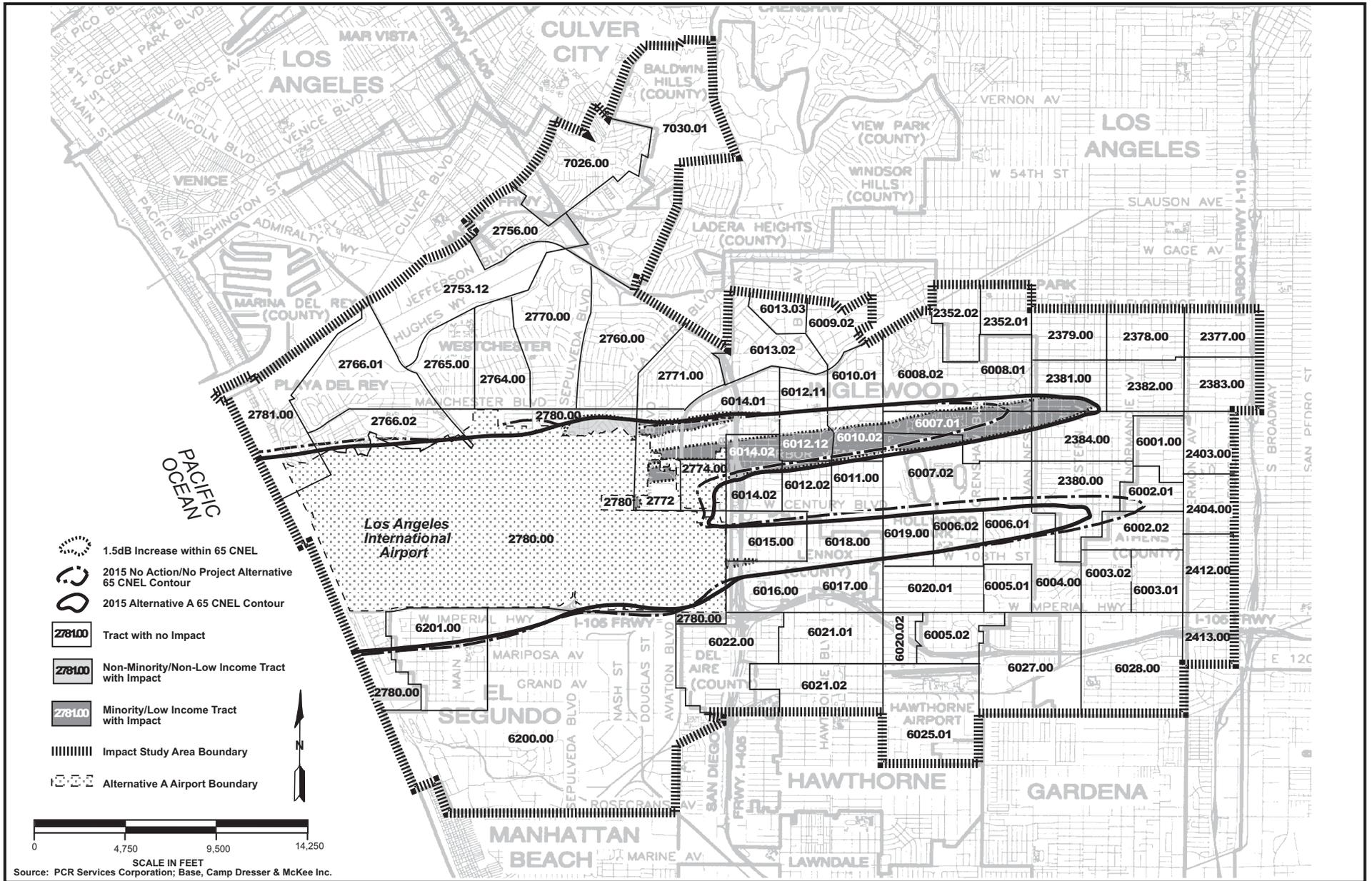
Table A2.2-5

**Significant Aircraft Noise Effects on Minority and/or Low-Income Communities 2015
Alternatives A, B, C, and D Compared to No Action/No Project Alternative**

	Alternative			
	A	B	C	D
Exposure to 1.5+ CNEL Increase within 65+ CNEL				
Total Population Exposed	16,040	35,870	4,610	250
Population Exposed in Minority/Low-Income Areas	14,348	32,120	3,909	0
Population Exposed in Non-Minority/Non-Low-Income Areas	1,692	3,750	701	250
Total Parks Exposed	5	6	3	2
Parks Exposed in Minority/Low-income Areas	3	4	2	0
Parks Exposed in Non-Minority/Non-Low-Income Areas	2	2	1	2
Total Public Schools Exposed	4	14	2	0
Public Schools Exposed in Minority/Low-Income Areas	4	12	2	0
Public Schools Exposed in Non-Minority/Non-Low-Income Areas	0	2	0	0
Total Libraries Exposed	0	1	0	0
Libraries Exposed in Minority/Low-Income Areas	0	1	0	0
Libraries Exposed in Non-Minority/Non-Low-Income Areas	0	0	0	0

Source: PCR Services Corporation, 2004.

Because, as noted above, Alternatives A, B, and C would result in significant noise impacts within minority and/or low-income communities when compared to the No Action/No Project Alternative, conditions in areas identified as minority and/or low-income must be compared to conditions in non-minority and/or non-low-income areas to determine if the impacts also fall disproportionately on minority and/or low-income communities. As presented in **Table A2.2-5**, of the total population who would be exposed to a 1.5 CNEL increase within the 65 CNEL noise contour under Alternative A, 14,348 residents would be located in minority and/or low-income areas, compared to 1,692 residents who would be located in non-minority/non-low-income areas. Under Alternative B, 32,120 of the significantly impacted residents would be located in minority and/or low-income areas, compared to 3,750 residents who would be located in non-minority/non-low-income areas. Under Alternative C, 3,909 of the significantly impacted residents would be located in minority and/or low-income areas, compared to 701 residents who would be located in non-minority/non-low-income areas.



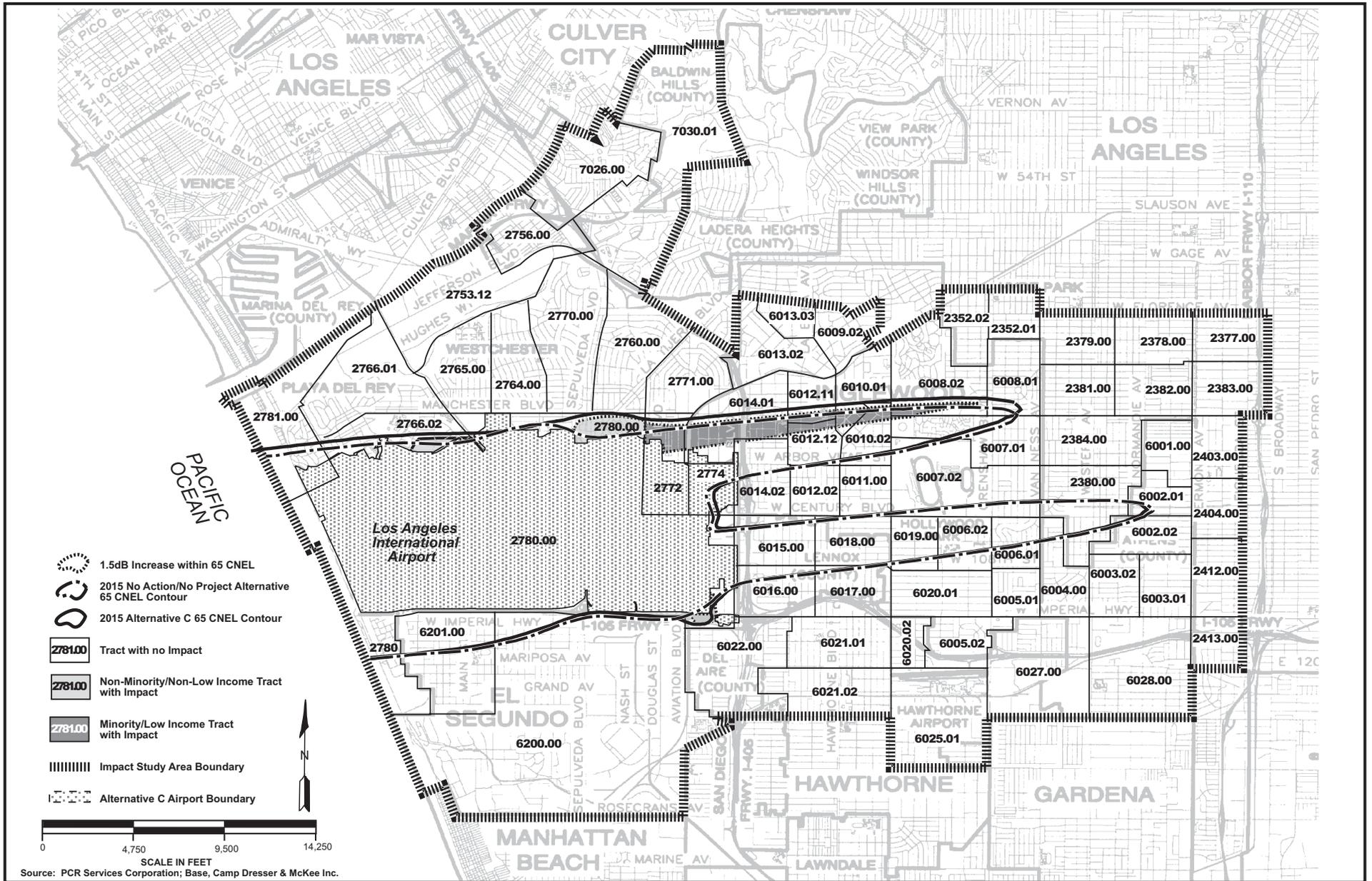
**LAX Master Plan
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**Alternative A 2015 vs. No Action/NoProject Alternative
Significant Noise Increases**

Figure
A2.2-6

A.2.2 Environmental Justice (NEPA Analysis)

A.2.2 Environmental Justice (NEPA Analysis)



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**Alternative C 2015 vs. No Action/No Project Alternative
Significant Noise Increases**

Figure
A2.2-8

A.2.2 Environmental Justice (NEPA Analysis)

Table A2.2-4, compares the exposure of sensitive uses to noise levels of 65 CNEL or greater under the build alternatives. As shown in **Table A2.2-4**, Alternatives A, B, and C would see increases in overall exposure of minority and/or low-income individuals to noise levels of 65 CNEL or greater, when compared to the No Action/No Project Alternative. Specifically, Alternatives A and C would have the smallest increase in overall exposure, with 3,595 and 3,840 residents, respectively. This would be in contrast to Alternative B, which would see an estimated increase in overall exposure of about 13,886 residents. In addition, a substantial number of residents in minority and/or low-income communities would be newly exposed to noise levels of 65 CNEL or greater compared to the No Action/No Project Alternative. Specifically, under Alternative A, approximately 8,350 residents located in minority and/or low-income communities would be newly exposed to these noise levels. Under Alternative B, approximately 19,540 residents in minority and/or low-income communities would be newly exposed to 65 CNEL or greater noise levels. Under Alternative C, approximately 5,060 residents in minority and/or low-income communities would be newly exposed to these noise levels.

Based on the above, there would be disproportionately high and adverse noise impacts on minority and low-income populations under these three alternatives prior to mitigation.

Mitigation is proposed for in Section 4.2, *Land Use* (subsection 4.2.8), of Part I of the Final EIS, to address those areas that do not already qualify for mitigation under LAWA's existing ANMP. This mitigation also serves to address the potential for disproportionately high and adverse impacts on minority and/or low-income communities. Key aspects of the mitigation focus on: 1) increasing annual funding for land use mitigation; 2) accelerating the fulfillment of existing commitments within the current ANMP boundaries prior to proceeding with newly eligible properties; and, 3) incorporating areas newly exposed to the 65 CNEL noise contour under the build alternatives into the ANMP. Although sound insulation does not address outdoor noise, it renders residential properties compatible under federal land use compatibility guidelines.³⁰ In addition to the mitigation outlined in Section 4.2, *Land Use*, an additional mitigation measure, MM-EJ-1, Expedite Residential Soundproofing for Qualifying Property Owners (Alternatives A, C, and D), is proposed in this section to facilitate completion of soundproofing for existing eligible residential uses within the current ANMP and those that would be newly exposed to the 65 CNEL contour under the build alternatives.³¹ Residential uses with the potential to be newly exposed to noise levels of 65 CNEL or greater, would be identified at the time the northern runway improvements are designed. Soundproofing would be provided to these homeowners, to the extent feasible, prior to commissioning of the northern runways. Under Alternative B, soundproofing for willing homeowners would be provided to the extent feasible prior to the commissioning of any relocated runway, as stated under an additional mitigation measure MM-EJ-2, Expedite Residential Soundproofing for Qualifying Property Owners (Alternative B). These mitigation measures would substantially address the potential for disproportionately high and adverse effects on minority and/or low-income communities under the build alternatives. However, due to certain constraints, property owners in some areas may not choose to or be able to participate in the sound insulation program. These circumstances involve residential property owners that may not accept mitigation due to code compliance issues, substandard housing which may be infeasible to insulate, and inconsistent zoning or land use designations.³² Additionally, while mitigation proposed to facilitate completion of soundproofing includes LAWA and FAA funding and technical assistance, expediting completion of residential soundproofing in Inglewood and Los Angeles County would ultimately be controlled by these jurisdictions. If the availability of comprehensive mitigation is not considered sufficient to avoid or minimize the significant adverse effects of aircraft noise under Alternatives A, B, and C these alternatives would still have some residual disproportionately high and adverse effect on minority and/or low-income populations. Noise impacts and related mitigation measures are further described in Section 4.1, *Noise*, and Section 4.2, *Land Use*, of Part I of the Final EIS.

Under Alternatives A, B, and C, parks within minority and/or low-income communities to the east of LAX would be newly exposed to noise increases of 1.5 CNEL or greater at or above the 65 CNEL contour to a

³⁰ See Federal Aviation Regulation Part 150.

³¹ See Sections 4.1, *Noise*, and 4.2, *Land Use*, of Part I of the Final EIS for the CEQA analysis and specific information regarding areas newly exposed to the 65 CNEL noise contour for each alternative.

³² Inconsistent zoning does not pose a constraint in the City of Los Angeles due to a recent change in the ANMP to eliminate this impediment to mitigation. Code compliance issues (such as illegally converted garages) primarily occur in the County of Los Angeles.

A.2.2 Environmental Justice (NEPA Analysis)

substantially greater extent than communities to the north and south of LAX when compared with the No Action/No Project Alternative. These impacts would fall disproportionately on minority and/or low-income communities. As shown in **Table A2.2-5**, by 2015 under Alternative A, three parks located within minority and/or low-income communities would be exposed to significant noise increases. Under Alternative B, four parks located within minority and/or low-income communities would be exposed to significant noise increases. Under Alternative C, two parks located within minority and/or low-income communities would be exposed to significant noise increases.³³

As to new exposure to 65 CNEL or greater noise levels in areas that would not experience a 1.5 CNEL or greater increase, two additional parks within minority and/or low-income communities would be affected under Alternative A. One additional park within minority and/or low-income communities would be newly exposed under Alternative B. Under Alternative C, one park located in minority and/or low-income communities would be newly exposed.

Under Alternatives A, B, and C, aircraft noise exposure on public schools would occur in areas that are located predominantly within minority and/or low-income communities. Under Alternative A, as shown in **Table A2.2-5**, four public schools would be exposed to noise increases of 1.5 CNEL or higher at or above the 65 CNEL contour, when compared to the No Action/No Project Alternative, with all four schools located in minority/low-income communities, within the Inglewood Unified School District and Lennox School District. Under Alternative B, twelve public schools that would be exposed to significant noise increases are located in minority and/or low-income communities, within the Inglewood Unified School District and Lennox School District. Under Alternative C, two of the public schools that would be exposed to significant noise increases are in minority and/or low-income communities within the Inglewood Unified School District. Since under Alternatives A, B, and C, the majority of public schools that would be exposed to significant noise increases of 1.5 CNEL or higher at or above the 65 CNEL contour are located in minority and/or low-income areas, such impacts would be considered disproportionately high and adverse prior to mitigation. For those significantly impacted schools not already subject to an existing aviation easement, mitigation would be provided as described in Section 4.2, *Land Use* (subsection 4.2.8), of Part I of the Final EIS, Mitigation Measures MM-LU-1, MM-LU-3, and MM-LU-4. When considering new exposure to 65 CNEL noise levels in areas that would not experience a 1.5 CNEL increase, four additional schools within the Inglewood School District and Lennox School District would be exposed under Alternative A. Under Alternative B, there is only one school that would not experience a significant noise increase but would be newly exposed to a 65 CNEL noise levels. That school is located in a non-minority and/or non-low-income community within the Los Angeles Unified School District. Under Alternative C, four schools that would not experience a significant noise increase would be newly exposed to 65 CNEL noise levels. Three of these schools are located in minority and/or low-income communities within the Inglewood School District and Lennox School District. One school is located in a non-minority/non-low-income community, within the Los Angeles Unified School District. For those adversely affected public schools not already subject to an existing aviation easement, mitigation would be provided as described above to address aircraft noise effects on schools. With the implementation of these mitigation measures. Based on the information presented above, with implementation of mitigation, Alternatives A, B, and C would not have a disproportionately high and adverse effect on public schools within minority and/or low-income communities.

In evaluating effects on libraries due to noise increases of 1.5 CNEL or higher at or above the 65 CNEL or greater, when compared to the No Action/No Project Alternative, one library, the Morningside Park Branch Library, located in the minority and/or low-income community of Inglewood, would be significantly impacted by Alternative B. This same library would adversely affected under Alternatives A and C as a result of being newly exposed to noise levels of 65 CNEL or greater. To address the potential for disproportionately high and adverse noise impacts, mitigation in the form of sound insulation would be provided under Mitigation Measure MM-LU-1, as described in Section 4.2, *Land Use* (subsection 4.2.8), of Part I of the Final EIS. With the implementation of proposed mitigation, there would be no disproportionately high and adverse effect on libraries in minority and/or low-income communities.

³³ Although a number of parks within minority and/or low-income communities would be exposed to significant noise impacts under Alternatives A, B, and C, for purposes of this analysis, the levels of exposure would not be incompatible with activities at these parks pursuant to Federal standards, as further discussed in Section 4.8, *Department of Transportation Act, Section 4(f)*, of Part I of the Final EIS.

Alternative D - Enhanced Safety and Security Plan

As shown in **Figure A2.2-9**, Alternative D 2015 vs. No Action/No Project Alternative Significant Noise Increases, and summarized in **Table A2.2-5**, under Alternative D, no significant noise impacts are anticipated within minority and/or low-income communities. Specifically, no noise sensitive uses within these areas would experience an increase in noise levels of 1.5 CNEL or higher at or above the 65 CNEL noise contour as compared to the No Action/No Project Alternative. However, even though Alternative D would have no significant adverse noise impacts on noise-sensitive uses within minority and/or low-income areas, there would be a small area within a minority census tract, comprised primarily of industrial and commercial uses, that would experience a 1.5 CNEL increase at or above the 65 CNEL. Additionally, no noise-sensitive uses within the 60-65 CNEL contours would experience an increase of 3 CNEL under Alternative D. Furthermore, as summarized in **Table A2.2-4**, under Alternative D, there would be an overall reduction in the minority/low-income population exposed to 65 CNEL, in comparison to conditions under the No Action/No Project Alternative in minority and/or low-income communities. Under Alternative D, fewer people residing in minority and/or low-income communities are exposed to 65 CNEL noise levels than in non-minority and non-low-income communities, which communities would see an increase in exposure to 65 CNEL when compared to the No Action/No Project Alternative.

More specifically, as shown in **Figure A2.2-9**, and in **Table A2.2-4**, despite the fact that 1630 individuals within minority and/or low-income communities would be newly exposed to noise levels of 65 CNEL due to shifts in the noise contours, there would be a greater overall reduction of 1838 minority and/or low-income residents exposed to 65 CNEL compared to the No Action/No Project Alternative. This represents a net beneficial effect. In contrast, within non-minority and/or non-low-income areas, there would be an increase of 488 residents exposed to 65 CNEL or greater noise levels when compared to No Action/No Project conditions. Based on the information above, Alternative D would not result in disproportionately high and adverse noise impacts on minority and/or low-income communities. Despite the absence of disproportionately high and adverse effects due to Alternative D, consistent with the noise mitigation program proposed by LAWA, residential uses within the 65 CNEL noise contour would be provided with mitigation as described in Section 4.2, *Land Use*, of Part I of the Final EIS, and mitigation measure MM-EJ-1, which would provide for and facilitate completion of soundproofing for existing eligible residential uses within the current ANMP boundaries and those that would be newly exposed to the 65 CNEL contour under Alternative D.

Despite the lack of significant impacts within minority and/or low-income communities and the overall net benefit relative to aircraft noise under Alternative D, including implementation of comprehensive mitigation, it is accepted that some property owners in minority and/or low-income communities where soundproofing is being offered may not be able to participate in the sound insulation program due to certain constraints. These include residential property owners who may choose not to, or may not be able to accept mitigation due to code compliance issues, substandard housing which may be infeasible to insulate, and inconsistent zoning or land use designations.³⁴ Additionally, while mitigation proposed to facilitate completion of soundproofing includes LAWA and FAA funding and technical assistance, expediting completion of residential soundproofing in Inglewood and Los Angeles County would ultimately be controlled by these respective jurisdictions. As a result, it is accepted that some minority and/or low-income residents that would be newly exposed to noise levels of 65 CNEL or greater would not be feasible to mitigate. Under Alternative D this is expected to be a relatively small number as only 260 residents within the City of Inglewood that would be newly within the 65 CNEL contour compared to the No Action/No Project Alternative are expected to be located outside the existing ANMP boundaries. Based on discussions with the City of Inglewood and their current experience with soundproofing, there is an expectation that the vast majority of these units would be feasible to mitigate. Even with the potential for isolated circumstances where mitigation to address new exposure to 65 CNEL or higher noise levels may not be feasible, Alternative D still would not have a disproportionately high and adverse effect on minority and/or low-income populations.

As shown in **Table A2.2-5**, under Alternative D no public schools would experience a 1.5 CNEL increase at or above the 65 CNEL compared to the No Action/No Project Alternative. Therefore, no significant noise impacts on public schools would occur under this alternative. As listed in **Table A2.2-4**, three

³⁴ For Alternative D, areas newly exposed to noise levels of 65 CNEL or higher are located within the City of Inglewood where there is a low percentage of substandard housing units that were infeasible to insulate.

A.2.2 Environmental Justice (NEPA Analysis)

public schools, located in Inglewood Unified School District and Lennox School District, would be newly exposed to 65 CNEL noise levels. These adverse aircraft noise effects, while not considered significant impacts under NEPA, would fall on public schools that are located within minority and/or low-income communities. For those adversely affected public schools not already subject to an existing aviation easement, mitigation would be provided. Specifically, mitigation is proposed in Section 4.2, *Land Use* (subsection 4.2.8), of Part I of the Final EIS, to address areas that are newly exposed to 65 CNEL or greater noise levels. The key aspects of the mitigation are the same as those described for Alternatives A, B, and C above. Based on the information above, Alternative D will not result in disproportionately high and adverse noise impacts with respect to public schools located within minority and/or low-income communities.

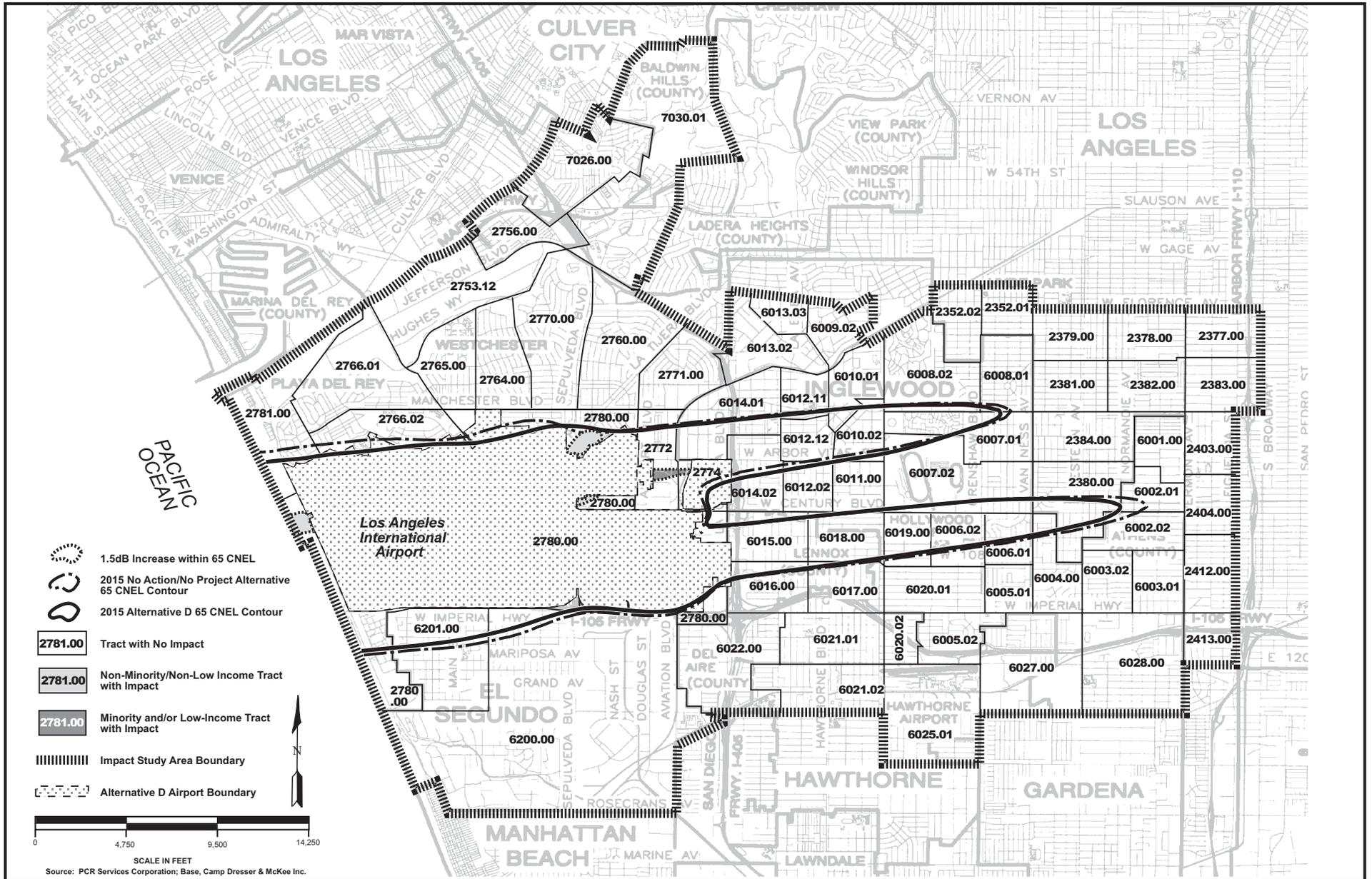
Under Alternative D, two parks would experience a 1.5 CNEL increase at or above the 65 CNEL compared to the No Action/No Project Alternative. However, these parks are located in non-minority/non-low-income areas and, for purposes of this analysis, the levels of exposure would not be incompatible with activities at these parks pursuant to Federal standards, as further discussed in Section 4.8, *Department of Transportation Act, Section 4(f)*, of Part I of the Final EIS. Therefore, no disproportionately high and adverse effects on minority and/or low-income communities would occur. No libraries would experience a 1.5 CNEL increase at or above the 65 CNEL under Alternative D compared to the No Action/No Project Alternative. In addition, no parks or libraries would be newly exposed to 65 CNEL noise levels compared to the No Action/No Project Alternative.

Air Quality

LAX is located in the South Coast Air Basin, an area with some of the most severe air quality problems in the nation. The South Coast Air Basin currently fails to attain national and state standards for ozone (O₃) and particulate matter (PM₁₀) and only recently has been designated as being in attainment of national standards for nitrogen dioxide (NO₂). The Basin is currently designated as "Nonattainment/Transitional" of national standards for carbon monoxide (CO). These pollutants, along with lead and sulfur dioxide (SO₂), are known as "criteria pollutants." Some pollutants, such as ozone, are more regional in the nature of their impacts and affect the entire South Coast Air Basin, while others, like CO, typically have more localized impacts. The South Coast Air Quality Management District (SCAQMD) has prepared a revised CO attainment demonstration that indicates the standard was attained in 2002 and will be maintained into the future.

The air quality analysis conducted for the LAX Master Plan has identified existing pollutant concentrations on and around the airport that exceed national and state standards for O₃, and state standards for PM₁₀. Many stationary sources of emissions contribute to these air pollution concentrations, including the Chevron El Segundo Refinery, Los Angeles Department of Water and Power Scattergood Generating Station, Southern California Edison El Segundo Generating Station, and Hyperion Treatment Plant. Furthermore, over 60 percent of total criteria pollutant emissions in the South Coast Air Basin originate from on-road motor vehicles. LAX is located near two major freeways (I-405 and I-105) and a number of major arterial roadways, which carry a substantial amount of non-airport traffic. Aircraft operating at LAX contribute less than one percent of the basin-wide emissions of CO, oxides of nitrogen (NO_x), volatile organic compounds (VOC), SO₂, and PM₁₀; however the overall poor air quality in the South Coast Air Basin requires careful attention be given to even incremental increases in emissions. For example, because the South Coast Air Basin is classified as an "extreme" nonattainment area for ozone, federally-supported projects with emissions of 10 tons per year of ozone precursors must undertake a "general conformity" analysis, while in other parts of the country, emissions of less than 100 tons per year are considered de minimis.

The analysis below focuses on the relationship between air quality impacts from criteria pollutants and the potential for adverse health effects and evaluates the potential for the alternatives to result in disproportionately high and adverse health effects in minority and low-income communities in the study area. Pollutant emissions under the build alternatives are analyzed relative to the No Action/No Project Alternative for comparative purposes. However, measures of emissions indicate the amount of pollutants entering the atmosphere from project-related sources, but do not necessarily correlate with the quantity of a particular pollutant in the air at the receptor. The quantity of a particular pollutant at a receptor is measured by the concentration of that pollutant in the air, which is more closely correlated with health impacts. Therefore, for purposes of this analysis, the determination as to adverse effect rests primarily on



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**Alternative D 2015 vs. No Action/No Project Alternative
Significant Noise Increases**

Figure
A2.2-9

A.2.2 Environmental Justice (NEPA Analysis)

whether or not the build alternatives would result in exceedances of the health-based National Ambient Air Quality Standards (NAAQS) for criteria pollutants, which are based on pollutant concentrations at receptor locations.

No Action/No Project Alternative

Under the No Action/No Project Alternative, concentrations of all criteria pollutants would be lower than the NAAQS in both the Interim Year and 2015. In addition, local CO concentrations at off-airport intersections would not exceed the NAAQS under the No Action/No Project Alternative.

Alternatives A, B, and C

Emissions

Following the implementation of proposed mitigation measures, under Alternatives A, B, and C, total NO_x and PM₁₀ emissions from on-airport and off-airport sources, including construction sources,³⁵ are estimated to be greater than those under the No Action/No Project Alternative in the Interim Year (i.e., 2005) and 2015. In addition, in 2015, total CO and SO₂ emissions would also be greater than those under the No Action/No Project Alternative.

Under Alternatives A, B, and C, higher ozone (O₃) levels could result from increased NO_x emissions associated with aircraft operations.³⁶ Because ozone is formed through a complex array of photochemical reactions in the atmosphere, however, resulting ozone concentrations are regional in nature and are often realized far from the emission source. Therefore, the increased NO_x emissions are not expected to contribute to increased ozone concentrations that would result in disproportionate impacts to the minority and low-income populations within the study area.

Concentrations

Although Alternatives A, B, and C would result in increased air pollutant emissions, air pollutant concentrations would only exceed the NAAQS for certain pollutants and years. Combined operational and construction air pollutant concentrations under Alternatives A, B, and C are predicted to exceed the NAAQS for annual NO₂, and annual and 24-hour PM₁₀ in the Interim Year. Under Alternative A, the 8-hour CO NAAQS is also predicted to be exceeded in the Interim Year. Because exceedances of the NAAQS are considered significant impacts, the potential of these significant impacts to disproportionately impact minority or low-income communities must be assessed.

These exceedances would represent disproportionately high and adverse impacts to minority and/or low-income communities if, when comparing conditions under the action alternatives to conditions under the No Action/No Project Alternative, the exceedances of the NAAQS would occur disproportionately in these communities or affect these communities in a manner that is appreciably more severe or greater in magnitude than the adverse effects that will be suffered by the non-minority and non-low-income population. Pollutant concentrations in a particular location are dependent upon a number of factors, including the emission source type and location, the intensity of activity in a given time period, the dispersion pattern as affected by meteorological conditions (such as wind speed, wind direction, and atmospheric stability) at the time of emission as well as nearby terrain and other physical obstructions, and the concentration averaging time.

The primary source of predicted exceedances of the PM₁₀ NAAQS is construction activity, coupled with high future background concentrations. Construction activities would largely occur in areas located away from minority and/or low-income populations. For Alternatives A, B, and C, based on the factors identified above that determine pollutant concentrations in a given location, predicted exceedances of the NAAQS for PM₁₀ are not expected to occur disproportionately within minority and/or low-income communities.

³⁵ Emissions are calculated individually by on-airport, off-airport, and construction sources, and then added together to provide total emissions. For the analysis of concentrations, on-airport and construction source emissions are added together and the total emissions are then modeled. The results are then added to their respective future background concentrations and compared to the NAAQS at specific gridpoints. Off-airport source emissions are evaluated separately, and are compared to the NAAQS at individual intersection locations. This "hot spot" analysis is provided in Section 4.6, *Air Quality*, in Volume 3 of the Final EIS.

³⁶ Because O₃ is formed through a photochemical reaction in the atmosphere, modeling O₃ concentrations is more complex than modeling concentrations of other criteria pollutants. Therefore, impacts of a particular project on ozone levels usually are analyzed based on the net increase or decrease of O₃ precursors.

A.2.2 Environmental Justice (NEPA Analysis)

Many of the PM₁₀ emission sources, including equipment that would be used to construct key facilities as well as activities at many of the construction staging areas, would be located on the west side of the airport, away from minority and/or low-income communities. Although typical meteorological conditions would tend to transport PM₁₀ in an easterly direction, towards these communities, the PM₁₀ emissions are expected to disperse to the point that PM₁₀ concentrations are not expected to exceed the NAAQS within these communities. Even if PM₁₀ concentrations were to approach or exceed the NAAQS within minority and/or low-income communities, it is anticipated that the concentrations would be similar in magnitude to, or lower than, those in adjacent non-minority, non-low-income communities, such that the resulting impact on minority and/or low-income communities could not be disproportionately high and adverse. Nonetheless, in the absence of conclusive data, it is possible that PM₁₀ exceedances would occur within minority and/or low-income communities, and that the PM₁₀ concentrations in these communities could be disproportionately high and adverse.

The predicted exceedance of the 8-hour CO NAAQS under Alternative A in the Interim Year is attributable to on-airport aircraft, motor vehicle, and construction sources, and is predicted to occur along the southern boundary of the airport, west of Sepulveda Boulevard, and not in minority and/or low-income communities. The location of the predicted CO exceedance under Alternative A is near the new ancillary facilities that would be constructed along the southern boundary by 2005. Since CO is a very localized pollutant (concentrations decrease rapidly as one moves away from the emission sources due to reaction of CO with oxygen in sunlight to form carbon dioxide), it is not expected that the exceedances would occur in minority and/or low-income communities, and no disproportionate impact is expected. Even if CO concentrations were to approach or exceed the NAAQS within minority and/or low-income communities, it is anticipated that the concentrations would be similar in magnitude to, or lower than, those in adjacent non-minority, non-low-income communities, such that the resulting impact on minority and/or low-income communities would not be disproportionately high and adverse.

Under Alternatives A, B, and C, the exceedances of the annual NO₂ NAAQS in the Interim Year are expected to occur in an easterly direction, towards predominantly minority and/or low-income communities, due to the configurations of the runways and the predominant wind direction. Exceedances of the NAAQS for NO₂ in the Interim Year are considered to be significant and could cause irritation to mucous membranes (eyes and respiratory system) of sensitive individuals. Children may be particularly susceptible to health effects of NO₂.³⁷ However, under Alternative A, the exceedance of the NO₂ NAAQS is not expected to occur in minority and/or low-income communities. Under Alternative A, no major cargo or other facilities are proposed to be located in the northeast corner of the airport that would add GSE or traffic impacts near the east side of the airport, near minority and/or low-income communities. Moreover, by the Interim Year under Alternative A, fewer of the east side facilities would have been constructed than under Alternatives B and C. For these reasons, NO₂ concentrations are not expected to exceed the NAAQS within minority and/or low-income communities located east of the airport in the Interim Year or to have appreciably more severe impacts in these areas under Alternative A. Even if NO₂ concentrations were to approach or exceed the NAAQS within minority and/or low-income communities, it is anticipated that the concentrations would be similar in magnitude to, or lower than, those in adjacent non-minority, non-low-income communities, such that the resulting impact on minority and/or low-income communities would not be disproportionately high and adverse. Nevertheless, in the absence of conclusive data, it is possible that the NO₂ exceedance under Alternative A could occur within minority and/or low-income communities and that NO₂ concentrations could be disproportionately high and adverse in these communities.

Under Alternatives B and C, exceedances of the NAAQS for NO₂, which constitutes a significant impact, are predicted to occur within minority and/or low-income communities. Alternatives B and C would place major cargo facilities in the northeast corner of the airport that would add aircraft, GSE and traffic-related air quality impacts near the east side, close to minority and/or low-income communities. In addition, under Alternatives B and C, more east side facilities would be constructed by the Interim Year than Alternative A, resulting in somewhat higher impacts. The expected exceedances of the NAAQS for NO₂ under Alternatives B and C in the Interim Year are expected to result in disproportionate impacts to minority and/or low-income communities in the study area.

³⁷ "Adequacy of California Ambient Air Quality Standards: Senate Bill No. 25 - Children's Environmental Health Protection" (Draft Staff Report, Sept. 12, 2000).

In 2015, concentrations of all criteria pollutants would not exceed the NAAQS under Alternatives A, B, or C, and no significant impacts would occur. In the absence of significant impacts, there is no potential for disproportionately high and adverse impacts to minority and/or low-income populations.

Cumulative Exposure to Multiple Criteria Pollutants

Cumulative exposure³⁸ to O₃ and other criteria pollutants that are also linked to chronic respiratory illnesses may, in theory, result in adverse health effects in certain populations even where the national ozone standard is met.³⁹ However, the existence and nature of health impacts from cumulative exposure to air pollutants is speculative at present. Because obtaining the data necessary to conduct an analysis and evaluate the potential for disproportionate impacts on minority and/or low-income individuals would require long-term health studies of a kind well outside the scope of a NEPA document in both cost and scope of analysis, and because the existence of cumulative exposure impacts is speculative at present,⁴⁰ quantitative analysis of the potential for impact from exposure to multiple criteria pollutants cannot be conducted.

Alternative D - Enhanced Safety and Security Plan

Emissions

Similar to Alternatives A, B, and C, the potential for increases in overall emissions under Alternative D is related to potential increases in aircraft operations vehicle miles traveled, and construction activities. Relative to the other build alternatives, Alternative D would have comparatively fewer aircraft operations, less vehicle miles traveled, and fewer on-airport emissions from aircraft taxi/idle, ground support equipment and gasoline and diesel vehicles. Alternative D would also involve comparatively less construction and construction activities are proposed to be spread out more so than under Alternatives A, B, and C, resulting in lower peak construction emissions. In terms of concentrations, some of these benefits compared to Alternatives A, B, and C would be at least partially offset, as Alternative D, without a West Terminal, would focus activity at the CTA and in areas to the east side of the airport. These factors would therefore result in greater relative emissions on the east side of the airport, closer to minority and/or low-income communities, as compared to the other build alternatives.

Compared to the No Action/No Project Alternative, with the implementation of proposed mitigation measures, Alternative D would have greater total emissions of PM₁₀ and SO₂ from on-airport, off-airport, and construction sources in the Interim Year. Total emissions of NO_x would be lower than under the No Action/No Project Alternative.

Concentrations

Pollutant concentrations under Alternative D are predicted to be lower than the NAAQS for all criteria pollutants in both the Interim Year and 2015, thus no significant impacts are expected to result in relation to Alternative D. In the absence of significant impacts, there is no potential for disproportionately high and adverse health impacts to the minority and low-income populations within the study area.

Cumulative Exposure to Multiple Criteria Pollutants

Cumulative exposure to O₃ and other criteria pollutants that are also linked to chronic respiratory illnesses may, in theory, result in adverse health effects in certain populations even where the national ozone

³⁸ For purposes of this discussion, "cumulative exposure" refers to combined exposure to multiple criteria pollutants with the potential for synergistic, additive and/or antagonistic effects.

³⁹ See World Resources Institute, *Linking the Environment and Health: Why the Increase in Asthma?* (citing studies that indicate that ozone exposure may render people more susceptible to other pollutants or allergens), available at www.igc.org/wri/wr-98-99/wr-98-001.htm.

⁴⁰ See, for example, Asthma Prevention Program of the National Center for Environmental Health, Centers for Disease Control and Prevention (1999) (noting that little is currently known about patterns of asthma occurrence in state or local areas); Pew Environmental Health Commission, *Attack Asthma: Why America Needs a Public Health Defense System to Battle Environmental Threats* (1999) (calling for longer-term, nationwide "Framingham-style" environmental health studies that track all of the environmental and genetic factors that might be involved in asthma); see also descriptions of EPA's Cumulative Exposure Project (including a community-specific study in the Greenpoint/Williamsburg area of Brooklyn, NY) available at <http://www.epa.gov/oppeccumm/index.htm>; California Air Resources Board, *Children's Health Study* (10-year research study on fine particles, ozone and other air pollutants and their effect on children's respiratory systems), available www.arb.ca.gov/research/research.htm; California Air Resources Board, *Neighborhood Assessment Program Workplan* (June 2000), at http://www.arb.ca.gov/ch/nap_plan_7.doc.

A.2.2 Environmental Justice (NEPA Analysis)

standard is met. However, the existence and nature of health impacts from cumulative exposure to air pollutants is speculative at present. Because obtaining the data necessary to conduct an analysis and evaluate the potential for disproportionate impacts on minority and/or low-income individuals would require long-term health studies of a kind well outside the scope of a NEPA document in both cost and scope of analysis, and because the existence of cumulative exposure impacts is speculative at present,⁴¹ quantitative analysis of the potential for impact from exposure to multiple criteria pollutants cannot be conducted.

Human Health Risk

At present, there are no federal standards regarding exposure to toxic air pollutants (TAPs), which pollutants are the focus of study for purposes of conducting human health risk assessments. In addition, the data that would be necessary to make conclusive statements regarding certain health risks associated with TAPs are not available at this time. For purposes of NEPA, the information necessary to conduct a quantitative analysis of risk associated with TAPs is unavailable, however, to the extent that fulfillment of the purposes of Executive Order 12898 would be furthered by such an analysis, presented below are the results of LAWA's Human Health Risk Assessment, which was prepared in compliance with CEQA and based upon CEQA thresholds of significance and provides a qualitative comparisons of potential health risk.

Human health risk associated with TAPs focuses on cancer risk and non-cancer health hazards, such as respiratory irritation and other lung disorders. As further described in Section 4.24.1, *Human Health Risk Assessment*, of Part I of the Final EIS there are no federal standards for ambient concentrations of TAPs. Furthermore, in the absence of data that would require long-range studies of a type well outside of the scope of a NEPA analysis, existing health risks in the area attributable to LAX sources could not be directly calculated. However, under Master Plan Commitment AQ-1, Air Quality Source Apportionment Study, LAWA, in cooperation with USEPA, SCAQMD and others, would participate in a study to gather air quality data through a monitoring and source-apportionment program in minority and low-income communities in the vicinity of LAX. Based on a recent study by SCAQMD (MATES II), the central and east central portions of Los Angeles County appear to have the greatest estimated health risk from toxic air pollutants. These areas also contain the heaviest concentrations of minority and/or low-income communities. Based on the SCAQMD study, the greatest contributors to risk include on-road mobile sources (70 percent), followed by other mobile sources including ships, aircraft, and off-road construction vehicles (20 percent). Air dispersion modeling of toxic air pollutants conducted for the LAX Master Plan environmental analysis suggests that health risks associated with airport-related TAP emissions may affect some residents, schools, hospitals and nursing homes in nearby areas, with increased risks falling within an area running east-northeast, as a result of meteorological conditions (i.e., wind patterns).

⁴¹ See, for example, Asthma Prevention Program of the National Center for Environmental Health, Centers for Disease Control and Prevention (1999) (noting that little is currently known about patterns of asthma occurrence in state or local areas); Pew Environmental Health Commission, *Attack Asthma: Why America Needs a Public Health Defense System to Battle Environmental Threats* (1999) (calling for longer-term, nationwide "Framingham-style" environmental health studies that track all of the environmental and genetic factors that might be involved in asthma); see also descriptions of EPA's Cumulative Exposure Project (including a community-specific study in the Greenpoint/Williamsburg area of Brooklyn, NY) available at <http://www.epa.gov/oppeccumm/index.htm>; California Air Resources Board, *Children's Health Study* (10-year research study on fine particles, ozone and other air pollutants and their effect on children's respiratory systems), available www.arb.ca.gov/research/research.htm; California Air Resources Board, *Neighborhood Assessment Program Workplan* (June 2000), at http://www.arb.ca.gov/ch/nap_plan_7.doc.

Additional information pertaining to the understanding and analysis of the affected environment was used to evaluate cumulative non-cancer health effects. USEPA examined TAPs in the South Coast Air Basin independently and included many TAPs, including acrolein, that were not evaluated in MATES-II. For Los Angeles County, hazard indices associated with emissions from all sources might fall in the range of 3 to 10 for chronic exposure to acrolein.⁴² A hazard index greater than 1 indicates that non-cancer hazards would exceed CalEPA standards for chronic non-cancer health effects.⁴³ That is, in many areas of Los Angeles County, existing concentrations of toxic air pollutants from sources other than the airport could be higher than those that CalEPA would consider "safe." USEPA did not make any predictions of possible acute hazards due to TAPs in air. Thus, no USEPA data could be used to directly assess potential for acute hazards in the South Coast Air Basin. (See Section 4.24.1, *Human Health Risk Assessment*, of Part I of the Final EIS.)

The analysis provided below is based on the findings of the Human Health Risk Assessment prepared pursuant to State of California requirements. Results of the analysis are provided in Tables F4.24.1-5, Summary of Incremental Acute Hazard Indices for LAX Master Plan Pre-Mitigation Assessment for 2015, and F4.24.1-7, Summary of Incremental Cancer Risks and Incremental Non-Cancer Chronic Human Health Hazards for LAX master Plan Post-Mitigation Assessment, provided in Part I of the Final EIS. Maps of geographic impacts provided in Section 4.24.1, *Human Health Risk Assessment*, were compared to maps of minority and low-income census tracts within the study area provided in this section to determine the potential for health risks in minority and/or low-income communities.

Given the lack of federal standards for ambient concentrations of TAPS and for assessing potential acute non-cancer health hazards, information concerning cancer and non-cancer health risks from the Human Health Risk Assessment is provided as part of the environmental justice analysis in the Final EIS for disclosure purposes only and, in the absence of applicable Federal standards, no conclusions are made regarding the potential for significant or disproportionately high and adverse impacts on minority and/or low-income communities.

No Action/No Project Alternative

Incremental Cancer Risks

As described in Section 4.24.1, *Human Health Risk Assessment*, of Part I of the Final EIS, incremental cancer risks⁴⁴ would occur under the No Action/No Project Alternative in both the Interim Year and 2015. These incremental cancer risks would occur in a large area extending east-northeast from the east end of the north runway. The area where the greatest incremental increase would occur under the No Action/No Project Alternative is in portions of Census tracts 2774, 2772, and 6014.01, all of which are considered minority/low-income tracts.

Incremental Non-Cancer Chronic Health Hazards

The No Action/No Project Alternative would also result in incremental non-cancer chronic impacts in both the Interim Year and 2015. The greatest incremental non-cancer health hazard effects predicted under No Action/No Project for the Interim Year would extend through an area east-northeast of the eastern airport boundary for approximately two miles (almost to I-110 Freeway). By 2015, under the No Action/No Project Alternative, the area subject to incremental non-cancer health hazards would extend farther east-northeast past the I-110 Freeway.

⁴² Estimates of non-cancer health impacts are expressed in terms of a "hazard index," which quantitatively represents a relationship between estimated exposure and an exposure level thought to be safe even for daily exposure over long periods of time. Hazard indices are estimated for potential impacts to particular target organ systems or health effects (e.g., asthma, nervous system disorders, birth defects, and developmental problems in children). A hazard index of one or less indicates that adverse health effects are not expected to result from exposure to emissions of that substance. As a hazard index increases above one, the probability of human health effects increases by an undefined amount. However, it should be noted that a hazard index above 1 is not necessarily indicative of health hazards because of uncertainties in knowledge of chemical toxicology and due to the application of uncertainty factors in deriving reference exposure levels (levels of exposure that pose no adverse health effects).

⁴³ As stated above, there are no corresponding Federal standards.

⁴⁴ The analysis in Part I of the Final EIS evaluated incremental risks of the alternatives compared to environmental baseline (i.e., 1996) conditions. The analysis determined the additional risk, or the level of decrease in risk, attributable to a particular alternative as compared to 1996 conditions. Both cancer risks and non-cancer health hazards, such as respiratory irritation and other lung disorders, were evaluated.

A.2.2 Environmental Justice (NEPA Analysis)

Incremental Non-Cancer Acute Health Hazards

The No Action/No Project Alternative would result in potential incremental acute hazards from short-term exposure to maximum concentrations of acrolein.

Cumulative Impacts

The No Action/No Project Alternative would contribute to a small increase in cumulative cancer risk at some locations near the airport. Due to the many sources of TAPs in the South Coast Air Basin that are not related to LAX, potential cancer risks for all populations within the Basin, especially those at special risk, would remain high. With regard to non-cancer risks, the No Action/No Project Alternative could add to total average acrolein concentrations in the Basin, and therefore, to possible chronic non-cancer hazards and acute human health hazards associated with exposure to acrolein.

Alternatives A, B, and C

Incremental Cancer Risks

As described in Section 4.24.1, *Human Health Risk Assessment*, of Part I of the Final EIS, following the implementation of mitigation measures, estimated incremental cancer risks under Alternatives A, B, and C would be beneficial in the Interim Year (i.e., risks would be lower than the No Action/No Project Alternative). In 2015, under Alternatives A, B, and C, incremental cancer risks would be substantially lower than those under the No Action/No Project Alternative. In contrast to the No Action/No Project Alternative, incremental cancer risks under Alternatives A, B, and C are predicted for only small areas immediately adjacent to the airport. In all of the areas where incremental cancer risks would increase under the No Action/No Project Alternative, incremental cancer risks associated with Alternatives A, B, and C would be less, indicating that potential health effects would be reduced in these areas compared to the No Action/No Project Alternative. In comparison to the No Action/No Project Alternative, the greatest reduction of health risk effects under Alternatives A, B, and C would occur within portions of Census tracts 2774, 2772, and 6014.01. Based on 1990 Census data, the estimated population affected (1,100) is 59 percent minority and 14 percent low-income. Overall, incremental cancer risks are predicted to be reduced after implementation of Alternatives A, B, and C compared to likely future effects associated with the No Action/No Project Alternative. Such effects would, however, vary with location. Where incremental risks under the No Action/No Project Alternative would be greatest, such cancer risks would be substantially reduced under Alternatives A, B, and C. In other areas, such as those just east of the south runways, incremental cancer risks under Alternative A would only be slightly reduced compared to the No Action/No Project Alternative. Reductions in incremental cancer risks under Alternatives A, B, and C compared to the No Action/No Project Alternative are due to more dispersed activities at the airport (spreading from east to west), an accelerated program for converting ground support equipment to alternative fuels, and less idle time for surface traffic due to transportation improvements such as the ring road.

Incremental Non-Cancer Chronic Health Hazards

As indicated in Section 4.24.1, *Human Health Risk Assessment*, of Part I of the Final EIS, incremental non-cancer health hazards for child residents under Alternatives A, B, and C in the Interim Year would increase, but to a lesser extent than would occur under the No Action/No Project Alternative. Incremental non-cancer hazards under Alternatives A, B, and C would generally extend in the same direction as the No Action/No Project Alternative, but encompass a much smaller area. Geographically, the predominantly minority areas extending east-northeast from LAX (downwind in the prevailing wind direction) would experience the greatest reduction of incremental health hazards compared to the No Action/No Project Alternative. In 2015, under Alternative A incremental non-cancer chronic hazards would be lower than under the No Action/No Project Alternative, whereas Alternatives B and C would result in an incremental increase in non-cancer hazards that may be similar to or somewhat greater than those estimated for the No Action/No Project Alternative. Under Alternatives B and C, the greatest incremental non-cancer hazards are predicted for an area extending east-northeast from the eastern airport boundary. Some of the population in this area could see somewhat increased non-cancer hazards after implementation of either of these two build alternatives. The estimated minority composition of the affected population ranges from 59 to 61 percent minority with about 14 percent of the population being low-income.

Incremental Non-Cancer Acute Health Hazards

The acute non-cancer analysis⁴⁵ assesses effects from short-term exposure to maximum concentrations of acrolein at 50 locations. Potential incremental acute hazards for Alternatives A, B, and C would be similar to those under the No Action/No Project Alternative. Maximum potential off-airport effects for Alternatives A, B, and C (with a ratio of 3, 7 and 6, respectively) are higher than that for the No Action/No Project Alternative (with a ratio of 2.5), but the range of possible acute exposure over the site is very similar (i.e., a ratio of -0.3 to 3 for Alternative A, -0.8 to 7 for Alternative B, 0.3 to 6 for Alternative C, and 0.2 to 2.5 for the No Action/No Project Alternative). Further, average acute hazards were essentially identical (a ratio 1 or 2 for all of these alternatives). Incremental acute hazards are due to exposure to acrolein in jet exhaust and emissions of this TAP in this source are not expected to change substantially between the No Action/No Project Alternative and Alternatives A, B, and C. Little if any differential effect is expected in the airport environs on the basis of potential acute health hazards.

Cumulative Impacts

The analysis suggests that LAX operations would cause an increase in cumulative cancer risk at some locations near the airport under Alternatives A, B, and C. Any increase that might occur would occur immediately adjacent to the eastern boundaries of the airport, and therefore may occur primarily in minority and/or low-income communities. This incremental increase would be slightly less than what would occur under the No Action/No Project Alternative. Nonetheless, because many sources of TAPs in the South Coast Air Basin are not related to LAX, potential cancer risks for all populations within the Basin, especially those at special risk, are currently high and would remain essentially unchanged by a small increase related to airport operations. With regard to non-cancer risks, and similar to the No Action/No Project Alternative, Alternatives A, B, and C could add to total average acrolein concentrations in the Basin, and therefore, to possible chronic non-cancer hazards and acute human health hazards associated with exposure to acrolein. Increases in cumulative impacts from chronic exposure to acrolein are likely to be found in areas immediately east of the airport boundaries, and could fall primarily in minority and/or low-income communities. As discussed above, the potential for increases in acute hazards to fall disproportionately in such communities cannot be ascertained in the current analysis.

Furthermore, recent information⁴⁶ suggests that certain environmental factors, such as tobacco smoke, diesel exhaust, respirable particles, and irritant gases (e.g., acrolein) could contribute to cumulative health risks in some urban areas in the U.S.⁴⁷ However, comprehensive data on environmental hazards and other risk factors unrelated to LAX have not been collected for populations in the airport environs, although several agencies, including SCAQMD, California Air Resources Board, California Office of Environmental Health Hazard Assessment, and USEPA have expressed interest in initiating studies that might allow a better understanding of cumulative health risks. Due to the lack of available background data, the cumulative or synergistic health effects of TAP emissions associated with Alternatives A, B, and C and other environmental hazards could not be quantitatively analyzed within the scope and timeframe of this EIS.

Alternative D - Enhanced Safety and Security Plan

Incremental Cancer Risks

As described in Section 4.24.1, *Human Health Risk Assessment*, of Part I of the Final EIS, under Alternative D, the estimated incremental cancer risk in the Interim Year and 2015 would be substantially lower than that under the No Action/No Project Alternative, primarily due to the reduction of diesel-powered GSE and more efficient airfield operation. Health risk impacts associated with Alternative D are relatively low compared to those for Alternatives A, B, and C due to the lower number of aircraft operations under Alternative D, which are the greatest single source of non-diesel TAPs at LAX.

⁴⁵ Acute effects are assessed by dividing an estimate of a short-term (1 hour) concentration by an acute reference level that represents a "safe" concentration in ambient air. A ratio greater than 1 indicates the potential for health effects in sensitive individuals. Since essentially all acute hazard is due to potential exposure to acrolein, potential health impacts include only mild irritation of eyes and mucus membranes.

⁴⁶ See for example C. G. Plopper and M. V. Fanucchi, (2000) "Do Urban Environmental Pollutants Exacerbate Childhood Lung Diseases?" *Environmental Health Perspectives*, p. 108(6).

⁴⁷ See for example, J Schwartz, (2000) "Assessing Confounding, Effect Modification, and Thresholds in the Association between Ambient Particles and Daily Deaths," *Environmental Health Perspectives*, p. 108(6).

A.2.2 Environmental Justice (NEPA Analysis)

Incremental Non-Cancer Chronic Health Hazards

As indicated in Section 4.24.1, *Human Health Risk Assessment*, of Part I of the Final EIS, under Alternative D, incremental non-cancer chronic hazards in both the Interim Year and 2015 would be lower than hazards under the 1996 conditions. Therefore, implementation of Alternative D would result in a beneficial effect with regard to incremental non-cancer chronic hazards in both the Interim Year and 2015. In comparison, the No Action/No Project Alternative would result in chronic non-cancer hazards in both years.

Incremental Non-Cancer Acute Health Hazards

Similar to non-cancer chronic health hazards, under Alternative D, non-cancer acute hazards would be reduced compared to 1996 conditions. Therefore, Alternative D would result in a beneficial effect with regard to acute health hazards, whereas the No Action/No Project Alternative would result in increased acute health hazards.

Cumulative Impacts

As indicated in Section 4.24.1, *Human Health Risk Assessment*, of Part I of the Final EIS, Alternative D would have a small beneficial effect on cumulative cancer health risks for most areas, and a small increase in cumulative impacts for one small area nearest the eastern boundary of the airport. In contrast, under the No Action/No Project Alternative, there would be a net increase in cancer risk for all areas. Results of the analyses suggest that implementation of Alternative D might reduce cumulative effects with regard to non-cancer chronic and acute non-cancer health hazards compared to the No Action/No Project Alternative and would result in a beneficial effect. Nonetheless, because many sources of TAPs in the South Coast Air Basin are not related to LAX, potential cancer risks for all populations within the Basin, especially those at special risk, would remain high.

Surface Transportation

Under current conditions, as evaluated at the time of the Draft EIS/EIR and Supplement to the Draft EIS/EIR, surface transportation systems in the vicinity of LAX are operating poorly during many periods of the day. A substantial amount of traffic diverts off the freeway system to local and arterial streets for airport access, contributing to congestion in the immediate LAX vicinity. Traffic congestion on arterial streets is most concentrated in areas to the north of LAX. Although LAX traffic is dispersed throughout the local road network, this traffic is most concentrated on roadways in the immediate LAX vicinity, and is not expected to significantly affect local roadways in minority and low-income communities east of I-405. A full presentation of existing traffic conditions is provided in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS.

Although specific data on the transportation modes used by minority and/or low-income populations to access the airport as passengers or employees is not available, it can be inferred from overall statistics that a high percentage of these populations depend on public transportation. It has been estimated that 80 percent of public transit users in the Los Angeles area are minority, and 69 percent of bus users have incomes below the poverty line.⁴⁸ Currently access to the airport for public transit users is provided by Los Angeles County Metropolitan Transit Authority (MTA), Santa Monica Municipal Bus Line (SMMBL), Culver City Municipal Bus Line (CCMBL), and Torrance Transit. MTA currently operates seven regular transit routes and two express routes to LAX. CCMBL, SMMBL, and Torrance Transit each have one route serving the LAX Transit Center located near Lot C at LAX. The LAX Transit Center is an important hub for the area and serves as a point of transfer for many whose destination is not LAX. Typical weekday demand at the LAX Transit Center totals 4,599 boardings and 4,435 alightings.

Bus transit for the minority communities in the study area is primarily provided by four MTA bus lines that have direct access to the LAX Transit Center. The Florence Avenue bus line (111 and 311-Limited) begins east of the community of Florence and runs through the City of Inglewood to the LAX Transit Center. The Manchester Boulevard bus line (315-Limited) begins east of the I-110 and runs through Inglewood to the LAX Transit Center, then continues westward to Pacific Avenue. The Century Boulevard bus line (117) begins east of the I-110 and runs through South Central Los Angeles and Inglewood to the LAX Transit Center. The Imperial Highway bus line (120) begins east of the I-110 and

⁴⁸ Garcia, Robert, "Mean Streets," August 25, 2000.

A.2.2 Environmental Justice (NEPA Analysis)

runs through Inglewood, Lennox, Hawthorne, to the LAX Transit Center. In addition, the MTA Green Line rail line serves residents east of LAX from communities east of the I-110 and runs to Aviation Boulevard, where the Westchester Shuttle (625) transports passengers to LAX. For employees and passengers arriving at the LAX Transit Center by bus, most transfer to shuttles running to and from the Central Terminal Area. A smaller number of riders transfer to other public transit buses. With bus ridership expanding for the transit providers using the Center, by the year 2015 passenger activity at the LAX Transit Center is expected to more than double, even without the LAX Master Plan.

Based on data for employees at LAX, the largest concentrations of employees reside in Inglewood (2,304), Hawthorne (2,117), Long Beach (2,103), and Westchester (1,763).⁴⁹ LAWA has an Employee Commute Program that includes vanpooling, rideshare and public transit components. Participation in the program is highest for employees, approximately 400, who use vanpooling to access work from locations generally over 30 miles where use of carpool lanes to reduce commute times is a strong incentive. Participation in carpooling and public transit components is substantially lower, with approximately 50 workers using each. The public transit component is intended to benefit those employees who use the bus or light rail as their primary mode of transportation (50 percent or more) to and from work. Qualifying participants have until recently received a \$15.00 monthly subsidy. In an effort to boost participation, this subsidy was recently raised by LAWA to \$50.00 a month. Although there are sizeable concentrations of workers in nearby communities, there are currently no airport-sponsored transportation programs that target employees in these areas.

No Action/No Project Alternative

As described in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS, traffic conditions would continue to decline under the No Action/No Project Alternative, since vehicle trips by airport passengers, employees, cargo activities, LAX Northside, and Continental City would increase without the construction of Master Plan facilities. As shown on **Figure A2.2-10**, No Action/No Project Alternative Roadway Intersection Impacts, under the No Action/No Project Alternative 40 intersections would experience deficient levels of service. Of these deficient intersections, eleven would be located within minority and/or low-income census tracts.

Alternatives A, B, and C

As depicted in **Figure A2.2-11**, Alternative A 2015 Roadway Intersection Impacts, **Figure A2.2-12**, Alternative B 2015 Roadway Intersection Impacts, and **A2.2-13**, Alternative C Roadway Intersection Impacts, under Alternatives A, B, and C there would be from 17 to 20 impacted intersections that would not be impacted under the No Action/No Project Alternative prior to mitigation. As further described in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS, the impacts at these intersections, would, by 2015, be reduced through project design features and implementation of mitigation measures proposed for Alternatives A, B, and C. The majority of these impacted intersections are located north and south of LAX and west of I-405, outside of minority and/or low-income communities. One intersection would be located within minority and/or low-income areas. While Alternatives A, B, and C would add traffic to the area road system, several key components of the plan, such as a new expressway adjacent to the I-405 north of LAX and a ring road around LAX, would generally improve traffic operations in the airport vicinity. Of particular importance to users of public transit would be direct access to the airport terminals from future HOV lanes on I-405, and the extension of the MTA Green Line to the airport. These facilities would not be implemented under the No Action/No Project Alternative. Although from three to five intersections would still have adverse effects on levels of service even after mitigation as compared against the No Action/No Project Alternative, the majority of these intersections are located in non-minority/low-income communities and therefore would not have a disproportionately high and adverse effect on minority and/or low income residential areas or community facilities. Based on the above, implementation of Alternative A, B, or C would not have a disproportionately high and adverse impact on minority and/or low-income communities relative to surface transportation.

⁴⁹ LAWA, July 2000. These statistics are based on data for employees working at LAX with security badges, who represent the vast majority of individuals employed at the airport by LAWA and airport tenants. As of July 2000, there were approximately 59,000 employees with badges, with 31,972 residing in Los Angeles County.

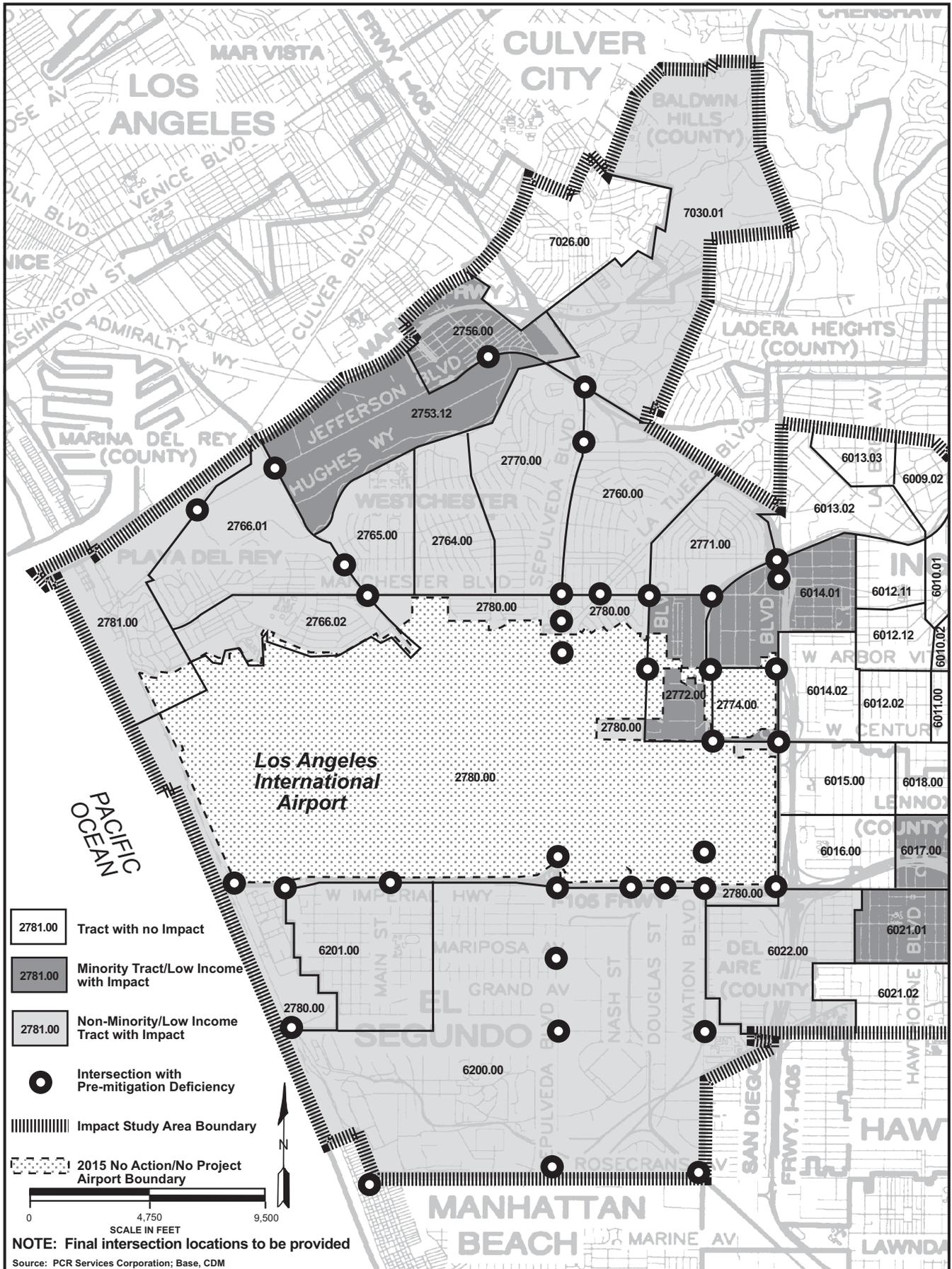
Alternative D - Enhanced Safety and Security Plan

For Alternative D, the study area for surface transportation was expanded to the east and north as airport access and development is more concentrated to the eastside of LAX. This study area includes 24 intersections in addition to those analyzed for Alternatives A and B in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS, 10 of which are located east of the I-405. As shown in **Figure A2.2-14**, Alternative D 2015 Roadway Intersection Impacts, under Alternative D, 32 intersections would be impacted compared to the No Action/No Project Alternative prior to mitigation. These intersections are located north, south, and east of LAX. Over half of the impacted intersections are located in non-minority/low-income census tracts. Using the 1990 U.S. Census data, 14 intersections to the east of LAX are located in minority and/or low-income tracts. All 32 of the impacted intersections, including the 14 located in minority and/or low-income tracts, would be mitigated as described in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS. Because over half the impacted intersections fall within non-minority/low-income communities, and because all impacted intersections will be mitigated, implementation of Alternative D would not have a disproportionately high and adverse effect on minority and/or low-income communities.

Surface Transportation Impacts Based on Reduced Playa Vista Traffic Assumptions

As described in Section A.1.2, *Off-Airport Surface Transportation*, a revised traffic analysis was completed for Alternative D to account for less background traffic in 2015 due to a substantial reduction in the development intensity of the Playa Vista project. As described therein, the reduction in traffic associated with Playa Vista, and associated reduction in background traffic against which the impacts of traffic from the LAX Master Plan was measured, would reduce the overall traffic impacts associated with the build alternatives for the LAX Master Plan compared to the impacts identified in the original traffic analysis. Specific to Alternative D, the total number of deficient facilities in 2015 would be reduced from 70 to 63 when compared to No Action/No Project conditions, based on the reduced Playa Vista traffic assumptions. The number of impacted intersections for Alternative D in 2015 would be reduced from 32 to 25 when compared to No Action/No Project conditions, based on the reduced Playa Vista traffic assumptions. Similar to Alternative D, it is anticipated that the overall traffic conditions for Alternative A, B, and C would also improve based on the reduced Playa Vista traffic assumptions, compared to those identified in the original traffic analysis, since the reduction in background traffic would apply to all alternatives.

The Playa Vista project site is located approximately 1.5 miles north of LAX, on the west side of I-405. The effects associated with the reduction in Playa Vista trip assumptions, relative to the reductions in facility deficiencies and traffic impacts described above, would occur primarily in the vicinity of Playa Vista. The minority and low-income census tracts that define the environmental justice communities evaluated in the Final EIS are, for the most part, located immediately east of LAX, extending east past I-405. As such, the reduction in impacted intersections associated with the reduced Playa Vista traffic assumptions occurs almost entirely within non-minority/low-income tracts.



**LAX Master Plan
Final EIS**

**No Action/No Project Alternative
Roadway Intersection Impacts**

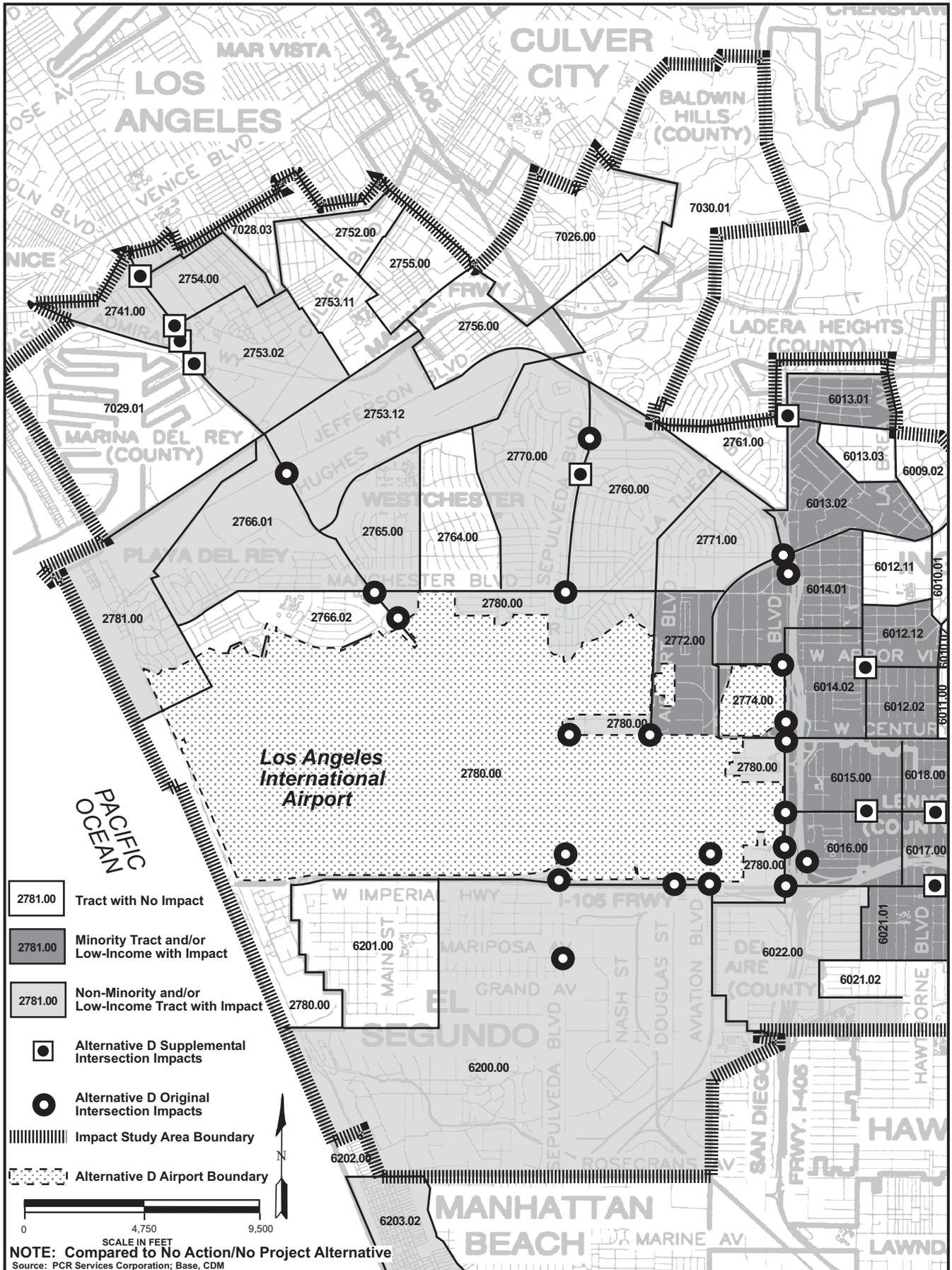
Figure
A2.2-10

A.2.2 Environmental Justice (NEPA Analysis)

A.2.2 Environmental Justice (NEPA Analysis)

A.2.2 Environmental Justice (NEPA Analysis)

A.2.2 Environmental Justice (NEPA Analysis)



A.2.2 Environmental Justice (NEPA Analysis)

Thus, while the level of traffic attributable to the project itself is not changed from the original analysis, the reduction in the level of traffic presumed in the No Action/No Project Alternative results in a higher percentage traffic level increase for the build alternatives at certain intersections. Under the original traffic analysis, approximately 44 percent (14) of the 32 impacted intersections would occur in minority/low-income census tracts. Under the revised traffic analysis, approximately 68 percent (17) of the 25 impacted intersections would occur in minority/low-income census tracts, as follows:

Intersection Number	Intersection Name
<u>Impacted Intersections Located In Minority/Low-Income Census Tracts</u>	
3	Airport Blvd. and Arbor Vitae St.
7	Aviation Blvd. and Arbor Vitae St.
8	Arbor Vitae St. and La Cienega Blvd.
11	Aviation Blvd. and Century Blvd.
20	Centinela Ave and La Cienega Blvd.
26	Century Blvd and La Cienega Blvd.
40	Florence Ave. and La Cienega Blvd.
42	Hawthorne Blvd and Imperial Hwy.
46	I-405 Northbound Ramps and Imperial Hwy.
67	La Cienega Blvd. and 111th St.
71	La Cienega Blvd. and Lennox Blvd.
72	La Cienega Blvd. and Manchester Blvd.
111	La Cienega Blvd. and I-405 SB Ramps North of Century Blvd.
309	Hawthorne Blvd. and Lennox Blvd.
310	Inglewood Ave. and Lennox Blvd.
502	Inglewood Ave. and Arbor Vitae St.
506	La Brea Ave. and Arbor Vitae St.
<u>Impacted Intersections Located In Non-Minority/Low-Income Census Tracts</u>	
27	Century Blvd. and Sepulveda Blvd.
34	Douglas St. and Imperial Hwy.
45	I-105 Fwy/Continental City Dr. and Imperial Hwy.
47	Main St. and Imperial Hwy.
49	Pershing Dr. and Imperial Hwy.
51	Vista Del Mar and Imperial Hwy.
52	Imperial Hwy. and La Cienega Blvd.
99	Manchester Ave. and Sepulveda Blvd.

As described in greater detail above in Section A.2.1, mitigation measures are proposed for all 25 of the impacted intersections identified for Alternative D, including the 17 impacted intersections located in minority/low-income census tracts. While two of the 25 intersections that are mitigated would still have adverse effects even with mitigation, one intersection would be located in a minority/low-income census tract (i.e., Century Boulevard and La Cienega Boulevard), and the other intersection would be located in a non-minority/low-income census tract (i.e., Imperial Highway and La Cienega Boulevard). As such, Alternative D would not result in disproportionately high and adverse impacts on minority and low-income populations relative to surface transportation.

Relocation of Residences or Businesses

No Action/No Project Alternative

Under the No Action/No Project Alternative, LAWA would continue to implement the LAWA Voluntary Residential Acquisition/Relocation Program for the Manchester Square and Belford neighborhoods. According to 1990 Census data, both of these neighborhoods are located within minority census tracts (i.e., Manchester Square is located in census tract 2774.00, which is 61 percent minority and Belford is located in census tract 2772.00 which is 59 percent minority). No additional residential relocation and no relocation of businesses would occur under the No Action/No Project Alternative.

Alternatives A, B, and C

Under Alternatives A, B, and C, approximately 172 residents in 84 dwelling units located in census tract 2780 would be relocated.⁵⁰ This census tract, which covers LAX and portions of the Westchester Community, is approximately 28 percent minority and 11 percent low-income based on 1990 U.S. Census data, and is not considered a minority or low-income community for purposes of this analysis. The minority and/or low-income status of the individual occupants of these dwelling units has not been ascertained. As further described in Section 4.4.2, *Relocation of Residences or Businesses*, of Part I of the Final EIS, relocation of residents would be fully addressed through compliance with the Uniform Relocation Act and implementation of a LAWA relocation program. The objectives of the relocation program are set forth in Section 4.4.2, *Relocation of Residences or Businesses*, under Master Plan Commitment RBR-1, Residential and Business Relocation Program (Alternatives A, B, C, and D). These objectives include priorities that the relocation process does not result in different or separate treatment because of race, religion, national origin or other arbitrary circumstances, and that the unique needs of minority and low-income persons and businesses are addressed. In contrast to Alternatives A, B, and C, no additional relocation of residents beyond that proceeding under existing programs, would be required under the No Action/No Project Alternative. Data is not currently available regarding the number of minority owned businesses or minority employees that might be affected by proposed acquisition. Depending on the alternative, from 239 to 330 businesses would be relocated. Acquisition of businesses would be undertaken in compliance with the Uniform Relocation Act, which stipulates that fair compensation or adequate assistance be provided for displaced businesses recognizing their unique characteristics and needs. Businesses displaced would also be treated as represented in Master Plan Commitment RBR-1, with emphasis on addressing the special needs and concerns of minority business owners. Mitigation Measure MM-RBR-1, Phasing for Business Relocations (Alternatives A, B, C, and D), includes provisions for relocation on airport property, and Mitigation Measure MM-RBR-2, Relocation Opportunities through Aircraft Noise Mitigation Program (Alternatives A, B, C, and D), sets a priority for relocating displaced airport dependent businesses nearby in areas where there is a priority for achieving noise mitigation through recycling of incompatible land uses. This latter measure has the added benefit of providing jobs and economic opportunity in minority communities impacted by aircraft noise. In contrast to Alternatives A, B, and C, no businesses are proposed for acquisition under the No Action/No Project Alternative. Although businesses and residences would be acquired and relocated under Alternatives A, B, and C, with implementation of Master Plan commitments and mitigation measures presented in Section 4.4.2, *Relocation of Residences or Businesses*, of Part I of the Final EIS, no significant impacts are anticipated and thus there is no potential for disproportionately high and adverse effects on minority and/or low-income communities.

Alternative D - Enhanced Safety and Security Plan

Under Alternative D there would be a substantial reduction in property acquisition compared to the other build alternatives. No residential acquisition is proposed, and the number of businesses that would need to be acquired and relocated would be reduced to 34. While it is possible that certain of these businesses may be minority owned, they are mostly airport related uses or uses that serve the largely non-minority/non-low-income community of Westchester-Playa del Rey. As described for the other alternatives, acquisition would be undertaken in compliance with the Uniform Relocation Act, which stipulates that fair compensation or adequate assistance be provided for displaced businesses recognizing their unique characteristics and needs. Businesses displaced would also be treated as represented in Master Plan Commitment RBR-1, with emphasis on addressing the special needs and concerns of minority business owners. Mitigation Measure MM-RBR-1, includes provisions for relocation on airport property, and Mitigation Measure MM-RBR-2, sets a priority for relocating displaced airport dependent businesses nearby in areas where there is a priority for achieving noise mitigation through recycling of incompatible land uses. This latter measure has the added benefit of providing jobs and economic opportunity in minority communities impacted by aircraft noise. Property acquisition under Alternative D would be greater than the No Action/No Project Alternative, since under the No Action/No Project Alternative, no business acquisition or residential acquisition (beyond the current LAWA Voluntary Residential Acquisition/Relocation Program for the Manchester Square and Belford neighborhoods) is proposed. However, with implementation of Master Plan commitments and mitigation measures

⁵⁰ This number does not include residents of Manchester Square and the Belford area who are eligible for relocation under the existing ANMP.

presented in the Final EIS, Alternative D would not result in significant impacts, and thus would not have the potential for disproportionately high and adverse effects on minority and/or low-income communities.

Construction Impacts

No Action/No Project Alternative

As described in Section 4.20, *Construction Impacts*, of Part I of the Final EIS, under the No Action/No Project Alternative, there would be periodic construction activities associated with new cargo facilities, taxiway improvements, a parking structure, the demolition of Manchester Square and Belford, and the development of the LAX Northside and Continental City sites. Areas surrounding the LAX boundaries would experience noticeable construction effects associated primarily with noise, air emissions, and surface transportation disruption. Under the No Action/No Project Alternative, noise-sensitive uses located within 600 feet of LAX Northside would potentially be exposed to high construction noise levels. Noise-sensitive uses exposed to high construction noise levels include approximately 970 dwelling units, 2 churches, and 5 schools (Saint Bernard High School, Visitation Elementary School, Westchester High School, Westchester-Emerson Community Adult School, and Paseo del Rey Magnet School). Construction noise effects would fall within non-minority/low income census tracts (census tracts 2766.02 and 2780.00).

Under the No Action/No Project Alternative, peak-year construction emissions would contribute to increases in certain pollutants, including NO_x, and PM₁₀. The combined, peak concentrations of CO, NO₂, SO₂, and PM₁₀ for construction and operation sources would meet the applicable NAAQS for all pollutants.

Alternatives A, B, and C

Construction associated with the LAX Master Plan would occur through 2015 with multiple projects at multiple locations occurring throughout the Master Plan area. Major components of the project under construction would include runway and airfield modifications, the new West Terminal, cargo facilities, the Westchester Southside project and a large number of roadway improvements including but not limited to the ring road, the Green Line extension, and the LAX Expressway. A variety of activities would occur within these construction areas, including demolition, excavation and grading, utility installation, and construction of foundations, buildings and other facilities. Further details regarding the construction process are provided in Section 4.20, *Construction Impacts*, of Part I of the Final EIS.

As further described in Section 4.20, *Construction Impacts*, of Part I of the Final EIS, combined construction effects associated with noise, air emissions, surface transportation disruption, and other issues would affect land uses surrounding the Master Plan boundaries. These combined construction effects would be similar to what would occur under the No Action/No Project Alternative for the development of LAX Northside and Continental City. Construction effects associated with the ring road or LAX Expressway would not occur under the No Action/No Project Alternative. Although most construction effects would be intermittent and temporary, and would be reduced to acceptable levels through mitigation, there would be significant noise and air quality impacts from construction compared to what would occur under the No Action/No Project Alternative.

As further described in Section 4.1, *Noise*, of Part I of the Final EIS, even with all feasible mitigation measures imposed, there would be significant impacts in noise sensitive areas located within 600 feet of construction sites under Alternatives A, B, and C. Areas affected would be primarily located to the south of the airport in El Segundo, to the north of the airport in Westchester, and uses located along the LAX Expressway. This is a greater overall area than would be exposed to high construction noise levels under the No Action/No Project Alternative. Construction noise and its relationship to minority and low-income populations are shown in Attachment 1 of Appendix F, *Environmental Justice Technical Report*, of Part I of the Final EIS, in Figure 1, Construction Noise Exposure.

Under Alternatives A, B, and C, it is estimated that approximately 810 dwelling units in the City of El Segundo would have the potential to be periodically exposed to high construction noise levels of 5 dBA above the lower ambient noise levels or higher during certain phases depending on the location of construction activities. One public school, the Imperial Avenue School Special Educational Facility, and one park, would also be affected in El Segundo. Noise-sensitive uses in El Segundo would not be exposed to high construction noise levels under the No Action/No Project Alternative. To the north of the airport in the City of Los Angeles, 1,600 dwelling units would have similar potential to be periodically

A.2.2 Environmental Justice (NEPA Analysis)

exposed to high construction noise levels associated with Alternatives A, B, and C. Within this area, two churches and the following schools would also be affected: Saint Bernard High School, Visitation Elementary School, Westchester High School, Westchester-Emerson Community Adult School, Paseo del Rey Magnet School, Escuela de Montessori, and Imperial Avenue Special Education Facility. Under the No Action/No Project Alternative, the number of noise-sensitive uses exposed to high construction noise levels would be less than would occur under Alternatives A, B, and C.

Overall, significant construction noise impacts would fall predominantly on non-minority/non-low-income communities, with approximately 90 percent of the area exposed to high levels of noise falling within these communities. Of the approximately 2,580 residents within the area significantly impacted by construction noise under Alternatives A, B, and C, an estimated 39.8 percent are minority, based on 1990 U.S. Census data for the affected census tracts. This percentage is well below Los Angeles County community of comparison average of 59 percent minority. Thus, even though construction noise impacts would be considered significant, there is no potential for disproportionately high and adverse effects in minority or low-income communities.

In general, air quality effects during construction under Alternatives A, B, and C would be greater than the No Action/No Project Alternative, which would involve fewer construction activities. Specifically, under Alternatives A, B, and C, annual emissions of VOC (2015 only) CO, NO_x, SO₂, and PM₁₀ from construction-related sources are estimated to be greater than the No Action/No Project Alternative; annual emissions of VOC are estimated to be lower in the Interim Year only. However, air pollutant concentrations would only exceed the NAAQS for certain pollutants and years, including annual NO₂ and annual and 24-hour PM₁₀ in the Interim Year for Alternatives A, B, and C, and 8-hour CO in the Interim Year under Alternative A. These exceedances would be attributable to both construction and non-construction activities. Of these, PM₁₀ concentrations are the most influenced by construction activities.

In general, sources of construction emissions, including PM₁₀, and the resulting concentrations, under Alternatives A, B, and C would be located closest to populations to the north and south of the airport boundaries, generally, the same non-minority/non low-income communities exposed to adverse levels of construction noise. As indicated under the discussion of Air Quality above, under Alternatives A, B, and C, PM₁₀ concentrations are not expected to exceed the NAAQS within minority and/or low-income communities. Even if PM₁₀ concentrations were to approach or exceed the NAAQS within minority and/or low-income communities, it is anticipated that the concentrations would be similar in magnitude to, or lower than, those in adjacent non-minority, non-low-income communities, such that the resulting impact on minority and/or low-income communities would not be disproportionately high and adverse. Nonetheless, in the absence of conclusive data, it is possible that PM₁₀ concentrations could be disproportionately high and adverse in minority and/or low-income communities under Alternatives A, B, and C.

Alternative D - Enhanced Safety and Security Plan

A complete description of the facilities associated with Alternative D is provided in Chapter 3, *Alternatives*, of Part I of the Final EIS. Although most construction impacts would be reduced to acceptable levels through the Master Plan commitments and mitigation measures included in Section 4.20, *Construction Impacts*, of Part I of the Final EIS, there would be significant noise impacts from construction that could not be fully mitigated. Such significant impacts would also occur under the No Action/No Project Alternative but to a lesser extent, as previously described for Alternatives A, B, and C. Construction noise and its relationship to minority and low-income populations is shown in Appendix S-D, *Supplemental Environmental Justice Technical Report*, of Part I of the Final EIS, specifically in Figure S20, Alternative D Construction Noise Exposure. Overall, construction noise impacts would fall almost entirely on non-minority/non-low-income communities, with nearly 99 percent of the area exposed to high levels of construction noise located within Westchester/Playa del Rey and to a lesser extent El Segundo. Of the approximately 3,000 residents within the area significantly impacted by construction noise, an estimated 23 percent would be minority and/or low-income based on 1990 U.S. Census data. These figures associated with construction noise exposure do not constitute disproportionate effects as the minority composition of the affected tracts is well below that of Los Angeles County. In addition, the two churches and the five schools (Saint Bernard High School, Visitation Elementary School, Westchester High School, Paseo del Rey Magnet School, and Westchester-Emerson Community Adult School) that would be affected are not located within minority or low-income areas. Thus, even though construction noise

impacts would be considered significant, there is no potential for disproportionately high and adverse effects in minority or low-income communities.

Under Alternative D, in the Interim Year, annual emissions of NO_x and PM₁₀ from construction-related sources are estimated to be greater than the No Action/No Project Alternative, and annual emissions of CO, VOC, and SO₂ are estimated to be equal to or lower than the No Action/No Project Alternative. (Under Alternative D, no construction is proposed in 2015.) Generally, air quality effects during construction under Alternative D would be greater than the No Action/No Project Alternative, which would involve fewer construction activities. Although sources of construction emissions would be located closer to minority and/or low-income populations under Alternative D than under Alternatives A, B, and C, pollutant concentrations are not expected to exceed the NAAQS and would not be considered significant. In the absence of significant impacts, there is no potential for disproportionately high and adverse health impacts to minority and low-income communities.

Historic and Cultural Resources

Under the No Action/No Project Alternative no potential direct or indirect effect on historic resources (defined for NEPA purposes as those resources that meet specific criteria for listing in the National Register of Historic Places) would occur. No federally-designated archaeological resources would be disturbed due to excavation and grading activities associated with the No Action/No Project Alternative. However, development of LAX Northside and Continental City has the potential to encounter unanticipated archaeological resources. Therefore, project conditions for LAX Northside would require archeological monitoring to reduce the potential for disturbance of archaeological resources.

Potential effects on historic resources under Alternatives A, B, and C are generally concentrated on airport property or within areas west of the I-405 Freeway, in non-minority and/or non-low-income areas. One historic property (i.e., the Academy Theatre) located within a minority and/or low-income community has the potential to be significantly impacted by Alternatives A, B, and C. Alternative D would have no significant impacts on historic properties within minority communities. As described in Section 4.9.1, *Historic/Architectural and Archaeological/Cultural Resources*, of Part I of the Final EIS, potentially significant impacts to the Academy Theatre, could occur if sound insulation was undertaken pursuant to the ANMP and resulted in the alteration or loss of character-defining elements associated with this structure. However, significant impacts would be avoided through Master Plan Commitment HR-1, Preservation of Historic Resources (Alternatives A, B, C, and D), that would require any alternations to be carried out in compliance with the Secretary of the Interior's Standards for Rehabilitation of Historic Properties. Therefore, no significant impacts are anticipated and there is no potential for disproportionately high and adverse effects on minority or low-income communities.

Potential effects on archaeological/cultural resources under the build Alternatives would be similar to the No Action/No Project Alternative, with no direct or indirect effects on known federally eligible archaeological/cultural resources. However, mitigation measures are provided in Section 4.9.1, *Historic/Architectural and Archaeological/Cultural Resources*, of Part I of the Final EIS to ensure the protection of unexpected archaeological discoveries. Additionally, because of the potential for effects on archaeological resources of concern to the Native American Community, the Native American Heritage Commission was contacted directly for assistance in reviewing the Sacred Lands File for the presence of cultural resources and/or materials within the area of potential effect for the project. Based on this review, no known resources were identified. The Commission also forwarded a most likely Descendent contact list for further coordination during the environmental process. Mitigation Measure MM-HA-5, Monitoring (Alternatives A, B, C, and D), provided in Section 4.9.1, *Historic/Architectural and Archaeological/Cultural Resources*, of Part I of the Final EIS includes the involvement of Native Americans in the archaeological monitoring process for construction and in the event any human remains are encountered.

Light Emissions

Under the No Action/No Project Alternative, changes in lighting from existing conditions would occur from taxiway improvements, cargo facilities, LAX Northside, and the Continental City project. Due to the distance of sensitive receptors from these light sources, minimal increase from existing lighting conditions, and the provision of landscape buffer and other lighting conditions for LAX Northside, no adverse lighting effects on sensitive receptors would occur under the No Action/No Project Alternative.

A.2.2 Environmental Justice (NEPA Analysis)

Potential significant impacts associated with light emissions under Alternatives A, B, and C, would occur in immediate proximity to LAX and along the proposed LAX Expressway. Under Alternative B, the ring road proposal does not provide adequate setbacks in proximity to residential uses located within Census Tract 2772, which based on the 1990 U.S. Census data has an estimated population that is 59 percent minority, and is therefore classified as a minority community. The minority and/or low-income status of the residents of multifamily housing in the area potentially affected by this light spillover has not been ascertained. However, as described in Section 4.18, *Light Emissions*, of Part 1 of the Final EIS Master Plan Commitment LI-1, Ring Road Landscaping (Alternative B), would be provided to address this situation and eliminate significant impacts from light emissions associated with the ring road. Potential light emissions identified along the LAX Expressway right-of-way would also impact minority/low-income census tracts, however, mitigation has been provided under Mitigation Measure MM-LI-1, LAX Expressway Lighting Assessment (Alternatives A, B, and C), which would reduce any potential annoyance from such lighting effects. Even though light emissions would be greater under Alternatives, A, B, and C due to the ring road and/or LAX Expressway than under No Action/No Project conditions, with implementation of Master Plan Commitment LI-1 and Mitigation Measure MM-LI-1, no significant impacts are expected to occur, and thus no disproportionately high and adverse impacts in minority or low-income communities would be anticipated.

Increases in light emissions associated with Westchester Southside/LAX Northside would be the same under Alternatives A, B, and C as the No Action/No Project Alternative. Thus, no significant impacts are associated with Westchester Southside/LAX Northside under Alternatives A, B, and C.

In comparison to the No Action/No Project Alternative, implementation of Alternatives A, B, and C would result in increased levels of ambient lighting in areas adjacent to LAX along the southern boundary (generally associated with the Green Line extension, parking structure and parking lot lighting (under Alternatives A and C, and cargo facilities (under Alternative B) and along the western boundary (primarily from the WTA, parking structure, and navigational aids). Increase in light emissions from these sources are not considered significant impacts since such emissions would be directed or shielded to remain on site, are located at a distance from sensitive receptors, or are separated by intervening roadways and buffer areas. In addition, such lighting effects, though not significant, would occur in non-minority and/or non-low-income communities west of the I-405 freeway. As such, Alternatives A, B, and C would not result in disproportionately high and adverse lighting effects on minority and/or low-income communities.

Similar to the No Action/No Project Alternative, under Alternative D, there would be no significant lighting impacts, such as those identified for the ring-road and LAX Expressway, as these facilities are not proposed. Lighting impacts associated with development of LAX Northside under Alternative D would be similar to the No Action/No Project Alternative. Under Alternative D, there would be greater levels of ambient lighting along the southern boundary (primarily due to the RAC, parking structure, and commercial vehicle holding area) and western boundary (most notably from the parking structure, GRE facilities, and navigational aids), compared to the No Action/No Project Alternative. Impacts associated with light emissions from these sources would not be considered significant since such emissions would be directed or shielded to remain on site and are located at a distance from sensitive receptors. In addition, these less-than-significant lighting effects would occur in non-minority and/or non-low-income communities west of the I-405 freeway. Therefore, Alternative D would not result in a disproportionately high and adverse effect on minority and/or low-income communities with regard to light emissions compared to what would occur under the No Action/No Project Alternative.

Design, Art and Architecture Application/Aesthetics

Under the No Action/No Project Alternative changes in visual conditions are associated with cargo facilities, landscaped setbacks associated with the Century Cargo Complex, acquisition of residential properties within the Manchester Square and Belford areas, and the development of LAX Northside. Due to existing visual conditions and the incorporation of [Q]⁵¹ conditions for the development of LAX Northside no adverse effects were identified for the No Action/No Project Alternative, although it would not provide the aesthetic enhancements associated with the build alternatives.

⁵¹ Qualified or [Q] conditions refer to limitations placed upon the use of the property and typically include restrictions on types of land uses, height restrictions, and specific hours of operations.

Changes in visual conditions associated with the Master Plan build alternatives are largely concentrated at LAX and affect those residential areas and communities in immediate proximity, primarily El Segundo, and Playa del Rey/Westchester. Although the overall visual change expected with the alternatives is considered beneficial compared to the No Action/No Project Alternative, with substantial upgrading of LAX facilities and reduced density of the LAX Northside development, there would be isolated areas where adverse visual conditions would significantly impact minority census tracts. Under Alternative B, the ring road proposal does not provide adequate setbacks in proximity to the same residential uses identified above under light emissions. Along the LAX Expressway, substantial visual changes would affect both minority/low income and non-minority/non-low-income census tracts. These significant aesthetic impacts associated with the ring road and the LAX Expressway would, however, be reduced through Mitigation Measures MM-DA-2, LAX Expressway View Analysis, and MM-LI-1 that would ensure that a view analysis is undertaken and setbacks and landscaped buffers are provided to screen unsightly views. Visual effects associated with the LAX Expressway and ring road would not occur under the No Action/No Project Alternative. Since any significant visual impacts would be mitigated to levels below significance, no disproportionately high and adverse effect would occur on minority and/or low-income communities as a result of Alternatives A, B, and C.

Since no LAX Expressway or ring road is proposed under Alternative D, the only significant visual impacts are temporary effects associated with construction activities. However, these impacts would occur almost entirely in non-minority and non-low income areas in proximity to LAX, would be mitigated under Mitigation Measure MM-DA-1, Construction Fencing (Alternatives A, B, C, and D), and would not have a meaningful effect on minority and/or low-income communities. Visual effects associated with construction activities under Alternative D would be greater than what would occur under the No Action/No Project Alternative but have a similar effect on minority and/or low-income communities. In addition, compared to the No Action/No Project Alternative, Alternative D would involve more extensive visual changes due to the development of the Intermodal Transportation Center (ITC), the Rent-a-Car facility (RAC), and the Automated People Mover (APM). These changes would not represent a significant visual impact. Furthermore, they would occur primarily in non-minority and non-low-income communities. Generally, Alternative D would provide facility and landscape upgrades that would not be provided under the No Action/No Project Alternative. Based on the above analysis, Alternative D would not result in a disproportionately high and adverse effect on minority and/or low-income communities.

A.2.2.5 Findings

Alternatives A, B, and C

Based on this environmental justice analysis, it appears that significant impacts from aircraft noise, as defined by a 1.5 CNEL increase at or above the 65 CNEL, would occur under Alternatives A, B, and C compared to the No Action/No Project Alternative. The majority of significant noise impacts would occur in minority and/or low-income communities. Also under Alternatives A, B, and C, there would be overall increases in population exposed to 65 CNEL or higher noise levels and some of the population would be newly exposed to these noise levels within minority and/or low-income areas. For Alternatives A, B, and C noise impacts on minority and/or low-income communities are considered disproportionately high and adverse prior to mitigation. The implementation of noise mitigation measures described in Section 4.2, *Land Use*, of Part 1 of the Final EIS and additional mitigation measures MM-EJ-1 and MM-EJ-2 presented below, would, to the extent feasible, facilitate the completion of soundproofing for existing residential uses within the current ANMP and those that would be newly exposed to the 65 CNEL contour under Alternatives A and C, prior to the commissioning of the northern runways, or prior to the commissioning of any relocated runway under Alternative B. These comprehensive mitigation measures would substantially address the potential for disproportionately high and adverse effects on minority and/or low-income communities. However, due to certain constraints, such as code compliance issues, substandard housing, and inconsistent zoning or land use designations, some property owners may be unwilling or unable to participate in the sound insulation program. Additionally, while funding and technical assistance to expedite soundproofing in other jurisdictions would be provided by the FAA and LAWA, the implementation and completion of these programs would ultimately be under the control of these jurisdictions. If the availability of comprehensive mitigation is not considered sufficient to avoid or minimize relevant aircraft noise impacts under Alternatives A, B, and C, these alternatives would have some residual disproportionately high and adverse effect on minority and/or low-income populations.

A.2.2 Environmental Justice (NEPA Analysis)

Similar to the effects described for residential populations, public schools exposed to significant noise increases of 1.5 CNEL at the 65 CNEL or higher compared to the No Action/No Project Alternative would be predominantly located within minority and/or low-income communities. More public schools in minority and/or low-income communities would also be newly exposed to noise levels of 65 CNEL or greater compared to the No Action/No Project Alternative. Based on the above, Alternatives A, B, and C would cause disproportionately high and adverse effects prior to mitigation. However, a number of these schools are already subject to existing aviation easements. For those schools that are not subject to existing aviation easements, mitigation would be provided as described in Section 4.2, *Land Use*, of the Final EIS. These mitigation measures would also address adverse noise impacts on public schools in minority and/or low-income communities that are newly exposed to noise levels of 65 CNEL or greater compared to the No Action/No Project Alternative. With the implementation of these mitigation measures, Alternatives A, B, and C would not have a disproportionately high and adverse effect on public schools within minority and/or low-income communities. In evaluating effects on libraries due to noise increases of 1.5 CNEL at or above the 65 CNEL, one library, located in the predominantly minority and/or low-income community of Inglewood, would be significantly impacted under Alternative B. This same library would also be adversely affected under Alternatives A and C as a result of being newly exposed to noise levels of 65 CNEL or greater. This library would qualify for sound insulation, as described in Section 4.2, *Land Use*, Mitigation Measure MM-LU-1, Implement Revised Aircraft Noise Mitigation Program (Alternatives A, B, C, and D). With mitigation, there would be no disproportionately high and adverse effect on libraries in minority and/or low-income communities.

Alternatives A, B, and C would each result in adverse air quality effects. In the Interim Year, concentrations of NO₂ and PM₁₀ are projected to exceed the NAAQS under Alternatives A, B, and C, and concentrations of 8-hour CO are projected to exceed the NAAQS under Alternative A. These exceedances would not occur under the No Action/No Project Alternative. In 2015, none of these alternatives would exceed the NAAQS.

As the NAAQS are health-based standards, the expected Interim Year exceedances under Alternatives A, B, and C could result in adverse health effects. The exceedance of the CO NAAQS under Alternative A is predicted to occur in areas located away from minority and low-income populations and, because it is a highly localized pollutant, is not expected to result in a disproportionately high and adverse impact on these communities. Exceedances of the PM₁₀ NAAQS under Alternatives A, B, and C, and of the NO₂ NAAQS under Alternative A, are not expected to fall within minority and/or low-income communities, although, in the absence of conclusive data, it is possible that these exceedances could occur within minority and/or low-income communities, and that pollutant concentrations could be disproportionately high and adverse. Under Alternatives B and C, exceedances of the NAAQS for NO₂ in the Interim Year are predicted to occur within minority and/or low-income communities in the study area, and are expected to result in disproportionately high and adverse impacts to these communities.

Cumulative exposure to O₃ and other criteria pollutants would be felt throughout the South Coast Air Basin. Due to the speculative nature of such impacts, and in the absence of background health data, it is unknown and cannot be quantified whether such combined air quality impacts associated with the LAX Master Plan would have a disproportionately severe human health effect on minority and/or low-income populations living in the study area. Obtaining the data necessary to conduct such an analysis and evaluate the potential for disproportionate impacts on minority and/or low-income individuals would require long-term health studies of a kind well outside the scope of this EIS.

At present, there are no federal standards regarding exposure to toxic air pollutants (TAPs), which pollutants are the focus of study for purposes of conducting human health risk assessments. In addition, the data that would be necessary to make conclusive statements regarding certain health risks associated with TAPs are not available at this time. For purposes of NEPA, the information necessary to conduct a quantitative analysis of risk associated with TAPs is unavailable, however, a qualitative risk assessment related to TAPs has been presented for disclosure purposes in the environmental justice section. Given the lack of federal standards for ambient concentrations of TAPs and for assessing potential acute non-cancer health hazards, no findings are made regarding the potential for significant or disproportionately high and adverse impacts on minority and/or low-income communities.

The potential impacts of the Master Plan build alternatives regarding surface transportation and relocation of residents and businesses do not appear to create a disproportionately high and adverse effect on minority or low-income populations, compared to the No Action/No Project Alternative. For these issues,

LAWA has taken into consideration the special needs of minority and low-income populations to ensure that Master Plan commitments and mitigation measures proposed to reduce or eliminate adverse effects from surface transportation and relocation would be equally effective for minority and low-income populations. Potential impacts due to construction activities and light emission, as well as effects on cultural resources and aesthetics do not appear to have the potential to disproportionately affect minority or low-income communities, although such effects would be greater than what would occur under the No Action/No Project Alternative.

In order to avoid the potential for disproportionately high and adverse noise effects on minority and low-income populations, and to address the potential for other disproportionate impacts relating to air quality, the mitigation measures described under the Environmental Justice Program below would be implemented.

Alternative D - Enhanced Safety and Security Plan

Under Alternative D, no significant noise impacts are anticipated since noise-sensitive uses within minority and/or low-income communities would not experience a 1.5 CNEL or greater increase at or above the 65 CNEL noise contour as compared to the No Action/No Project Alternative. Also, under Alternative D, there would be an overall reduction in population exposed to 65 CNEL or higher noise levels in minority and/or low-income communities compared to conditions under the No Action/No Project Alternative for the same year (2015). This is in contrast to the other Master Plan build alternatives. Although under Alternative D some noise-sensitive uses would be newly exposed to noise levels of 65 CNEL or greater compared to the No Action/No Project Alternative, Alternative D results in an overall net benefit to minority and/or low-income communities with respect to such impacts. Based on this information, Alternative D would not have a disproportionately high and adverse effect on minority and/or low-income populations. Furthermore, under the mitigation program proposed by LAWA, Alternative D provides for the implementation of measures described in Section 4.2, *Land Use*, of Part I of the Final EIS, and an additional mitigation measure MM-EJ-1, which would provide for and facilitate completion of soundproofing for existing eligible residential uses within the current ANMP boundaries and those that would be newly exposed to the 65 CNEL contour under Alternative D. Similar to Alternatives A, B, and C, some properties located in minority and/or low-income communities in the City of Inglewood that would be newly exposed under Alternative D may not be feasible to mitigate due to certain constraints. However, based on Inglewood's existing program, these constraints are not expected to affect the majority of these units. Even with the potential for isolated circumstances where mitigation may not be feasible, Alternative D would still not result in a disproportionately high and adverse effect on minority and/or low-income populations.

Under Alternative D, no public schools would be exposed to noise increase of 1.5 CNEL or greater at or above the 65 CNEL noise contour compared to the No Action/No Project conditions. However, some public schools in minority and/or low-income areas would be newly exposed to 65 CNEL noise levels and thus be adversely, but not significantly, impacted. For those adversely impacted schools that are not subject to existing aviation easements, mitigation would be provided as described in Section 4.2, *Land Use*, of the Final EIS. Based on the information above, Alternative D is not anticipated to produce disproportionately high and adverse noise effects on schools within minority and/or low-income communities. Under Alternative D, two parks would experience noise increases of 1.5 CNEL or greater at or above the 65 CNEL noise contour. However, these parks are located in non-minority/non-low-income areas and have historically been exposed to high noise levels. Therefore, no disproportionately high and adverse effect would occur.

With respect to air quality impacts, total emissions under Alternative D would be lower than those under the No Action/No Project Alternative for all pollutants, with the exception of PM₁₀ and SO₂ in the Interim Year. Emissions of criteria pollutants were found to be in conformity with the State Implementation Plan. Pollutant concentrations under Alternative D would be lower than the NAAQS for all criteria pollutants in both the Interim Year and 2015, thus no significant impacts are anticipated to occur. As a result, disproportionately high and adverse criteria pollutant related health impacts to the minority and low-income populations within the study area are not anticipated to occur.

Cumulative exposure to O₃ and other criteria pollutants would be felt throughout the South Coast Air Basin. Due to the speculative nature of such impacts, and in the absence of background health data, it is unknown and cannot be quantified whether such combined air quality impacts associated with the LAX

A.2.2 Environmental Justice (NEPA Analysis)

Master Plan would have a disproportionately severe human health effect on minority and/or low-income populations living in the study area. Obtaining the data necessary to conduct such an analysis and evaluate the potential for disproportionate impacts on minority and/or low-income individuals would require long-term health studies of a kind well outside the scope of this EIS.

At present, there are no federal standards regarding exposure to toxic air pollutants (TAPs), which pollutants are the focus of study for purposes of conducting human health risk assessments. In addition, the data that would be necessary to make conclusive statements regarding certain health risks associated with TAPs are not available at this time. For purposes of NEPA, the information necessary to conduct a quantitative analysis of risk associated with TAPs is unavailable, however, a qualitative risk assessment related to TAPs has been presented for disclosure purposes in the environmental justice section. Given the lack of federal standards for ambient concentrations of TAPS and for assessing potential acute non-cancer health hazards, no findings are made regarding the potential for significant or disproportionately high and adverse impacts on minority and/or low-income communities.

Under the original traffic analysis, surface transportation effects would be substantial with approximately 56 percent of adversely affected intersections located in non-minority/non low-income areas. All of the affected intersections would be mitigated. As a result and as with the other build alternatives, these effects would not disproportionately and adversely affect minority or low-income communities. Furthermore, public transit improvements with a new ITC connecting to the MTA Green Line, and improvements provided by Master Plan Commitment ST-23, Expanded Gateway LAX Improvements/Greening of Impacted Communities, would benefit minority and low-income areas east of LAX. Under the revised traffic analysis completed to account for the reduced Playa Vista traffic assumptions, 68 percent of the adversely affected intersections would occur in minority/low-income communities; however, mitigation measures are proposed for all of the adversely affected intersections. While there would be two intersections that would still be adversely affected even with implementation of mitigation measures, one of the intersections is located in a minority/low-income community and the other is located in a non-minority/low-income community; hence, there would not be a disproportionately high and adverse impact on minority and/or low-income communities.

Proposed acquisition would be limited to businesses, most of which serve the airport and communities to the west of I-405. To the extent that minority owned businesses are affected, LAWA's business relocation program (as described under Master Plan Commitment RBR-1 and mitigation measures MM-RBR-1 and MM-RBR-2) would include provisions to assist those with special needs. As a result, under Alternative D, no disproportionately high and adverse effects associated with relocation would occur.

Under Alternative D, potential impacts due to construction activities, or potential cultural resources, light emissions, and visual impacts would fall predominantly in non-minority/non-low-income areas, therefore, they would not have a disproportionately high and adverse effect on minority or low-income communities.

A.2.2.6 Environmental Justice Program

NEPA requires federal agencies to identify measures that would mitigate the adverse effects of a federally funded, licensed, or approved project. Title 49 U.S.C. § 47106(c)(1)(C) provides that the FAA may approve federal funding for major airport development projects that would have a significant adverse effect on natural resources only after finding that no possible and prudent alternative to the project exists and that every reasonable step has been taken to minimize the adverse effect. Other federal laws, such as the Uniform Relocation Assistance and Real Property Acquisition Act and Title VI of the Civil Rights Act, require federal agencies to take steps to alleviate impacts from federally-funded projects.

In addition to and separate from FAA's responsibilities identified above, LAWA has proposed a series of measures, identified as mitigation measures and Master Plan commitments, which taken together constitute the LAWA Environmental Justice Program. The analysis in this section of the Final EIS finds that there would be no disproportionately high and adverse effects on minority and/or low-income communities associated with Alternative D. Nonetheless, in some instances particularly relevant to Alternative D, even in the absence of disproportionately high and adverse effects on minority and/or low-income communities under the Federal analysis, mitigation measures and Master Plan commitments are identified by LAWA for implementation under their Environmental Justice Program. In these instances, LAWA has indicated its intention to implement its Environmental Justice Program to address environmental justice concerns under CEQA, including mitigation measures and Master Plan commitments offered in order to help reduce or avoid the potential for disproportionately high and adverse

effects on minority and/or low-income communities under the CEQA analysis, and to ensure that these communities are not denied access to benefits flowing from the LAX Master Plan.

Environmental Justice Mitigation Measures

◆ **MM-EJ-1. Expedite Residential Soundproofing for Qualifying Property Owners (Alternatives A, C, and D).**

Prior to commencing operations on the new runway (Alternative A) or relocated runways (Alternatives C and D) related to the northern runway complex, LAWA will increase funding and technical assistance in order to complete residential soundproofing related to LAX aircraft noise within the City of Inglewood and Los Angeles County to the extent feasible, and will seek federal assistance from FAA. Soundproofing shall be offered and provided to all property owners who have not previously received soundproofing and who qualify and choose to participate in the ANMP program, including those who are within the current ANMP boundaries, and those who would be newly exposed to 65 CNEL or greater noise levels due to commissioning of the northern runway complex. Following fulfillment of existing commitments within the current ANMP, those who would be newly exposed shall be identified based on modeled noise contours prepared at the time the northern runway improvements are designed in order to expedite completion of soundproofing to the extent feasible prior to the commissioning of the northern runway complex. Completion of soundproofing to the extent feasible accepts that: 1) LAWA and the FAA shall offer assistance and funding to the City of Inglewood and Los Angeles County but cannot control their efforts; 2) certain properties may not qualify or may not otherwise be feasible to mitigate; and 3) some property owners may choose not to participate in the ANMP.

◆ **MM-EJ-2. Expedite Residential Soundproofing for Qualifying Property Owners (Alternative B).**

Prior to commencing operations on the new runway related to the southern runway complex, LAWA will increase funding and technical assistance in order to complete residential soundproofing related to LAX aircraft noise within the City of Inglewood and Los Angeles County to the extent feasible, and will seek federal funding assistance from the FAA. Soundproofing shall be offered and provided to all property owners who have not previously received soundproofing and who qualify and choose to participate in the ANMP program, including those who are within the current ANMP boundaries, and those who would be newly exposed to 65 CNEL or greater noise levels due to commissioning of the runways. Following fulfillment of existing commitments within the current ANMP, those who would be newly exposed shall be identified based on modeled noise contours prepared at the time the runway improvements are designed in order to expedite completion of soundproofing to the extent feasible prior to commissioning the runways. Completion of soundproofing to the extent feasible accepts that: 1) LAWA and the FAA shall offer assistance and funding to the City of Inglewood and Los Angeles County but cannot control their efforts; 2) certain properties may not qualify or may not otherwise be feasible to mitigate; and 3) some property owners may choose not to participate in the ANMP.

Aircraft Noise/Land Use Mitigation Measures

◆ **MM-LU-1. Implement Revised Aircraft Noise Mitigation Program (Alternatives A, B, C, and D).**

This comprehensive noise measure commits additional resources to, and builds on, current provisions of LAWA's ANMP. As presented in full in Section 4.2, *Land Use*, key aspects of the measure focus on increasing annual funding and accelerating the fulfillment of existing commitments within the current ANMP boundaries prior to proceeding with newly eligible properties, and incorporating residential uses newly exposed to 65 CNEL and above noise levels into the program. Aspects that are particularly relevant to addressing the unique issues and conditions in minority and low-income areas include provision by LAWA of additional technical assistance to local jurisdictions to support more rapid and efficient mitigation, and the reduction and elimination of structural and building code compliance constraints to mitigation of substandard housing.

◆ **MM-LU-3. Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn (Alternatives A, B, C, and D).**

This measure requires that LAWA conduct a comprehensive study to determine the relationship between learning and the disruptions caused by aircraft noise with the intent to set a threshold of significance for CEQA purposes for classroom disruption due to aircraft noise events.

A.2.2 Environmental Justice (NEPA Analysis)

- ◆ **MM-LU-4. Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise (Alternatives A, B, C, and D).**

Based on the study referenced above in MM-LU-3 and acceptance of its results, schools found to exceed a newly established CEQA threshold of significance for classroom disruption will be incorporated into the ANMP administered by LAWA.

- ◆ **MM-LU-5. Upgrade and Expand Noise Monitoring Program (Alternatives A, B, C, and D).**

Input received at the EJ Workshops and during circulation of the Draft EIS/EIR included numerous comments from residents specifying areas located outside of the ANMP that were subject to high levels of noise. This measure requires that LAWA expand its noise monitoring program through new system procurement, noise monitor siting and equipment installation, including monitors located in surrounding communities, to record data 24 hours per day, seven days per week. It is expected that the upgraded system will support LAWA and other jurisdictional ANMP's through more accurate and up-to-date data for considering adjustments to airport noise mitigation boundaries.

- ◆ **MM-N-5. Conduct Part 161 Study to Make Over-Ocean Procedures Mandatory (Alternatives A, B, C, and D).**

This measure would initiate a FAR Part 161 Study to seek federal approval of a locally-imposed restriction on departures to and approaches from the east when over-ocean procedures are in effect. The benefits of such restrictions would be of particular benefit to minority communities located east of LAX.

Surface Transportation

There are several off-airport surface transportation mitigation measures that contribute to the mitigation of all 25 intersections impacted under Alternative D, compared to the No Action/No Project Alternative, including the 17 impacted intersections that would occur in minority and low-income communities. Such measures include: MM-ST-6, Add New Traffic Lanes; MM-ST-7, Restripe Existing Facilities; MM-ST-8, Add ATSAAC, ATCS or Equivalent; MM-ST-10, Modify Signal Timing; MM-ST-12, Provide New Ramps Connecting I-105 to LAX Between Aviation Boulevard and La Cienega Boulevard; MM-ST-13, Create A New Intersection at I-405 and Lennox Boulevard; MM-ST-15, Provide Fair-Share Contributions to Transit Improvements; and MM-ST-16, Provide Fair-Share Contributions to LA County's Project to Extend the Marina Expressway.

Air Quality Mitigation Measures

Mitigation Measure MM-AQ-1, LAX Master Plan-Mitigation Plan for Air Quality (Alternatives A, B, C, and D), in conjunction with Mitigation Measures MM-AQ-2, Construction-Related Measure (Alternatives A, B, C, and D), MM-AQ-3, Transportation-Related Measure, (Alternatives A, B, C, and D), and MM-AQ-4, Operations-Related Measure (Alternatives A, B, C, and D), provide a wide array of actions to reduce airport-related air quality impacts. Most of the components of this mitigation measure focus on actions that will be taken at LAX to address impacts both in and around the airport, with additional actions providing benefits that will accrue more broadly to the South Coast Air Basin.

Master Plan Commitments

- ◆ **EJ-1. Aviation Curriculum (Alternatives A, B, C, and D).**

LAWA will work with local school districts to offer aviation-related curriculum at elementary schools, middle schools, high schools, and colleges in affected communities near the Los Angeles International Airport. Potential pilot schools could include: Beulah Payne Elementary School, Lennox Middle School, Hillcrest Continuation School, Inglewood High School, Morningside High School, and Los Angeles Southwest College.

- ◆ **EJ-2. Aviation Academy (Alternatives A, B, C, and D).**

LAWA will work with local school districts to provide comprehensive educational and trade training for aviation-related careers, targeting students in the affected communities to provide them with increased career opportunities.

◆ EJ-3. Job Outreach Center (Alternatives A, B, C, and D).

Construction and Other LAX-Related Job Outreach - LAWA will create or utilize an existing resource center to assist historically underrepresented and at-risk local residents to find construction and other substantive jobs with LAWA and surrounding airport-related businesses through training and comprehensive outreach. Written materials regarding job training and placements should be compiled and disseminated from the existing LAWA Job Outreach Center. The Job Outreach Center will accomplish the following:

- ◆ Fund outreach efforts;
- ◆ Encourage minority firms within the affected communities to participate in each phase of the plan, including the design phase;
- ◆ Coordinate with local organizations (including, among others, The Urban League, National Association for the Advancement of Colored People (NAACP), Southern Christian Leadership Conference (SCLC), Watts Labor Community Action Committee (WLCAC), Brotherhood Crusade, First African Methodist Episcopal (FAME) Renaissance, Concerned Citizens of South Central Los Angeles (CCSCLA), Black Business Association (BBA), Greater Los Angeles African American Chamber of Commerce (GLAAACC), and LAX Coalition for Economic, Environmental and Educational Justice), regarding job training, outreach and incubator programs to ensure expansive outreach;
- ◆ Establish specific outreach and/or training programs for special targeted populations such as local ex-offenders, welfare recipients, homeless persons, and low-income area residents;
- ◆ Hold workshops and training classes for professional development across disciplines that may provide service to LAX pre- and post-employment;
- ◆ Establish educational/training/internship programs for local students;
- ◆ Provide referrals and linkages to manufacturing (assembly line) job opportunities in impacted communities, especially South Los Angeles, that produce materials and/or devices used by the airport. This would help to revitalize the community through the provision of long-term work for existing industrial businesses.

Community Job Database - LAWA will coordinate data gathering, outreach and counseling through the following:

- ◆ Research and assess existing specialties and current capabilities of local work force to assist with targeted training and outreach efforts;
- ◆ Develop and manage a complete database of minority contractors;
- ◆ Produce a database of potential jobs and specialties needed, per Master Plan phase, and disseminate the information throughout the communities and to local Minority Business Enterprises/Disadvantaged Business Enterprises (MBE/DBE) companies.

MBE/DBE Business Outreach - LAWA will implement proactive measures that further State and local initiatives to ensure meaningful contract participation of DBE/MBE firms as follows:

- ◆ Research and assess existing specialties and current capabilities of local MBE/DBE firms to assist with targeted training and outreach efforts;
- ◆ Good Faith Effort (GFE) Outreach Training - assist prime contractors with their outreach to local and MBE/DBE firms by providing them use of relevant databases and referring them to other local organizations that may be able to assist them in their efforts;
- ◆ Encourage use of MBE/DBE local subcontractors;
- ◆ LAWA shall adopt policies to promote the use of MBE/WBE/DBE subcontractors by requiring Prime Contractors to document outreach to MBE/WBE/DBEs; dividing projects into smaller component parts, or tasks to permit maximum participation by smaller entities; placing qualified MBE/WBE/DBEs on solicitation lists available to Prime Contractors; and advertising the availability of services of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce to Prime Contractors.
- ◆ Monitor and implement specific GFE guidelines for outreach to MBE/DBE firms.

A.2.2 Environmental Justice (NEPA Analysis)

Small Business Outreach – LAWA will establish the below-listed proactive measures to ensure meaningful contract participation of small businesses. The resources obtained through small business outreach will be compiled in a user-friendly brochure or report and disseminated from the existing LAWA job outreach center. Contacts and loan conditions will be included where available. Counselors will be available to provide one-on-one assistance.

- ♦ Fund and institute sub-contractor training/apprentice programs to be instituted pre-construction and during construction;
 - ♦ Establish sensitivity training - educate prime contractors of the concerns and needs of the local business owners and MBE/DBE contractors;
 - ♦ Develop special work packages to provide small businesses prime contracting opportunities;
 - ♦ Establish loan assistance information programs that would provide counseling to small businesses in need of loans and, through potential partnerships with local banks, facilitate relationships with lenders;
 - ♦ Establish incentives to large businesses for mentorship of, or partnering with local small businesses;
 - ♦ Provide bonding assistance;
 - ♦ Provide licensing assistance;
 - ♦ Ensure prime and sub-contracting opportunities for local small businesses.
- ♦ **EJ-4 Community Mitigation Monitoring (Alternatives A, B, C, and D).**
LAWA will include community participation in monitoring the implementation of the final Mitigation Measures, and Master Plan Commitments in order to ensure agency compliance and accountability. The community participation will include a diverse group of residents, stakeholders, environmental specialists, and community leaders that will convene on a regular basis.

In addition, the following Master Plan commitments that address effects from other environment disciplines are relevant to this analysis:

Relocation of Residences or Businesses

- ♦ **RBR-1. Residential and Business Relocation Program (Alternatives A, B, C, and D).**

The above commitment is provided in its entirety in Chapter A.4, *Final EIS Environmental Action Plan*.

Air Quality

- ♦ **AQ-1. Air Quality Source Apportionment Study (Alternatives A, B, C, and D).**

In cooperation with FAA, the U.S. Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD), LAWA will conduct an air quality source apportionment study to evaluate the contribution of on-airport aircraft emissions to off-airport air pollutant concentrations. For the study, LAWA will monitor aircraft emissions at the eastern end of the runways at LAX and will monitor air pollutant concentrations in nearby surrounding communities. On-airport emissions will be compared to the monitored concentrations in the communities to determine the contribution of these emissions to local air pollution.

- ♦ **AQ-2. School Air Filters (Alternatives A, B, C, and D).**

LAWA will provide funding for air filtration at qualifying public schools with air conditioning systems in place. The qualifying schools will be determined based upon review of the conclusions and recommendations of the Air Quality Source Apportionment Study to be conducted in Master Plan Commitment AQ-1.

- ♦ **AQ-3. Mobile Health Research Lab (Alternatives A, B, C, and D).**

LAWA will explore the ability to fund/co-fund, to the extent feasible and permissible by federal and local regulations, or seek funding sources to support the goal of a Mobile Health Research Lab. The

goal of the Mobile Health Research Lab will be to research and study, not diagnose or treat, upper respiratory and hearing impacts that may be directly related to the operation of LAX.

Off-Airport Surface Transportation

◆ **ST-23. Expanded Gateway LAX Improvements/Greening of Impacted Communities (Alternatives A, B, C, and D).**

Gateway LAX improvements will be enabled through transportation improvements along Century Boulevard to the east as they are proposed to extend into low-income and minority communities in the City of Inglewood. LAWA anticipates making financial contribution, on a fair-share basis up to a maximum of 10 million dollars, to various off-airport surface transportation related components which may include:

- ◆ Roadway Improvements - Construct roadway improvements on streets heavily trafficked for LAX.
- ◆ Special Landscaping - Extend the Century Boulevard Traffic Corridor Mitigation Program and LAX Beautification Enhancements Program to include landscaping requirements along Century Boulevard in the City of Inglewood.
- ◆ Street Signage - Install aesthetically pleasing, branding signage and way finding in impacted communities to improve airport-related circulation and to help direct airport users to services in those areas.

A.2.2 Environmental Justice (NEPA Analysis)

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A.2.3 Air Quality

This section supplements the discussion of the air quality impacts analysis presented in Section 4.6, *Air Quality*, of Part I of the Final EIS with further information developed in the general conformity determination completed for Alternative D. FA published the final general conformity determination for Alternative D as a separate, stand-alone document concurrently with the publication of this Final EIS, and it is included in Appendix A-2a, *Clean Air Act Final General Conformity Determination*.

A.2.3.1 Summary of NEPA Air Quality Analysis

Section 4.6, *Air Quality*, of Part I of the Final EIS, provides the air quality impact analysis of LAX-related emissions from on-airport and off-airport sources, including those from construction-related activities. Appendix G, *Air Quality Impact Analysis*, Appendix S-E, *Supplemental Air Quality Impact Analysis*, Appendix F-B, *Air Quality Appendix*, Technical Report 4, *Air Quality Technical Report*, and Technical Report S-4, *Supplemental Air Quality Technical Report*, provide additional detail on the methodologies used to estimate emissions, analyze ambient air pollution concentrations, and identify mitigation options.

The following summary of air quality impacts attributable to the LAX Master Plan alternatives is provided so that conclusions identified for NEPA purposes regarding the impacts of the project are readily accessible.

The Master Plan alternatives would affect air quality by changing the amount of emissions released by sources at or near LAX, as well as by changing the locations of those emission sources. The changes can be positive or negative. Airport infrastructure development in some cases can support increases in activity levels at the airport (such as the number of aircraft operations and the number of vehicles accessing the airport) which, in turn, may increase emissions. However, infrastructure improvements can also reduce congestion (through airfield and roadway changes) and the need for aircraft to idle at the gates (by providing ground-based electrical power and air conditioning) which, in turn, may decrease emissions.

One of the criteria used to develop the LAX Master Plan alternatives was to mitigate or reduce, to the extent feasible, the environmental impacts associated with airport operations. Therefore, various design features were incorporated into the alternatives to reduce air quality impacts. For example, in all of the build alternatives:

- ◆ Improvements to the roadways and improved parking facilities would reduce automobile idling time, which in turn would reduce motor vehicle air emissions.
- ◆ Modifications to the airfield taxiways and runways would reduce airfield delay and congestion, thus decreasing aircraft idling times and air emissions.
- ◆ Installation of preconditioned air and electrical power hookups at terminal gates would allow airlines to minimize the use of auxiliary power units (on-board turbines).
- ◆ Increased separation of aircraft and ground support equipment from vehicles accessing the airport (such as automobiles and shuttles) would reduce the airport-generated peak air pollutant concentrations in community locations.

In addition to the design features associated with the Master Plan, LAWA has prepared an extensive list of CEQA-related air quality mitigation measure components that it proposes to implement for emission control purposes. These mitigation components were developed from reviews of mitigation measures and plans used at other airports, extensions of ongoing LAWA environmental policies, and public comments received on the Draft EIS/EIR and the Supplement to the Draft EIS/EIR. These mitigation measures include the following general approaches to reduce air quality impacts:

- ◆ *LAX Master Plan Mitigation Plan for Air Quality* to expand and revise the existing air quality mitigation programs at LAX in consultation with FAA, the U.S. Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD).
- ◆ *Transportation-Related Measure* to develop and construct at least eight additional FlyAway service terminals; other components may be included.

A.2.3 Air Quality

- ◆ *Operations-Related Measure* to convert ground support equipment to extremely low emission technology such as electric power, fuel cells, or future technology developments; other components may be included.
- ◆ *Construction-Related Measure* to reduce construction equipment and activity emissions. LAWA would implement steps to reduce fugitive dust and engine emissions from construction activities. These steps would include: requiring the use of emissions-reduction engine and fuel technology; requiring watering or soil stabilization; paving on-site construction routes; covering truck beds; requiring construction-vehicle wheel washing facilities at entrances to public roads; minimizing the use of portable generators; specifying clean diesel technology with emission control devices for all portable generators; and using an on-site rock crushing facility to reuse rock/concrete, thus reducing off-site haul truck trips.

Approach to Analysis: Five criteria pollutants were evaluated, including sulfur dioxide (SO₂), carbon monoxide (CO), particulate matter (PM₁₀), nitrogen dioxide (NO₂), and ozone (O₃). The evaluation of O₃ was conducted using the standard practice of evaluating volatile organic compounds (VOC) and nitrogen oxides (NO_x), which are key components in the formation of ozone. Although lead (Pb) is a criteria pollutant, it was not included in the analysis since airport operations are expected to have negligible emission potential for this pollutant.

Data collection studies and modeling analyses have been conducted to estimate the impact that LAX activities would have on future air quality around the airport. Forecasts of future year activity were developed and emission inventories were estimated for the future conditions under the No Action/No Project Alternative and the four build alternatives. Both unmitigated and mitigated emission inventories were developed for each build alternative.

The emission inventories were used with air dispersion models to predict future ambient air pollutant concentrations. For NEPA purposes, estimated emissions for each build alternative were compared to those for the No Action/No Project Alternative, and modeled pollutant concentrations for each build alternative (including future background concentrations) were compared to National Ambient Air Quality Standards (NAAQS).

Emissions: Emissions associated with each of the alternatives are summarized in **Table A2.3-1, Total Operational and Construction Emissions - Mitigated**. Alternative D would have lower VOC, CO, and NO_x emissions in the interim year than the No Action/No Project Alternative, noting that, for purposes of the Final EIS, Alternative D interim year emissions are a composite of 2013 operational emissions (higher activity) and 2005 construction emissions (highest construction emissions), while the No Action/No Project Alternative interim year is 2005 for both construction and operational emissions. Alternatives A, B, and C would have lower VOC, CO, and SO₂ emissions in the interim year than the No Action/No Project Alternative. Alternatives A, B, C, and D would have lower total (on-airport plus off-airport plus construction) VOC emissions in 2015 than the No Action/No Project Alternative. In addition, Alternative D would have lower CO, NO_x, SO₂, and PM₁₀ emissions in 2015 than the No Action/No Project Alternative. Finally, Alternative D would have the lowest criteria pollutant emissions of the four build alternatives in 2015.

Table A2.3-1

Total Operational and Construction Emissions - Mitigated (tons per year)

Pollutant and Source	Interim Year								Horizon Year 2015							
	NA/NP ^{1,2,3}	NA/NP Conf ⁴ 2005	NA/NP Conf 2013	A ¹	B ¹	C ¹	D ¹	D Conf 2005	D Conf 2013	NA/NP	NA/NP Conf	A	B	C	D	D Conf
VOC - On-Airport	1,652	1,529	1,513	1,385	1,330	1,384	1,513	1,529	1,539	1,513	1,540	1,497	1,578	1,534	1,473	1,516
VOC - Off-Airport	2,795	2,512	1,787	2,286	2,261	2,163	1,365	2,512	1,365	1,606	1,606	1,282	1,271	1,270	1,091	1,091
VOC - Construction	909	883	0	170	148	155	86	86	72	0	0	44	39	40	0	0
VOC - Total	5,356	4,924	3,299	3,841	3,739	3,702	2,964	4,127	2,976	3,119	3,145	2,823	2,888	2,844	2,564	2,607
CO - On-Airport	11,848	10,756	9,728	9,555	9,459	9,578	9,077	10,756	9,106	9,451	9,472	9,053	9,553	9,412	8,266	8,298
CO - Off-Airport	31,114	27,968	17,744	29,405	29,385	28,691	16,719	27,968	16,719	15,188	15,188	16,368	16,227	16,336	13,166	13,166
CO - Construction	667	654	0	1,094	955	995	556	556	547	0	0	352	307	320	0	0
CO - Total	43,629	39,377	27,472	40,054	39,799	39,264	26,352	39,279	26,372	24,639	24,659	25,773	26,087	26,068	21,432	21,464
NO _x - On-Airport	6,356	6,079	5,744	5,504	5,503	5,543	5,760	6,079	5,939	5,729	5,877	6,357	6,440	5,999	5,474	5,812
NO _x - Off-Airport	4,665	4,193	2,733	4,420	4,514	4,463	2,628	4,193	2,628	2,368	2,368	2,723	2,718	2,741	2,102	2,102
NO _x - Construction	405	311	0	2,237	1,952	2,034	1,141	1,141	905	0	0	494	431	449	0	0
NO _x - Total	11,426	10,583	8,477	12,161	11,969	12,040	9,529	11,413	9,473	8,097	8,245	9,574	9,589	9,189	7,576	7,914
SO ₂ - On-Airport ⁵	405	-	-	382	382	382	436	-	-	449	-	494	513	489	436	-
SO ₂ - Off-Airport ⁵	52	-	-	50	51	50	24	-	-	27	-	30	30	30	24	-
SO ₂ - Construction ⁵	3	-	-	7	7	7	3	-	-	0	-	2	2	2	0	-
SO ₂ - Total ⁵	460	-	-	439	440	439	463	-	-	476	-	526	545	521	460	-
PM ₁₀ - On-Airport	181	167	164	128	126	132	182	167	184	167	165	165	168	158	177	177
PM ₁₀ - Off-Airport	1,617	1,454	1,715	1,833	1,603	1,572	1,752	1,454	1,752	1,780	1,780	2,089	2,078	2,060	1,658	1,658
PM ₁₀ - Construction	68	47	0	531	463	482	335	335	272	0	0	137	119	124	0	0
PM ₁₀ - Total	1,866	1,667	1,879	2,492	2,192	2,186	2,269	1,955	2,208	1,947	1,944	2,391	2,365	2,342	1,835	1,835

¹ Interim year for NA/NP and Alternatives A, B, and C is 2005. Interim year for Alternative D is created from operations in 2013 (on-airport and off-airport) combined with 2005 construction.

² NA/NP=No Action/No Project Alternative.

³ As described in the introduction to Chapter 4 of Part I of the Final EIS, the evaluation of mitigation measures is not a part of the No Action/No Project Alternative analysis.

⁴ Conf = Final General Conformity Determination for Alternative D (see Appendix A-2a). More than one interim year was evaluated, but 2005 and 2013 represent the years of highest emissions for the pollutants evaluated for Alternative D.

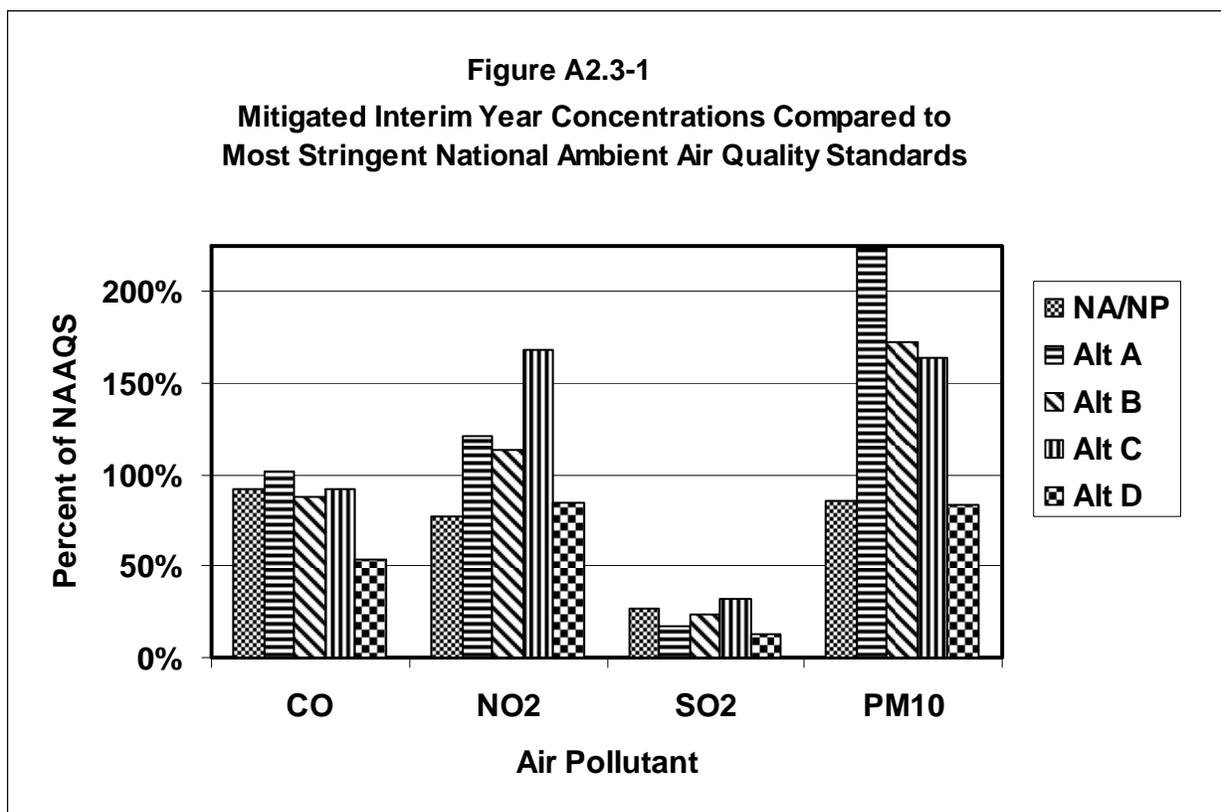
⁵ Because the South Coast Air Basin is in attainment of the national ambient air quality standards for SO₂, this pollutant was not addressed in the Final General Conformity Determination for Alternative D; thus, no SO₂ data are included in the "Conf" columns of this table.

Source: Camp Dresser & McKee Inc., 2004.

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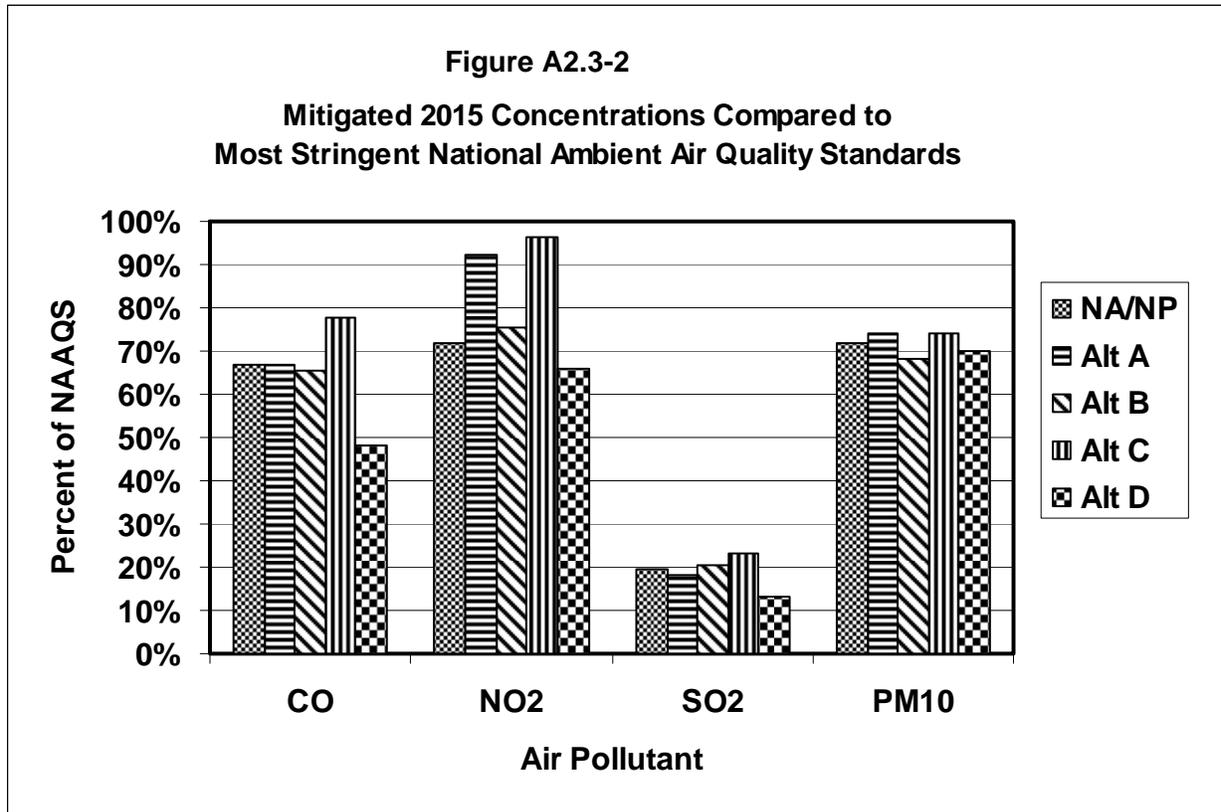
Ambient Air Pollutant Concentrations: As noted in subsection 4.6.4, *Thresholds of Significance*, of Part I of the Final EIS, the federal concentration thresholds are the NAAQS. The relative concentrations of Alternatives A, B, C, and D, and the No Action/No Project Alternative compared to the NAAQS⁵² are shown in **Figure A2.3-1**, Mitigated Interim Year Concentrations Compared to Most Stringent National Ambient Air Quality Standards, and **Figure A2.3-2**, Mitigated 2015 Concentrations Compared to Most Stringent National Ambient Air Quality Standards. Any values that exceed 100 percent indicate that the most stringent NAAQS was exceeded. Alternative D is the only build alternative that meets (has maximum concentrations that are predicted to be less than) the NAAQS for all criteria pollutants in all years analyzed. For the interim year of 2005, Alternatives A, B, and C have maximum concentrations that are predicted to exceed the NAAQS for both PM₁₀ and NO₂, and Alternative A has maximum concentrations that are predicted to exceed the 8-hour CO NAAQS. Therefore, the significance findings are:⁵³

- ◆ Concentrations of PM₁₀ and NO₂ are significant for Alternatives A, B, and C in the interim year
- ◆ Concentrations of CO are significant for Alternative A in the interim year



⁵² The NAAQS are: for CO - 9 ppm 8-hour average and 35 ppm 1-hour average; for NO₂ - 0.053 ppm annual average; for SO₂ - 0.03 ppm annual average, 0.14 ppm 24-hour average, and 0.50 ppm 3-hour average; and for PM₁₀ - 50 µg/m³ annual average and 150 µg/m³ 24-hour average. For a pollutant with more than one NAAQS (CO, SO₂, PM₁₀), the "most stringent" standard is that which generated the highest percent values in the figures.

⁵³ All pollutant concentrations in all years for each alternative were below the level of significance unless specifically identified as significant.



Differences between emissions and dispersion analysis results between the alternatives are explained by several factors that each contribute to impacts in different areas around the airport:

- ◆ Alternatives A, B, C, and D allow more efficient aircraft operations and improved motor vehicle traffic flows at and near LAX compared to the No Action/No Project Alternative. The result of these improvements is expected to be fewer emissions from aircraft taxi/idle, ground support equipment (GSE), and gasoline and diesel motor vehicles when compared to the No Action/No Project Alternative.
- ◆ Alternative D is expected to have lower emissions for CO, VOC, NO_x, SO₂, and PM₁₀ than those for Alternatives A, B, and C, due to lower passenger activity levels and fewer aircraft operations under Alternative D.
- ◆ Fence line and runway configurations vary among the alternatives. The concentration differences between Alternative D and the other build alternatives are due in large part to the runway configuration. The runway configuration proposed under Alternatives A, B, and C would result in runways that would be closer to residences than the configuration proposed under Alternative D. Alternative D does not include the proposed West Terminal Area (WTA) that is included in Alternatives A, B, and C and has little to no traffic traveling to the existing Central Terminal Area (CTA). Parking and traffic emissions under Alternative D would primarily occur around the proposed Ground Transportation Center (GTC) and Intermodal Transportation Center (ITC), unique to this build alternative.
- ◆ Alternative D has lower passenger levels and fewer overall aircraft operations than Alternatives A, B, or C, resulting in generally lower impacts to air quality than the other build alternatives.

A.2.3.2 Summary of General Conformity Determination

A demonstration of conformity with the purpose of the State Implementation Plan (SIP) must be made for a proposed federal action in a federal nonattainment or maintenance area when incremental emission rates attributable to the proposed federal action would exceed the general conformity applicability

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thresholds. For the LAX Master Plan, Alternative D - Enhanced Safety and Security Plan, is the preferred project subject to federal action. Several of the key federal actions requested from the FAA associated with the proposed project are noted below:

- ◆ A determination under 14 CFR Part 157 (49 USC 40113(a)) as to whether or not the FAA objects to the airport development proposal from an airspace perspective, based on aeronautical studies;
- ◆ Decisions under the authority of 49 USC 40103(b) to develop air traffic control and airspace management procedures to effect the safe and efficient movement of air traffic to and from the proposed runways, including the development of a system for the routing of arriving and departing traffic and the design, establishment, and publication of standardized flight operating procedures, including instrument approach procedures, and standard instrument departure procedures;
- ◆ A determination, through the aeronautical study process, under 14 CFR 77⁵⁴ regarding obstructions to navigable airspace;
- ◆ Decisions regarding project eligibility for federal grant-in aid funds⁵⁵ or Passenger Facility funds⁵⁶ for land acquisition, site preparation, runway and taxiway construction, environmental, and mitigation;
- ◆ Final approval of a revised airport layout plan⁵⁷ and environmental approval;^{58, 59}
- ◆ Approval for navigational aids,⁶⁰ and
- ◆ Certification that the proposed facility is reasonably necessary for use in air commerce or for the national defense.⁶¹

Federal actions are also being requested of other federal agencies, such as the Federal Highway Administration, Army Corps of Engineers, and Fish and Wildlife Service, as noted in Section 2.7.1, *Requested Federal Actions*, in Part I of the Final EIS.

The criteria pollutants potentially subject to general conformity in the South Coast Air Basin include ozone (evaluated for the precursors volatile organic compounds and oxides of nitrogen), carbon monoxide, nitrogen dioxide, and coarse particulate matter (PM₁₀) because the South Coast Air Basin is in nonattainment or maintenance status for these criteria pollutants. The South Coast Air Basin is in attainment status for the criteria pollutants sulfur dioxide (SO₂) and lead (Pb), thus no evaluation of these pollutants is required under the general conformity regulations.⁶²

FAA coordinated the general conformity evaluation with public agencies having responsibility for air quality management and control in the South Coast Air Basin. Before beginning the evaluation, FAA prepared a protocol to document how it would follow all regulatory criteria and procedures relative to demonstrating conformity, and it invited USEPA, CARB, SCAQMD, and SCAG to review and comment on the protocol. FAA maintained contact with these agencies throughout the evaluation process, including responding to comments received on the draft general conformity determination.

Alternative D as designed incorporates a variety of emission control measures to satisfy requirements of CEQA. As a condition of approval of Alternative D, FAA will require LAWA to implement and enforce these measures on an on-going basis.

⁵⁴ 49 USC 40103(b), 40113.

⁵⁵ 49 USC 47101, et seq.

⁵⁶ 49 USC 40117.

⁵⁷ 49 USC 47107 (a)(16).

⁵⁸ 42 USC 4321-4327.

⁵⁹ 40 CFR 1500-1508.

⁶⁰ 49 USC 44502 (a) (1).

⁶¹ 49 USC 44502(b).

⁶² The USEPA announced the designation of the South Coast Air Basin as a nonattainment area for the criteria pollutant fine particulate matter (PM_{2.5}) on December 17, 2004. However, neither the currently applicable SIP nor the 2003 AQMP address control measures for demonstrating attainment of the PM_{2.5} NAAQS. The SCAQMD will formally address PM_{2.5} control measures in the next AQMP (currently scheduled for 2006 or 2007). The on-site and Hawthorne air quality monitoring stations used to characterize existing conditions at LAX did not include measurements of PM_{2.5}, thus representative background PM_{2.5} concentrations in the vicinity of the airport are not available. In addition, the mitigation measures that control PM₁₀ also control PM_{2.5}; the PM_{2.5} attainment status does not change or add measures to those already planned for implementation. Finally the SCAQMD has not yet issued guidance on PM_{2.5} analysis methodology for use in the South Coast Air Basin. Therefore, a general conformity evaluation for PM_{2.5} was not conducted, and PM_{2.5} was addressed in the Final EIS using the USEPA interim guidance for PM_{2.5} analyses (Seitz 1997).

The incremental emissions of volatile organic compounds (as an ozone precursor) and of carbon monoxide under Alternative D are less than the general conformity de minimis threshold emission rates and Alternative D is not regionally significant for either of these pollutants. Therefore, no further evaluation of these pollutants was required for general conformity purposes. Because the incremental emissions of oxides of nitrogen (NO_x, as an ozone precursor), nitrogen dioxide (NO₂), and particulate matter (PM₁₀) under Alternative D exceed the respective general conformity de minimis threshold emission rates, the general conformity requirements do apply to these pollutants and the detailed evaluation focused on them.

FAA published the draft general conformity determination for this proposed action on January 9, 2004, and provided opportunity for a 30-day public review. A total of four comment letters were received, all from public agencies. FAA revised the final general conformity determination and published it concurrently with the publication of this Final EIS (see Appendix A-2a, *Clean Air Act Final General Conformity Determination*). As revised to address public comments, the final general conformity determination noted the following findings.

- ◆ Alternative D conforms to the purpose of the SIP for NO_x (and NO₂ by equivalency-see subsection 4.6.2, *General Approach and Methodology*, of Part I of the Final EIS) because the net emissions associated with Alternative D, taken together with all other NO_x emissions in the South Coast Air Basin, would not exceed the emissions budgets in the approved SIP for the years required for the general conformity evaluation.
- ◆ Alternative D conforms to the purpose of the SIP for PM₁₀ because the predicted peak concentrations for combined operational and construction emissions for Alternative D as designed, when added to the future background concentrations, would be less than the annual and 24-hour PM₁₀ NAAQS for the years required for the general conformity evaluation.

In a follow-up letter to FAA in August 2004, and further discussion through a telephone communication in January 2005, SCAQMD indicated its revised finding on the draft general conformity determination that the emissions estimates for Alternative D including both aircraft emissions and non-aircraft emissions, are below the applicable budgets in the SIPs. A copy of this letter and documentation of the telephone communication are included in Appendix C of Appendix A-2a, *Clean Air Act Final General Conformity Determination*.

Therefore, FAA concluded that Alternative D as designed conforms to the purpose of the approved SIP and is consistent with all applicable requirements.

A.2.3.3 Comparison of NEPA and General Conformity Evaluations

Emission inventories for the No Action/No Project Alternative and Alternative D developed for the general conformity evaluation are also included in **Table A2.3-1**, Total Operational and Construction Emissions - Mitigated; these conformity inventories are listed in the table under column headings that include the abbreviation "Conf." The quantitative results for the NEPA analysis differ slightly from those for the final general conformity evaluation for the following reasons:

- ◆ The mixing height for the aircraft emissions analysis under each alternative was modeled as 1,800 feet per the Air Quality Modeling Protocol for Criteria Pollutants (Technical Report 4, Attachment A⁶³ of Part I of the Final EIS) and previous SCAQMD guidance (Technical Report 4, Attachment J of Part I of the Final EIS). When the Protocol for General Conformity Evaluation for the LAX Master Plan (Appendix A of the Final General Conformity Determination, which is provided in Appendix A-2a of Volume A of the Final EIS) was developed in 2003, SCAQMD requested that the mixing height for the general conformity determination be consistent with the value assumed in documents supporting the 1997 Air Quality Management Plan (AQMP, the primary basis for the currently applicable SIP⁶⁴) and the 2003 AQMP; that value is 2,050 feet. Because the general conformity regulations require the use

⁶³ The protocol was reviewed in meetings with SCAQMD on June 4, 1998, and December 16, 1998. The SCAQMD did not suggest changes to the mixing height in either the comment letter received on the Draft EIS/EIR (Comment Letter No. AR00004) or the comment letter received on the Supplement to the Draft EIS/EIR (Comment Letter No. SAR00004).

⁶⁴ The USEPA did not approve the entire 1997 AQMP at one time. Effective dates of the final actions are: for CO - May 21, 1998 (63 FR 19661); for NO₂ - September 22, 1998 (63 FR 39747); for Ozone (NO_x and VOC) - May 10, 2000 (65 FR 18903); and for PM₁₀ - May 19, 2003 (68 FR 19316).

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of the latest emission estimating techniques, the mixing heights and associated aircraft emissions for the No Action/No Project Alternative and Alternative D were updated to ensure consistency in the comparison between the emission estimates and the applicable SIP emission budgets.

- ◆ In December 2003, subsequent to the issuance of the Supplement to the Draft EIS/EIR, SCAG provided information used to support the development of the 2004 RTP indicating that LAX is expected to reach a passenger demand level of 63 to 64 MAP in 2005 and 78 MAP in 2015 (see Section 3.1 of the Final General Conformity Determination, provided in Appendix A-2a of Volume A of the Final EIS). The LAX Master Plan assumes a passenger activity level of 71.2 MAP for the No Action/No Project Alternative for the year 2005. Because the general conformity regulations require the use of the latest planning assumptions, the Final EIS passenger aircraft activity (LTOs) and motor vehicle volumes were multiplied by the ratio of SCAG-to-Master-Plan MAP forecasts (64/71.2) to obtain revised activity levels in 2005. The cargo operations were not adjusted. The combined activity level for passengers and cargo was then used to recalculate emissions from aircraft, GSE, auxiliary power units (APUs), and motor vehicles in 2005 for the general conformity evaluation. The calculated emissions from these sources in 2005 are assumed to be the same for the No Action/No Project Alternative and Alternative D since the modifications to the airport are not expected to have much effect on operational activity in that year.
- ◆ During review of the draft Protocol for General Conformity Evaluation, regulatory agencies requested that the general conformity determination consider the effect that the GSE Memorandum of Understanding (MOU) signed in December 2002 by CARB and the major commercial service airlines serving southern California would have on GSE emissions. Under the terms and conditions of the MOU, the signatory GSE operators agreed that, by 2010, they will have done the following: (1) replaced at least 30 percent of the 1997 GSE fleet with zero-emissions equipment; (2) acquired at least 45 percent of new GSE as zero-emissions equipment; (3) achieved an industry average combined VOC and NO_x emission rate of 2.65 grams per brake horsepower per hour; and (4) reduced diesel particulates using CARB-verified diesel control technology on selected GSE. The GSE emissions calculated for the general conformity evaluation represent a refinement of the GSE emissions calculated for the Final EIS, which also incorporates effects of the GSE MOU.
- ◆ As part of the general conformity evaluation, emissions from construction-related activities under the No Action/No Project Alternative were revised to incorporate the same currently available emission control techniques which were applied to LAX Master Plan Alternative D construction sources. These "controlled" construction emissions were also reported in Part I of the Final EIS, Appendix F-B, Attachment 1 (Table 1-7). These revisions to the construction-related emissions for the No Action/No Project Alternative were made in response to a comment on the draft general conformity determination received during the 30-day public review period, and they have no qualitative effect on the relative relationships between total criteria pollutant emissions for the No Action/No Project Alternative and the build alternatives in either the interim year or 2015.
- ◆ In developing the interim year emissions inventories for Alternative D, the Final EIS uses the operations (on-airport and off-airport) in 2013 and construction in 2005 to produce conservative emissions estimates for the interim year. The general conformity evaluation differs in that emissions were explicitly calculated for the years 2005, 2006, 2008, 2010, 2013, and 2015 (i.e., each of the emission budget years, attainment date years, and years of greatest emissions, as required by the general conformity regulations). Therefore, the Final EIS emissions for the interim year for Alternative D are not the same as those for any of the years analyzed in the general conformity determination.

Because of the differences noted above between the Final EIS and the general conformity determination, the emission inventories for Alternative D and the No Action/No Project Alternative are slightly different in these two documents. Specifically:

- ◆ Increasing the mixing height from 1,800 feet to 2,050 feet slightly increases all pollutant emissions from aircraft only.
- ◆ Reducing the passenger activity level in 2005 reduces all pollutant emissions from aircraft, GSE, APUs, and motor vehicle traffic in that year.
- ◆ The refined analysis in the general conformity determination of the GSE MOU results in a more rapid decrease in GSE emissions between 2005 and 2010 (the year that full implementation of the GSE MOU would be achieved) compared to the assumed linear reduction in GSE emissions from 2005 to 2015 used in the Final EIS.

- ◆ No Action/No Project Alternative emissions from construction are slightly lower in the general conformity determination due to the use of the same construction emission control techniques that are applied under Alternative D.

The overall effect of these modifications is a general conformity inventory showing lower emissions for the No Action/No Project Alternative in 2005 and higher emissions for Alternative D in 2013 and 2015, when compared to the Final EIS inventories, with three exceptions:

- ◆ PM_{10} emissions are calculated to be lower for Alternative D under general conformity in the interim years due to the conservative approach used in the Final EIS to develop interim year Alternative D emissions.
- ◆ PM_{10} emissions for Alternative D in 2015 are the same for the Final EIS and the general conformity determination.
- ◆ NO_x emissions are calculated to be lower for Alternative D under general conformity in 2013 due to the conservative approach used in the Final EIS to develop interim year Alternative D emissions.

Because the general conformity evaluation relied on the dispersion modeling results for PM_{10} obtained from the NEPA analysis, the findings of the two assessments for this parameter compared to the applicable NAAQS are identical (i.e., Alternative D is not significant since the PM_{10} NAAQS are not expected to be exceeded as a result of the implementation of Alternative D). As noted above, PM_{10} was the only criteria pollutant compared to the NAAQS for general conformity purposes.

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A.2.4 Endangered and Threatened Species of Flora and Fauna

A.2.4.1 Introduction

Section 4.11, *Endangered and Threatened Species of Flora and Fauna*, of Part I of the Final EIS, addresses potential impacts to several federally-listed species, including the Riverside fairy shrimp (*Streptocephalus woottoni*). The analysis includes discussion of critical habitat for the subject species that was designated as such by the United States Fish and Wildlife Service (USFWS) in 2001, and subsequently found invalid by the U.S. District Court for the District of Columbia in 2002, nullifying the designation. On April 27, 2004, the USFWS published a new proposed designation of critical habitat for Riverside fairy shrimp, which includes 108 acres proposed as critical habitat within the Airfield Operations Area (AOA) at LAX. Of the 108 acres proposed for designation as critical habitat, approximately 85 acres were determined to be non-essential to the survival of the species pursuant to the April 20, 2004 Biological Opinion issued by the USFWS because they contain neither ephemeraally wetted areas occupied by Riverside fairy shrimp nor their contributory watersheds. Only 1.26 acres of the entire area proposed for designation as critical habitat are occupied by Riverside fairy shrimp, which exist in these areas in the cyst (i.e., egg) form.

The information and analysis presented below describe the USFWS proposed designation of critical habitat for Riverside fairy shrimp and the potential impacts of each LAX Master Plan alternative relative to the proposed critical habitat areas and the viability of the species. The information and analysis supplements the discussion presented previously in Section 4.11 of Part I of the Final EIS, but does not materially alter the basic conclusions presented therein.

A.2.4.2 General Approach and Methodology

In accordance with FAA Order 5050.4A, which contains guidelines for conducting environmental impact analyses, this analysis addresses the likelihood of the LAX Master Plan alternatives to jeopardize the continued existence of any federally-listed endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. In compliance with the Endangered Species Act of 1973, 16 U.S.C. §1531 et seq., FAA initiated a formal Section 7 consultation for the LAX Master Plan on September 5, 2000. On April 20, 2004, USFWS issued a non-jeopardy Biological Opinion for Alternative D, the Enhanced Safety and Security Plan, of the LAX Master Plan (see Appendix F-E of Part I of the Final EIS). Under Alternative D, 0.04 acre (1,853 square feet) of the 1.3 acres of ephemeraally wetted habitat containing embedded cysts (eggs) of Riverside fairy shrimp would be directly affected by construction staging, airfield operations and maintenance activities, and/or airfield improvements. As allowed under the April 20, 2004 Biological Opinion, cyst-bearing soils from the 0.04 acre of the 1.3 acres of ephemeraally wetted habitat would be salvaged and relocated to a conservation site outside the LAX Master Plan boundary. Indirect effects to 1.26 acres of ephemeraally wetted habitat and approximately 22 acres of contributing watershed would be avoided through implementation of construction avoidance measures. These areas are within the area proposed for designation as critical habitat. These occupied areas and associated watersheds would be retained on the AOA and therefore subject to federally mandated operations and maintenance activities pursuant to Title 14, Code of Federal Regulations (CFR), Part 139, Section 139.337, Wildlife Hazards Management.⁶⁵

⁶⁵ Additionally, as required under Section 7 of the federal Endangered Species Act (ESA), the FAA initiated consultation with the USFWS in June 1999 for operations and maintenance issues regarding soil samples taken from areas on the western part of the airfield that were found to contain embedded cysts of the Riverside fairy shrimp. FAA reinitiated formal consultation with USFWS on March 29, 2004 regarding the need to resume routine operations and maintenance activities within and adjacent to ephemeraally wetted areas within the AOA containing cysts of the federally endangered Riverside fairy shrimp. These activities are necessary under all alternatives analyzed in Part I of the Final EIS, including the No Action/No Project Alternative. (See Federal Aviation Administration. 29 March 2004. Letter to U.S. Department of the Interior, Fish and Wildlife Service, Biological Services, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Carlsbad, CA 92009. Subject: Los Angeles International Airport, Los Angeles, California Resumption of Formal Section 7 Consultation for Operations and Maintenance Activities. Prepared by: Federal Aviation Administration, P.O. Box 92007, Los Angeles, CA 90009-2007.) The Section 7 consultation that addresses routine ongoing operations and maintenance (i.e., removal of standing water and discing or mowing to manage vegetation) within the AOA is ongoing.

A.2.4 Endangered and Threatened Species of Flora and Fauna

A.2.4.3 Affected Environment/Environmental Baseline

The potential presence of Riverside fairy shrimp at LAX has been a consideration throughout the FAA's and LAWA's management of the AOA and consideration of the proposed LAX Master Plan. As documented in Section 4.11, and related sections, appendices and technical reports, of Part I of the Final EIS, extensive survey work was undertaken to determine the presence/absence of the species. The results of this sampling are summarized in **Table A2.4-1**, Ephemeraally Wetted Areas, Site Characterization, and Riverside Fairy Shrimp Densities.

Table A2.4-1

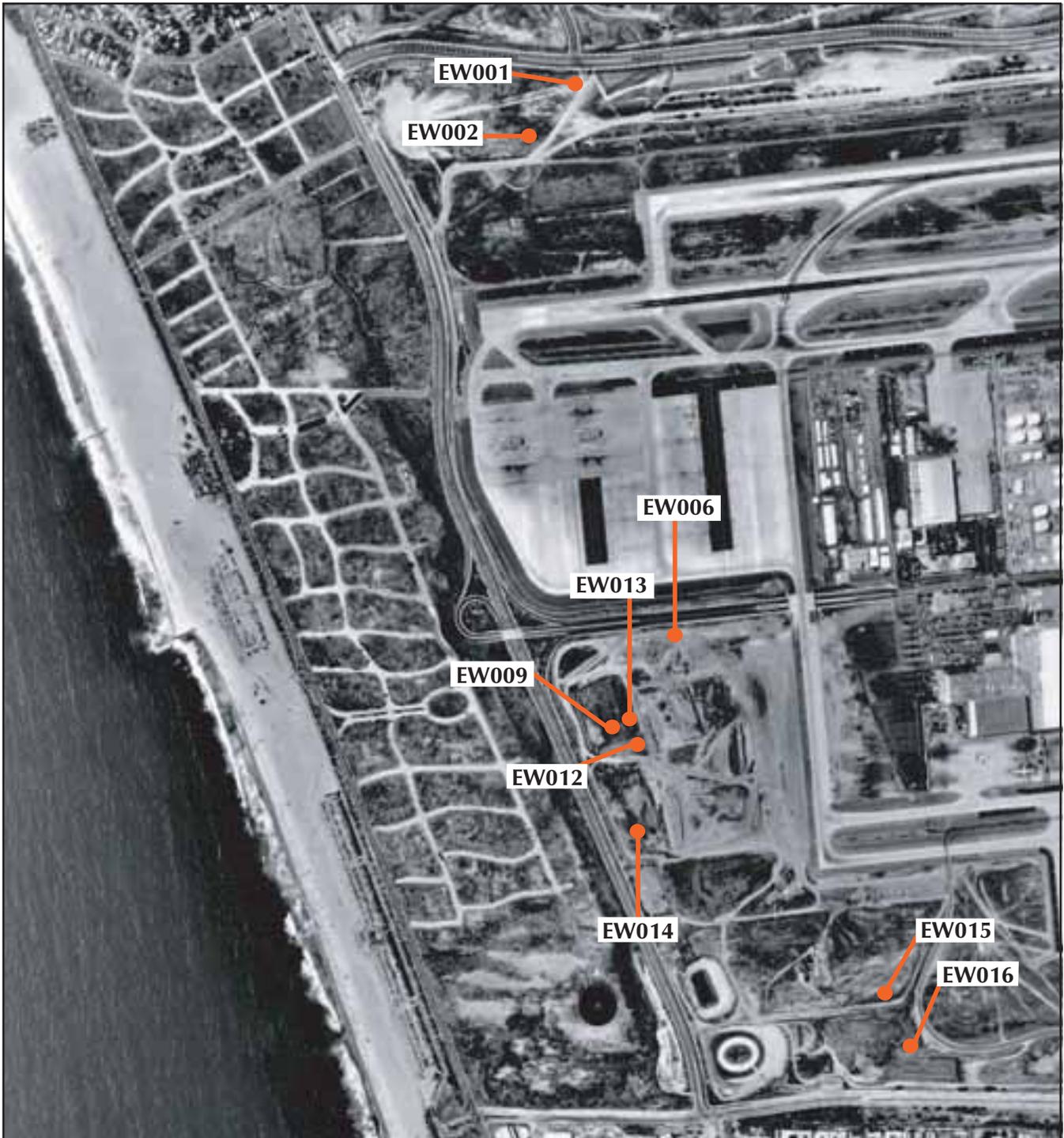
Ephemeraally Wetted Areas, Site Characterization, and Riverside Fairy Shrimp Densities

Site No.	Square Feet¹	No. of Cysts per liter	Site Characterization
EW001	123	14-112	Site currently is located on top of fill material; no native soils are present. Site has been subject to repeated cut/fill activities. Construction activities are documented by historic aerial photographs from 1970, 1979, 1986, 1990, and 1995. Additionally, site has been documented as agricultural in 1950 historic aerial photograph. Neither hydric soils nor hydric vegetation are present on this site.
EW002	292	0-23	Site currently is located on top of fill material; no native soils are present. Site has been subject to repeated cut/fill activities. Construction activities are documented by historic aerial photographs from 1970, 1979, 1986, 1990, and 1995. Additionally, site has been documented as agricultural in 1950 historic aerial photograph. Neither hydric soils nor hydric vegetation are present on this site.
EW006	1,438	0.3	Site currently is located on top of fill material. Site has been subject to repeated cut/fill activities. Construction activities are documented by historic aerial photographs from 1979, 1986, 1990, and 1995. Additionally, site has been documented as agricultural in 1950 historic aerial photograph. Neither hydric soils nor hydric vegetation are present on this site.
EW009	577	32	Site is located on top of fill material. Site has been subject to repeated cut/fill activities. Construction activities are documented by historic aerial photographs from 1952, 1970, 1979, 1986, and 1990.
EW012	548	32	Site is located on top of fill material. Site has been subject to repeated cut/fill activities. Construction activities are documented by historic aerial photographs from 1952, 1970, 1979, 1986, and 1990.
EW013	4,808	32-64	Site is located on top of fill material. Site has been subject to repeated cut/fill activities. Construction activities are documented by historic aerial photographs from 1952, 1970, 1979, 1986, and 1990.
EW014	39,199	0-4	Site is located on top of fill material. Site has been subject to repeated cut/fill activities. Construction activities are documented by historic aerial photographs from 1970, 1979, and 1986. Site was constructed to accept storm water drainage off western airfield.
EW015	2,086	1-4	Site is located on top of fill material. Site has been subject to repeated cut/fill activities. Construction activities are documented by historic aerial photographs from 1952, 1970, 1986, and 1990.
EW016	3,936	0-32	Site is located on top of fill material. Site has been subject to repeated cut/fill activities. Construction activities are documented by historic aerial photographs from 1952, 1970, 1979, 1986, and 1990.

¹ Square feet based on 1997/1998 El Niño year survey.

Source: Sapphos Environmental, Inc. 2000.

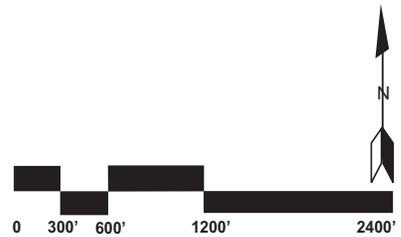
Although there is no evidence of the Riverside fairy shrimp completing its life cycle, embedded cysts were identified on 1.3 acres in nine locations on the AOA, six of which occupy 1.26 acres and are located within areas proposed for designation as critical habitat (see **Figure A2.4-1**, Sites Containing Embedded Cysts of the Riverside Fairy Shrimp). Inherent incompatibilities of maintaining safe operations within the



LEGEND

EW Ephemeraally Wetted Areas

SOURCE: Continental Aerial Photo, Inc. 10571 Calle Lee Suite 163, Los Alamitos, CA 90720



LAX Master Plan Final EIS

Sites Containing Embedded Cysts of the Riverside Fairy Shrimp

Figure
A2.4-1

A.2.4 Endangered and Threatened Species of Flora and Fauna

A.2.4 Endangered and Threatened Species of Flora and Fauna

AOA and managing habitat that requires the existence of standing water for up to two months, as is required by the Riverside fairy shrimp, has been the subject of ongoing dialogue between FAA and LAWA. FAA and LAWA recognize the importance of conserving habitat for Riverside fairy shrimp and, in light of conflicts between air navigation safety and habitat management, have consistently expressed their willingness to relocate soils containing embedded cysts of Riverside fairy shrimp for off-site conservation efforts. In addition to the incompatibilities between maintaining safe operations in the AOA in compliance with safety standards and managing for wildlife habitat that requires standing water, the habitat at LAX is of marginal, at best, quality. The marginal nature of the habitat at LAX is evident in the fact that the *Recovery Plan for Vernal Pools of Southern California (VP Recovery Plan)*⁶⁶ does not prescribe conservation measures for Riverside fairy shrimp at LAX.

As a result of a settlement agreement,⁶⁷ the USFWS proposed designation of critical habitat for the Riverside fairy shrimp on September 21, 2000, and issued a final rule designating critical habitat on May 31, 2001.⁶⁸ However, in October 2002, the U.S. District Court for the District of Columbia vacated the final rule based on a flawed economic analysis and ordered the Carlsbad Fish and Wildlife Office (CFWO) to undertake a new analysis and designation.⁶⁹ On April 27, 2004, the USFWS published a new proposed designation of critical habitat for Riverside fairy shrimp (**Table A2.4-2**, Critical Habitat for Riverside Fairy Shrimp Proposed by USFWS in 2004).⁷⁰ The proposed rule designates critical habitat located at LAX (see **Figure A2.4-2**, Proposed Designation of Critical Habitat for Riverside Fairy Shrimp Issued in 2004), which encompasses approximately 108 acres in two distinct parcels.⁷¹ These parcels are located within the southern portion of the AOA, which accommodates the movement of aircraft and a multitude of support vehicles, equipment, and personnel.

Table A2.4-2

Critical Habitat for Riverside Fairy Shrimp Proposed by USFWS in 2004

County	Geographic Location ¹
Ventura	Former Carlsberg Ranch
Los Angeles	Cruzan Mesa; Los Angeles International Airport
Orange	Marine Corps Air Station El Toro; Chiquita Ridge; Tijeras Creek; O'Neill Regional Park; Saddleback Meadows; Radio Tower Road
Western Riverside	March ARB
North San Diego	Marine Corps Base Camp Pendleton; City of Carlsbad at the Poinsettia Lane Train Station
South San Diego	Ephemeral basin along the United States/Mexico border

¹ 50 CFR Part 17.

Source: U.S. Fish and Wildlife Service, 2004.

Historically, the AOA has experienced a vast range of uses that initially included cattle and sheep grazing, cultivation of orchards, and dry farming followed by extensive earth movement to support runway and taxiway improvements, cargo storage, and staging areas, borrow and fill activities, and associated roadway construction to support aviation activities. Consequently, the AOA is a highly disturbed area. Currently, the AOA is managed to support airfield operations. Management activities include the elimination of standing water, and vegetation management through the use of mowing and discing

⁶⁶ U.S. Fish and Wildlife Service, *Vernal Pools of Southern California Recovery Plan*, 1998.

⁶⁷ United States District Court for the Northern District of California, San Francisco Division, *Stipulated Settlement Agreement: Center for Biological Diversity vs. Bruce Babbitt*, Civil No. C99-3202 SC (N.D. Calif. Feb. 15, 2000).

⁶⁸ U.S. Fish and Wildlife Service. 2001. "Endangered and Threatened Wildlife and Plants Final Designation of Critical Habitat for the Riverside Fairy Shrimp Final Rule." *Federal Register*, 66 (104): 29384–29414.

⁶⁹ *Building Industry Legal Defense Foundation v. Gale Norton et.al.* Case No. 01-CV-2311 JDB (D.D.C. 2002).

⁷⁰ Code of Federal Regulations. Title 50, CFR, Part 17: "Endangered and Threatened Wildlife and Plants."

⁷¹ U.S. Fish and Wildlife Service. 2004. "Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for the Riverside Fairy Shrimp." *Federal Register*, 69 (81): 23024–23049.

A.2.4 Endangered and Threatened Species of Flora and Fauna

pursuant to Title 14, CFR, Part 139 to address wildlife hazards management as a component of the safe operation of aircraft in and around an airport.⁷² Although Riverside fairy shrimp cysts have been identified within the AOA, current conditions do not support the hydrological needs of water chemistry, temperature, and water depth necessary to support their complete life cycle. In fact, the presence of such conditions would be in direct conflict with federally mandated guidelines regarding the presence of wildlife attractants on or near airports.⁷³

The creation of standing pools of water that must remain for up to 2 months to permit the Riverside fairy shrimp cysts to hatch and complete their life cycle will attract various species of animals and birds that can themselves be a hazard to aviation, and furthermore become a food source for raptors in the area. As with other bird species, raptors flying in the immediate vicinity of aircraft are at risk of being struck by aircraft or ingested into an engine, causing significant damage to the aircraft. Because of these risks, the U.S. Department of Agriculture, Wildlife Services Office, is currently working on a bird hazard reduction program at LAX. U.S. Department of Agriculture, Wildlife Services Office is responsible for managing wildlife that could be injurious to human health and safety pursuant to the Animal Damage Control Act of 1931, as amended. The introduction of new attractants to birds, which would potentially create hazards to air navigation, is contrary to the FAA's mission. Title 14, CFR, Part 139, Section 139.337(f): "Wildlife Hazard Management," requires a certificate holder⁷⁴ to "take immediate measures to alleviate wildlife hazards when they are detected." Ongoing operations and maintenance activities that are regularly undertaken in the AOA help to eliminate the conditions that constitute wildlife attractants. As indicated above, the FAA is currently undertaking Section 7 consultation with the USFWS for on-going operations and maintenance activities. The presence of wildlife hazards at LAX, specifically at EW14, is evidenced in the recent removal of a four pound mallard duck within hours of a significant storm event in October 2004.⁷⁵

A.2.4.4 Thresholds of Significance

A.2.4.4.1 Federal Standards

The FAA is required to consult with USFWS or the National Marine Fisheries Service (NMFS) on any and all actions that have the potential to affect any federally-listed species or its designated critical habitat. Informal consultation may initially be undertaken for a project, and will satisfy consultation requirements if the proposed action is not likely to adversely affect species or designated critical habitat, and the USFWS or NMFS concur in writing. Formal consultation under Section 7(a)(2) of the ESA is required when: (1) the FAA determines that the proposed action "may affect" federally-listed species or designated critical habitat, unless USFWS or NMFS concurs in writing that the proposed action is not likely to adversely affect any listed species or designated critical habitat; or (2) if the agency determines that the proposed action is not likely to affect federally-listed species or designated critical habitat and the USFWS or NMFS does not concur. If the USFWS or NMFS determine that the proposed action will jeopardize the continued existence of a federally-listed species or adversely modify designated critical habitat, the project would be deemed to have a significant impact.

A.2.4.5 Master Plan Commitments

No Master Plan commitments for endangered or threatened species of flora or fauna are proposed.

⁷² Code of Federal Regulations. Title 14, CFR, Part 139. "Certification and Operations: Land Airports Serving Certain Air Carriers," Section 139.337(e)(6)(ii).

⁷³ Federal Aviation Administration. 27 July 2004. Advisory Circular 150/5200-33A: Hazardous Wildlife Attractants On or Near Airports.

⁷⁴ LAWA holds a certificate issued by FAA pursuant to Title 14 CFR Section 139, allowing "passenger operation of an air carrier that is conducted with an aircraft having a seating capacity of more than 30 passengers." As a commercial airport certificate holder, LAWA must comply with all the safety standards established for the operation of a certified airport, including the standards for wildlife management appearing in Title 14, CFR Section 139.337. The wildlife hazards standards provide that each certificate holder "shall take immediate measures to alleviate wildlife hazards whenever they are detected." See: *Code of Federal Regulations*. Title 14, CFR, Part 139. "Certification and Operations: Land Airports Serving Certain Air Carriers," Section 139.337(f).

⁷⁵ Todd Pittlik, U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services, Airfield Operations, 7333 World Way West, Los Angeles, CA 90045, Personal Communication, December 2, 2004.



A.2.4 Endangered and Threatened Species of Flora and Fauna

A.2.4.6 Environmental Consequences

This section describes the potential environmental impacts of the No Action/No Project Alternative and the four build alternatives (Alternatives A through D) relative to the designated critical habitat currently proposed by USFWS. To help understand the context in which impacts to proposed designated critical habitat would occur, the analysis below includes the previously published discussion of potential impacts to the degraded wetland habitat containing Riverside fairy shrimp cysts.

A.2.4.6.1 No Action/No Project Alternative

1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp and 108 acres of proposed critical habitat would remain within the AOA. These areas would be subject to continued operations and maintenance activities. However, of the 108 acres, approximately 85 acres were determined to be nonessential to the survival of the species pursuant to the April 20, 2004 Biological Opinion issued by the USFWS because they contain neither ephemerally wetted areas occupied by Riverside fairy shrimp cysts nor their contributory watersheds.

Enhancement to the Riverside fairy shrimp habitat in these areas is not feasible due to FAA Wildlife Hazards Management guidelines to ensure public safety of certificated airports. Due to continuous implementation of these guidelines, no habitat currently exists on the airfield that retains standing water for a sufficient duration to allow the Riverside fairy shrimp to complete its life cycle (six to eight weeks). Implementation of FAA Wildlife Hazard Management guidelines continues under this alternative, thus, it is anticipated that Riverside fairy shrimp would continue to be present within the Master Plan boundaries only in the form of embedded cysts. Thus, long-term operations and maintenance activities would continue to result in the loss of habitat values by preventing the development of habitat conditions necessary for Riverside fairy shrimp cysts to mature into adults. The FAA has initiated Section 7 consultation to address the need for routine ongoing operations and maintenance within the AOA. Section 7 consultation is currently on-going.

In summary, the No Action/No Project Alternative would neither affect the continued existence of embedded cysts of the Riverside fairy shrimp nor further the recovery of the species.

A.2.4.6.2 Alternative A - Added Runway North

Alternative A would result in the permanent conversion of 1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp as a result of developed facilities and construction staging and associated support activities.

Additionally, there are approximately 108 acres (of which 1.26 acres contain embedded cysts of Riverside fairy shrimp) that have been proposed for designation as critical habitat within the AOA, and which would be affected under Alternative A. However, of the 108 acres, approximately 85 acres were determined to be nonessential to the survival of the species pursuant to the April 20, 2004 Biological Opinion issued by the USFWS because they neither contain ephemerally wetted areas occupied by Riverside fairy shrimp cysts nor their contributory watersheds. Thus, impacts to these 85 acres are not considered significant.

Under Alternative A, the permanent conversion of 1.3 acres of degraded wetland habitat that contain embedded cysts of the Riverside fairy shrimp, as well as the loss of areas that have been proposed for designation as critical habitat for the Riverside fairy shrimp by the USFWS, would trigger the need for a Section 7 consultation with the USFWS to determine whether the impact would jeopardize the continued existence of the species. Implementation of Alternative A would result in the permanent loss of occupied habitat which is also proposed for designation as critical habitat. These impacts would not occur under the No Action/No Project Alternative. However, the long-term operations and maintenance activities that would continue under the No Action/No Project Alternative would result in the loss of habitat values by preventing the development of habitat conditions necessary for Riverside fairy shrimp cysts to mature into adults.

A.2.4.6.3 Alternative B - Added Runway South

Alternative B would result in the permanent conversion of 1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp as a result of developed facilities, and construction staging and associated support activities.

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Additionally, there are approximately 108 acres (of which 1.26 acres contain embedded cysts of Riverside fairy shrimp) that have been proposed for designation as critical habitat within the AOA, and which would be affected under Alternative B. However, of the 108 acres, approximately 85 acres were determined to be nonessential to the survival of the species pursuant to the April 20, 2004 Biological Opinion issued by the USFWS because they neither contain ephemerally wetted areas occupied by Riverside fairy shrimp cysts nor their contributory watersheds. Thus, impacts to these 85 acres are not considered significant.

Under Alternative B, the permanent loss of 1.3 acres of degraded wetland habitat that contain embedded cysts of the Riverside fairy shrimp, as well as the loss of areas that have been proposed for designation as critical habitat for the Riverside fairy shrimp by the USFWS, would trigger the need for a Section 7 consultation with the USFWS to determine whether the impact would jeopardize the continued existence of the species. Implementation of Alternative B would result in the permanent loss of occupied habitat, which is also proposed for designation as critical habitat. These impacts would not occur under the No Action/No Project Alternative. However, the long-term operations and maintenance activities that would continue under the No Action/No Project Alternative would result in the loss of habitat values by preventing the development of habitat conditions necessary for Riverside fairy shrimp cysts to mature into adults.

A.2.4.6.4 Alternative C - No Additional Runway

Alternative C would result in the permanent conversion of 1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp as a result of developed facilities and construction staging and associated support activities.

Additionally, there are approximately 108 acres (of which 1.26 acres contain embedded cysts of Riverside fairy shrimp) that have been proposed for designation as critical habitat within the AOA, and which would be affected under Alternative C. However, of the 108 acres, approximately 85 acres were determined to be nonessential to the survival of the species pursuant to the April 20, 2004 Biological Opinion issued by the USFWS because they neither contain ephemerally wetted areas occupied by Riverside fairy shrimp cysts nor their contributory watersheds. Thus, impacts to these 85 acres are not considered significant.

Under Alternative C, the permanent loss of 1.3 acres of degraded wetland habitat that contain embedded cysts of the Riverside fairy shrimp, as well as the loss of areas that have been proposed for designation as critical habitat for the Riverside fairy shrimp by the USFWS would trigger the need for a Section 7 consultation with the USFWS to determine whether the impact would jeopardize the continued existence of the species. Implementation of Alternative C would result in the permanent loss of occupied habitat, which is also proposed for designation as critical habitat. These impacts would not occur under the No Action/No Project Alternative. However, the long-term operations and maintenance activities that would continue under the No Action/No Project Alternative would result in the loss of habitat values by preventing the development of habitat conditions necessary for Riverside fairy shrimp cysts to mature into adults.

A.2.4.6.5 Alternative D - Enhanced Safety and Security Plan

Under Alternative D, 0.04 acre (1,853 square feet) of the 1.3 acres 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.

The FAA and LAWA have engaged in Section 7 consultation with the USFWS and have identified a set of conservation measures that would result in avoidance of impacts to the Riverside fairy shrimp. The USFWS has accepted these conservation measures and issued a Biological Opinion for Alternative D. Pursuant to the April 20, 2004 Biological Opinion issued by the USFWS, the effects of implementing Alternative D are not likely to jeopardize the continued existence of Riverside fairy shrimp. This conclusion was reached taking into consideration the loss on-site of 0.04 acre occupied by Riverside fairy shrimp, representing a small portion of occupied habitat at LAX. This habitat will be conserved by the creation of vernal pool habitat at an off-site location providing the opportunity for the Riverside fairy shrimp cysts to complete their life cycle. The conclusion of Section 7 consultation with USFWS conducted for Alternative D, as LAWA's proposed project, determined that the impact would not jeopardize the continued existence of the species.

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In addition, ephemeral wetted (EW) areas EW9, EW12, EW13, EW14, EW15, and EW16, (see **Figure A2.4-3**, Proposed Designated Critical Habitat and Watershed Buffer Areas) comprising the remaining 1.26 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp, have the potential to be indirectly affected as a result of construction staging, airfield operations and maintenance, and/or airfield improvements within or adjacent to these six 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. These areas are within the proposed designation of critical habitat for the Riverside fairy shrimp. The potential indirect effects to EW9, EW12, EW13, EW14, EW15, and EW16 would be avoided through implementation of construction avoidance measures, including Best Management Practices (BMPs) required pursuant to the Standard Urban Stormwater Mitigation Plan and the LAX Stormwater Pollution Prevention Plan, and establishment of a 22 acre buffer area around the six occupied areas retained on the LAX airfield, as specified in the Biological Opinion issued by the USFWS on April 20, 2004 and included in Appendix F-E.

The April 20, 2004, Biological Opinion was issued for Alternative D of the LAX Master Plan and its effects on Riverside fairy shrimp and El Segundo blue butterfly. The Biological Opinion contained 12 conservation measures that included enhancement of El Segundo blue butterfly habitat, relocation of soils containing embedded Riverside fairy shrimp cysts from ephemeral wetted areas EW1 and EW2, and storage of soils containing Riverside fairy shrimp cysts from ephemeral wetted area EW6. While the April 20, 2004 Biological Opinion determined only 23 acres of the AOA were critical to the remaining cysts, on April 27, 2004, the USFWS issued a proposed designation of critical habitat that included approximately 108 acres proposed for critical habitat for Riverside fairy shrimp. This included nearly 85 acres that were determined to be nonessential to the survival of Riverside fairy shrimp by the USFWS in the April 20, 2004 Biological Opinion because the 85 acres neither contain ephemeral wetted areas occupied by Riverside fairy shrimp cysts nor their contributory watersheds. Avoidance measures required by the April 20, 2004 Biological Opinion will be implemented for the approximately 23 acres of ephemeral wetted areas EW9, EW12, EW13, EW14, EW15 and EW16 and their associated watershed buffer areas until completion of Section 7 consultation for operations and maintenance activities conducted within these areas (**Figure A2.4-3**, Proposed Designated Critical Habitat and Watershed Buffer Areas).

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.⁷⁶ Specific avoidance measures for the 23 acres are described in FAA's letter of no adverse modification.⁷⁷ The USFWS subsequently issued a letter of concurrence with the FAA's letter of no adverse modification.⁷⁸

Implementation of Alternative D would result in direct impacts to 0.04 acre (1,853 square feet) of the 1.3 acres occupied by Riverside fairy shrimp, consisting of the permanent conversion of occupied, degraded habitat that would not occur under the No Action/No Project Alternative. However, the long-term operations and maintenance activities that would continue in this area under the No Action/No Project Alternative would result in the loss of habitat values by preventing the development of habitat conditions necessary for Riverside fairy shrimp cysts to mature into adults. In addition, Alternative D has potential indirect impacts to the remaining 1.26 acres of occupied degraded wetland habitat. However, these indirect impacts would be avoided under Alternative D through construction avoidance measures, as described above. The FAA is currently undertaking Section 7 consultation to address feasible alternatives that would result in no adverse impact to 1.26 acres of occupied degraded wetland sites

⁷⁶ Code of Federal Regulation. Title 50, CFR, Part 402.10. "Conference on Proposed Species or Proposed Critical Habitat."

⁷⁷ Federal Aviation Administration. 12 August 2004. Letter to U.S. Department of the Interior, Fish and Wildlife Service, Biological Services, Carlsbad Fish and Wildlife Office, 6010 Hidden Valley Road, Carlsbad, CA 92009. Subject: Los Angeles International Airport, Proposed Designation of Critical Habitat. Prepared by: Federal Aviation Administration, P.O. Box 92007, Los Angeles, CA 90009-2007.

⁷⁸ U.S. Fish and Wildlife Service. 13 September 2004. Letter to the U.S. Department of Transportation Federal Aviation Administration. Re: Informal Conference for Five Projects at Los Angeles International Airport, Los Angeles County, California.

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without the need for avoidance measures, including the salvage and relocation of soils containing embedded cysts of Riverside fairy shrimp to property owned by the FAA and designated a habitat preserve at the former Marine Corps Air Station at El Toro, or comparable site(s) approved by the USFWS at a ratio of not more than 3:1.

A.2.4.7 Cumulative Impacts

Cumulative impacts to endangered and threatened species associated with the No Action/No Project Alternative and the four build alternatives, in combination with other past, present, and reasonably foreseeable future projects, are discussed below. Areas surrounding the study area consist largely of developed areas with little or no habitat value. Residential, commercial, and industrial development in the coastal zone has eliminated the majority of natural communities historically present. However, two biologically significant open areas, the Ballona Wetlands and the Ballona Bluffs, remain extant within the vicinity of the study area.

A.2.4.7.1 No Action/No Project Alternative

Under the No Action/No Project Alternative, 1.3 acres of degraded wetland habitat containing embedded cysts of the Riverside fairy shrimp would remain within the AOA located to the east of Pershing Drive and would be subject to continued operations and maintenance activities that would result in the loss of wetland habitat values and functions. As under baseline conditions, it is unlikely that the Riverside fairy shrimp would be able to successfully complete the adult phase of its lifecycle in these locations. Therefore, this alternative would not contribute to any cumulative loss of habitat for this species.

The Playa Vista project currently proposes to develop 111 acres of disturbed/developed area that was previously used in conjunction with Hughes Aircraft operation. The Playa Vista Project was reduced in November 2002 from its original size and intensity, which, as currently proposed, no longer includes any developments or improvements within the Ballona Wetlands. The Catellus Residential Group has proposed to develop 120 single-family homes on 44 acres on the Ballona Bluffs. Neither the Ballona Wetlands nor the Ballona Bluffs have been identified as sites which support Riverside fairy shrimp. However, proposed development of the Ballona Bluffs could eliminate potential sites for habitat restoration suitable to support the Riverside fairy shrimp.

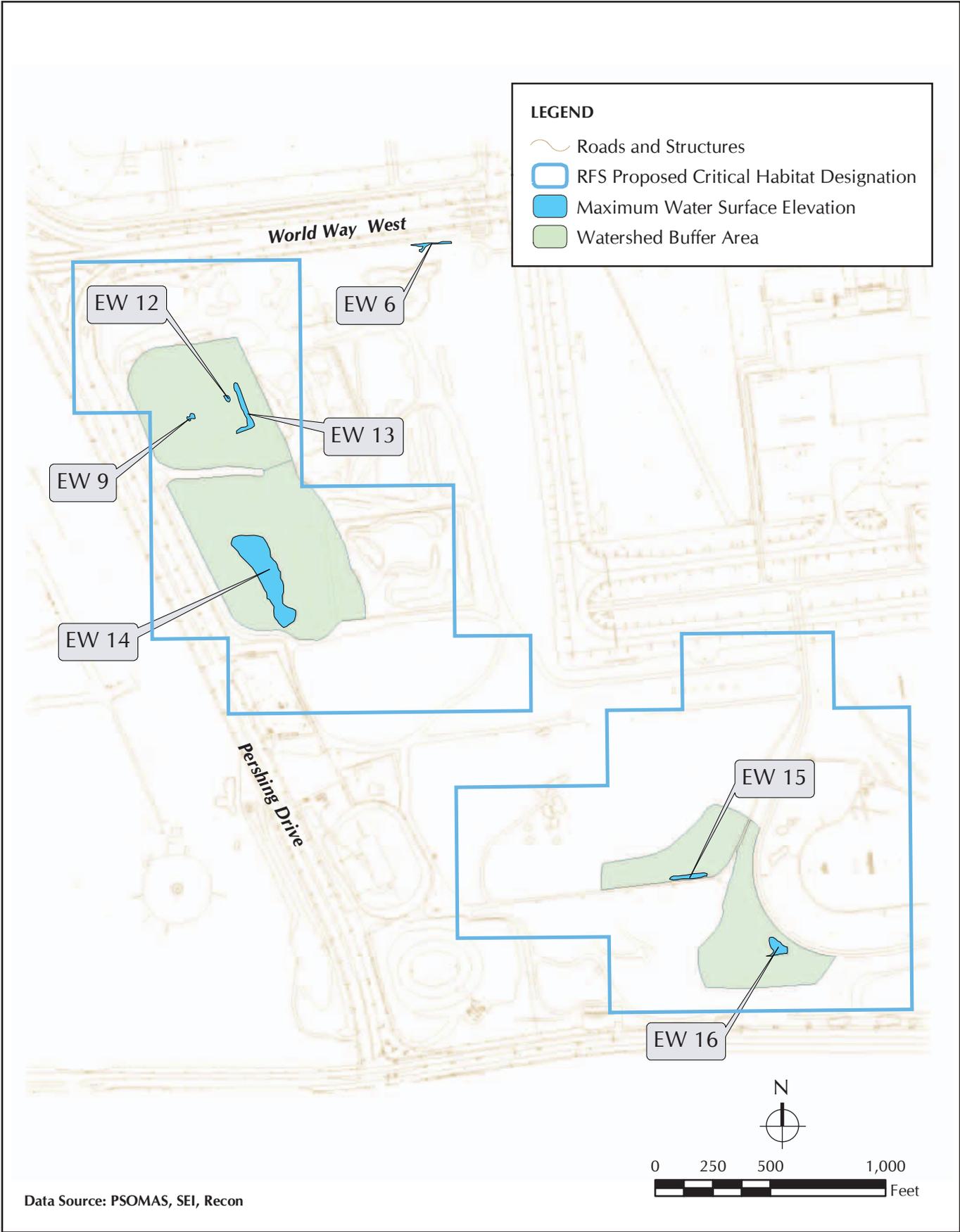
A.2.4.7.2 Alternatives A, B, and C

Under Alternatives A, B, and C, an impact to degraded wetland habitat containing embedded cysts of Riverside fairy shrimp located to the east of Pershing Drive is anticipated to occur. This impact would result from construction and realignment of runways, and construction of new airport facilities on the western airfield. The USFWS in its 2004 Proposed Designation of Critical Habitat for the Riverside fairy shrimp⁷⁹ has designated the portions of area east of Pershing Drive as critical habitat. The unmitigated loss of 1.3 acres of degraded habitat occupied by Riverside fairy shrimp cysts would contribute to cumulative impacts on the survival and recovery of this species if other populations elsewhere are extirpated. Impacts to 1.3 acres of degraded wetlands occupied by Riverside fairy shrimp cysts would trigger a Section 7 consultation between the FAA and the USFWS if these alternatives were chosen.

As described above, neither the Ballona Wetlands nor the Ballona Bluffs have been identified as sites which support Riverside fairy shrimp; notwithstanding the Playa Vista project was reduced in 2002 and, as currently proposed, no longer proposes any development or improvements in the Ballona Wetlands. However, proposed development of the Ballona Bluffs could eliminate potential sites for habitat restoration suitable to support the Riverside fairy shrimp.

Mitigation for project-related impacts to Riverside fairy shrimp cysts are provided in subsection 4.11.8, *Mitigation Measures*, of Part I of the Final EIS.

⁷⁹ Code of Federal Regulation. Title 50, CFR, Part 17: "Endangered and Threatened Wildlife and Plants."



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A.2.4.7.3 Alternative D - Enhanced Safety and Security Plan

Under Alternative D, impact to 0.04 acre of degraded wetland habitat containing embedded cysts of Riverside fairy shrimp located to the east of Pershing Drive is anticipated. The FAA and LAWA have engaged in Section 7 consultation with the USFWS and have identified a set of conservation measures that if implemented would result in avoidance of significant impacts to the Riverside fairy shrimp. The USFWS has approved these conservation measures and issued a Biological Opinion. These measures were developed to provide an opportunity for the Riverside fairy shrimp to complete their life cycle. Pursuant to the April 20, 2004 Biological Opinion issued by the USFWS, the effects of implementing Alternative D are not likely to jeopardize the continued existence of Riverside fairy shrimp since the loss of 0.04 acre occupied by Riverside fairy shrimp, representing a small portion of occupied habitat at LAX, will be conserved by the creation of vernal pool habitat at an off-site location providing the opportunity for the Riverside fairy shrimp cysts to complete their life cycle. Implementation of Alternative D would therefore not contribute to the cumulative loss of habitat for Riverside fairy shrimp.

The Playa Vista project and the Catellus Residential Group Project would not contribute to cumulative impacts to Riverside fairy shrimp as neither the Ballona Wetlands nor the Ballona Bluffs have been identified as sites that support Riverside fairy shrimp. Furthermore, the Playa Vista project was reduced in 2002 and, as currently proposed, no longer proposes any development or improvements in the Ballona Wetlands. Proposed development of the Ballona Bluffs could eliminate potential sites for habitat restoration suitable to support the Riverside fairy shrimp.

A.2.4.8 Mitigation Measures

Based on the information and analysis presented above regarding the USFWS proposed designation of critical habitat for Riverside fairy shrimp, implementation of the LAX Master Plan Improvements under Alternatives A, B, and C would require Section 7 consultation and the development of mitigation measures. Alternative D as considered, would not result in significant adverse impacts to Riverside fairy shrimp and proposed designated critical habitat that are not adequately addressed by the mitigation measures that are already proposed. If Alternative D is selected no additional mitigation measures are required.

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A.2.5 Coastal Zone Management and Coastal Barriers

A.2.5.1 Introduction

Section 4.14, *Coastal Zone Management and Coastal Barriers*, of Part I of the Final EIS (subsection 4.14.4.2, *Federal Standards*), indicates a coastal zone consistency finding that addresses project-related improvements occurring within the coastal zone is required before the FAA can issue its Record of Decision. The FAA fulfilled that requirement through the issuance of a Coastal Consistency Determination for Alternative D in August 2004, which addressed impacts associated with the proposed relocation and improvement of existing navigational aids located within the coastal zone. The content of the Consistency Determination is derived primarily from, and is consistent with, the information, analyses, and conclusions of Part I of the Final EIS relative to Alternative D.

In conjunction with the FAA's issuance of the Consistency Determination, a Coastal Consistency Certification was completed by LAWA to address the potential impacts to coastal resources that may occur from Alternative D project-related improvements situated outside of the coastal zone. Similar to the Consistency Determination, the content of the Consistency Certification is derived primarily from, and is consistent with, the information, analyses, and conclusions of Part I of the Final EIS relative to Alternative D. Both the Consistency Determination and the Consistency Certification pertain to federal activities or approvals related to the LAX Master Plan. Pursuant to the Coastal Zone Management Act, a Consistency Determination applies to federal activities and approvals where a federal agency is the applicant. In the case of the LAX Master Plan, the FAA would have lead responsibility regarding the relocation and improvement of navigational aids located within the coastal zone. Implementation of the LAX Master Plan will also require other various federal approvals and permits that LAWA will have primary responsibility for obtaining. Pursuant to the Coastal Zone Management Act, a Consistency Certification applies to federal activities and approvals where the applicant is not a federal agency.

The following summarizes the contents and findings of the Consistency Determination and the Consistency Certification related to the LAX Master Plan, with some additional information and analysis provided below relative to NEPA review specific to the Final EIS. A copy of the Consistency Determination and the Consistency Certification is provided in Appendices A-3a and A-3b, respectively. It should be noted that certain refinements in the assumptions for, and approach to, treatment of the existing navigational aids and the restoration plans described in the Consistency Determination and Consistency Certification were made during the course of review and approval by the California Coastal Commission. Such refinements are described in subsection A.2.5.4, *California Coastal Commission Actions and Resultant Refinements to EIS Information*, below. The information and analysis presented below serves to elaborate upon the discussion presented in subsection 4.14.6.5, *Alternative D - Enhanced Safety and Security Plan*, of Part I of the Final EIS.

A.2.5.2 Summary of Consistency Determination Analysis

A.2.5.2.1 **Project Areas and Activities Subject to Consistency Determination**

A key aspect of Alternative D is to implement various airfield improvements that would enhance the safety and operation of the airfield and meet the requirements of the FAA. The proposed improvements would increase runway and taxiway separations for larger aircraft by adding parallel taxiways between runways, and by increasing safety areas to be consistent with FAA requirements. These changes would reduce controller workload and the associated risk of runway incursions,⁸⁰ as well as reduce the risk of aircraft damage in the event of a runway overrun.

The vast majority of the improvements proposed for LAX under Alternative D would occur outside the coastal zone, as indicated on **Figure A2.5-1**, Alternative D with Coastal Zone Boundary Shown.

⁸⁰ A runway incursion is defined by the FAA as any occurrence in the airport runway environment involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in a loss of required separation with an aircraft taking off, intending to take off, landing, or intending to land.

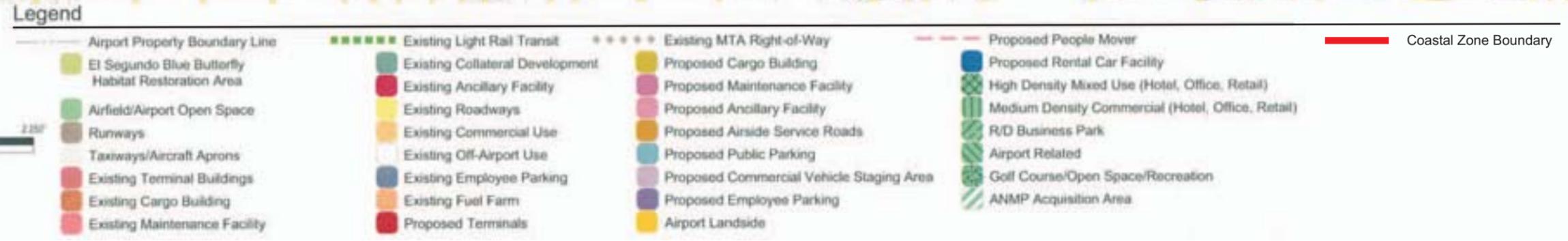
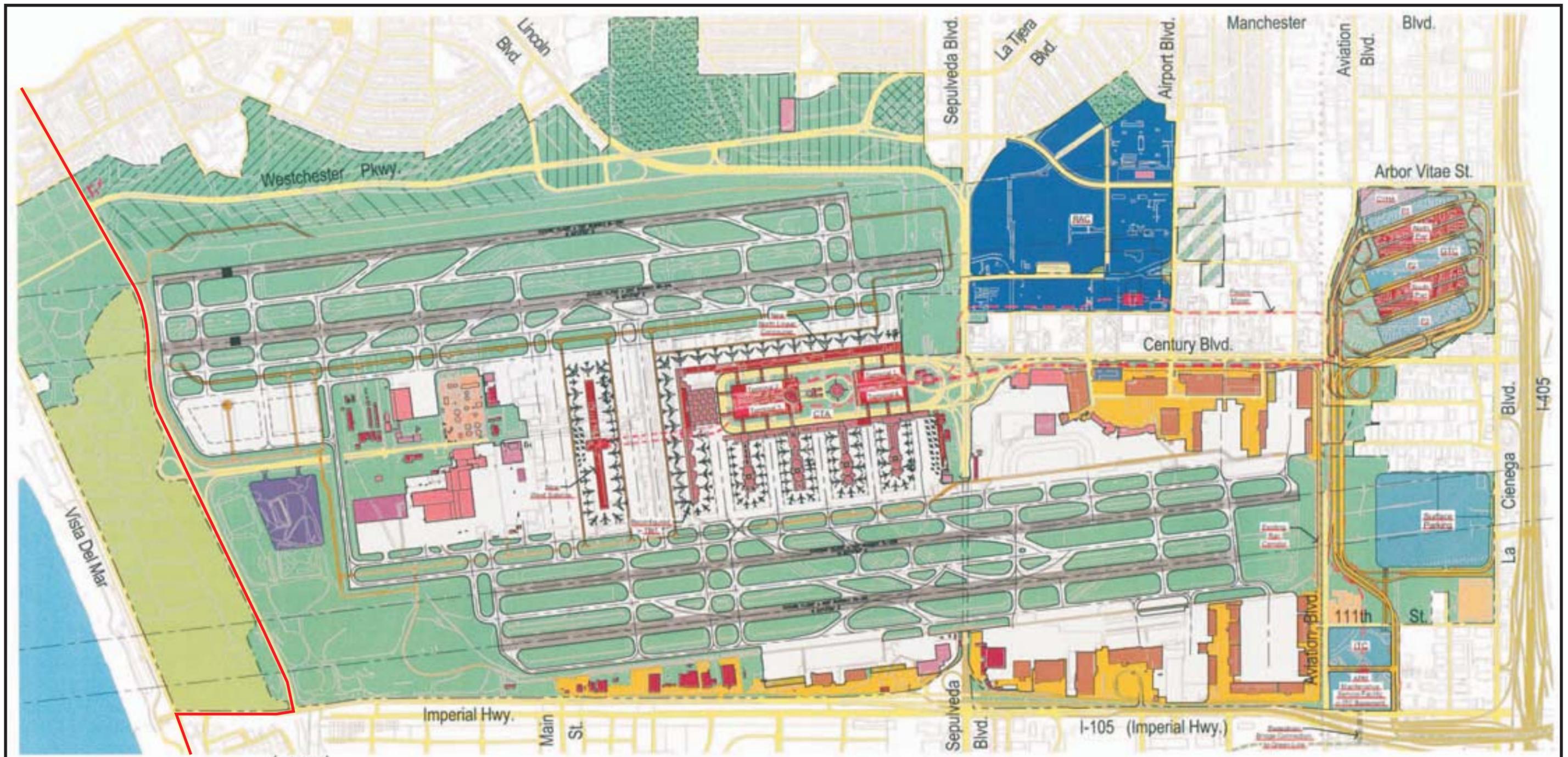
A.2.5 Coastal Zone Management and Coastal Barriers

Currently, the only facilities within the portion of the coastal zone adjacent to LAX include Pershing Drive, existing navigational aids and associated service roads, and abandoned roadways that served residences formerly located within the Los Angeles/El Segundo Dunes ("Dunes"). The FAA sets standards for airfield and terminal area lighting aids and navigational systems through its 150-series Advisory Circulars and through the review and approval of airport layout plans. Navigational aids are provided to facilitate aircraft identification, approach/landing, takeoff, and taxiing operations at night and in adverse weather.

In conjunction with the runway improvements proposed under Alternative D, modifications to the existing navigational aids would occur. **Figure A2.5-2**, Location of Proposed Navigational Aids - Alternative D, shows the locations of the existing, proposed, and relocated facilities. The northernmost runway, Runway 24R/6L is proposed to be extended westerly by approximately 1,495 feet, which in turn would require that the existing navigational aids, specifically the instrument landing light system, be shifted to the west as well. The type of landing light system to be utilized is referred to as the Approach Lighting System (Flashing)-2 (ALSF-2). **Figure A2.5-3**, Approach Lighting System (Flashing) Towers in the Los Angeles/El Segundo Dunes, provides photographs of this type of navigational aid. The proposed ALSF-2 lighting system would decrease the spacing between lights by increasing the number of lights used to aid pilots in identifying the airport. The number of lights would increase from 15 to 23, and the existing spacing would decrease from 200 feet to 100 feet between each light. The lights would be directed up to approaching aircraft, and the extra lighting would be used during low visibility Santa Ana conditions (strong easterly winds) and at night when planes are approaching LAX from the west. During normal operations only one-half of the lights would be illuminated. To the extent possible, subject to FAA requirements and approval, the ALSF modifications associated with the extension of Runway 24R/6L would occur at, or adjacent to, the pad areas of the existing system to reduce disturbance impacts within the coastal zone. This would also be the case relative to using the access road adjacent to the existing landing light system that currently serves Runway 24R/6L. In addition to the aforementioned landing light system improvements, the existing Localizer Antenna (i.e., an antenna that emits an electronic signal used for precise instrument landings during inclement weather, such as periods of heavy fog common to coastal areas such as at LAX) for Runway 24R/6L would be relocated to a position in-line with the alignment of the relocated landing light system.

Under Alternative D, existing Runway 24L/6R would be relocated southward by approximately 340 feet and extended east by approximately 1,280 feet and west by approximately 135 feet. As a result of the southward relocation of Runway 24L/6R the alignment and locations of the existing runway light system serving the runway would also need to be shifted to the south. In addition, the existing Localizer Antenna for Runway 24L/6R would also need to be relocated to the south. **Figure A2.5-2** indicates the locations of the existing and proposed/relocated navigational aids associated with Runway 24L/6R. As shown in the subject figure, much of the relocated navigational aid system would occur at, or near, existing roads, which would reduce potential disturbance impacts within the coastal zone.

As addressed at a planning level of analysis in Part I of the Final EIS, the proposed relocation of navigational aids associated with the improvements planned for Runways 24R/6L and 24L/6R would disturb a total of approximately 66,675 square feet (1.53 acres) of area within the coastal zone based on an assumed 9 foot x 9 foot pad area for each landing light standard, a 15 foot service buffer around each pad area, and a 15 foot wide service road along the alignment of landing light pads. As noted above, existing access roads would, by intention and design, be used to the extent feasible; however, such roads are approximately 10 feet wide, and would need to be widened to 15 feet. The impacts of such widening of existing roads, where necessary and appropriate, have been accounted for in calculating the areas of disturbance (the location of existing roads can be seen on the underlying existing conditions base map in **Figure A2.5-2**, and are also shown on **Figures A2.5-4** through **A2.5-5** in the discussion below).



Prepared by: Landrum & Brown, April 2003

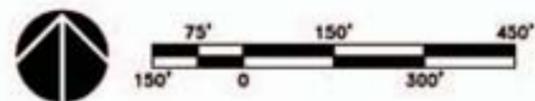
LAX Master Plan Final EIS

Alternative D With Coastal Zone Boundary Shown

Figure A2.5-1



LEGEND



- | | | | |
|--|--|--|--|
| | Habitat Restoration Area Boundary | | Proposed Navigational Aids |
| | Sand Dunes | | Existing Navigational Aids to be removed |
| | El Segundo Blue Butterfly Habitat Restoration Area | | Existing Navigational Aids to remain |
| | Existing Roadways | | Airport Landside |

Prepared by: Landrum & Brown, February 2004



LAX Master Plan Final EIS

Approach Lighting System (Flashing) Towers
in the Los Angeles/El Segundo Dunes

Figure
A2.5-3

A.2.5 Coastal Zone Management and Coastal Barriers

The following provides a breakdown of surface disturbance associated with the navigational aids improvements and relocations under Alternative D, as addressed at a planning level of analysis in Part I of the Final EIS.

Impacts from Runway 24R/6L - Alternative D (in Square Feet)

Impact Area	Pad Area (including service area buffer)	Service Roads	Localizer Antennae
Los Angeles/EI Segundo Dunes	13,689 (9 pads)	12,151	5,980
Habitat Restoration Area (HRA)	3,042 (2 pads)	1,929	0
ESB ¹ Occupied Area within HRA	0	0	0
Total Impact	16,731	14,080	5,980

¹ El Segundo blue butterfly

Impacts from Runway 24L/6R - Alternative D (in Square Feet)

Impact Area	Pad Area (including service area buffer)	Service Roads	Localizer Antennae
Los Angeles/EI Segundo Dunes ¹	1,521 (1 pad)	0	0
Habitat Restoration Area	12,168 sq. ft. (8 pads)	10,215	5,980
ESB ² Occupied Area within HRA	3,042 (2 pads)	1,575	5,980
Total Impact	13,689	10,215	5,980

¹ 3 of the 4 light standards are placed on existing paved areas in the Dunes.

² El Segundo blue butterfly

Total Impacts from Navigational Aids - Alternative D (in Square Feet)

	Total Impact to Los Angeles/ EI Segundo Dunes	Habitat Restoration Area within the Los Angeles/EI Segundo Dunes	ESB Occupied Area within Habitat Restoration Area
Pad Areas	30,420	15,210	3,042
Service Roads	24,295	12,144	1,575
Localizer Antennae	11,960	5,980	5,980
Total Impact	66,675	33,334	10,597

Assumptions for Calculations:

- ◆ Pad areas for light standards (ALSF-2) are comprised of a 9 ft. X 9 ft. platform plus a 15 ft. buffer = 39 ft.² = 1,521 sq. ft.
- ◆ Localizer antennae measure 100 ft. X 16 ft. plus a 15 ft. buffer = 130 ft. X 46 ft. = 5,980 sq. ft.
- ◆ New service roads will have a width of 15 ft.
- ◆ Existing service roads have an average width of 10 ft. and will be widened by 5 ft.
- ◆ Pads proposed within existing roads are not considered to have an impact

Further design and preliminary engineering of the proposed improvements and relocation of the existing navigational aids was undertaken for the purpose of the Consistency Determination, providing preliminary engineering based on site conditions and typical designs for approach lighting systems and instrument landing systems such as those anticipated for the project. The results of this additional design effort are presented in **Figure A2.5-4**, Proposed Navigational Aids - NAVAID Site Plan, **Figure A2.5-5**, Proposed Navigational Aids - Runway 24R/6L ALSF-2, **Figure A2.5-6**, Proposed Navigational Aids - Runway

A.2.5 Coastal Zone Management and Coastal Barriers

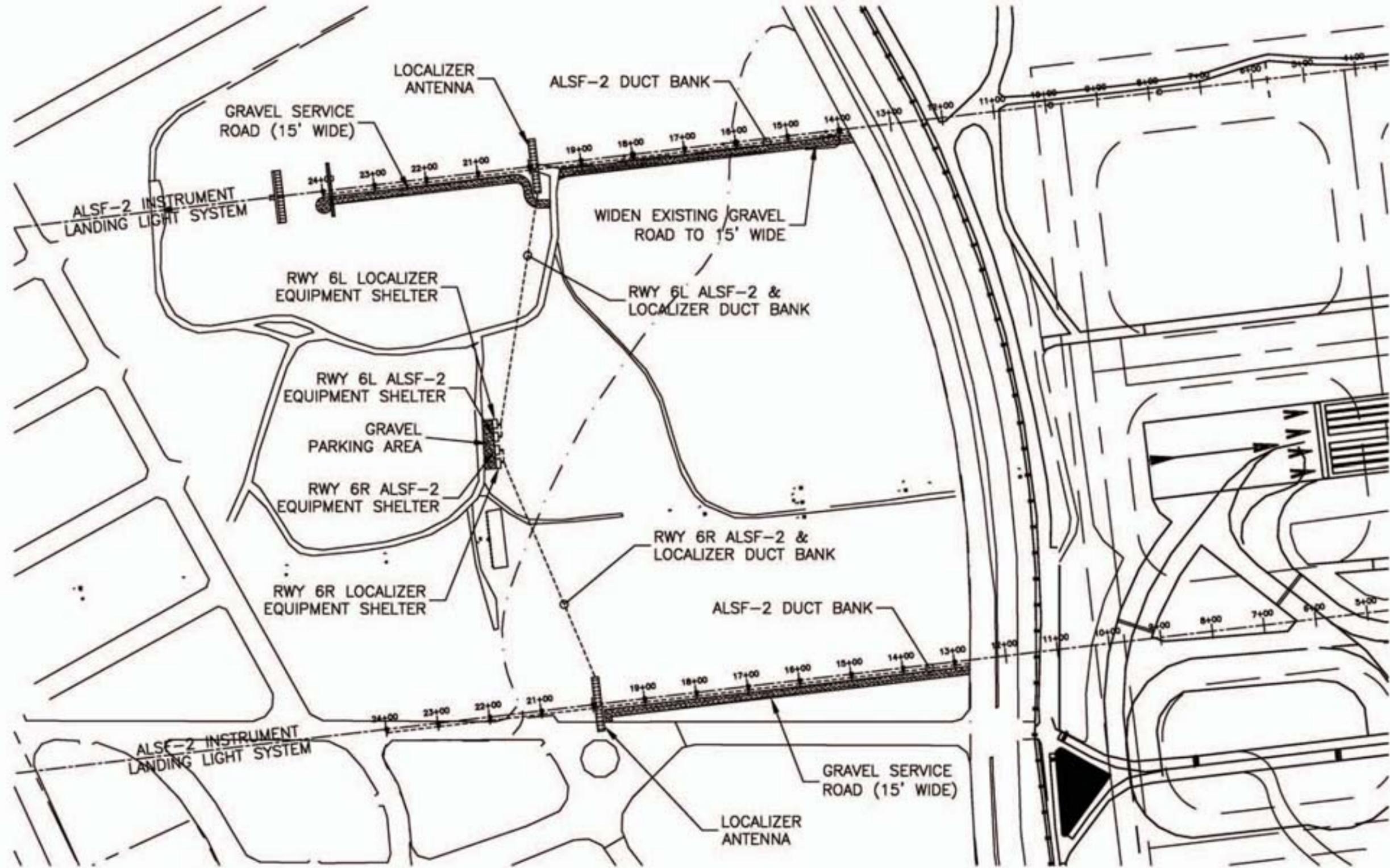
24L/6R ALSF-2, and **Figure A2.5-7**, Proposed Navigational Aids - Details. The most notable refinements that came out of the preliminary engineering include a reduction in the amount of surface area affected by the grading of, and buffer area for, the lighting system pad areas (i.e., original assumption of 39 feet x 39 feet reduced to 32 feet x 37 feet), reduction of the affected area associated with each localizer antennae (i.e., original assumption of 130 feet x 46 feet reduced to 118 feet x 33 feet), and the identification of ancillary facilities required to support the new system (i.e., ALSF equipment shelters and adjacent gravel parking area, and localizer duct banks [e.g., electrical wire conduits] between the localizer antennae/ALSF corridor and the ALSF equipment shelters). Based on the more detailed design, the impact areas were recalculated, and a comparison between the original planning estimates and the subsequent preliminary engineering estimates is provided in the table below. It should be noted that the improvements and relocation of the navigational aids are subject to further refinement in conjunction with final engineering, the selection/purchase of the new equipment, FAA plans and specifications check, implementation of the associated manufacturer's specifications, and other requirements applicable at the time Runway 24L/6R is relocated, which is currently scheduled to occur in 2012-2013.

**LAX Master Plan Alternative D Impacts Within Coastal Zone
(in Square Feet)**

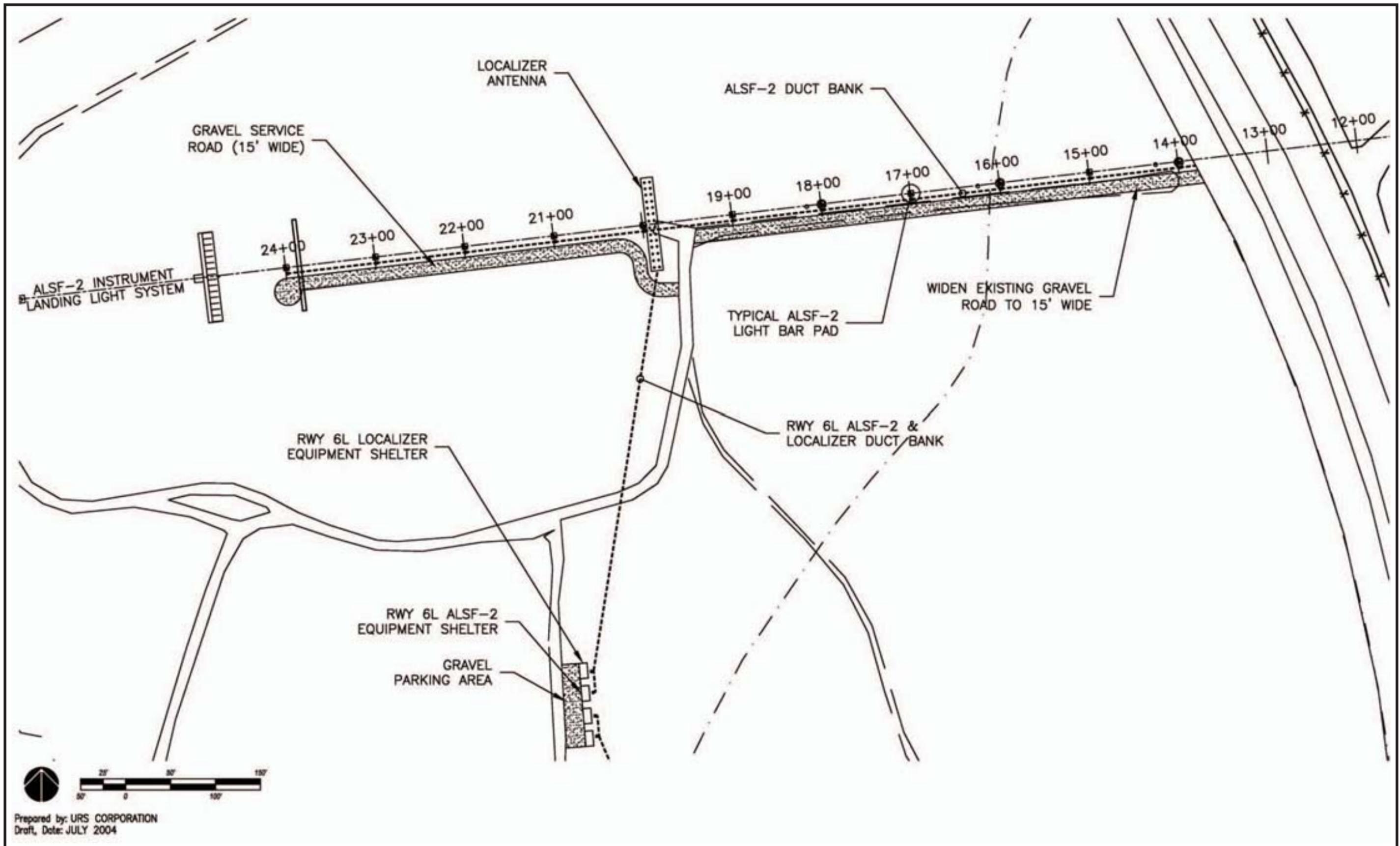
	Runway 24R/6L		Runway 24L/6R		TOTAL	
	Planning Estimate	Engineering Estimate	Planning Estimate	Engineering Estimate	Planning Estimate	Engineering Estimate
ALSF Landing Light Systems	16,731	13,024	13,689	14,208	30,420	27,232
Localizer Antennae	5,980	3,894	5,980	3,894	11,960	7,788
Access Roads	14,080	10,360	10,215	10,650	24,295	21,010
Ancillary Facilities ¹	--	2,136	--	2,136	--	4,272
TOTAL	36,791	29,414	29,884	30,888	66,675	60,302

¹ Ancillary Facilities were calculated separately for the preliminary engineering estimate, and include a gravel parking lot, equipment shelters, and duct banks.

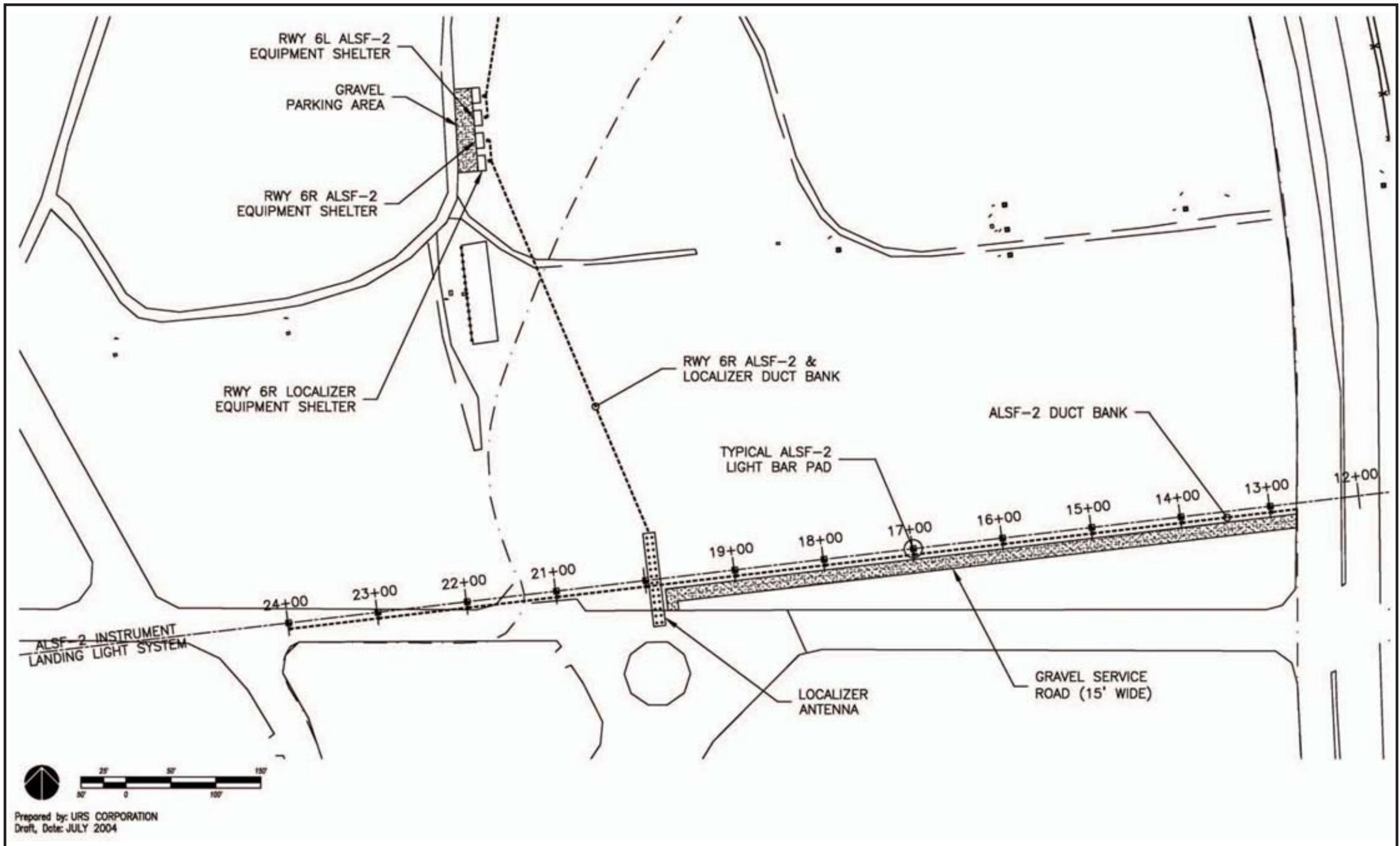
With respect to the treatment of areas where existing navigational aids are removed for relocation, all aboveground structural materials (i.e., lighting standards, supports, etc.) would be removed. Any gravel areas occurring adjacent to pad areas (i.e., for service vehicles) would be cleared of gravel and revegetated with native plant material. The Consistency Determination completed by the FAA originally anticipated that the existing concrete pads/foundations would be left in-place, based primarily on the assumption that the amount of disturbance associated with removing the sizeable foundations would be substantially greater than the net amount of area recovered for revegetation. Specifically, it was anticipated that, similar to the installation of new pads as described above, a work area of approximately 32 feet x 37 feet would be required at each pad to be removed. The resultant amount of disturbance at each pad area, approximately 1,184 square feet, would far exceed the amount of former pad area, approximately 91 square feet, made available for revegetation. Based on the total number of existing pads that would need to be removed, which includes 23 pad areas, the total amount of surface disturbance originally anticipated was approximately 27,232 square feet, while the total net amount of pad area made available for revegetation would only be approximately 1,863 square feet. Additionally, the Consistency Determination anticipated that approximately 2.5 cubic yards of native soils would be required as backfill for each foundation removed, and approximately 110 cubic yards of such fill would be required for each localizer pad removed, plus another 30 cubic yards of such backfill associated with the removal of the moving target indicator (MTI) radar reflector. The total amount of backfill associated with removal of foundations for the existing improvements taken out of service was estimated to be approximately 292 cubic yards. The costs for, as well as the environmental implications (i.e., dust and air pollutant emissions, interim loss of existing native vegetation that would be impacted by excavation activities, etc.) associated with, the work required to remove the existing foundations, as assumed in the Consistency Determination, would far exceed the environmental benefits associated with recovering 1,863 square feet (net) of revegetation area; hence, such removal of existing foundations was not considered to be practicable. This conclusion was reached particularly in light of the fact that over 54,000 square feet (i.e., 1.25 acres) is currently proposed for revegetation in the dunes area as mitigation for the

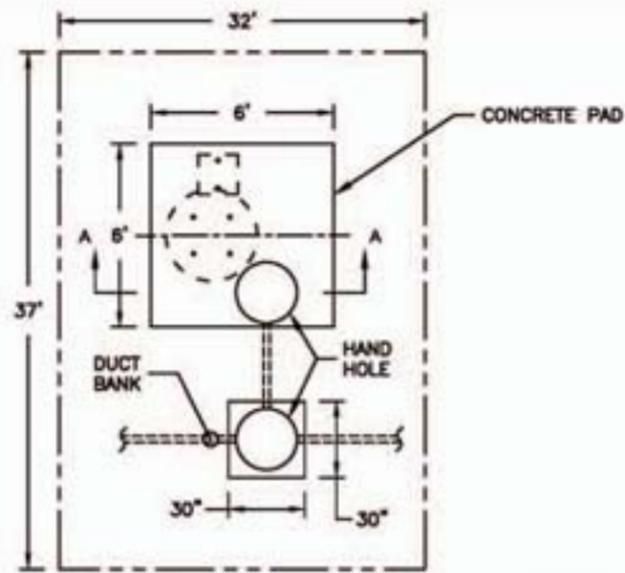


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 Draft, Date: JULY 2004

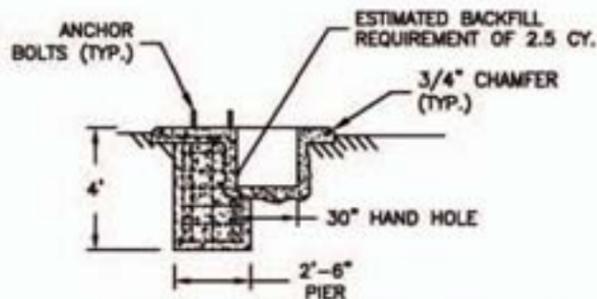


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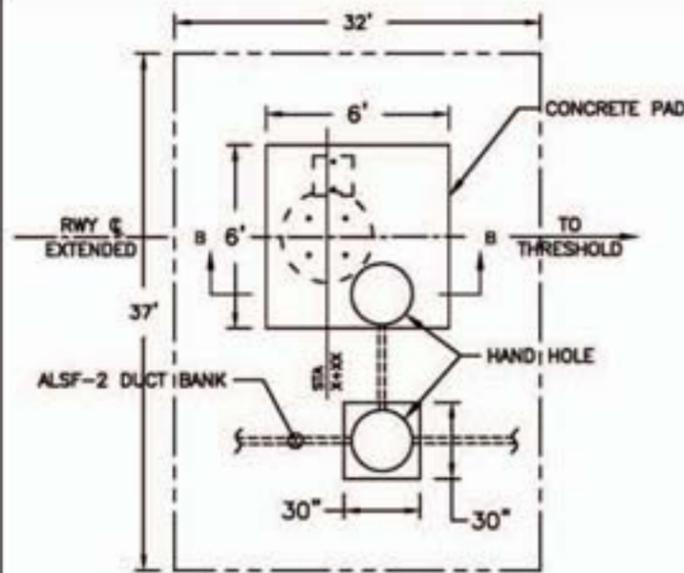




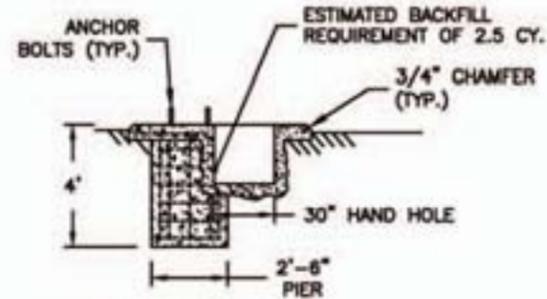
TYPICAL APPROACH LIGHTING FOUNDATION SYSTEM - PLAN



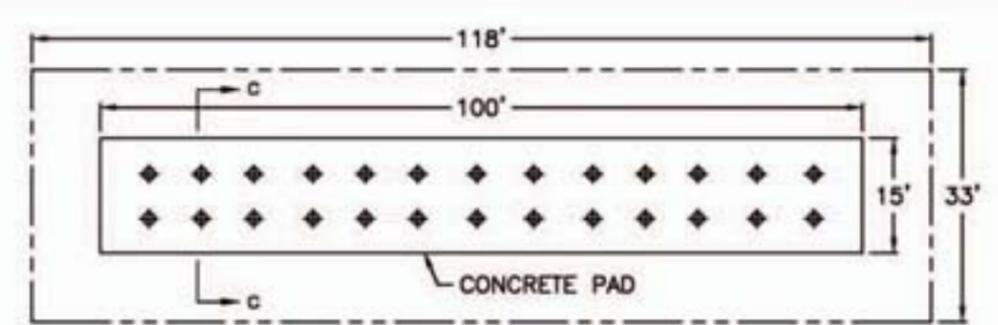
TYPICAL APPROACH LIGHTING FOUNDATION SYSTEM - SECTION A



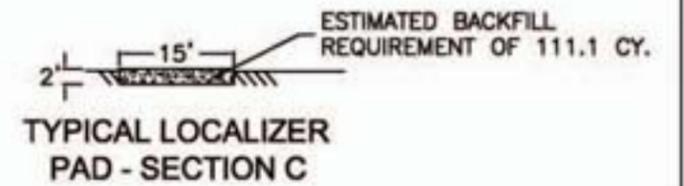
TYPICAL ALSF-2 LIGHT BAR PAD - PLAN



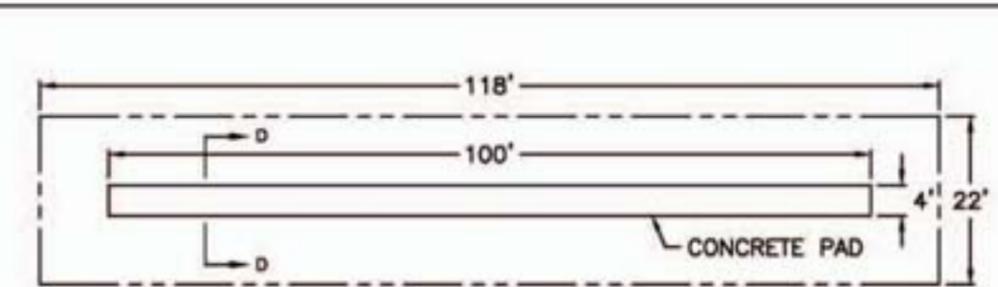
TYPICAL ALSF-2 LIGHT BAR PAD - SECTION B



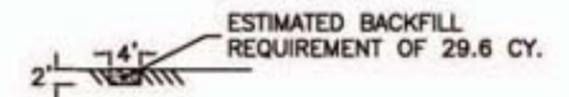
TYPICAL LOCALIZER PAD - PLAN



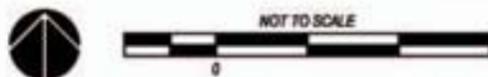
TYPICAL LOCALIZER PAD - SECTION C



TYPICAL MTI RADAR REFLECTOR PAD - PLAN



TYPICAL MTI RADAR REFLECTOR PAD - SECTION D



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Draft, Date: JULY 2004

impacts of the navigational aids improvements and relocation. As described in greater detail below, the revegetation plan originally proposed in the Consistency Determination for the disturbance of habitat area within the dunes would adequately mitigate the project-related impacts. Under the original revegetation plan, FAA was responsible for ensuring the completion of the proposed revegetation program. It should be noted, as described in greater detail below in subsection A.2.5.4, that additional evaluation of the approach to removing the existing navigational aids and the revegetating disturbed habitat was conducted during the course of the California Coastal Commission's review and approval of the Consistency Determination, resulting in refinements to the above impacts assessment and mitigation approach. Such refinements are described in subsection A.2.5.4.

The need for, and design of, the navigational aids relocation and improvements described above are based on numerous federal requirements, standards, and directives. Details regarding those requirements are presented in the *Basis and Requirements for Navigational Aids Improvements* discussion of the Consistency Determination (see Appendix A-3a).

A.2.5.2.2 Consistency with Provisions of the California Coastal Act

The Consistency Determination evaluates the degree to which the proposed navigational aids relocation and improvements are consistent with the policies of the California Coastal Act (CCA). The evaluation begins by identifying the policy sections of the CCA that are not applicable to, or affected by, the subject proposal, and then addresses the policies that are relevant to the project proposal. Those policy sections are described below. The analysis for the Consistency Determination, as well as for the Consistency Certification, presented below also includes a discussion of relevant public comments received on the Draft EIS/EIR and the Supplement to the Draft EIS/EIR regarding impacts to coastal resources.

Policies That Are Not Applicable to, or Affected by, the Project

Article 2 (Public Access):

- ◆ §30210 Posting of access;
- ◆ §30211 Development shall not interfere with access;
- ◆ §30212 Access from new projects;
- ◆ §30212.5 Distribution of public facilities;
- ◆ §30213 Encouragement of lower cost visitor and recreational facilities; and
- ◆ §30214 Implementation of public access policies; legislative intent.

Improvement and relocation of the existing navigational aids would occur within an area owned by LAX that lies within the coastal zone. This area is, and will continue to be, secured from public access due to airport safety and national security needs. Coastal access is, and would continue to be, allowed on the public roads outside of the secured area. Maximum public access to the coast would be maintained consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse. Development activities related to the relocation of existing navigational aids would not interfere with public access to the sea nor affect lower cost visitor and recreational facilities.

Article 3 (Recreation):

- ◆ §30220 Protection of unique water-oriented activities;
- ◆ §30221 Protection for recreational use and development of oceanfront land;
- ◆ §30222 Priority of development purposes of private lands;
- ◆ §30222.5 Oceanfront lands; aquaculture facilities; priority of oceanfront lands suitable for aquaculture;
- ◆ §30223 Reservation of upland areas; and
- ◆ §30224 Encouragement of recreational boating use.

Based on the airport safety and national security requirements for the navigational aids, as mandated by FAA, activities associated with improving and relocating existing navigational aids within the coastal zone do not pertain to coastal recreation uses and activities. LAX property situated within the coastal zone

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does not currently provide for public access and use, and relocation of the existing navigational aids would not change existing public access restrictions in any way.

Improvement and relocation of existing navigational aids would not affect coastal areas suited for water-oriented recreational activities; oceanfront land, and the recreational opportunities along the oceanfront adjacent to LAX; the priority afforded to recreational facilities designed to enhance public opportunities for coastal recreation, nor the ability to increase recreational boating use of the adjacent coastal waters; or upland areas and their relationship to coastal recreation uses.

Article 4 (Marine Environment):

- ◆ §30230 Maintenance and restoration of marine resources;
- ◆ §30231 Maintenance and restoration of water quality;
- ◆ §30232 Protection against spills of oil and hazardous substances;
- ◆ §30233 Diking, filling or dredging of waterways; erosion control;
- ◆ §30234 Protection of commercial fishing and recreational boating industries;
- ◆ §30234.5 Importance of fishing activities;
- ◆ §30235 Revetments, breakwaters, etc.;
- ◆ §30236 Waterway modification; mitigation; restrictions; and
- ◆ §30237 Habitat conservation plan; Bolsa Chica.

The above CCA policies do not apply to the improvement or relocation of existing navigational aids based on the fact that the existing and proposed navigational aids are substantially removed from marine resources, would not result in the potential for oil and hazardous substance spills, would not involve revetments/breakwaters, would not involve diking, filling or dredging in coastal zone, would not involve boating or fishing, and would not be located near Bolsa Chica.

To prevent impacts to the coastal zone and coastal waters from erosion and runoff associated with relocating the existing navigational aids, FAA would incorporate Best Management Practices (BMPs) into the construction process for the navigational aids and associated service roads. Measures including BMPs to address potential erosion impacts associated with Project construction are specified in Section 4.7, *Hydrology and Water Quality*, of Part I of the Final EIS.

Article 5 (Land Resources):

- ◆ §30241 Prime agricultural land; maintenance in agricultural production;
- ◆ §30241.5 Agricultural lands; determination of viability of uses; economic feasibility evaluation;
- ◆ §30242 Lands suitable for agricultural use; conversion; and
- ◆ §36243 Productivity of soils and timberlands; conversions.

The above CCA policies do not apply to the relocation of existing navigational aids based on the fact that the relocation of navigational aids would not be near, and would not involve, agricultural or timber lands.

- ◆ §30244 Archaeological or paleontological resources.

Improvement and relocation of the existing navigational aids would not directly or indirectly affect any known archaeological or paleontological resources. According to previous archaeological and paleontological surveys, as discussed in Section 4.9, *Historic/Architectural and Archaeological/Cultural and Paleontological Resources*, of Part I of the Final EIS, no known resources exist within the coastal zone area of the LAX property. One historic building, a WWII munitions storage bunker, is located within the coastal zone, but the proposed relocation of the existing navigational aids would not affect the building. In the event that previously unidentified archaeological and/or paleontological resources were to be discovered during the relocation and construction efforts, implementation of Mitigation Measures MM-PA-1 through MM-PA-7 in Part I of the Final EIS would reduce impacts to these resources. Also see Mitigation Measure MM-HA-11, Navigational Aids Relocation and Improvements (Alternative D), which was added subsequent to preparation of the Consistency Determination, as described below in subsection A.2.5.4. Therefore, no archaeological or paleontological resources within the coastal zone would be adversely affected.

Article 6 (Development):

- ◆ §30250 Location, existing developed areas

The proposed improvement and relocation of existing navigational aids would occur within an area devoted to airport related facilities and, due to the nature of the area and uses, no other coastal developments are nearby. Due to the nature of the project, there is not much, if any, discretion about where to best locate the facilities. The FAA regulations noted above in Section III mandate the placement of navigational aids at runway centerlines to ensure aviation safety; therefore, the facilities cannot be clustered with other such facilities in order promote compatibility within the coastal zone.

- ◆ §30251 Scenic and visual qualities

The navigational aids proposed to be improved and relocated in conjunction with Alternative D would generally be similar in size and design to the existing facilities that have existed in the dunes for decades, and would continue to exist irrespective of Alternative D. Similar to the existing navigational aids, the relocated navigational aids would not be readily apparent from either Pershing Drive or Vista del Mar. The area of the Los Angeles/El Segundo Dunes in which the existing and proposed navigational aids are located is fenced off with green security fencing to prevent public access. The design of navigational aids is mandated by FAA standards, and due to the strict safety specifications, the aesthetic appearance of the navigational aids cannot be changed in any way.

- ◆ §30252 Maintenance and enhancement of public access

Improvement and relocation of existing navigational aids would not affect public access to the coast. Currently, the portion of LAX property within the coastal zone is not accessible to the public for aviation safety and national security reasons. However, coastal access is provided west of the Los Angeles/El Segundo Dunes, and via existing roads to the north and south of the subject area. The new location for the relocated navigational aids would not affect the existing coastal access routes adjacent to and surrounding LAX.

- ◆ §30253 Development Mandates

Improvement and relocation of existing navigational aids would not occur in areas of high geologic, flood, and fire hazard; would not contribute significantly to erosion, geologic instability, or destruction of the Los Angeles/El Segundo Dunes; would not pertain to South Coast Air Quality Management District/California Air Resources Board requirements; and would not adversely affect energy consumption or vehicle miles traveled. The relocated navigational aids would not adversely affect popular visitor destination points for recreational uses in the coastal zone.

- ◆ §30254 Public works facilities design

Improvement and relocation of existing navigational aids is proposed within close proximity, approximately 340 feet to the south of the existing navigational aids for Runway 24L/6R, and as a westerly extension of the existing navigational aids for Runway 24R/6L. The facilities would be designed and constructed to minimize the footprint on the Dunes, and relocation of the navigational aids would be done in compliance with FAA regulations for navigational aid and aviation safety. Relocation of the existing navigational aids would not expand the passenger or cargo capacity of LAX.

- ◆ §30254.5 Sewage treatment plant development; prohibition on terms and conditions

Relocation of existing navigational aids would not involve the development of a sewage treatment plant.

- ◆ §30255 Priority of coastal-dependent developments

Improvement and relocation of existing navigational aids is proposed in compliance with FAA's regulations related to airport design and aviation safety. Navigational aids are not coastal-dependent facilities and would not affect or hinder the priority of other coastal-dependent development in the area. Additionally, no wetlands within the coastal zone would be affected by the proposed navigational aid relocation.

Article 7 (Industrial Development):

- ◆ §30260 Expansion or location of industrial development;
- ◆ §30261 Use of tanker facilities; liquefied natural gas terminals;
- ◆ §30262 Oil and gas development;
- ◆ §30263 Refineries or petrochemical facilities;
- ◆ §30264 Thermal electric generating plants;
- ◆ §30265 Legislative findings and declarations; offshore oil transport and refining; and
- ◆ §30265.5 Governor or designee; coordination of activities concerning offshore oil transport and refining; duties.

Improvement and relocation of existing navigational aids is not considered industrial development and would not conflict with policies pertaining to the location or expansion of coastal-dependent industrial facilities within their existing sites. The relocation of existing navigational aids would not include the design of tanker facilities, oil and gas development, the construction of new, or expansion of existing refineries or petrochemical facilities, thermal electric generating plants in the coastal zone, offshore oil transportation, or coordination of activities and duties concerning offshore oil transport and refining by the Governor or designee.

Relevant Policies of the California Coastal Act

The following presents the CCA policies that are relevant to the proposed improvements occurring in the coastal zone.

Article 5, Land Resources:

- ◆ §30240 Environmentally sensitive habitat areas; adjacent developments
 - (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
 - (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Analysis:

Existing Los Angeles/EI Segundo Dunes Habitat

LAWA owns and manages the 307-acre Los Angeles/EI Segundo Dunes located immediately west of the airport operations area and actively maintains approximately 203 acres of the 307-acre site. Known as the EI Segundo Blue Butterfly Habitat Restoration Area, the 203-acre site is home to the federally-listed EI Segundo blue butterfly and several other sensitive biotic communities and species and is the largest remaining representation of coastal dune community within Los Angeles.

LAX has two generally designated open-space areas that make up the Consistency Determination's affected environment in the Los Angeles/EI Segundo Dunes, and thus the coastal zone:

1. The EI Segundo Blue Butterfly Habitat Restoration Area (Habitat Restoration Area) located to the west of the airfield, comprised of approximately 202.8 acres. Four biotic communities are represented: Southern Foredune (135.6 acres), Southern Dune Scrub (24.4 acres), Valley Needlegrass Grassland (17.1 acres), and Developed (25.7 acres).
2. Approximately 104.3 acres of non-restructured dunes adjacent to and north of the Habitat Restoration Area, comprised of three biotic communities: Disturbed Dune Scrub/Foredune (74.6 acres), Non-Native Grassland/Ruderal (16.9 acres), and Developed (12.8 acres).

As discussed above, the Habitat Restoration Area is home to the federally-listed EI Segundo blue butterfly. LAWA's habitat conservation and restoration efforts in the Habitat Restoration Area were initiated in 1987 and have received national attention. LAWA, in coordination with U.S. Fish and Wildlife

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and the California Department of Fish and Game, has provided and continues to provide the resources necessary for the habitat conservation and restoration efforts.

There are 20 sensitive plant species designated by federal or state agencies that were determined to have the potential to be present within the LAX Master Plan boundaries. Surveys conducted for sensitive plant species identified three of these species onsite within the coastal zone. Surveys identified 9,051 individuals of Lewis' evening primrose within the Habitat Restoration Area and an additional 300 individuals within the airfield. The El Segundo duneflower was also present within the Habitat Restoration Area, with an extremely small population of only three individuals. The California spineflower was also located in eight areas within the Habitat Restoration Area; 572 individuals were found. Seventeen sensitive plant species were determined absent onsite within the coastal zone.

There were 34 sensitive wildlife species designated by federal or state agencies that were determined to have the potential to occur within the LAX Master Plan boundaries; 24 of these species were identified within the LAX Master Plan boundaries. There are 18 sensitive arthropods (14 sensitive insect species and four sensitive arachnids), all of which were located within the Los Angeles/El Segundo Dunes. One sensitive amphibian, the western spadefoot toad, was determined present in ephemeral ponds in the south airfield. Two sensitive reptiles, the silvery legless lizard and the San Diego horned lizard, were determined present within the Los Angeles/El Segundo Dunes. Two sensitive bird species, the burrowing owl and the loggerhead shrike, were detected in the Los Angeles/El Segundo Dunes. The only sensitive mammal present in the LAX Master Plan boundaries is the San Diego black-tailed jackrabbit, which utilizes the open space area located within the southwestern corner of the airfield.

As mentioned above, six biotic communities have been identified onsite within the coastal zone. The biotic communities and vegetation types found onsite within the coastal zone are discussed in detail below.

Southern Foredune: Southern Foredune plant communities are typically dominated by perennial species with a high proportion of suffrutescent (slightly woody at base) plants up to 30 centimeters (cm) tall. The Southern Foredune community is inhabited by a number of wildlife species, including the federally-listed El Segundo blue butterfly.

Within the study area, 135.6 acres of this community are found within the Habitat Restoration Area west of Pershing Drive. Relatively undisturbed areas (about 40 acres) surrounding the Very High Omni Range Navigation Beacon provide the most representative example of this community. Ecological restoration efforts undertaken between 1987 and 1994 have restored an additional 95.6 acres. The host plant and primary food source for the El Segundo blue butterfly, coast buckwheat, is found in this biotic community.

Southern Dune Scrub: Southern Dune Scrub is a dense coastal scrub community of scattered shrubs, subshrubs, and herbs, generally less than 1 meter in height, often developing considerable cover, and often succulent. Along the coast, Southern Dune Scrub intergrades with the Southern Foredune plant community.

The Los Angeles/El Segundo Dunes contain virtually the only remaining example of this plant community in mainland Southern California. The Southern Dune Scrub community is found only within the Habitat Restoration Area along the steep slope of the backdune and is comprised of 24.4 acres. The host plant and primary food source for the El Segundo blue butterfly, coast buckwheat, is found in this biotic community.

Valley Needlegrass Grassland: The deflation plain east of the backdune consists of loosely consolidated (incipient) sandstone covered to variable depths with aeolian (wind-transported) sand. Many common species of birds and two reptiles are known to utilize this biotic community.

This biotic community has been significantly altered and degraded by development activities. The floral components typically associated with it are now almost completely absent due to extensive grading and paving and the invasion of exotic annual grasses. No vernal pools exist today. The Valley Needlegrass Grassland community occupies 17.1 acres within the Habitat Restoration Area, and is limited to three distinct areas adjacent to and west of Pershing Drive.

Disturbed Dune Scrub/Foredune: This community is made up of 74.6 acres and is located north of the Habitat Restoration Area, south of Waterview Street, west of Pershing Drive, east of Vista del Mar Boulevard, and is bisected by Sandpiper Street. This biotic community is heavily disturbed and is dominated by invasive species that drive out native vegetation. The few coastal dune elements are

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patchy and include burbush, dunes evening primrose, bush lupine, pink sand verbena, and deerweed. Coast buckwheat is absent from this site.

Non-Native Grassland/Ruderal: Non-Native Grassland/Ruderal areas are those that have been subjected to past disturbance. This biotic community occupies 16.9 acres within the coastal zone, including a portion of the Los Angeles/El Segundo Dunes that was once a residential area.

Developed: Developed areas within coastal zone occupy 38.5 acres and include roads and support facilities.

Direct Effects from Navigational Aids

As presented in Part I of the Final EIS based on planning estimates, construction of navigational aids and associated service roads under Alternative D would result in impacts to 66,675 square feet (1.53 acres) of state-designated sensitive habitat within the Los Angeles/El Segundo Dunes. More detailed engineering estimates suggest that the actual impacts may be approximately 10 percent less than those of the planning estimates. For the purpose of this discussion, the more conservative (planning) estimates are used, notwithstanding that certain refinements and modifications to these impacts estimates and mitigation approach were subsequently made in conjunction with the California Coastal Commission's review and approval of the Consistency Determination, as described below in subsection A.2.5.4. The new navigational aid system would include a new ALSF-2 lighting system and would permanently convert 0.25 acre of active El Segundo blue butterfly habitat in the Dunes to concrete to support the navigational lighting system. The proposed ALSF-2 lighting system would decrease the spacing of lights and increase the number of lights used to aid pilots in identifying the airport from 15 to 23. The spacing between each light would decrease from 200 feet to 100 feet. The lights from the ALSF-2 would be directed up at approaching aircraft. The extra lighting would be used during low visibility Santa Ana conditions (strong easterly winds) and at night when planes are approaching LAX from the west. During normal operations only one-half of the lights would be illuminated.

According to the Biological Opinion for the Los Angeles International Airport Master Plan issued by the United States Fish and Wildlife Service (FWS-OR-1012.5 dated April 20, 2004 - included as Appendix F-E in Volume 5 of Part I of the Final EIS), it is estimated that a total of two coast buckwheat plants would be directly affected by the installation of the navigational lighting system under Alternative D. The removal and relocation of the two coast buckwheat plants would likely result in the loss of any El Segundo blue butterfly larvae or pupae associated with that particular plant due to elimination of its food source. However, because of the poor quality of El Segundo blue butterfly habitat in the impact area, it is unlikely that these actions would directly impact more than a small number of El Segundo blue butterfly.

Implementation of Mitigation Measures MM-ET-3, El Segundo Blue Butterfly Conservation: Dust Control, and MM-ET-4, El Segundo Blue Butterfly Conservation: Habitat Restoration, would include protection against dust during construction and the removal and relocation of the buckwheat plants along with the loss of 0.25 acre of El Segundo blue butterfly habitat. The removal and relocation may have some small adverse effects to the El Segundo blue butterfly population's size and distribution; however, these impacts will be minimal due to the poor habitat condition within the impacted area.

As discussed in Section 4.11, *Endangered and Threatened Species of Flora and Fauna*, of Part I of the Final EIS, restoration is planned for currently occupied areas where coast buckwheat densities are low. Subsite 23 of the Habitat Restoration Area currently contains low densities of coast buckwheat and low numbers of El Segundo blue butterfly and is the proposed location for the restoration of 1.25 acres of sparsely populated El Segundo blue butterfly habitat, consistent with Mitigation Measure MM-ET-4 in Part I of the Final EIS. The improvements are expected to yield increases in butterfly numbers within three years. The restoration efforts would be initiated approximately three years prior to the installation of the navigational lighting system in order to be completed prior to the habitat impacts occurring. Therefore, the positive effects of the restoration effort are expected to be evident prior to the loss of the 0.25 acre of habitat from the installation of the lighting system. FAA and LAWA would submit a monitoring report after the navigational aid system is in place and during the first subsequent El Segundo blue butterfly flight period to document El Segundo blue butterfly behavior with respect to the lighting system.

The April 20, 2004 U.S. Fish and Wildlife Service (USFWS) Biological Opinion finds that the proposed action is not likely to jeopardize the continued existence of El Segundo blue butterfly. The conclusion is based on the 0.25 acre of habitat lost in the El Segundo blue butterfly reserve is of poor quality and would

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be off-set by the restoration of 1.25 acres of high quality habitat in Subsite 23 on the southern area of the Habitat Restoration Area.

Implementation of the proposed navigational aid relocation and improvements under Alternative D would result in impacts to state-designated sensitive habitat that may support Lewis' evening primrose, a sensitive plant species, as well as sensitive arthropods, the silvery legless lizard, the San Diego horned lizard, and the burrowing owl. The Lewis' evening primrose is designated by the California Department of Fish and Game (CDFG) as a state sensitive species. Implementation of Alternative D would potentially result in the loss of Lewis' evening primrose individuals from installation of navigational aids and associated service roads within 66,675 square feet (1.53 acres) of habitat suitable to support the species, as well as approximately 1.4 acres estimated to be impacted by grading associated with the removal of outdated navigational aids that would be subsequently revegetated (refer to subsection A.2.5.4). Implementation of the proposed navigational aid relocation and improvements under Alternative D would also result in impacts to 66,675 square feet (1.53 acres) of state-designated sensitive habitat that potentially support sensitive arthropods, the silvery legless lizard, the San Diego horned lizard, and the burrowing owl, as well as approximately 1.4 acres estimated to be impacted by grading associated with the removal of outdated navigational aids that would be subsequently revegetated (refer to subsection A.2.5.4). However, implementation of Mitigation Measures MM-BC-1, MM-BC-2, MM-BC-3, MM-BC-8, MM-BC-9, and MM-BC-13, as discussed in Section 4.10, *Biotic Communities*, of Part I of the Final EIS, would reduce all direct impacts to these biotic resources within the Los Angeles/EI Segundo Dunes and the coastal zone to less than significant levels.

Indirect Effects From Navigational Aids

As discussed in the April 20, 2004 USFWS Biological Opinion, increased light and photo period has been shown to increase the growth and productivity of butterflies and moths; however, the production is typically off-set by predation. The increased lighting in the Los Angeles/EI Segundo Dunes and Habitat Restoration Area during evening hours may increase the activity period of adult EI Segundo blue butterfly. However, the new lighting system is proposed for an area of the EI Segundo dune complex that contains very low densities of EI Segundo blue butterfly and coast buckwheat. Further, the lights are designed to illuminate the sky rather than the ground. Therefore, the expected increase in ambient light levels of 0.34 foot-candles (fc) and changes in navigational aid lighting, with implementation of Master Plan Commitment LI-3 regarding lighting controls, are not expected to have significant impacts on biotic communities, including sensitive floral and faunal species in the coastal zone.

Given that all potential direct and indirect impacts associated with relocating existing navigational aids in the coastal zone would be mitigated to less than significant levels and completed in cooperation with CDFG and USFWS, the proposed project is consistent to the maximum extent practicable with the California Coastal Management Program.

Public Comment

Numerous public comments were received on the LAX Master Plan Improvements Draft EIS/EIR and Supplement to the Draft EIS/EIR regarding direct and indirect impacts to sensitive habitat and species within the Los Angeles/EI Segundo Dunes and the coastal zone. Public comments regarding direct impacts to the coastal zone primarily raised concerns and clarifications about what development is planned in the Dunes area west of LAX. The only development planned in the Dunes are the improvements and relocation of existing navigational aids and associated service roads for Runways 24L/6R and 24R/6L. No hotels or golf course developments in the Dunes are proposed by, or allowed under, the LAX Master Plan.

Associated with relocating the existing navigational aids, several comments were received regarding impacts to coast buckwheat and the EI Segundo blue butterfly in the Los Angeles/EI Segundo Dunes and Habitat Restoration Area. Comments regarding the adequacy of Mitigation Measure MM-ET-4 and the geographic distribution of the navigational aids and service roads questioned the ability to successfully minimize impacts to 1.53 acres in the Dunes. LAWA's ongoing and expanded restoration enhancement and maintenance efforts would successfully avoid and/or mitigate impacts to the coast buckwheat and EI Segundo blue butterfly associated with Alternative D, as indicated in Part I of the Final EIS and in the April 20, 2004 USFWS Biological Opinion.

Comments were also received regarding indirect impacts to sensitive habitat and species. Indirect impacts of concern to commentors included impacts associated with light emissions, noise, air quality,

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and viability of mitigation measures. Issues of concern related to light emissions included the spatial distribution and intensity of light emission increases throughout the Dunes and the implications on increased predation and/or competition among species. No evidence has shown that increased predation or competition, or detrimental effects associated with increased illumination, would occur among the species in the Dunes adjacent to LAX.

Comments received regarding noise impacts on species such as the loggerhead shrike, western spadefoot toad, San Diego horned lizard, silvery legless lizard, burrowing owl, and black-tailed jackrabbit dealt with concerns about physical, nesting and breeding impacts resulting from excess noise levels from overhead aircraft.

As discussed below in subsection A.2.5.3, implementation of Alternative D would result in an increase in maximum noise levels (L_{max}) at one grid point location from 90.6 to 92.8 decibels (an increase of 2.2 decibels) within the coastal zone boundary, when compared to the No Action/No Project conditions. The L_{max} in areas immediately adjacent to the coastal zone boundary where sensitive species are located would decrease when compared to the No Action/No Project conditions. The 2.2 decibel increase at one grid point within the coastal zone boundary is not anticipated to result in adverse impacts to sensitive species as these species are currently present in areas subject to levels of noise higher than those which would result from implementation of Alternative D.

Comments received regarding air quality impacts to habitat within the Dunes demonstrated concern over the deposition of soot and particles from cars and aircraft. As discussed in Section 4.10, *Biotic Communities*, of Part I of the Final EIS, implementation of Alternative D would not result in potentially significant air quality impacts to biotic communities due to the prevailing wind conditions and the location of peak concentrations of air pollutants within the eastern portion of the airport.

Several comments were received regarding the adequacy of mitigation measures included in Part I of the Final EIS for sensitive habitat and species at LAX. Mitigation measures of concern dealt with western spadefoot toad habitat, loss of the geographic range for the western spadefoot toad species, enhancing the Dunes for loggerhead shrike and its effect on the Jerusalem cricket, enhancing habitat north of the Habitat Restoration Area for the black-tailed jackrabbit, mitigation for the Lewis' evening primrose, and the timing of mitigation for the El Segundo blue butterfly. Mitigation measures were developed in consultation with the CDFG and the USFWS. Implementation of these agreed-upon mitigation measures would reduce impacts to these sensitive habitat and species, located within the coastal zone, to less than significant levels. A discussion of each mitigation measure summarized above can be found in Sections 4.10, *Biotic Communities*, 4.11, *Endangered and Threatened Species of Flora and Fauna*, and 4.12, *Wetlands*, of Part I of the Final EIS.

A.2.5.2.3 Consistency Determination Conclusion

In accordance with the Federal Coastal Zone Management Act of 1972, as amended, the FAA determined that the relocation of existing navigational aids and associated service roads at LAX is consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program.

A.2.5.3 Summary of Consistency Certification Analysis

A.2.5.3.1 Project Areas and Activities Subject to Consistency Certification

For the purpose of this analysis, the project area and activities that are subject to the Consistency Certification include all of the Alternative D improvements not otherwise covered by the Consistency Determination (i.e., all improvements other than the relocation and improvements of the navigational aids and associated roads located in the dunes area) that originate or occur outside of the coastal zone, but have the potential to impact coastal resources. The following summarizes the main points of the Consistency Certification analysis related to the potential for such impacts.

A.2.5.3.2 Consistency with Provisions of the California Coastal Act Policies That Are Not Applicable to, or Affected by, the Project

Article 2 (Public Access):

- ◆ §30210 Posting of access;
- ◆ §30211 Development shall not interfere with access;
- ◆ §30212 Access from new projects;
- ◆ §30212.5 Distribution of public facilities;
- ◆ §30213 Encouragement of lower cost visitor and recreational facilities; and
- ◆ §30214 Implementation of public access policies; legislative intent.

The vast majority of proposed Alternative D improvements at LAX are removed from the coastal area (see **Figure A2.5-1**) and do not affect coastal access or visitor/recreational facilities addressed in Article 2. Consistency of the proposed improvement and relocation of existing navigational aids that occur within the coastal zone is discussed in FAA's Coastal Consistency Determination. As discussed in Section 4.14, *Coastal Zone Management and Coastal Barriers*, of Part I of the Final EIS, existing coastal access routes and postings to those routes would be maintained, development would not interfere with the public's access from Pershing Drive and Vista del Mar to the shoreline, no public facilities would be constructed within the coastal zone, no lower cost visitor and/or recreational facilities would be affected, and no public access policies would change as a result of implemented Alternative D.

Article 3 (Recreation):

- ◆ §30220 Protection of unique water-oriented activities;
- ◆ §30221 Protection for recreational use and development of oceanfront land;
- ◆ §30222 Priority of development purposes of private lands;
- ◆ §30222.5 Oceanfront lands; aquaculture facilities; priority of oceanfront lands suitable for aquaculture;
- ◆ §30223 Reservation of upland areas; and
- ◆ §30224 Encouragement of recreational boating use.

The proposed Alternative D improvements at LAX do not relate to, or affect, coastal recreation. No coastal areas suitable for water-oriented activities would be affected, no oceanfront land would be developed, priorities afforded to visitor-serving commercial recreational facilities would not be affected, no oceanfront land suitable for aquaculture would be affected, and recreational boating use would not be affected by Alternative D improvements. As an upland area adjacent to three coastal recreational areas, Vista del Mar Park, the South Bay Bicycle Trail, and Dockweiler State Beach, existing and future LAX operations do, and would continue to, generate elevated noise levels at these recreational sites when flights are overhead. Analysis included in Section 4.8, *Department of Transportation Act, Section 4(f)*, of Part I of the Final EIS, shows that noise levels at Vista del Mar Park, and within certain areas of the South Bay Bicycle Trail and Dockweiler State Beach, would increase by 2.6 dB CNEL as compared to the No Action/No Project conditions. However, given the frequent use of Vista del Mar Park, the South Bay Bicycle Trail, and Dockweiler State Beach despite the current elevated noise levels, the projected noise increases associated with Alternative D are not anticipated to affect the usage of these recreational facilities.

Article 4 (Marine Environment):

- ◆ §30230 Maintenance and restoration of marine resources;
- ◆ §30231 Maintenance and restoration of water quality;
- ◆ §30232 Protection against spills of oil and hazardous substances;
- ◆ §30234 Protection of commercial fishing and recreational boating industries;
- ◆ §30234.5 Importance of fishing activities;
- ◆ §30235 Revetments, breakwaters, etc.;

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- ◆ §30236 Waterway modification; mitigation; restrictions; and
- ◆ §30237 Habitat conservation plan; Bolsa Chica.

The vast majority of proposed Alternative D improvements at LAX are removed from the coastal zone and from marine resources. Consistency of the proposed navigational aids improvement and relocation is discussed in FAA's Coastal Consistency Determination. The Alternative D project activities do not involve revetments/breakwaters, do not involve dredging, diking, filling in areas within the coastal zone, do not affect boating or fishing, and are not located near Bolsa Chica.

To prevent impacts to the coastal zone and coastal waters from erosion and runoff at LAX, LAWA would implement Master Plan Commitment HWQ-1, as discussed in Section 4.7, *Hydrology and Water Quality*, of Part I of the Final EIS, related to preparing a Conceptual Drainage Plan prior to initiating construction. This plan would address water quality and drainage issues by specifying source control, structural, and treatment control BMPs with the objective of reducing the discharge of pollutants from the storm water conveyance system to the maximum extent practicable. LAWA also would comply with Mitigation Measure MM-HWQ-1, outlined in Section 4.7 of Part I of the Final EIS, to upgrade regional drainage facilities.

Alternative D, as with current operations at LAX, would involve the use and transport of oil and hazardous substances on the premises. As discussed in Section 4.23, *Hazardous Materials*, and Section 4.24.3, *Safety*, of Part I of the Final EIS, hazardous materials at LAX are stored at the Central Utility Plant, the Fuel Farm, and the Liquefied Natural Gas/Compressed Natural Gas (LNG/CNG) facilities; none of these facilities lies within the coastal zone.

Article 5 (Land Resources):

- ◆ §30241 Prime agricultural land; maintenance in agricultural production;
- ◆ §30241.5 Agricultural lands; determination of viability of uses; economic feasibility evaluation;
- ◆ §30242 Lands suitable for agricultural use; conversion; and
- ◆ §36243 Productivity of soils and timberlands; conversions.

The vast majority of proposed Alternative D improvements at LAX are removed from the coast and none of the Project area involves or affects the use or conversion of agricultural and or timber lands. As discussed in Section 4.16, *Farmland*, of Part I of the Final EIS, no prime or viable agricultural land is located at or in the coastal area surrounding LAX, no land at LAX is suitable for agricultural use, and no timberlands would be converted as a result of Alternative D.

- ◆ §30244 Archaeological or paleontological resources

The Alternative D improvements at LAX occurring outside of the coastal zone would not directly or indirectly affect any known archaeological or paleontological resources within the coastal zone.

Article 6 (Development):

- ◆ §30250 Location, existing developed areas

With the exception of the proposed navigational aid relocation for Runways 24L/6R and 24R/6L, the proposed Alternative D improvements at LAX are outside of the coastal zone. For impacts and compatibility discussions associated with the proposed relocated navigational aids, refer to FAA's Coastal Consistency Determination.

- ◆ §30251 Scenic and visual qualities

The vast majority of proposed Alternative D improvements at LAX are substantially outside of, and not visible from, the coastal zone surrounding LAX. As discussed in FAA's Coastal Consistency Determination, the relocated navigational aids would not be visible from surrounding streets. Under Alternative D, a four-level employee parking structure is proposed on property in the western portion of LAX (east of the coastal zone). As discussed in Section 4.21, *Design, Art and Architecture Application/Aesthetics*, of Part I of the Final EIS, views of the employee parking structure from the coastal zone would be limited and would not represent an aesthetic or view impact to the scenic and visual qualities of the coastal zone.

- ◆ §30253 Development Mandates

Based on the information and analysis provided in Section 4.22, *Earth/Geology*, and Section 4.24, *Human Health and Safety*, of Part I of the Final EIS, the proposed Alternative D improvements at LAX would not occur within areas of high geological, flood and fire hazard, nor would they create or contribute significantly to erosion, geological instability, or destruction of the LAX site or surrounding area (i.e., within the coastal zone). The proposed Alternative D improvements would not conflict with any applicable South Coast Air Quality Management District and California Air Resources Board requirements (see Section 4.6, *Air Quality*, of Part I of the Final EIS), would provide for energy conservation measures (see Section 17.1, *Energy Supply*, of Part I of the Final EIS), would provide for improvements in local traffic conditions, particularly as compared to future traffic conditions under the No Action/No Project Alternative (see Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS, and the discussion of off-airport surface transportation in this document, Volume A), and would not affect any popular visitor destination points or recreational uses (see Sections 4.2, *Land Use*, 4.8, *Department of Transportation Act, Section 4(f)*, Section 4.14, *Coastal Zone Management and Coastal Barriers*, and Section 4.26.3, *Parks and Recreation*, of Part I of the Final EIS). Furthermore, with the exception of the proposed navigational aid relocations, the proposed Alternative D improvements are outside the coastal zone.

- ◆ §30254 Public works facilities design

The proposed Alternative D improvements at LAX are designed specifically to accommodate passenger and cargo activity levels comparable to those accommodated under the No Action/No Project Alternative. Alternative D would enhance safety and security at LAX while accommodating a future (2015) capacity of 78.9 million annual passengers (MAP), which is comparable to that of the No Action/No Project Alternative in 2015.

- ◆ §30254.5 Sewage treatment plant development; prohibition on terms and conditions

The proposed Alternative D improvements at LAX do not involve the construction of a sewage treatment plant.

- ◆ §30255 Priority of coastal-dependent developments

LAX is not a coastal-dependent use, and implementation of the proposed Alternative D improvements at LAX would not hinder the development or priority for development of other coastal-dependent uses. On its western boundary, LAX would not be developing any previously undeveloped coastal land, other than improving and relocating the existing navigational aids located in the Dunes. Additionally, no wetlands within the coastal zone would be affected by the proposed Alternative D improvements.

Article 7 (Industrial Development):

- ◆ §30260 Expansion or location of industrial development;
- ◆ §30261 Use of tanker facilities; liquefied natural gas terminals;
- ◆ §30262 Oil and gas development;
- ◆ §30263 Refineries or petrochemical facilities;
- ◆ §30264 Thermal electric generating plants;
- ◆ §30265 Legislative findings and declarations; offshore oil transport and refining; and
- ◆ §30265.5 Governor or designee; coordination of activities concerning offshore oil transport and refining; duties.

The vast majority of proposed Alternative D improvements at LAX are removed from the coastal zone and do not involve industrial development. LAX is not a coastal-dependent industrial facility and no new tanker, oil and gas development, refineries or petrochemical facilities, or thermal-electric generating plants are proposed. Improvements associated with Alternative D would not involve offshore oil transportation.

Relevant Policies of the California Coastal Act

Article 4, Marine Environment:

- ◆ §30233 Diking, filling or dredging; continued movement of sediment and nutrients
 - (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:
 - (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.
 - (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.
 - (3) In wetland areas only, entrance channels for new or expanded boating facilities; and in a dredged wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.
 - (4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.
 - (5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.
 - (6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.
 - (7) Restoration purposes.
 - (8) Nature study, aquaculture, or similar resource dependent activities.
 - (b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems.
 - (c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California," shall be limited to very minor incidental public facilities, restorative measures, nature study, commercial fishing facilities in Bodega Bay, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.
- For the purposes of this section, "commercial fishing facilities in Bodega Bay" means that not less than 80 percent of all boating facilities proposed to be developed or improved, where such improvement would create additional berths in Bodega Bay, shall be designed and used for commercial fishing activities.

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(d) Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients which would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for such purposes are the method of placement, time of year of placement, and sensitivity of the placement area.

Analysis:

The vast majority of proposed Alternative D improvements at LAX are substantially outside of the coastal zone, and none of the improvements involve the diking, filling, or dredging of coastal waters, estuaries, or wetlands. As discussed in Section 4.11, *Endangered and Threatened Species of Flora and Fauna*, and Section 4.12, *Wetlands*, of Part I of the Final EIS, approximately 1.3 acres of degraded wetland habitat are located in the western airport operations area of LAX property. This degraded wetland habitat is not located within the coastal zone nor does it have any hydrological or habitat links to the coastal zone resources.

Article 5, Land Resources:

- ◆ §30240 Environmentally sensitive habitat areas; adjacent developments
 - (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
 - (b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Analysis:

Existing Coastal Sensitive Habitat

The only coastal sensitive habitats directly affected by the improvements proposed under Alternative D would be those associated with the improvements and relocation of navigational aids. Those impacts are fully addressed in the Consistency Determination.

As discussed in Section 4.10, *Biotic Communities*, of Part I of the Final EIS, implementation of Alternative D would not result in significant indirect air quality impacts to biotic communities due to the prevailing wind conditions and the location of peak concentrations of air pollutants within the eastern portion of the airport. However, according to both Section 4.10 and Section 4.11 of Part I of the Final EIS, construction activities, including staging and stockpiling of materials proximal to the Los Angeles/El Segundo Dunes and the Habitat Restoration Area, have the potential to result in deposition of fugitive dust within state-designated sensitive habitats. Implementation of Mitigation Measures MM-BC-1 included in Section 4.10, and Mitigation Measure MM-ET-3 included in Section 4.11 of Part I of the Final EIS, and the construction avoidance measures discussed within these mitigation measures, would reduce impacts to this sensitive coastal zone habitat to less than significant levels.

As discussed in Section 4.18, *Light Emissions*, of Part I of the Final EIS, levels of ambient lighting in the Habitat Restoration Area are expected to increase by approximately 0.34 foot-candles (fc) or less due to the development of the proposed west employee parking garage. As indicated in FAA's Coastal Consistency Determination, Alternative D would also change navigational aid lighting in the Los Angeles/El Segundo Dunes, including the Habitat Restoration Area. The increase in ambient light levels of 0.34 fc as compared to the No Action/No Project Alternative, and changes in navigational aid lighting (with implementation of Master Plan Commitment LI-3 included in Section 4.18, *Light Emissions*, of Part I of the Final EIS) are not expected to have significant impacts on biotic communities, including sensitive floral and faunal species, in the Dunes.

Implementation of Alternative D would result in an increase in maximum noise levels (L_{max}) at one grid point location from 90.6 to 92.8 decibels (an increase of 2.2 decibels) within the coastal zone boundary,

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when compared to the No Action/No Project conditions. The L_{max} in areas immediately adjacent to the coastal zone boundary where sensitive species are located would decrease when compared to the No Action/No Project conditions. The 2.2 decibel increase at one grid point within the coastal zone boundary is not anticipated to result in adverse impacts to sensitive species as these species are currently present in areas subject to levels of noise higher than those which would result from implementation of Alternative D.

As noted in the Federal Aviation Administration's *Aviation Noise Effects*,⁸¹ "the effects of aviation noise on animals... have revealed that the effects are highly species dependent and that the degree of the effect may vary widely." Based on information available regarding the species most comparable to the ones found in the project area, the level at which noise becomes a disturbance to the spadefoot toad, the silvery legless lizard, the San Diego horned lizard, and the black-tailed jackrabbit is 95 decibels. Six grid points within or adjacent to the coastal zone boundary, where noise metrics were computed (see Figure F4.10-6 of Part I of the Final EIS) under the No Action/No Project conditions, revealed that L_{max} under the No Action/No Project conditions will be higher than 95 decibels in four of the six grid points. Existing noise conditions in the area are even higher than the No Action/No Project conditions. No evidence shows that species are currently suffering from noise impacts in the coastal zone surrounding LAX, despite existing conditions which exceed an L_{max} of 95 decibels. Of the two grid points under No Action/No Project Alternative conditions that will be below an L_{max} of 95 decibels, only one supports sensitive species. That grid point showed an L_{max} of 90.6 decibels. Under Alternative D, L_{max} for each of the same six grid points, within or adjacent to the coastal zone boundary, either remains the same as No Action/No Project conditions or decreases, with one exception. Only at one location that supports sensitive species, does L_{max} increase from 90.2 to 92.8 decibels, an increase of 2.2 decibels with respect to the No Action/No Project conditions. This noise level is lower than existing noise levels in certain areas which currently support sensitive species.

The effects of noise on loggerhead shrike are unclear, and no noise thresholds can be established for this species based on available scientific evidence. It should be noted however, that loggerhead shrike were identified nesting in areas where L_{max} measured 114.2 decibels. These conditions will not be equaled or exceeded under Alternative D even considering an increase in L_{max} of 2.2 decibels. Therefore, based on evidence that loggerhead shrike exist in areas currently subject to high levels of noise, adverse impacts on loggerhead shrike are not anticipated in areas within and adjacent to the coastal zone as a result of a noise increase of 2.2 decibels with implementation of Alternative D.

The burrowing owl is a winter resident at the Dunes and absent from the airfield. It was determined not to breed within the Master Plan boundaries, including the Dunes; therefore impacts from noise are not considered to cause interference such that normal species behaviors would be disturbed to a degree that may diminish the chances for long-term survival of the species.

The effects of noise on arthropods are unclear, and no noise thresholds can be established based on available scientific evidence. Since sensitive arthropods have been identified within the coastal boundary in areas currently subject to levels of noise higher than 92.8, and since conditions under Alternative D, even with a noise increase in 2.2 decibels would be below this level, Alternative D is not anticipated to result in a significant adverse impact to sensitive arthropod species.

Public Comment:

Numerous public comments were received on the LAX Master Plan Improvements Draft EIS/EIR and Supplement to the Draft EIS/EIR regarding direct and indirect impacts to sensitive habitat and species within the Los Angeles/EI Segundo Dunes and the coastal zone. Public comments regarding direct impacts to the coastal zone primarily raised concerns and clarifications about what development is planned in the Dunes area west of LAX. As discussed in Section 4.14, *Coastal Zone Management and Coastal Barriers*, of Part I of the Final EIS, the only development planned in the Dunes is the improvement and relocation of existing navigational aids and associated service roads for Runways 24L/6R and 24R/6L. No hotels or golf course developments in the Dunes are proposed by, or allowed under, the LAX Master Plan.

⁸¹ Newman, J. S. and Cristy R. Beattie, *Aviation Noise Effects*. U.S. Department of Transportation, FAA Office of Environment and Energy, Report No. FAA-EE-85-2, Washington, D.C, March 1985.

Comments were also received regarding indirect impacts to sensitive habitat and species. Indirect impacts of concern to commentors included impacts associated with light emissions, noise, air quality, and viability of mitigation measures. Issues of concern related to light emissions included the spatial distribution and intensity of light emission increases throughout the Dunes and the implications on increased predation and/or competition among species. According to Sections 4.10, Section 4.11, and Section 4.18 of Part I of the Final EIS, no evidence has shown that increased predation or competition, or detrimental effects associated with increased illumination, would occur among the species in the Dunes adjacent to LAX.

Comments received regarding noise impacts on species such as the loggerhead shrike, western spadefoot toad, San Diego horned lizard, silvery legless lizard, burrowing owl, and black-tailed jackrabbit dealt with concerns about physical, nesting and breeding impacts resulting from excess noise levels from overhead aircraft. Implementation of Alternative D would result in an increase in maximum noise levels (L_{max}) from 90.6 to 92.8 decibels (an increase of 2.2 decibels) at one grid point within the coastal zone boundary, when compared to the No Action/No Project conditions. The L_{max} in areas immediately adjacent to the coastal zone boundary where sensitive species are located would decrease when compared to the No Action/No Project conditions. The 2.2 decibel increase is not anticipated to result in adverse impacts to sensitive species as they were determined present in areas currently subject to levels of noise higher than 92.8 decibels.

Comments received regarding air quality impacts to habitat within the Dunes demonstrated concern over the deposition of soot and particles from cars and aircraft. As discussed in Section 4.10 of Part I of the Final EIS, implementation of Alternative D would not result in potentially significant air quality impacts to biotic communities due to the prevailing wind conditions and the location of peak concentrations of air pollutants within the eastern portion of the airport.

Article 6, Development

◆ §30252 Maintenance and enhancement of public access

The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing nonautomobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.

Analysis:

Existing Coastal Access

As discussed in Section 4.14, *Coastal Zone Management and Coastal Barriers*, of Part I of the Final EIS, access to the coast near LAX, which is mainly provided at Dockweiler State Beach, can currently be accomplished via vehicle, bicycle, or on foot.

Vehicular access to the coast in the vicinity of LAX is provided via Westchester Parkway to Pershing Drive to various residential streets. Sandpiper Street (which connects Pershing Drive and Vista del Mar) no longer provides vehicular access to the coast as it has been closed for security purposes following the events of September 11, 2001. Vehicular access to the coast is also provided via Imperial Highway along the southern perimeter of LAX. Farther south, within the City of El Segundo, coastal access is provided by Grand Avenue. Currently, residents of El Segundo can access Imperial Highway from two access points: Main Street and California Street. Vehicles can proceed westbound to the coast or eastbound on Imperial Highway from either of these streets. Parking is available at Dockweiler State Beach and along Vista del Mar.

Bicycle access is provided by a network of bicycle lanes and bicycle paths, which is shown in Figure F4.14-4, Existing and Proposed Bicycle Access in the LAX Vicinity, in Part I of the Final EIS. A Class I

A.2.5 Coastal Zone Management and Coastal Barriers

bicycle path, which provides exclusive bicycle rights-of-way separate from vehicular traffic, is located along the coast between Vista del Mar and the Pacific Ocean from north of LAX near Marina del Rey to Grand Avenue south of LAX. Although Vista del Mar is not a designated bicycle route, bicyclists can ride on the shoulder of the street parallel to the coast. Access to the coastal bicycle path is available via bicycle lanes on Grand Avenue and Imperial Highway. The bicycle lane on Imperial Highway extends from east of Aviation Boulevard to Vista del Mar. There are also bicycle lanes on Westchester Parkway along the northern boundary of LAX. Bicyclists can access the coast by traveling westbound along Westchester Parkway to Pershing Drive and, from Pershing, connecting with various residential streets near the terminus of Westchester Parkway.

Currently, pedestrian access to the coast in the immediate vicinity of LAX is limited. Within the City of El Segundo, pedestrian access is provided by a footpath connecting Imperial Avenue with Imperial Highway near Hillcrest Street. Sidewalks are available intermittently along the south side of Imperial Highway; pedestrians can walk along the shoulder of the roadway where there are no sidewalks. Within the northern portion of LAX, there are sidewalks along Westchester Parkway, but there are no connecting sidewalks along Pershing Drive.

Coastal Access Under Alternative D

As discussed in Section 4.14, *Coastal Zone Management and Coastal Barriers*, of Part I of the Final EIS, because Alternative D would not shift the airport's primary passenger activity center closer to the coast, there would be limited impact to existing coastal access.

Under Alternative D, all of existing coastal access routes would remain in their existing configurations. The only components of Alternative D that would be nearby or en route to the coast are the LAX Northside development and the west employee parking garage south of World Way West. However, neither of these developments would alter the existing coastal access routes, although they would increase the number of vehicles on roadways that provide access to the coast.

Alternative D would not alter existing bicycle access to the coast. In addition, under Master Plan Commitment LU-5, included in Section 4.2, *Land Use*, of Part I of the Final EIS, LAWA would comply with municipal bicycle policies and plans, including the City of Los Angeles Transportation Element Bicycle Plan, and would provide maximum feasible incorporation of bike paths and lanes into the Master Plan circulation systems. In addition, bicycle access and parking facilities would be provided at the Ground Transportation Center (GTC), Intermodal Transportation Center (ITC), and major parking lots. Related facilities, such as lockers and showers, would also be provided where feasible to promote employee bicycle use.

As discussed in Section 4.14, of Part I of the Final EIS, pedestrian access to the coast would continue to be limited under Alternative D. The existing footpath connecting Imperial Avenue and Imperial Highway would not be affected under this alternative. However, the proposed changes in ground access to LAX do not include the provision of new sidewalks. Sidewalks are not currently available along the full length of Imperial Highway under existing conditions. Pedestrians would continue to be able to walk along the shoulder of Imperial Highway to the coast.

Vehicle, bicycle, and pedestrian access to the coast is not expected to be significantly affected by construction activities associated with Alternative D. Any impact to coastal access along Westchester Parkway, Pershing Drive, and Imperial Highway is expected to be minimal. In addition, alternative coastal access would be available.

Employee Parking Structure Access

Employee parking would be provided in a new 12,400-stall garage on the west side of the airport, south of World Way West. As detailed in Table F4.3.2-30, *Off-Airport Surface Transportation Phasing Plan*, included in Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS, construction of the new west employee parking garage would be accompanied by a number of other off-airport surface transportation system improvements described therein and subsequently refined through the analysis presented above in Section A.2.1, *Off-Airport Surface Transportation*.

As discussed in Section 4.2, *Land Use*, Section 4.3.2, *Off-Airport Surface Transportation*, and Section 4.14, *Coastal Zone Management and Coastal Barriers*, of Part I of the Final EIS, implementation of Alternative D would not impose any public access burdens to coastal areas, and with the implementation of Master Plan Commitment LU-5, included in Section 4.2, of Part I of the Final EIS and the west

employee parking garage construction phasing plan outlined in Section 4.3.2, of Part I of the Final EIS, no mitigation is required to reduce impacts to the public's access to the coast.

Public Comment:

Public comments related to coastal access were received from representatives from Culver City, the California Coastal Commission, and the City of Los Angeles. These comments raised issues associated with increased traffic volumes on Vista del Mar, effects to coastal access and recreation due to increased traffic, roadway improvements to maintain and enhance coastal access, the continued presence of bicycle lanes along roads providing coastal access, and the timing of traffic counts to take summer peak traffic volumes into consideration.

Responses to these comments directed commentors to coastal access discussions included in Section 4.3.2, *Off-Airport Surface Transportation*, Section 4.4.4, *Community Disruption and Alteration of Surface Transportation Patterns*, and Section 4.14, *Coastal Zone Management and Coastal Barriers*, in the EIS/EIR. Analysis in these sections shows that no significant impacts to coastal access would occur with implementation of Alternative D.

A.2.5.3.3 Consistency Certification Conclusion

LAWA concluded that the proposed LAX Master Plan Alternative D complies with, and will be conducted in a manner consistent with, the enforceable policies of the California Coastal Management Program.

A.2.5.4 California Coastal Commission Actions and Resultant Refinements to EIS Information

A.2.5.4.1 Background

In accordance with the requirements of the Coastal Zone Management Act, the Consistency Determination and the Consistency Certification were submitted to the state coastal zone management agency, which in this case is the California Coastal Commission, for review. Based on that review, the Commission can either concur with, or object to, each of the decisions (i.e., separate actions to concur with, or object to, the Consistency Determination and concur with, or object to, the Consistency Certification). On November 17, 2004, the California Coastal Commission voted in concurrence with the findings of the Consistency Determination. The Commission also voted in concurrence with the findings of the Consistency Certification, subject to the requirement that LAWA return to the Commission in the future to provide details regarding the hydrology and water quality management plan proposed to be implemented in conjunction with implementation of the LAX Master Plan. A copy of the staff report providing the basis for the Commission's actions is contained in Appendix A-3d, *California Coastal Commission Staff Report and Letter of Concurrence*, of Volume A of the Final EIS. A copy of the letter from the California Coastal Commission to the FAA confirming the action to concur with the Consistency Determination is also included in that appendix.

In the course of the California Coastal Commission's review of, and action on, the Consistency Determination, certain refinements were made to the mitigation measures proposed relative to impacts to sensitive habitat occurring within the coastal zone from the improvements and relocation of the navigational aids, and relative to the potential for unexpectedly encountering buried archaeological resources during excavation associated with the subject navigational aids. The following describes where and how such refinements relate to the information presented in certain sections of Part I of the Final EIS, specifically, Section 4.9, *Historic/Architectural and Archaeological/Cultural and Paleontological Resources*, Section 4.10, *Biotic Communities*, Section 4.11, *Endangered and Threatened Species of Flora and Fauna*, and Section 4.14, *Coastal Zone Management and Coastal Resources*.

A.2.5.4.2 Biological Resources

Section 4.14, *Coastal Zone Management and Coastal Resources*, of Part I of the Final EIS, addresses direct impacts occurring within the coastal zone, which, for Alternative D, are limited to only those associated with the proposed improvement and relocation of existing navigational aids. The impacts analysis completed for Part I of the Final EIS, which provided the basis for the Consistency Determination, assumed that the proposed relocation of existing navigational aids would involve the removal of the above-ground improvements (i.e., the towers, lights, antennae, etc.), but that the existing

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concrete foundations and footings would remain in-place. This assumption reflected the fact that the cost and level of construction activity, and the associated grading and surface disturbance, required for the removal of the existing foundations and footings would potentially exceed the benefits of simply leaving those installations "as-is" (i.e., impacts to existing habitat surrounding each foundation would potentially exceed the small amount of existing concrete surface area that is removed due to the type, size and weight of equipment assumed necessary as well as the staging area that would be necessary). During the California Coastal Commission's review of the FAA Consistency Determination, the FAA, LAWA, and Commission staff subsequently agreed to an approach whereby existing foundations and footings would be removed if determined to be feasible using relatively small/lightweight construction equipment, and that the associated disturbed areas would be restored to the appropriate coastal dune plant community reflective of state-designated sensitive habitat. A total of approximately 1.4 acres is estimated to be impacted by grading associated with the removal of the subject foundations and footings (including staging areas required for such removal), and would be subsequently revegetated. For those foundations and footings determined as being infeasible for removal (i.e., would require the use of large heavy construction equipment potentially resulting in substantial excavation disturbance), it is proposed that they would be covered in place with soils suitable for the revegetation described above.

The FAA, LAWA, and Commission staff also agreed to increase the mitigation ratio from 1:1 to 2:1 for impacts to the state-designated sensitive habitat. The additional amount of revegetation associated with increasing the mitigation ratio to 2:1 would occur within the boundary of the El Segundo Blue Butterfly Habitat Restoration Area. Additionally, it was agreed that the FAA will have lead responsibility for ensuring the implementation of the proposed habitat restoration, as well as for all other measures associated with mitigation of impacts associated with the proposed improvement and relocations of the navigational aids.

A.2.5.4.3 Cultural Resources

Section 4.9, *Historic/Architectural and Archaeological/Cultural and Paleontological Resources*, of Part I of the Final EIS, addresses potential impacts to cultural resources, including potential impacts in the coastal zone. The cultural resources investigation completed in conjunction with the Final EIS did not identify any cultural resources at, or near, the locations of the proposed navigational aids improvements and relocations. The cultural resources investigation completed for the LAX Master Plan included a Section 106 Consultation, conducted in accordance with federal law. The mitigation program in Part I of the Final EIS includes measures for the assessment and appropriate treatment of cultural resources should they be encountered during implementation of the LAX Master Plan. Based on concerns expressed by a local Native American representative just prior to the California Coastal Commission meeting on November 17, 2004 regarding potential impacts to cultural resources, including the possibility of impacts to Native American remains, the FAA, LAWA, and Commission staff agreed to enhance the mitigation program proposed in Part I of the Final EIS regarding potential impacts to cultural resources that could be unexpectedly encountered during project implementation. A new mitigation measure was agreed to be added, which incorporates the provisions of several of the existing mitigation measures related to cultural resources, and tailors those provisions to specifically apply to the proposed improvement and relocation of navigational aids occurring within the coastal zone.

A.2.5.4.4 Refinements to Conclusions of EIS

A.2.5.4.4.1 Biological Resources

The information, analysis, and actions associated with the California Coastal Commission's concurrence with the Alternative D Consistency Determination and Consistency Certification are supportive of the analysis and conclusions of Part I of the Final EIS for the LAX Master Plan Improvements. As disclosed above, the California Coastal Commission's concurrence with the Alternative D Consistency Determination and Consistency Certification resulted in refinements to the assumptions for, and approach to, treatment of the existing navigational aids' foundations and footings. Specifically, the existing foundations and footings will be removed providing that it is feasible to do so and can be accomplished in manner that will not require widespread disturbance of surrounding areas (i.e., be able to remove the foundations and footings using relatively small light-duty excavation equipment such as a Bobcat or small backhoe that would require a very limited disturbance "footprint"). This approach necessitates the grading of an additional 1.4 acres not specifically addressed in Part I of the Final EIS, however, the resultant impacts are of a nature comparable to those described in Part I of the Final EIS. Furthermore,

the additional impacts would not change the nature, or substantially increase the severity, of the previously disclosed impacts, particularly because the vast majority of the 1.4 acres are areas currently covered by the concrete foundations and footings of the navigational aids. Moreover, the proposed revegetation of the 1.4 acres would render the affected area better than its existing condition (i.e., the existing concrete pad areas would be replaced with native plant species), recognizing that, under the refined approach to removing existing foundations and footings described above (i.e., using smaller light-duty excavation equipment), only a relatively small amount of area around the pad would be disturbed and then revegetated. Additionally, the proposed increase in the mitigation ratio from 1:1 to 2:1 would more than sufficiently offset the impacts associated with the proposed improvement and relocation of existing navigational aids.

The only notable change to Part I of the Final EIS arising out of the California Coastal Commission's actions is the modification of certain mitigation measures, clarifying that the FAA has the lead responsibility for the implementation of those mitigation measures that address the impacts associated with the navigational aids. The following presents the changes made to the subject mitigation measures, with deletions shown in strike-through text (i.e., ~~deletions~~) and additions shown in *italicized* text (i.e., *italicized*). Such changes are also further discussed in the Los Angeles/EI Segundo Dunes Habitat Restoration Plan provided in Appendix A-3c, *Los Angeles/EI Segundo Dunes Habitat Restoration Plan*, of Volume A of the Final EIS.

◆ **MM-BC-1. Conservation of State-Designated Sensitive Habitat Within and Adjacent to the EI Segundo Blue Butterfly Habitat Restoration Area (Alternatives A, B, C, and D).**

FAA is responsible for conservation measures related to the relocation of navigational aids, while LAWA is responsible for all other conservation measures. LAWA or its designee shall take All necessary steps shall be taken to ensure that the state-designated sensitive habitats within and adjacent to the Habitat Restoration Area are conserved and protected during construction, operation, and maintenance. These steps shall, at a minimum, include the following:

Implementation of construction avoidance measures in areas where construction or staging are adjacent to the Habitat Restoration Area. Prior to the initiation of construction of LAX Master Plan components to be located adjacent to the Habitat Restoration Area, ~~LAWA or its designee shall conduct~~ a pre-construction evaluation *shall be conducted* to identify and flag specific areas of state-designated sensitive habitats located within 100 feet of construction areas. Subsequent to the pre-construction evaluation, ~~LAWA or its designee shall conduct~~ a pre-construction meeting *shall be conducted* and ~~provide~~ written construction avoidance measures *provided* to be implemented in areas adjacent to state-designated sensitive habitats. Construction avoidance measures include erecting a 10-foot-high tarped chain-link fence where the construction or staging area is adjacent to state-designated sensitive habitats to reduce the transport of fugitive dust particles related to construction activities. Soil stabilization, watering, or other dust control measures, as feasible and appropriate, shall be implemented to reduce fugitive dust emissions during construction activities within 2,000 feet of the EI Segundo Blue Butterfly Habitat Restoration Area, with a goal to reduce fugitive dust emissions by 90 to 95 percent. In addition, to the extent feasible, no grading or stockpiling for construction activities should take place within 100 feet of a state-designated sensitive habitat. LAWA or its designee shall incorporate provisions for the identification of additional construction avoidance measures to be implemented adjacent to state-designated sensitive areas. All construction avoidance measures that address Best Management Practices shall be clearly stated within construction bid documents. In addition, ~~LAWA shall include a provisions~~ *shall be included* in all construction bid documents requiring the presence of a qualified environmental monitor. Construction drawings shall indicate vegetated areas within the Habitat Restoration Area as "Off-Limits Zone."

Ongoing maintenance and management efforts for the EI Segundo Blue Butterfly Habitat Restoration Area. LAWA or its designee shall ensure that maintenance and management efforts prescribed in the Habitat Management Plan (HMP) for the Habitat Restoration Area shall continue to be carried out as prescribed.

Pre-Construction Surveys to determine presence/absence of California spineflower. Under Alternative A, only, pre-construction surveys will be undertaken during the optimum time of year to determine the presence/absence of individuals of California spineflower within the proposed area of impact within the Habitat Restoration Area. The California spineflower is known to be sparsely

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distributed in subsite 3 within the Habitat Restoration Area. Should the species be determined present, individuals will be salvaged and relocated to a suitable location within the Habitat Restoration Area. Prior to construction, ~~LAWA or its designee shall develop and implement a relocation plan shall be developed and implemented~~ to avoid the potential loss of individuals from the installation of navigational aids and associated service roads. Relocation efforts shall be undertaken by a qualified biologist, in coordination with CDFG.

◆ **MM-BC-2. Conservation of Floral Resources: Lewis' Evening Primrose (Alternatives A, B, C, and D).**

~~FAA is responsible for conservation measures related to the relocation of navigational aids, while LAWA is responsible for all other conservation measures. LAWA or its designee shall prepare and implement a plan shall be prepared and implemented~~ to compensate for the loss of individuals of the sensitive Lewis' evening primrose, currently located at the westerly end of the north runway and within the Habitat Restoration Area. ~~LAWA or its designee shall collect. Seed shall be collected~~ from those plants to be removed, and ~~properly clean and store the collected seed~~ the seed shall be properly cleaned and stored until used. If possible, seeds shall be collected in multiple years to ensure an adequate seed supply for planting. A mitigation site of suitable habitat equal to the area of impact shall be delineated within areas of the Los Angeles/El Segundo Dunes as described in the "Los Angeles/El Segundo Dunes Habitat Restoration Plan." ~~MM-BC-10.~~ Collected seed shall be broadcast (distributed) after the first wetting rain. ~~LAWA or its designee shall implement a monitoring plan shall be implemented~~ to monitor the establishment of individuals of Lewis' evening primrose for a period of not more than five years. Performance criteria shall include the establishment of an equal number of plants as that impacted in the first year following the distribution of seed within the mitigation site. Performance criteria shall also include confirmation of recruitment for two years following the first year flowering is observed and establishment of individuals throughout the mitigation area within three years following the first year flowering is observed. Monitoring shall be undertaken in the manner set forth in the "Los Angeles/El Segundo Dunes Habitat Restoration Plan" ~~MM-BC-5.~~

◆ **MM-BC-9. Conservation of Faunal Resources (Alternative D).**

~~FAA is responsible for conservation measures related to the relocation of navigational aids, while LAWA is responsible for all other conservation measures.~~ LAWA or its designee shall develop and implement a relocation and monitoring plan to compensate for the loss of 1.34 habitat units (0.3 habitat units + 1.04 habitat units) of occupied western spadefoot toad habitat and for the loss of western spadefoot toad individuals currently in the southwestern portion of the AOA. LAWA or its designee shall identify possible relocation sites in consultation with the CDFG and USFWS and shall develop and implement a monitoring plan to monitor the success of the relocated tadpoles for a period of not more than five years. LAWA or its designee shall relocate the western spadefoot toad population currently inhabiting three locations on the AOA. One potential site is the Madrona Marsh Nature Center in Torrance, 20 miles south of LAX, which supports several vernal pools and one large pond capable of supporting western spadefoot toads.⁸² Spadefoot toad experts suggest the best approach to accomplish relocation is to transport tadpoles and metamorphs only, as adults return to their birth site.⁸³ Site preparation shall include confirmation by a permitted biologist that no predators, such as mosquitofish or bullfrogs, are present within the proposed relocation site or in waterways surrounding the relocation site. The CDFG has suggested that if the first relocation effort is not successful, another attempt should be made the following year.⁸⁴ Therefore, western spadefoot toads shall be collected two consecutive years prior to construction activities taking place in existing occupied spadefoot toad habitat. In addition, since the western spadefoot toad is known to become reproductively mature within three years, an additional performance criterion shall be the identification of tadpoles at the relocation site between years three and four. The success criteria should be 50 percent survival of all tadpoles and metamorphs for the first, second, and third years following the last

⁸² Wright, Walt, Madrona Marsh Nature Center, Personal Communication, April 28, 1998.

⁸³ Fisher, Dr. Robert, California State University San Diego, Frank Hovore, Hovore and Associates, Dr. Steve Moray, U.S. Fish and Wildlife Service, Personal Communication, April 28, 1998.

⁸⁴ Maxwell, Dwayne, California Department of Fish and Game, Letter to Dr. Brad Blood, Sapphos Environmental, Inc., April 29, 1998.

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relocation. This shall be accomplished through a five-year monitoring plan, with bi-monthly monitoring between January 31 and June 1, to document the success of this relocation effort.

LAWA or its designee shall develop and implement a relocation and monitoring plan to compensate for the loss of 2.38 habitat units of occupied San Diego black-tailed jackrabbit habitat located within the AOA. LAWA or its designee shall relocate the San Diego black-tailed jackrabbit population currently inhabiting the AOA. Relocation efforts shall be coordinated with CDFG. The San Diego black-tailed jackrabbit shall be captured on the AOA using live traps and shall be released into the Habitat Restoration Area. Compensation for the loss of 2.38 habitat units shall be the utilization of at least 2.38 habitat units within the Los Angeles/El Segundo Dunes by the San Diego black-tailed jackrabbit individuals relocated to the site. Black-tailed jackrabbit is currently absent for the Los Angeles/El Segundo Dunes. Opportunities for compensation for the loss of 2.38 habitat units include 13.52 habitat units from restoration of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 14.4 habitat units from removal and restoration of 50 percent of the existing roadways to Southern Fore dune; and 59.68 habitat units from restoration of Disturbed Dune Scrub/Fore dune to Southern Fore dune. LAWA or its designee shall implement a monitoring plan to monitor the success of the relocated individuals for a period of not more than five years. Performance criteria shall include confirmed success of survival for three years of the San Diego black-tailed jackrabbit within the Habitat Restoration Area. This shall be accomplished through a quarterly monitoring plan to document the success or failure of this relocation effort.

LAWA or its designee shall compensate for the loss of areas utilized by loggerhead shrike currently located on the western airfield and composed of 10.83 habitat units (equivalent to 83.25 acres). Compensation for the loss of 10.83 habitat units of habitat utilized by the loggerhead shrike shall be the utilization of at least 10.83 habitat units within the Los Angeles/El Segundo Dunes. Opportunities for compensation for the loss of 10.83 habitat units include 13.52 habitat units from restoration of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 14.4 habitat units from removal and restoration of 50 percent of the existing roadways to Southern Fore dune; and 59.68 habitat units from restoration of Disturbed Dune Scrub/Fore dune to Southern Fore dune. Compensation for the loss of at least 10.83 habitat units shall take place prior to construction. LAWA or its designee shall implement a monitoring program for a period of not more than five years. Performance criteria shall include the use of at least 10.83 habitat units of improved habitat by the loggerhead shrike for foraging and nesting. Monitoring shall take place quarterly for the first three years and biannually thereafter. Monitoring shall be timed appropriately to include monitoring during the breeding period, which is between February and June.

As a means of minimizing incidental take of active nests of loggerhead shrike, LAWA or its designee shall have all areas to be graded surveyed by a qualified biologist at least 14 days before construction activities begin to ensure maximum avoidance to active nests for loggerhead shrike. Construction avoidance measures shall include flagging of all active nests for loggerhead shrike and a 300 feet wide buffer area shall be designated around the active nests. A biological monitor shall be present to ensure that the buffer area is not infringed upon during the active nesting season, March 15 to August 15. In addition, LAWA or its designee shall require that vegetation clearing within the designated 300 feet buffer be undertaken after August 15 and before March 15.

~~LAWA~~ *The FAA or LAWA, as appropriate, or its respective designee of each, shall conduct pre-construction surveys to determine the presence of individuals of sensitive arthropod species, the silvery legless lizard, the San Diego horned lizard, and the burrowing owl within the proposed area of impact within the Los Angeles/El Segundo Dunes. Surveys will be conducted at the optimum time to observe these species as described in Section 6.1 of the "Los Angeles/El Segundo Dunes Habitat Restoration Plan."* Should an individual be observed, they will be relocated to suitable habitat for that species within the Habitat Restoration Area. Prior to construction, ~~the FAA~~ LAWA or its designee shall develop and implement a relocation plan to avoid the potential loss of individuals from the installation of navigational aids and associated service roads. *This relocation plan is provided in the "Los Angeles/El Segundo Dunes Habitat Restoration Plan."* Relocation efforts shall be undertaken by a qualified biologist, in coordination with CDFG.

◆ **MM-BC-13. Replacement of State-Designated Sensitive Habitat (Alternative D).**

FAA is responsible for conservation measures related to the relocation of navigational aids, while LAWA is responsible for all other conservation measures. LAWA or its designee shall undertake m

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Mitigation shall be undertaken for the loss of State-designated sensitive habitat within the Los Angeles/El Segundo Dunes, including the Habitat Restoration Area. Installation of navigational aids and associated service roads under Alternative D would result in impacts to 66,675 square feet (1.53 acres) of State-designated sensitive habitat within the Los Angeles/El Segundo Dunes, including 33,334 square feet (0.77 acre) within the Habitat Restoration Area (of which 10,597 square feet (0.24 acre) are within habitat occupied by the El Segundo blue butterfly. *Impacts to 1.53 acres of State-designated sensitive habitat within the Los Angeles/El Segundo Dunes shall be replaced at a ratio of 2:1 within the Los Angeles/El Segundo Dunes as described in the "Los Angeles/El Segundo Dunes Habitat Restoration Plan". Additionally the removal of existing navigational aids no longer required to assist aircraft approaching from the west has the potential to disturb an estimated 1.4 acres of State-designated habitat within the Los Angeles/El Segundo Dunes. These 1.4 acres will be replaced at a ratio of 2:1 as described in the "Los Angeles/El Segundo Dunes Habitat Restoration Plan". These square feet shall be replaced at a no net loss ratio of 1:1 ratio within the Los Angeles/El Segundo Dunes.* The replacement of ~~66,675 square feet (1.53 acres)~~ of State-designated sensitive habitat shall be undertaken through restoration of 2.8 acres as described in the "Los Angeles/El Segundo Dunes Habitat Restoration Plan."⁸⁵ ~~66,675 square feet (1.53 acres).~~ Opportunities for restoration include: ~~16.9 acres of Non-Native Grassland/Ruderal habitat to a Valley Needlegrass Grassland; 36.11 acres from removal and restoration of 50 percent of the existing roadways to Southern Foredune; and 74.6 acres of Disturbed Dune Scrub/Foredune to Southern Foredune.~~ The restoration and enhancement of biotic communities as related to the establishment or enhancement of wildlife habitat shall consider and comply with the provisions of the FAA Advisory Circular 150/5200-33 regarding hazardous wildlife attractants on or near airports. Additionally, such restoration and enhancement shall take into account, as appropriate, the Memorandum of Agreement between FAA and other federal agencies, including the USFWS, pertaining to environmental conditions that could contribute to aircraft-wildlife strikes.

Valley Needlegrass Grassland restoration efforts consist of site preparation, propagation and planting of Valley Needlegrass Grassland species, and maintenance and monitoring of the restoration site as described in the "Los Angeles/El Segundo Dunes Habitat Restoration Plan." ~~MM-BC-5, Replacement of Habitat Units (Alternative A).~~

Southern Foredune restoration efforts consist of site preparation, propagation, and planting of the species characteristic of the Southern Foredune community at the Los Angeles/El Segundo Dunes, and maintenance and monitoring of the restoration site as described in the "Los Angeles/El Segundo Dunes Habitat Restoration Plan." ~~MM-BC-5, Replacement of Habitat Units (Alternative A).~~

Replacement of the 10,597 square feet (0.24 acre) of habitat occupied by the El Segundo blue butterfly shall be undertaken as described in MM-ET-4, El Segundo Blue Butterfly Conservation: Habitat Restoration (Alternative D).

◆ MM-ET-4. El Segundo Blue Butterfly Conservation: Habitat Restoration (Alternative D).

FAA is responsible for conservation measures related to the relocation of navigational aids, while LAWA is responsible for all other conservation measures. ~~LAWA or its designee shall take a~~ All necessary steps shall be taken to avoid the flight season of the El Segundo blue butterfly (June 14 - September 30) when undertaking installation of navigational aids and associated service roads proposed under Master Plan Alternative D within habitat occupied by the El Segundo blue butterfly. Installation of navigational aids within the Habitat Restoration Area should be required to take place between October 1st and May 31st. In conformance with the Biological Opinion, activities associated with navigational aid development shall be limited to the existing roads and proposed impacts areas as depicted in this Final EIS/EIR. Coast buckwheat shall be planted a minimum of three years prior to the impact, not only to allow for establishment of the plants, but also to ensure that the plants are mature enough to bloom.⁸⁶ The plantings of coast buckwheat shall be located within the southwest

⁸⁵ Pursuant to MM-BC-13, a total of 2.8 acres will be restored, with 1.4 acres taking place "in situ" and 1.4 acres taking place in Subsite 23. Pursuant to MM-ET-4, an additional 3 acres will be restored within Subsite 23. A total of 5.8 acres will be restored when MM-BC-13 and MM-ET-4 are considered together (1.4 acres restored in "in situ" and 4.4 acres restored in Subsite 23).

⁸⁶ The time period of three years was determined from coast buckwheat restoration efforts previously undertaken by LAWA within the Habitat Restoration Area of the Los Angeles/El Segundo Dunes.

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corner of subsite 23 of the Habitat Restoration Area, as depicted in Figure F4.11-10, and shall encompass 3 acres as described in the "Los Angeles/El Segundo Dunes Habitat Restoration Plan" (1.25 acres of which is in conformance with the Biological Opinion). Coast buckwheat plants will be planted at an initial density of 200 plants per acre to ensure the long-term planting density target (130 plants per acre). Coast buckwheat plants will be placed in clusters or groupings based on microtopographic features present within subsite 23 to better support the ESB, which is known to prefer large clusters of plants for nectaring and shelter. As possible, depending on the location and condition of individual plants, FAA and LAWA shall salvage existing coast buckwheat plants and any larvae on the plant or pupae in the soil below the plant that would be removed to accommodate the replacement navigational aids to further conserve this species. These plants shall be salvaged immediately prior to the installation of the replacement navigational aids outside of the butterfly flight season. These salvaged plants shall be transported in a suitable container and replanted after the onset of winter rains in subsite 23 near the area restored as described in MM-BC-13. This area shall be the designated mitigation site for planting coast buckwheat and the site to which El Segundo blue butterfly pupae shall be relocated. Gathering of coast buckwheat seed shall take place from September 15 through June 1. Propagation and planting methodologies successfully employed by LAWA during 1984 through 1994 restoration efforts shall be employed for propagation of additional coast buckwheat plants. An existing irrigation system proximal to subsite 23 will be used to increase the success of the restoration effort. Prior to navigational aid installation, a permitted and qualified biologist shall salvage El Segundo blue butterfly larvae in coordination with the USFWS in order to minimize impacts to the butterfly. Based on LAWA's restoration experience within the Habitat Restoration Area, occupation of restored habitat can occur within two to three years of restoration efforts. Therefore, there would be no net loss in acres or value of occupied habitat. Additionally, after the navigational aid system is in place and during the first subsequent flight season of the El Segundo blue butterfly, LAWA shall document El Segundo blue butterfly behavior with respect to the lighting system and submit a monitoring report to the USFWS.

Lastly, LAWA shall coordinate with the USFWS to create educational materials on the El Segundo blue butterfly for integration into LAWA's public outreach program.

The above mitigation measures, as modified, hereby supersede and replace the original measures presented in Part I of the Final EIS.

A.2.5.4.4.2 Cultural Resources

The mitigation measure added in conjunction with the California Coastal Commission's review of the Consistency Determination incorporates provisions of existing mitigation measures presented in Part I of the Final EIS, including Mitigation Measures MM-HA-4 and MM-HA-5. While the cultural resources investigation completed in conjunction with Part I of the Final EIS did not identify any cultural resources at, or near, the locations of the proposed navigational aids improvements and relocation that would occur within the coastal zone, the subject mitigation measure would provide an additional means of avoiding significant impacts to cultural resources should they unexpectedly be encountered. The additional measure is as follows:

◆ MM-HA-11. Navigational Aids Relocation and Improvements (Alternative D).

Prior to initiation of any grading and/or excavation activities associated with the proposed improvement and relocation of navigational aids, the FAA shall prepare, or cause to be prepared, an archaeological treatment plan (ATP) that ensures the long-term protection and proper treatment of any previously unknown significant archaeological resources, including any Native American remains, encountered during such grading and/or excavation within the Coastal Zone. Pursuant to Title 36, Code of Federal Regulations (CFR) Part 800, the draft ATP shall be submitted by the FAA to the California State Historic Preservation Officer (SHPO), the California Coastal Commission staff archaeologist, the California Native American Heritage Commission and interested parties for 30-days for review and comment. The final ATP, which incorporates the review comments, shall be submitted by FAA to the SHPO, and the California Coastal Commission staff archaeologist for review and approval. The ATP shall include a monitoring plan, research design, and data recovery plan. The ATP shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation; California Office of Historic Preservation's (OHP) Archaeological Resources Management Report, Recommended Contents and Format (1989), and the Guidelines for

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Archaeological Research Design (1991); and shall also take into account the ACHP's publication Treatment of Archaeological Properties: A Handbook. The ATP shall also be consistent with the Department of the Interior's Guidelines for Federal Agency Responsibility under Section 110 of the National Historic Preservation Act (NHPA). The ATP shall include a requirement that a qualified archaeologist be retained by the FAA, or its designee, to monitor the subject grading and excavation activities. The qualified archaeologist shall meet the Secretary of the Interior's Professional Qualifications Standards. The project archaeologist shall be empowered to halt construction activities in the immediate area if potentially significant resources are identified. Test excavations may be necessary to reveal whether such findings are significant or insignificant. In the event of notification by the project archaeologist that a potentially significant or unique archaeological/cultural find has been unearthed, the FAA shall be notified and grading operations shall cease immediately in the affected area until the geographic extent and scientific value of the resource can be reasonably verified. The ATP shall also include a requirement that, should any significant archaeological resource or Native American remains be encountered, a Native American monitor shall be retained following consultation with the Native American Heritage Commission, in order to establish the Most Likely Descendent (MLD) associated with the resource/remains.

A.3 THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE AND FAA'S PREFERRED ALTERNATIVE

Section 81 of FAA Order 5050.4A requires that the Final EIS identify the environmentally preferable alternative and the FAA's preferred alternative, and the reasons for these choices. The following provides that information.

A.3.1 The Environmentally Preferable Alternative

Of the five alternatives analyzed in this EIS (i.e., the four build alternatives - Alternatives A, B, C, and D, and the No Action/No Project Alternative), Alternative D is the environmentally preferable alternative. In general, the environmental consequences of Alternative D, as measured from the No Action/No Project Alternative, are fewer in number and severity when compared to Alternatives A, B, and C. This conclusion is based on the amount, areal extent, and intensity of development under Alternative D being substantially less than under the other build alternatives. As such, the comparative amounts of surface disturbance, grading, and construction activities, and operations activity levels of Alternative D, and the associated environmental consequences, are less than those of the other build alternatives. Also, Alternative D will result in fewer and less intense environmental impacts when compared to the No Action/No Project Alternative. The following summarizes some of the key conclusions from Chapter 4, *Affected Environment, Consequences, and Mitigation Measures*, of Part I of the Final EIS related to the reasons why Alternative D is considered to be the environmentally preferable alternative.

- ◆ **Aircraft Noise Exposure.** Of all five alternatives, Alternative D results in the lowest total exposure of dwellings, population, and non-residential noise-sensitive parcels to significant aircraft noise impacts in 2015, including as compared to the No Action/No Project Alternative (i.e., implementation of Alternative D would result in a net reduction in the total exposure compared to the No Action/No Project Alternative). These conclusions are further summarized in subsection 4.1.6.1.6, *Comparison of Aircraft Noise - All Alternatives*, and presented in detail in subsection 4.1.6.1, *Aircraft Noise*, of Part I of the Final EIS.
- ◆ **Land Use Plans and Policies.** The compatibility of Alternative D with the various land use plans and policies discussed in Section 4.2, *Land Use*, of Part I of the Final EIS, is generally similar to that of the other build alternatives (Alternatives A, B, and C), with the most notable exceptions of noise-related plans and policies, and the SCAG 2001 Regional Transportation Plan (RTP)-Regional Aviation Plan. As indicated above, Alternative D has the least overall impacts relative to aircraft noise exposure in 2015 for the various alternatives; consequently, Alternative D would result in the least amount of conflicts with local general plan policies and standards pertaining to land uses that are incompatible with the ambient noise levels (i.e., residential areas and other noise sensitive land uses exposed to aircraft noise levels in excess of 65 CNEL). Relative to the SCAG 2001 RTP, Alternative D would be consistent with the policy framework of the Regional Aviation Plan, which calls for no increase in capacity of LAX. While the No Action/No Project Alternative would also be consistent with that policy framework, the expansion plans associated with Alternatives A, B, and C would conflict with the SCAG 2001 RTP policy framework. As such, Alternative D would be similar to the No Action/No Project Alternative relative to being compatible with the SCAG 2001 RTP policy framework calling for no increase in capacity of LAX, but Alternatives A, B, and C would conflict with that policy framework. Alternative D would lead to greater consistency of land use plans than the No Action/No Project Alternative. From a regional perspective, Alternative D would provide greater fulfillment of policies included in the Growth Management Chapter of the Regional Comprehensive Plan and Guide (RCPG), since the improvements that enhance the MTA Green Line's ability to serve LAX through construction of the ITC, would not occur under the No Action/No Project Alternative. The ITC would also improve ground access consistent with recommended transit improvements in the 2001 RTP.

With regard to local plans, no inconsistencies with the Framework Element of the General Plan would occur under the No Action/No Project Alternative. However, the No Action/No Project Alternative would not support the completion of the LAX Master Plan as advocated in the Framework Element. Also, compared to the No Action/No Project Alternative, Alternative D would result in a greater level of

A.3 The Environmentally Preferable Alternative and FAA's Preferred Alternative

consistency with the Transportation Element and Bicycle Plan by incorporating new bicycle paths and related amenities.

- ◆ **Traffic.** The on-airport traffic conditions, as measured in terms of roadway volume to capacity ratios and operational levels of service, in 2015 for Alternative D would be generally comparable to those of Alternatives A, B, and C, as all of the build alternatives propose substantial improvements to the on-airport roads and surface transportation systems. Those future operational conditions would be substantially better than what would otherwise occur under the No Action/No Project Alternative, whereby traffic flows on most of the key roadway links would be severely deficient. Section 4.3.1, *On-Airport Surface Transportation*, of Part I of the Final EIS, provides the specifics of such future conditions.

Relative to off-airport traffic conditions in 2015, Alternative D would result in the fewest (three) number of affected intersections where the operational characteristics cannot be mitigated to acceptable levels. By comparison, Alternatives A, B, and C would result in eight intersections that cannot be mitigated to acceptable levels. The No Action/No Project Alternative would have 40 intersections that would operate at a deficient level of service in 2015, and there would also be 9 deficient street links, 4 deficient freeway segments, and 2 deficient freeway ramps. Section 4.3.2, *Off-Airport Surface Transportation*, of Part I of the Final EIS, provides the specifics of such future conditions.

- ◆ **Air Quality.** Each of the four build alternatives would have greater amounts of construction-related air pollutant emissions than the No Action/No Project Alternative. Of the four build alternatives, Alternative D would have the lowest amount of total construction-related emissions. Alternative D would have the lowest amount of long-term operational emissions of all five alternatives, including the No Action/No Project Alternative. The airfield improvements and local surface transportation improvements associated with Alternative D would provide more efficient movement and operation of aircraft and ground vehicles than would otherwise occur by not making any such improvements under the No Action/No Project Alternative. These improvements coupled with the operations-, transportation-, and construction-related air quality mitigation measures that are proposed under Alternative D provide for very substantial reductions in the amounts of air pollutant emissions associated with the long-term operation of LAX than would otherwise occur under the No Action/No Project Alternative or any of the other build alternatives. Section 4.6, *Air Quality*, of Part I of the Final EIS, along with the analysis refinements presented above in Section A.2.2, *Air Quality*, provide the specifics for these conclusions.

Based on the above, Alternative D is the environmentally preferable alternative relative to the proposed LAX Master Plan Improvements Project.

A.3.2 The Preferred Alternative

Of the four build alternatives (i.e., Alternatives A, B, C, and D), Alternative D is the preferred alternative because it provides for substantial improvements to LAX, both in terms of airside and landside improvements, that will promote the safe and efficient use of navigable airspace into the future, and will result in the least adverse environmental consequences. Of the four build alternatives, Alternative D is considered to be the most responsive to the public and agency input received over the course of the EIS process relative to the nature and extent of improvements proposed for LAX, and the nature and level of activities anticipated to occur at LAX in the future (2015).