5. CUMULATIVE IMPACTS

5.1 Introduction

CEQA requires that EIRs analyze cumulative impacts. Cumulative impacts are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts."[811] The analysis of cumulative impacts need not be as in-depth as what is performed relative to the proposed project, but instead is to "be guided by the standards of practicality and reasonableness."[812]

As the cumulative impacts are the anticipated impacts of the project along with reasonably foreseeable growth, State CEQA Guidelines Section 15130(b)(1) states that the identification of reasonably foreseeable growth may be based on either:

- A list of past, present, and reasonably anticipated future projects producing related or cumulative impacts; or
- A summary of projections contained in an adopted general plan or related planning document designed to evaluate regional or area-wide conditions.

The cumulative impacts analysis presented in this chapter considers the adopted growth projections set forth in the Southern California Association of Governments (SCAG) *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS)[813] and also identifies and addresses specific projects at and near LAX, including those that would be carried out or approved by LAWA, as well as those outside of LAWA's control.

5.2 Regional Projections and Background Development Projects

The approach to the cumulative analysis varies by discipline. Analyses whose cumulative impacts would accrue on a regional basis (e.g., solid waste generation and disposal) are based on applicable planning documents designed to evaluate regional and area-wide conditions, and rely on regional projections prepared and adopted by SCAG. In most cases, the regional planning document that is considered is the SCAG 2012-2035 RTP/SCS. Other planning documents are also referenced, as appropriate, such as the South Coast Air Quality Management District's *Multiple Air Toxics Exposure Study III in the South Coast Air Basin* (MATES III)[814] for the evaluation of cumulative human health impacts, the City of Los Angeles' *Urban Water Management Plan*[815] for the analysis of cumulative impacts to water supply, and other studies, as identified in the individual discussions later in this section. For those disciplines where cumulative impacts are more localized (e.g., aesthetic impacts), the analysis considers specific development projects at or adjacent to LAX that may contribute to cumulative impacts, as further described below in Section 5.3.

The reasonably foreseeable growth occurring during the SPAS planning horizon (2025) is based on the demographic projections adopted by SCAG in support of SCAG's 2012-2035 RTP/SCS. **Table 5-1**

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811 State CEQA Guidelines, Title 14, California Code of Regulations, Section 15355, "Cumulative Impacts."

812 State CEQA Guidelines, Title 14, California Code of Regulations, Section 15130(b), "Discussion of Cumulative Impacts."

813 Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, April 2012, Available: http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx.

814 South Coast Air Quality Management District, Multiple Air Toxics Exposure Study III in the South Coast Air Basin (MATES III), September 2008., Available: http://www.aqmd.gov/prdas/matesIII/matesIII.html.

815 City of Los Angeles, Department of Water and Power, Urban Water Management Plan, July 2010, Available: https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=QOELLADWP005416&RevisionSelectionMethod=LatestReleased.

provides a summary of these data in the adopted 2012-2035 RTP/SCS for 2010, the baseline year for this EIR analysis, and as extrapolated for 2025, the year of project buildout.

Table 5-1

Summary of Cumulative Land Use Assumptions for the SPAS Cumulative Impacts Analysis Study Area

	2010	2025
Population	19,418,349	22,395,124
Households	6,086,983	7,156,635
Employment	8,349,454	9,546,782

Note:

Based on SCAG adopted 2012-2035 RTP/SCS demographic forecasts.

Source: CDM Smith, 2012.

In conjunction with the review and use of the SCAG data, the analysis identifies a total of 140 projects in the LAX area (illustrated in **Figure 5-1** and briefly described in **Table 5-2**) whose development could occur within the same time frame as SPAS. None of the projects identified in **Figure 5-1** are within LAWA's jurisdiction. Information regarding the background development projects is based on site visits and/or consultation with staff from and/or websites of the County of Los Angeles and the cities of Culver City, El Segundo, Hawthorne, Inglewood, and Los Angeles. The projects on the list were evaluated against SCAG's RTP forecast data by traffic analysis zone. If it appeared that projects were not fully accounted for in the forecast numbers, the forecast numbers were adjusted upward to fully account for the projects.

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
1	Arco AM/PM and Car Wash	5884 Washington Blvd.	Car wash and storage room totaling 1,200 sq. ft. at an existing fueling station	CC				Entitlement stage
2	Auto repair shop	11167 Washington Place	Construction of a new vehicle repair shop with 1,196 sq. ft. of repair area with two service bays and 191 sq. ft. of office	CC				Entitlement stage
3	Baldwin Site	12803-12823 W. Washington Blvd.	New 3-story commercial (office and retail) development totaling 37,308 sq. ft.	CC				Empty lot
4	Brentwood Site Mixed Use	8810/8840/8850 Washington Blvd.	New mixed use development w/preliminary concept of up to (approx.) 133 residential units and 17,084 sq. ft. retail	CC				Existing closed auto dealership per field check of 8/2010
5	Brooke Kaufman	4227 Ince Blvd.	6 condo units on 3 lots	CC	35	3	3	Entitlement stage
6	Condominiums	3846 Bentley Avenue	4 units	CC	23	2	2	Building permit
7	Condominiums	4058 Madison Avenue	4 units	CC	23	2	2	Building permit
8	Condominiums	4228 Madison Avenue	2 units	CC	12	1	1	Completed per field visit of 11/2011
9	Condominiums (Former Burger King site)	13340 Washington Blvd.	41 unit condominium development with 6 live/work condominium units in Culver City and 35 Units in LA	CC/LA	240	18	21	Under construction per field visit of 9/16/2011
10	Czuker Site Mixed-Use	8770 Washington Blvd.	New mixed-use development with preliminary concept of up to (approx.) 115 residential units, 41,600 sq. ft. retail; 1,400 sq. ft. café; 53,500 sq. ft. office. Proposed mixed-use with 115-unit condominium, 18,500 sq. ft. office, 16,000 sq. ft. supermarket, 11,500 sq. ft. pharmacy & 2,500 sq. ft. retail. Existing vacant building. DOT case no. OUT08-002.	CC	2,811	138	280	Buildout year estimated at 2012
11	Culver Studios Amend. No. 6	9336 Washington Blvd.	Phase I includes 25,093 sq. ft. office, 13,634 sq. ft. support and 302 parking spaces. Phase II includes 63,500 sq. ft. office and 8,741 sq. ft. support.	CC				Pre-application stage

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
12	Distribution & Warehouse	3434 Wesley Street	10,500 sq. ft. office, warehouse and distribution	CC	137	16	86	Entitlement stage
13	Dr. Bernard Dutt	5800 Uplander Way	Add 3 stories; 57,050 sq. ft. to a 2-story office	CC				Entitlement stage
14	FAYNSOD Family Trust	11501-11509 Washington Blvd.	Mixed-Use: 3 Retail (2,359 sq. ft.), 1 Office (937 sq. ft.), & 2 Apts. (1,867 sq. ft.)	CC	155	9	87	Building permit
15	Fresh Paint Mixed-Use	9355 Culver Blvd.	Addition of second story office and third floor residential unit for a total of 5,708 sq. ft. to an existing office/warehouse	CC				Entitlement stage
16	Greg Reitz	8665 Hayden Place	63,679 sq. ft. of office	CC				Entitlement stage
17	Hampton Inn	3954 Sepulveda Blvd.	77-unit hotel	CC	629	43	45	Building permit
18	Irving Residential/Office	4043 Irving Place	Four story; 26 residential units and 3 office units	CC				Building permit
19	Jewish Home for the Aging	3847 Delmas Terrace; 3820-42 Hughes; 9832 Venice Blvd.	184 congregate units; 48 residential care units; 14,000 sq. ft. PACE program	CC/LA				Pre-application stage. Estimated date of completion 2016.
20	Mixed-Use Development (Lux)	9901 Washington Blvd.	14,112 sq. ft. mixed-use development with 131 dwelling units; 12,178 sq. ft. of retail and three levels of subterranean parking with 244 parking spaces. Proposed mixed-use with 131-unit apartment & 12,000 sq. ft. retail. Existing 16,900 sq. ft. retail to be removed. DOT case no. WLA08-026.	CC/LA	8	26	35	Building Permit
21	Mixed-Use Development	12601 West Washington Blvd.	Three story mixed-use development	CC				Entitlement stage. Empty lot per field visit of 9/16/2011.
22	Mixed-Use Development	12714-12718 Washington Blvd.	5-unit residential and 3,300 sq. ft. retail	CC				Entitlement stage
23	Mixed-Use Development	10601 and 10602 Washington Blvd.	Proposed mixed-use with 132-unit apartment, 26ksf office & 18ksf retail. Existing 11.1ksf Sony Studios production office to be removed. DOT case no. WLA08-042.	LA	2,893	254	323	Buildout year estimated at 2011
24	Mixed-Use Development	13365 Washington Blvd. (NE	4,183 sq. ft. retail and 19 condominium units	CC	333	14	24	Under construction per field

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
		corner of Glencoe and Washington)						check of 9/16/2011
25	Morphosis Architects Office	3440 Wesley Street	Conversion of approx. 18,000 sq. ft. of auto body shop to an approx. 12,000 sq. ft. of studio office use	CC				No recent information
26	Office Building	9919 Jefferson Blvd.	113,467 sq. ft., 3-story office building	CC				Building permit. Estimated date of completion 2012.
27	Office & Retail Bldg.	700-701 Corporate Pointe	240,612 sq. ft. of office and 4,242 sq. ft. of retail	CC	2,811	384	359	Entitlement stage
28	Parcel B	9300 Culver Blvd.	74,600 sq. ft. of office, 21,700 sq. ft. of restaurant and 21,700 sq. ft. of retail	CC	6,340	461	627	Entitlement stage
29	Radisson Office Tower (aka Entrada Tower)	6161 Centinela Avenue	342,409 sq. ft. office tower and parking structure	CC	3,442	502	462	Entitlement stage
30	Restaurant Expansion	5854 Blackwelder Street/3077 La Cienega Blvd.	Addition of 1,150 sq. ft. to existing restaurant	CC				Entitlement stage
31	School expansion; modification to CUP	12095-12101 Washington Blvd.	Conversion of a 20,090 sq. ft. office building into classrooms and administrative offices; addition of 2,000 sq. ft.	CC				Pre-application. Estimated date of completion 2012.
32	Triangle Site - Washington/National Transit Oriented Development	NW corner of Washington and National Blvds.	New transit oriented development to include light rail station and mixed-use development (preliminary concept includes up to 290 dwelling units; 149 room hotel; 200,000 sq. ft. office; 51,500 sq. ft. retail and 20,000 sq. ft. restaurant)	CC	19,874	1,235	2,071	Light rail station opens summer 2012. Estimated date of project development completion is 2014.
33	Turning Point School (K through 8)	8794 National Blvd.	Addition/remodel of net 9,000 sq. ft.	CC		107	61	Entitlement stage
34	Union 76	10638 Culver Blvd.	Gas station and convenience store with new car wash; 2,500 sq. ft.	CC				Building permit
35	Warner Parking Structure	8511 Warner Drive	51,520 sq. ft. retail/restaurant; 784 parking spaces on 5 levels	CC				Entitlement stage
36	11957 Washington Boulevard Office Project	11957 Washington Blvd.	3 story mixed-use project with 8,682 sq. ft. commercial and 30 dwelling units	CC				Entitlement stage

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
37	Washington/Landmark Mixed-Use Development	8810, 8840, 8850 Washington Blvd.	12,257 sq. ft. of restaurant, 38,819 sq. ft. of retail, and 28,708 sq. ft. of office use	CC				Pre-application
38	Washington Place Office Condos	12402 Washington Place	42,000 sq. ft. 4-story office and retail building; 9,300 sq. ft. of retail; 30,400 sq. ft. of office	CC				Entitlement stage
39	West Los Angeles Community College Master Plan	Overland Avenue at Freshman Drive	Approx. 291,300 sq. ft. of new building and renovation. Anticipate future student population of approx. 18,904 students and 1,248 employees by Fall 2022. Project includes second access road, parking structures, landscaping and development of athletic facilities.	CC/CO	10,034	669	664	Parking lot; math/science buildings and new roadway to Jefferson Boulevard are completed per field check of 7/26/11; other on-campus grading work taking place.
40	Aviation Station Project (Transit Oriented Development in Del Aire)	Site bounded by Aviation Blvd., 117th Street, Judah Avenue, and Metro Green Line Station	278 condominiums and townhomes, 112 apartment units, 29,500 square feet of commercial/retail and office space. Includes 797 parking spaces for residents, guests, and commercial and office uses.	CO	1,114	171	83	Project approved by County Board of Supervisors in late 2011. Metro website lists project as 393 apartments and 26,500 sq. ft. of retail space.
41	Best Western Jamaica Bay Inn (Parcel 27R)	4175 Admiralty Way	Renovation & expansion 42-room hotel by an additional 69 rooms.	CO	564	38	24	Project completed per visit of 7/22/11
42	Boat Central (Parcels 52 and GG)	13501 Fiji Way	Dry-stack boat storage of 345 parking spaces; boat trailer storage of 24 parking spaces; mast-up sail boat storage of 30 parking spaces	CO	1,081	47	51	Existing boat yard. No construction per field visit of 7/22/11.
43	Del Rey Shores Apartments (Parcels 100 and 101)	4247-4275 Via Marina	544 apartments (202 existing units to be removed)	CO	800	120	111	Project under construction per field visit of 7/22/11
44	Diner (Parcel 33)	4211 Admiralty Way	351 Apartments; 24,500 sq. ft. retail; 10,000 sq. ft. restaurant (existing restaurant to be removed)	CO	1,145	184	22	Existing closed restaurant per field visit of 7/22/11. On-site activity may indicate possible construction start.
45	Fisherman's Village (Parcels 55, 56 & W)	13715 Fiji Way	26,570 sq. ft. of specialty retail; 785-seat restaurant; 132-room hotel; 9 boat slips	CO	2,375	98	209	No new project visible per field check of 7/22/11
46	Gateway Marina Del Rey (Parcel 95)	404-514 Washington Blvd.	16, 350 sq. ft. specialty retail center; 9,160 sq. ft. high turn-over, sit-down restaurant with 240 seats; 7,890 sq. ft. of general office	CO	199	-36	128	Existing restaurant, bank, and furniture showroom. No construction per field visit of

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
			building, 6,100 sq. ft. walk-in bank 72 Apartments; 337 Parking Spaces (removal of 7,500 sq. ft. drive-up bank)					7/22/11.
47	Government Office Building	Panay Way and Via Marina	26,000 sq. ft.	CO	286	40	57	Full block being excavated as of 7/22/11
48	Lennox Charter High School	11044 and 11111 Freeman Avenue	560 students	CO	862	207	70	
49	Legacy Partners Neptune Marina Apartments/Woodfin Suites Hotel (Parcels 10R, FF & 9U)	Marquesas Way and Via Marina	526 apartments (removal of 136 apartments); 288-room hotel; 1.47-acre public park	CO	3,104	253	228	Full block being excavated as of 7/22/11
50	Lincoln Boulevard Mixed-Use Project	4363 Lincoln Blvd.	158 high-rise residential condominium units; 3,178 sq. ft. of specialty retail; parking structure with 409 parking spaces. Beverly Hills Rent-a car facility (48,000 sf. ft.) to be removed.	CO	386	47	71	Existing building. No construction per field visit of 7/26/11.
51	Marina City Club Towers Marina del Rey	4333 Admiralty Way	600 units	CO	3,516	264	196	No construction per field visit of 7/22/11
52	Marina del Rey Apartment Community (Parcels 12 & 15)	Panay Way and Via Marina	940 apartments; 82 units senior apartments; 4,000 sq. ft. retail; 6,000 sq. ft. commercial	CO	1,785	171	152	Full block being excavated as of 7/22/11
53	Marina del Rey Residential Project (Parcels 12, 15 and FF)	Panay Way and Via Marina	1201 residential units on 2 parcels on the west side of Marina del Rey	CO				Full block being excavated as of 7/22/11
54	Marina Expressway Homes	Marina Expressway Eastbound and Mindanao Way	28 Single family condominiums	CO				Parking lot and/or marina boat yard per field visit of 7/26/11
55	Marriott Residence Inn (Parcel IR)	Admiralty Way and Via Marina	149-room hotel. Existing Marriott hotel on NE corner	CO	1,201	82	52	Existing Marriott Hotel
56	Residential	3184 Via Dolce	5 or 6 buildings	CO				Under construction per field visit of 7/22/11
57	Sea Glass Town Homes	6719 Pacific Avenue	36 condominiums	CO				
58	Villa Venetia Residential (Parcel 64)	13900-13910 Fiji Way	478 mid-rise apartments (removal of 224 existing apartments); 34 boat slips; 5,000 sq. ft. restaurant	CO	1,106	93	88	

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
59	Aquatics Center	TBD		ES				Draft EIR stage; various sites being considered.
60	Condominiums	347 Concord Street	3 units	ES	20	3	3	No construction per field visit of 7/08/11
61	Condominiums	425 and 429 Indiana Street	8 units	ES	54	8	8	In construction per field visit of 7/08/11
62	Condominiums	1700 Mariposa Avenue	11 units	ES	74	11	11	No construction per field visit of 7/08/11
63	Condominiums	412 Richmond Street	4 units	ES	27	4	4	No construction per field visit of 7/08/11
64	Data Center	445 North Douglas Street	109,137 square feet	ES	1,202	169	163	Existing Douglas Tech Center building
65	Data Center	444 North Nash Street	33,899 square feet	ES	373	53	51	Existing BMC Information Management
66	El Segundo Business Park	222 Kansas Street (at Grand Avenue)	business park; high-turnover restaurant	ES	516	43	40	Existing dirt lot. No construction per field visit of 07/08/11.
67	El Segundo Corporate Campus	700-800 N. Nash Street	1,740,000 sq. ft. office; 75,000 sq. ft. retail; 7,000 sq. ft. child care; 7,000 sq. ft. medical office; 19,000 sq. ft. healthclub; 75,000 sq. ft. restaurant; 100-room hotel; 25,000 sq. ft. light industrial; 75,000 sq. ft. research and development; 65,000 sq. ft. technology/telecommunications.	ES	21,366	2,267	2,795	
68	Hotel	101 Continental Blvd.	167 rooms	ES	1,364	80	92	Existing Northrup Grumman building
69	Hotel	1960 East Grand Avenue	150 rooms	ES	1,226	84	50	Existing office building
70	Mixed-Use	900, 950, and 960 Sepulveda Blvd.; 901-915 Shelby Street	warehouse, 67,474 square feet of general office; 11,471 square feet of manufacturing	ES	787	113	109	Existing Boeing facility
71	LA Air Force Base (Area A)	2400-2460 East El Segundo Blvd.	625 condominiums	ES	3,631	275	325	
72	LA Air Force Base (Area B)	2350 East El Segundo Blvd.	150,000 square feet of general office replacing 120,000 of existing general office	ES	331	47	45	

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
73	Northrup-Grumman	SE corner of Mariposa Avenue and Douglas Street	190,000 sq. ft. industrial uses	ES	1,324	175	186	Surface parking lot. No construction per field visit 7/08/11.
74	Office	888 N Sepulveda Blvd.	120,000 sq. ft.	ES		217	214	Existing dirt surface parking lot adjacent to 898 Sepulveda Boulevard per field visit 7/2011.
75	Plaza El Segundo Phase 2A	NE Corner of Sepulveda Blvd. and Rosecrans Avenue	commercial	ES				Empty lot per field visit of 7/08/2011
76	Xerox Phase IV	1951-1961 El Segundo Blvd.	255,242 sq. ft. office; 350-room hotel	ES		629	614	Existing surface parking lot
77	360 South Bay	SE corner of Aviation Blvd. and El Segundo Blvd.	625 condominiums	HA		330	405	360southbay.com. Some phases completed; other units are under construction per site visit of 5/18/12.
78	Condominiums	12712-20 Menlo Avenue	5 units	HA				Project completed, appears unsold (equipment still on-site, landscaping not done - sign says "spec. housing for sale") per field visit of 7/22/11.
79	Condominiums/Office	13806 Hawthorne Blvd.	171 units and 32,500 sq. ft. of office space	HA	80	213		Closed mortuary per field visit of 7/22/11
80	Hotel Expansion	4304 W. Imperial Highway	Hotel expansion	HA				Project is under construction with a 2012 completion date
81	LA Air Force Base - Area B	Corner of El Segundo Blvd. and Aviation Blvd.	63,000 sq. ft. warehouse; 560,000 sq. ft. office park; 93,750 sq. ft. base exchange; 43,125 sq. ft. health club; 34,463 sq. ft. medical office	HA	7,499	815	711	Appears to be substantially completed based on site visit of 5/18/12. Parking structure under construction on Douglas Street north of El Segundo Blvd.
82	Prestige Villas	4500 West 116th Street	116 condominium units	HA	1,110	87	117	Vacant Hospital Site per site visit of 7/22/11
83	Retail Center	14701 Inglewood Avenue	Retail center with drive-through restaurants	HA				Grading/Utilities construction underway at site 7/22/11
84	Retail Center	SW corner of Inglewood Avenue and Imperial Highway	50,000 square foot retail	HA	2,147	50	187	Vacant lot with plywood marketing sign, one pick-up

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
								truck and one port-o-let per field visit of 7/27/11.
85	Single Family Homes	14000 Yukon Avenue	6 units	HA	36	3	3	No project on site per field visit of 7/22/11
86	Office Building	SW corner of 147th Street and Hawthorne Blvd.	4 to 6 story building	HA				Under construction per field visit of 7/22/11
87	Condominiums	501 East 99th Street	12 units	IN	72	6	6	Existing house
88	Condominiums	940 North Cedar Street	14 units	IN	84	7	7	Existing apartments
89	Condominiums	448 North Edgewood Street	6 units	IN	36	3	3	Existing duplex
90	Condominium	417- 420 N. Market Street	12 units	IN	72	6	6	Existing house
91	Condominiums	450 N. Market Street	12 units	IN	72	6	6	Existing abandoned building
92	Condominiums	912 S. Myrtle Avenue	7 units	IN	42	4	4	Existing house
93	Condominiums	927 South Osage Avenue	7 units	IN	42	4	4	Existing House
94	Condominium	222 W. Spruce Avenue	10 units	IN	60	5	5	Empty lot
95	Hollywood Park Mixed-Use Development	1050 South Prairie Avenue	2,995 dwelling units; 300-room hotel; 620,000 sq. ft. retail; 75,000 sq. ft. office/commercial; 10,000 sq. ft. of civic use; 300-room hotel with 20,000 sq. ft. of meeting space. Pavilion/casino would be maintained on the project site.	IN	17,222	1,604	-39	Draft EIR released fall 2008. No construction.
96	Mixed retail/restaurant	Florence Avenue and La Brea Avenue, SE corner	49,800 sq. ft.	IN				Empty lot
97	Mixed retail/restaurant	Southwest corner of Century/Prairie (Haagen)	97,490 sq. ft.	IN				Existing Taco Bell
98	Residential	704 N. Market Street	6 units	IN				Empty lot
99	Senior Center and Housing	111 N. Locust Street	95,188 sq. ft.	IN				
100	Shopping Center	11441 S. Crenshaw Blvd. at Imperial Highway	101,323 sq. ft.	IN				Burlington Coat Factory, CVS and T-Mobile store are completed.
101	Shopping Center	433 North Centinela Avenue	7,384 sq. ft.	IN				Empty lot

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
102	Shopping Center	10922 South Prairie Avenue	8,416 sq. ft.	IN				Empty lot
103	Transitional Housing	733 Hindry Avenue	232,966 sq. ft.	IN				Under construction per field visit of 7/2011
104	Animo Venice Charter High School	841 California Avenue	Expansion of 420-student Charter School	LA	1,470	332	176	TDM to reduce traffic by 60% (TSA 6/15/05).
105	Apartments	8614 Saran Drive	49-unit apartments. Existing vacant lot. DOT case no. CTC08-012.	LA			34	Specific Plan Covenant on 3/27/08 - Completed, but not fully occupied (6/21/11)
106	Bank	12410 Venice Blvd.	Proposed 2,800 sq. ft. walk-in bank to replace 2,800 sq. ft. existing specialty retail space. DOT case no. CTC08-019.	LA			33	Project not pursued since initial consultation back in 2008
107	Car Wash	9204 Airport Blvd.	15,380 sq. ft. of car rental facility to be removed. Proposed car wash. DOT case no. CTC08-013.	LA	536	21	74	MOU from 3/19/08 is not yet completed as of 6/20/11
108	Carousel School	7899 S. La Tijera Blvd.	Addition/Expansion of school serving an additional 20 students	LA	50	16	4	Specific Plan Covenant of 9/29/10 is not yet completed
109	Central Region Elementary School	Teale Street E/O Lincoln Blvd.	650 students	LA		221		Construction underway; buildout year of 2012.
110	Chevron Gas Station	6101 W. Manchester Avenue	1,000 sq. ft. gas station with a drive through Starbucks; 2,000 sq. ft. 24-hour convenience store. Proposed gas station with 4-fueling positions, 2,000 sq. ft. 24-hr. convenience store & 1,000 sq. ft. fast food restaurant with drive-thru. Existing gas station with 6-fueling positions, 500 sq. ft. 24-hr. convenience store & 3-stall auto repair to be removed. DOT case no. CTC08-007 & CTC08-036.	LA	658	133	36	Gas station (4-pumps) with 24-convenience store in place (no Starbucks per field check of 6/15/11).
111	Condominiums (Villas at Kentwood)	7430 Arizona Avenue	43 units	LA	80			Completed but not fully occupied per field visit 8/2010
112	DWP Maintenance Yard	3233 Thatcher Avenue	Improvement/expansion of the existing LADWP maintenance yard plus addition of 30 new employees to site. DOT case no. CTC09-031.	LA		30	30	Built-out year estimated at 2017

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
113	Grosvenor Court	5550 Grosvenor Blvd.	215 condo units	LA	1,078	95	112	Buildout year 2013
114	Lincoln Boulevard Mixed-Use	4004 S. Lincoln Blvd.	98 unit condos & 6020 sq. ft. retail. DOT case no. CTC05-070.	LA	1,550	108	101	2008 buildout year (DOT TA Letter on 8/11/05)
115	Loyola Marymount University	1 LMU Drive	LMU Master Plan to increase enrollment cap to 7,800-student. DOT case no. CTC08-044.	LA	2,540	176	223	Buildout year 2030 (DEIR of Jan. 2010)
116	Mixed-Use Development	138 Culver Blvd.	New Scope of Work: 72-unit apartment and 16,000 sq. ft. retail & restaurant space. Existing vacant single family home to be removed. DOT case no. CTC08-058.	LA	1,204	76	145	Buildout year 2015
117	Mixed-Use Development	220 Culver Blvd.	63-unit apartment & 6,000 sq. ft. retail space. Existing 4,000 sq. ft. restaurant to be removed. DOT case no. CTC08-059.	LA	180	-6	60	Scope of work being revised (6/14/11)
118	Mixed-Use Development	6819 Pacific Avenue	29-unit apartment, 3,000 sq. ft. restaurant & 1,000 sq. ft. retail space. Existing vacant lot. DOT case no. CTC08-060.	LA	620	51	62	Buildout year 2012
119	Mixed-Use Development	580 Venice Blvd.	Proposed 5-unit residential plus 5,724 sq. ft. retail space. DOT case number CTC09-070.	LA	287	9	33	Last activity was a pre-development meeting on 8/11/09
120	Mixed-Use Development	11955 W. Washington Blvd.	41,000 sq. ft. office & 9,500 sq. ft. retail. Existing vacant building to be removed. DOT case no. OUT08-005.	LA	872	77	87	Lot remains vacant
121	Office Building	5901 Center Drive (at Howard Hughes Parkway)	249,020 sq. ft., five-story office building	LA	2,742	386	371	Building permit application in review but no start date. Will be built to suit.
122	Office Building	309-315 E. Culver Blvd.	8,000 sq. ft. 3-story office building with first floor parking garage. DOT case no. CTC10-018.	LA			22	Building Permit Pending further review by LA DCP (6/30/11)
123	Office Building	10100 Culver Blvd.	Proposed 50,000 sq. ft. office building. DOT case no. WLA07-092.	LA		75	96	Consultation by LLG for preparation of a Traffic Study Analysis 10/12/07
124	Office Building	3105 La Cienega Blvd.	133,000 sq. ft. media-related office. Existing 109,000 sq. ft. manufacturing to be removed. DOT case no. WLA08-050.	LA		49	39	LA DOT TA Letter on 1/9/09. No recent activity.

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
125	Private School	5401 Beethoven Street	452 students (32 student addition) DOT case no. CTC10-032.	LA	79	29	14	Specific Plan Covenant submitted 5/26/11
126	Radisson Hotel	6225 W. Century Blvd.	340 room hotel; 2,544-space parking structure with 1,733 spaces for airport parking. Proposed 340-room hotel & 1,726-stall airport parking facility with shuttle bus service. Existing 282-stall airport parking facility to be replaced. Trip generation = Daily +4,110, a.m. +336, p.m. +346. Built-out year 2012. DOT case no. CTC08-066.	LA	4,110	336	346	Project on hold in mid-construction of parking structure
127	Retail	585 Venice Blvd.	10,400 sq. ft. specialty retail/storage space to replace 10,400 sq. ft. of existing warehouse/manufacturing space. DOT case no. CTC08-033.	LA			33	Building permit application cleared on 1/26/11. Not in place per field visit of 6/30/11.
128	The Village at Playa Vista (Playa Vista Phase II)	Jefferson Blvd. between McConnell Drive and Centinela Avenue	2,600 residential units; 175,000 sq. ft. office; 150,000 sq. ft. retail; 40,000 sq. ft. community serving	LA	24,220	1,626	2,302	Office buildings completed but largely unoccupied per field visit of 7/2011. Grading work ongoing.
129	Washington Square	300 Washington Blvd. (at Via Dolce)	123 unit condominiums; 6,000 sq. ft. office space. (Existing 176,671 sq. ft. office building to be removed). DOT case no. CTC04-081	LA	-1,194	-222	-250	Already built, but not fully occupied.
130	Westchester Neighborhood School	5401 S. Beethoven Street	Expansion to serve an additional 32 students (DOT case no. CTC10-032)	LA	79	294	66	Completed updated Specific Plan Covenant recorded by School on 5/26/11.
131	Medical Plaza	222 Sepulveda Blvd. (NE Corner of Sepulveda Blvd. and 2nd Street)	12,000 sq. ft. medical office building and 1,000 sq. ft. retail. (Existing 5,000 sq. ft. auto repair shop to be removed)	MB				Site is an auto repair and limousine company per field visit of 7/22/11
132	Rite Aid Store	1100 Manhattan Beach Blvd., SE Corner	13,000 sq. ft. retail (Existing 8,600 sq. ft. gas station to be removed)	MB				New car wash per field visit of 7/26/11
133	Dance Studio; Gold Buyer	Sepulveda Blvd. at 19th Street	Building expansion	MB				Under construction per field visit 7/22/11
134	Restaurant	Sepulveda Blvd. at 10th Street	Renovation of fast-food restaurant	MB				Work underway to existing building per field visit 7/22/11

Table 5-2

LAX Area Background Development Projects

No.	Project Name	Address	Description	City[1,2]	Net Daily Trips	Net A.M. Trips	Net P.M. Trips	Comments
135	Apartments	4100 S. Del Rey Ave.	77-unit apartments	LA		39	54	
136	Pacific Charter School	2941 W. 70th Street	Expansion of charter school with 355 high school and 400 junior high school students	LA		371		
137	View Park Prep Middle School/High School	5701 S. Crenshaw Blvd.	Charter School or 400 students	LA		164		
138	South LA Redevelopment	5400 S. Crenshaw Blvd.	60,000 square feet of retail	LA		22	122	
139	South LA Redevelopment	1636 W. Manchester Ave.	68,250 square feet of offices	LA		106	102	
140	South LA Redevelopment	5975 S. Western Ave.	225,000 square feet of industrial development	LA		47	49	

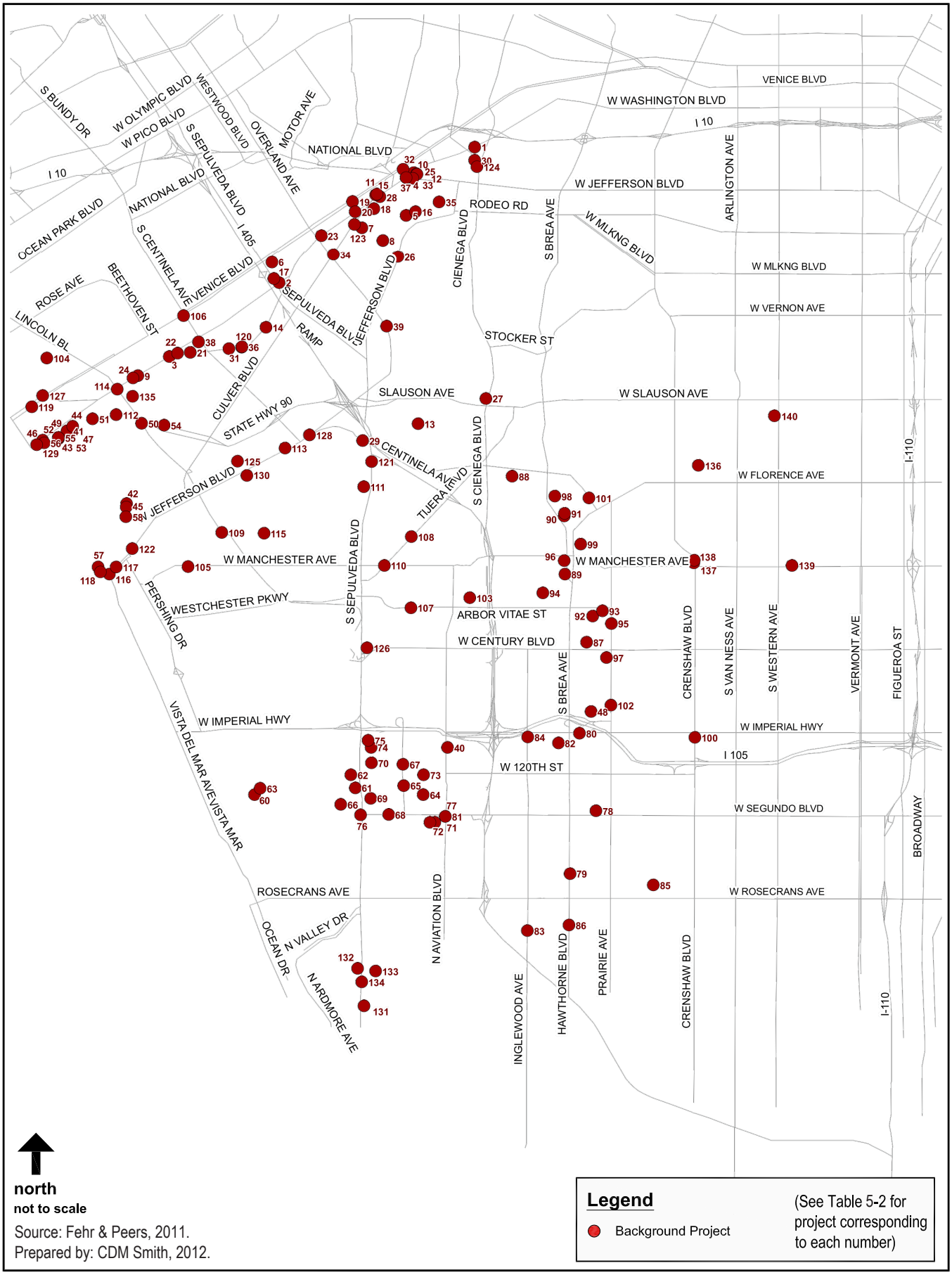
Note:

Information above represents conditions in 2010. Some projects may have changed over time.

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

[2] Projects in Culver City from "Culver City Related Projects List" dated May 11, 2010 and sent by Culver City staff to LAWA. Projects in the City of Los Angeles updated via e-mail from Mr. Pedro Ayala, Transportation Engineering Associate, LADOT in July 2011. Projects in City of Hawthorne were based on the City's website: http://www.cityofhawthorne.com/depts/planningcommdev/pending_applications/default.asp.

Source: Fehr & Peers, 2012.



LAX Specific Plan Amendment Study Draft EIR	Projects Reviewed in Light of SCAG Regional Transportation Plan	Figure 5-1

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5.3 Development Projects At/Adjacent to LAX

For the cumulative impacts analysis, this Draft EIR also accounts for implementation of LAX development projects that are not related to the SPAS elements. Such projects are described below and their locations are shown in **Figure 5-2**. Analyses of the cumulative impacts of these projects, in conjunction with each SPAS alternative, are provided in Section 5.5.

5.3.1 Airfield-Related Improvements

South Airfield Improvement Project (SAIP) - Relocation of Runway 7R/25L approximately 55 feet south, construction of a center parallel taxiway, and related taxiway improvements. Completed in 2008.

Runway 7L/25R East End Reconstruction (including Taxiways B and C) - Rehabilitation of deteriorating concrete at east end of runway and Taxiway B. The project also includes the east end realignment and extension of Taxiway C, which will require the demolition of Air Freight Building 8 and its relocation to another location on the Airfield Operating Area (AOA), and relocation of a ground service equipment building. Anticipated to occur in 2013-2014.

Runway 7L/25R Runway Safety Area (RSA) Improvements - Improvements at west end of Runway 7L/25R including runway and connecting taxiway extensions to meet FAA RSA requirements. Anticipated to occur in 2013-2015.

Runway 6L/24R RSA Improvements - Cover east 750 feet of Argo Drainage Channel with concrete deck capable of supporting heavy duty trucks and realign maintenance road. Schedule to be determined, based on outcome of SPAS.

Runway 6R/24L RSA Improvements - Extend runway 835 feet east, extend Taxiway E 535 feet east, relocate Runway 6R arrival threshold 104 feet, and relocate existing uses within the RSA. Schedule to be determined, based on outcome of SPAS.

Taxiway R - Also known as the Crossfield Taxiway (C-13) Project, which included construction of a new north-south taxiway, construction of a new Aircraft Rescue and Fire Fighting Facility (ARFF), and construction of a remain overnight (RON) area for aircraft parking. Completed in 2010.

Taxilane S and Taxiway T - In conjunction with the Bradley West Project (see below), development of new north-south taxilanes/taxiways to replace the former Taxiways Q and S. Taxilane S to be completed in 2012. Taxiway T schedule to be determined.

Midfield Satellite Concourse Taxiways - In conjunction with the Midfield Satellite Concourse Project (see below), a new crossfield taxiway(s) would be constructed on the west side of the facility. Schedule to be determined.

American Eagle Commuter Facility Improvements - Various improvements at the former United Express Commuter Facility to accommodate the relocation of American Eagle commuter operations from the facility removed in conjunction with the Bradley West Project. Ongoing.

West Aircraft Maintenance Area - Potential development of a 60-acre site at the west end of the airport, south of World Way West, to provide a new maintenance hangar(s) designed to accommodate (enclose) an Aircraft Design Group (ADG) VI aircraft, along with aircraft RON apron area, and a ground run-up enclosure. Schedule to be determined.

Relocatable Aircraft Maintenance Hangar - Placement of a new relocatable aircraft maintenance hangar south of World Way West and west of Taxiway R sized to accommodate ADG VI aircraft, along with support space for a maintenance office and shop area within the hangar and/or in nearby trailers/modular buildings. Anticipated to occur in 2013.

Passenger Boarding Bridge Replacements/Improvements - Replacement of aged passenger boarding bridges with modern equipment that, in addition to new enclosed walkways, includes connections to

provide parked aircraft with water, power, and preconditioned (cooled or heated) air. Scheduled for completion in 2013.

Runway Status Lights System - Installation of warning lights at taxiway/runway interface points indicating when runway is in active use and taxiing aircraft should not enter or cross. Runway Status Lights (Phase 1) were installed beginning in 2008. The overall system is expected to be completed in 2014.

Annual Pavement Maintenance and Miscellaneous Airfield Management Improvements - Reconstruction of various taxiways, taxilanes, and service roads including lighting, markings, signage, and rubber removal on an ongoing basis.

5.3.2 Terminal-Related Improvements

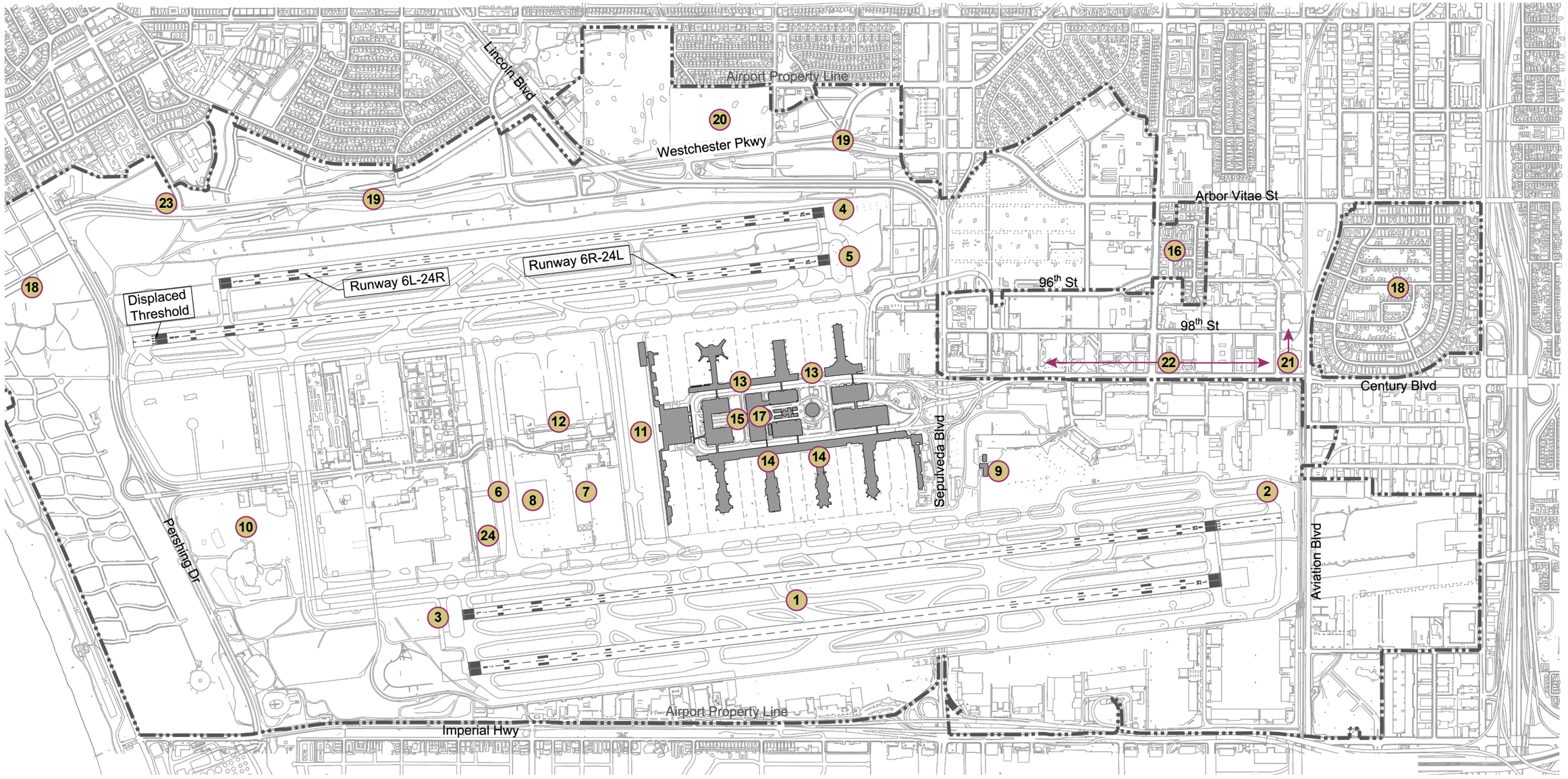
Bradley West Project - Replacement of existing concourses and aprons at the Tom Bradley International Terminal (TBIT), including addition of gates designed to accommodate ADG VI aircraft, such as the Airbus A380 and the Boeing 747-8, along west side of concourse and modernization/improvement of the existing TBIT core. Secure/sterile passenger and baggage connections between the TBIT core and Terminals 3 and 4 are also included. The Bradley West Project is currently under construction, with concourse/gates and terminal improvements projected to be completed in 2013-2014. The Terminal 4 connector to TBIT is currently in design and is scheduled to be completed in 2015. The Bradley West Project was preceded by the TBIT Interior Improvements Program, completed in 2010.

Midfield Satellite Concourse Program - Development, in separate and independent phases, of a new concourse west of the Bradley West Project, along with construction of a connection system for moving passengers, baggage, and materials between the Midfield Satellite Concourse (MSC), TBIT, and the Central Terminal Area (CTA). Completion of the MSC Program would also include development of a new passenger processor within the CTA, to include ticketing, baggage handling, security screening, etc., which would be constructed within the CTA east of Parking Structures 3 and 4. The existing two-directional arrival roadway of West Way is planned to be replaced with two southbound streets, one on each side of the processor, with one for public curbside use and the other for private vehicles (i.e., taxis, limousines, shuttles) only. First phase of the MSC Program, the MSC North Concourse Facility, is estimated to be completed by 2019, and schedule for future phases, including new passenger processor, to be determined.

North Terminals Improvements - Improvements to areas within and between the existing passenger processing facilities at Terminals 1, 2, and 3 to provide more efficient space for security screening equipment and processes; baggage handling; ticketing; terminal operations; airline lounges; concession areas; utility rooms; mechanical, electrical, and plumbing systems; information technology upgrades; general circulation; and secure connections. Schedule to be determined.

South Terminals Improvements - Major interior improvements and building system upgrades to Terminal 6 were completed in spring 2012 and similar improvements to Terminal 5 are underway. Improvements and modifications are also anticipated for Terminals 7 and 8. Anticipated to be completed in 2015.

Miscellaneous Terminal Improvements - Miscellaneous projects, such as passenger and in-line baggage screening, major concessions area upgrades, fire life system upgrades, electrical service and mechanical system upgrades, Americans with Disabilities Act (ADA) improvements, and other such improvements, have occurred or are anticipated to continue on an ongoing basis at various terminals throughout the CTA.



Source: Los Angeles World Airports 2011, CDM Smith, 2012.
Prepared by: CDM Smith, 2012.

1. South Airfield Improvement Project
2. RWY 7L/25R East End Reconstruction
3. RWY 7L/25R West End RSA Improvements
4. RWY 6L/24R East End RSA Improvements
5. RWY 6R/24L East End RSA Improvements
6. Taxiway R
7. Taxilane S & Taxiway T
8. Midfield Satellite Concourse Taxiways
9. American Eagle Commuter Facility Imprv.
10. West Aircraft Maintenance Area
11. Bradley West Project
12. Midfield Satellite Concourse
13. North Terminals Improvements
14. South Terminals Improvements
15. New Passenger Processor
16. Manchester Square/Belford
17. Central Utility Plant Replacement
18. Coastal Dunes Improvement Project
19. LAX Northside
20. Westchester Golf Course 3-Hole Expansion
21. Metro Crenshaw/LAX Transit Corridor & Station
22. Metro Green Line to LAX Project
23. Stormwater Infiltration and Treatment Facility
24. Relocatable Aircraft Maintenance Hangar

Note: Development projects not shown on map either occur at multiple locations within airport, (e.g., Perimeter Fence, Annual Pavement Maintenance, etc.) have not yet been sited (e.g., Network Power Station), or the location is not general public information (e.g., ARCC).

LAX Specific Plan Amendment Study Draft EIR

Development Projects At / Adjacent to LAX

Figure
5-2

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5.3.3 Infrastructure/Security Improvements

Central Utility Plant (CUP) Replacement Project - Replacement of existing outdated CUP with new systems to provide heat/steam and chilled water for space conditioning in terminal and concourse areas, as well as cogeneration of electricity. The project will include development of a water treatment plant near Jenny Avenue and West 96th Street and an associated delivery pipeline to enable the use of reclaimed water in the CUP cooling towers, installation of a thermal energy storage system, and replacement of related piping beneath the CTA roadways. As part of the CUP project, Center Way North between East Way and West Way will be widened to three lanes, with Center Way South used only as a service road and egress from Parking Structures 5 and 6. CUP replacement/improvement currently under construction with completion projected in 2014. Schedule for water treatment plant to be determined.

"New Face" of the Central Terminal Area Improvements/Enhancements - Various improvements and enhancements to exterior lighting, signage, walkways, curbside waiting areas, and other such areas in the CTA to complement the improvements being completed for the Bradley West Project. Phase 1 of the project includes a new canopy and replacement of the roadway light poles at TBIT and other miscellaneous improvements/enhancements. Phase 1 to be completed by 2013; remainder to occur on an ongoing basis.

Network Power Station Upgrade - Development of an electrical network station to provide additional capacity and improve the reliability and distribution of power within the airport. Potential sites for such a facility are currently being evaluated, with the desire to install the network station by 2016.

Replacement of Elevators and Escalators - Replacement of existing elevators and escalators and installation of new ones within CTA parking structures and terminals. Currently in process; scheduled for completion in 2014.

Airfield Operating Area Perimeter Fence Enhancements - Improvements to the AOA perimeter fence have been underway in phases for several years, with Phase 4 to be complete in 2013. Also, various improvements to the perimeter lighting and security detection have been completed and additional improvements are in process.

Airport Response Coordination Center (ARCC) - Development of a new facility for centralized coordination in responding to airport emergencies. Completed in 2010.

LAX Public Safety - Building and Supporting Facilities- Development of a new consolidated essential services facility to centralize police, fire, and other public safety administrative operations and functions. Potential sites for such a facility are currently being evaluated. Development of the consolidated services facility is being planned to occur within approximately the next 5 years.

Parking Lot Rehabilitation and Reallocations - Rehabilitation of LAX parking lot surfaces and reallocation of spaces assigned for public parking, airport employee parking, and commercial vehicle holding areas to improve efficiencies and reduce costs relative to parking lot shuttles and in response to an FAA directive to clear certain areas near runway protection zones. Such changes are ongoing in the normal course of business.

CTA Second Level Roadway Expansion Joint and Deck Repairs - Repair and/or replacement of expansion joints and bearing pads on the CTA upper level roadway as well as repair and sealing of cracks of the roadway surface. Scheduled for completion in 2014.

Miscellaneous Projects - In conjunction with the Bradley West Project, LAWA completed improvements to Imperial Highway at Main Street and Pershing Drive, and on Pershing Drive and Bradley West Drive. Other miscellaneous projects currently being considered include demolition of the former Continental Airlines training building and administrative building on World Way West (buildings can no longer be occupied); reconfiguring/consolidating certain maintenance facilities/areas; electrification of passenger gates, cargo areas, and maintenance hangars; cargo/maintenance hangar interior renovations; upgrades to AOA security access posts; and electrification of ground support equipment (GSE). Schedules to be

determined. In addition, LAWA undertakes general improvements, such as road repairs, curb signage, data system upgrades, parking structure repairs, etc., on an ongoing basis.

5.3.4 Land Development and Miscellaneous Improvements

Coastal Dunes Improvement Project - Restoration/improvement of coastal dune habitat in a 47-acre area bounded by Sandpiper Street on the south, Vista del Mar on the west, Waterview Street on the north, and Pershing Drive on the east. This area was the site of a former residential subdivision of single-family homes in which the homes were razed circa 1970 and the street paving, above and underground utilities, and some concrete foundations and retaining walls still remain. Approximately 3,000 lineal feet of pavement from seven streets and sidewalks between Vista del Mar and Rindge Avenue will be removed to improve neighborhood aesthetics. Areas affected by street removal will be hydroseeded to prevent erosion. No irrigation will be used on any portion of the site. Non-native plant species will be removed on the entire site. Scheduled for completion in 2013.

LAX Northside - Development of LAX Northside area with a mix of employment, retail, restaurant, office, hotel, research and development, education, civic, airport support, recreation, and buffer uses that support the needs of surrounding communities and LAWA. The approved development plan provides entitlements for up to 4.5 million square feet of development, subject to a limitation on the total number of vehicle trips (a "trip cap"). Formulation of a new reduced land use development program for the subject area is currently in process, which will be followed by completion of environmental review studies. Schedule for development to be determined.

Westchester Golf Course Three-Hole Restoration Project - The replacement of three holes at the Westchester Golf Course that were eliminated many years ago with the construction of Westchester Parkway, thereby returning the overall playing area of the golf course to 18 holes. Completed in 2010.

LAX Sign District - Implementation of a sign ordinance that would govern the location, type, and size of allowable signs, associated with non-airport-related advertising, which would be placed within the CTA as well as on terminals and passenger boarding bridges visible from apron areas, but not visible from the surrounding community. Scheduled for implementation following completion of environmental analysis and approval.

Manchester Square/Belford - In conjunction with residential acquisition occurring under the Aircraft Noise Mitigation Program, voluntary land acquisition within the Manchester Square and Belford areas will continue on an ongoing basis and involve the demolition of acquired structures. Following demolition, properties are fenced, landscaped, and maintained.

5.3.5 Other Related (Non-LAWA) Projects

Metro Crenshaw/LAX Transit Corridor and Station - The Los Angeles County Metropolitan Transportation Authority (Metro) recently approved the proposed Crenshaw/LAX Transit Corridor Project, which includes an 8.5-mile light-rail transit line that would connect the existing Metro Green Line and the Metro Expo Line at Crenshaw and Exposition Boulevards. A station is proposed in proximity to LAX, near the intersection of Century Boulevard and Aviation Boulevard. Completion of the project is scheduled to occur in 2018.

Airport Metro Connector Project - Metro is studying ways to connect the Metro rail system to LAX. Initial modes under consideration include Light Rail Transit, Automated People Mover (APM), and Bus Rapid Transit along a number of different alignments, including an underground option. Metro's current planning horizon is 2035, with project implementation to be determined.

City of Los Angeles Bureau of Sanitation (BOS) Stormwater Infiltration and Treatment Facility - Referred to by the BOS as the Westchester Stormwater Best Management Practices Project, involves development of a 22-acre stormwater infiltration facility north of Westchester Parkway and east of Pershing Drive that would treat stormwater flows from the Argo watershed. Schedule to be determined.

5.4 Cumulative Study Area

The cumulative study area related to regional growth projections includes the six counties within the jurisdiction of SCAG: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The cumulative study area (i.e., geographic scope) varies by environmental topic, depending upon the geographic area where the impacts of those projects could combine with those of a SPAS alternative. Some cumulative study areas for environmental topics are larger or smaller than others (e.g., the cumulative study area for visual resources includes those areas in proximity to the airport, whereas the cumulative study area for air quality is the larger regional air basin). The cumulative study area for the local projects used for each environmental topic is identified within each environmental issue analysis presented in this chapter.

5.5 Cumulative Impacts

5.5.1 Aesthetics

Cumulative projects that are located at or adjacent to LAX that might have an impact on views or would introduce new features or the loss of existing aesthetic elements that would alter, decrease, or contrast with the existing valued visual character of LAX or surrounding areas were considered in the analysis of cumulative aesthetics impacts. Because LAX and the surrounding area are highly urbanized, impacts to views generated by individual projects tend to be geographically isolated, and are not always visible from adjacent areas. The projects listed below, which are at or adjacent to LAX, involve visible, above ground physical improvements that due to proximity have the potential, in conjunction with SPAS airfield, terminal, and ground access improvements, to result in combined adverse effects associated with degradation of visual quality or diminishment of important views.

Projects within and in the vicinity of LAX would also result in an increase in ambient nighttime light levels and potentially generate glare. However, this increase would occur in the context of infill development within a lit and glare-generating urban environment. Compliance with regulatory requirements and applicable design plans, including Los Angeles Municipal Code (LAMC) Sec. 93.0117, which prohibits light spillover and requires that light sources be shielded and directed downward, and LAX Master Plan commitments would ensure that cumulative projects would not result in either a change in lighting/lighting intensity that would spill off and adversely affect light-sensitive uses or a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts related to increases in ambient light levels on sensitive receptors would be less than significant.

The following cumulative projects were considered in conjunction with the proposed SPAS alternatives in the analysis of cumulative impacts to aesthetics and visual resources:

- Within the Century Corridor/eastern boundary area, the Metro Crenshaw/LAX Transit Corridor and Station, Airport Metro Connector Project (depending upon the selected alternative), Airfield Operating Area (AOA) Perimeter Fence Enhancements, and Central Utility Plant (CUP) Replacement Project off-site water treatment plant;
- Within the Central Terminal Area (CTA), the Bradley West Project, North Terminals Improvements, CUP Replacement Project, central processor component of the Midfield Satellite Concourse (MSC) Program, LAX Sign District, New Face of the CTA Improvements/Enhancements, and, depending upon the selected alternative, the Airport Metro Connector Project (depending upon the selected alternative);
- Within the southern boundary area, the South Airfield Improvement Project (SAIP), Runway 7L/25R East End Reconstruction and West End Runway Safety Area (RSA) Improvements, AOA Perimeter Fence Enhancements, West Aircraft Maintenance Area, MSC, Relocatable Aircraft Maintenance Hangar, Bradley West Project, and Metro Crenshaw/LAX Transit Corridor;

- Within the western boundary area, the MSC, West Aircraft Maintenance Facility, Coastal Dunes Improvement Project, Stormwater Infiltration and Treatment Facility, and LAX Northside; and
- Within the northern boundary area, the Coastal Dunes Improvement Project, Stormwater Infiltration and Treatment Facility, LAX Northside,[816] Westchester Golf Course Three-Hole Restoration Project, MSC, Bradley West Project, and North Terminals Improvements.

5.5.1.1 Alternative 1

Century Corridor/Eastern Boundary

Cumulative projects within the Century Corridor/eastern boundary area, listed above, in combination with ground access improvements, such as the elevated busway, Intermodal Transportation Facility (ITF), and new parking facility in Manchester Square occurring under Alternative 1, would contribute to cumulative impacts to aesthetic resources, views, and light and glare. Construction of the ITF, parking facilities, and elevated busway under Alternative 1 would occur within an area of poor visual quality that does not include any notable views, and the affected area already includes existing light sources, including street lights, parking lot lighting, security lighting, and lighting from building and parking structure interiors, typical of a highly urbanized environment. These new ground access improvements would be subject to airport design guidelines for screening, buffers, landscaping, setbacks, pedestrian amenities, and high architectural standards, including those set forth in the *LAX Street Frontage and Landscape Development Plan Update*, as well as LAX Master Plan Commitments DA-1, Provide and Maintain Airport Buffer Areas, and LU-4, Neighborhood Compatibility Program, to promote visual compatibility. Provisions addressing light and glare would also apply, including LAX Master Plan Commitment LI-2, Use of Non-Glare Generating Building Materials; LAX Master Plan Commitment LI-3, Lighting Controls; and LAMC Section 93.0117 (see Section 4.1.3 of this EIR for a complete discussion of the applicable regulatory context). As a result, aesthetic and light and glare impacts associated with Alternative 1 would be less than significant.

The Metro Crenshaw/LAX Transit Corridor Project would not be located in areas of high visual quality, are not expected to degrade the character or visual quality of the potentially affected areas, and are located in areas with existing light sources (e.g., street lights, parking lot lighting, security lighting, and lighting from building and parking structure interiors) typical of a highly urbanized environment. In addition, mitigation measures for the project require incorporating features consistent with the recommendations and principles and community input. These measures would be implemented as part of the Metro Crenshaw/LAX Transit Corridor Project to ensure visual compatibility and reduce visual conflicts between the proposed transit system and surrounding community. These urban design principles and project features include incorporation of art, landscaping, pedestrian amenities, awnings, street furniture, and other visual treatments into the design of the station and alignment.[817] Finally, light and glare impacts from the Metro Crenshaw/LAX Transit Corridor Project were not identified as significant impacts because project features would be located in or adjacent to existing roadway or railroad rights of way which currently produce transport-related light and glare, in addition, some sections of the project alignment would be below grade.[818] Given the location of the Metro Crenshaw/LAX Transit Corridor Project and the urban design principles and mitigation measure identified above, the Metro Crenshaw/LAX Transit Corridor Project would not be expected to obstruct valued views within the Century Corridor/eastern boundary area or result in significant light and glare impacts.

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816 The LAX Northside Plan Update is a probable future project for purposes of a cumulative impact analysis (Pub. Resources Code Section 21083(b)(2)). The cumulative analysis herein considers both the currently-approved LAX Northside project as well as the LAX Northside Plan Update project.

817 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011.

818 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011.

As part of the Airport Metro Connector Project, Metro is examining ways to connect the transit system to LAX.[819] Modes under consideration including Light Rail Transit and an Automated People Mover (APM), and Bus Rapid Transit along a number of different alignments, including an underground option. Depending on the outcome, elevated elements of the Airport Metro Connector Project would contribute to cumulative impacts to views and aesthetic and visual resources within the Century Corridor area with potential routes along Century Boulevard and 98th Street. As discussed previously, similar to the Metro Crenshaw/LAX Transit Corridor and Station, this analysis assumes that a number of urban design principles and features would be implemented as part of the Airport Metro Connector Project per Metro's Rail Design Criteria to ensure visual compatibility and reduce visual and light and glare conflicts between the proposed transit system and the surrounding area. In addition, Federal Transit Administration (FTA) Circular 9400.1A, Design and Art in Transit Projects, encourages the use of design and artist considerations in transit projects.[820] Furthermore, this project is not located in an area that is valued for or of high visual quality and it is not expected to obstruct valued views.[821]

The CUP Replacement Project would include development of an off-site water treatment plant near Jenny Avenue and West 96th Street. The proposed water treatment plant would occupy an approximately 14,000-square-foot site that is currently developed with a surface parking lot. The site is surrounded by surface parking lots to the north, west, and east, and commercial and industrial uses to the south. As such, the off-site water treatment plant would not be located in an area that has a high level of visual quality or contains notable views.

Improvements to the AOA perimeter fencing have been underway in phases for several years as a component of security improvements to the airport. Phase 4 of the AOA Perimeter Fence Enhancements Project, which is to be completed over the next several years, is the last phase of the security fencing program and will include improvements along Imperial Highway, Aviation Boulevard, and Century Boulevard. Improvements to existing fencing to incorporate new security features would not affect notable views or valued visual resources or introduce new light sources.

In light of applicable design guidelines, including the *LAX Street Frontage and Landscape Plan Update* and requirements incorporated into Metro environmental documents, LAX Master Plan commitments, and existing visual quality, improvements under Alternative 1 in combination with cumulative projects would not degrade an area valued for its aesthetic character, or involve the removal of features that contribute to the aesthetic image of the area. Moreover, cumulative projects in combination with Alternative 1 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the Century Corridor/eastern boundary area under Alternative 1 would be less than significant.

Central Terminal Area

Cumulative projects within the CTA, listed above, in combination with terminal improvements occurring under Alternative 1, would contribute to cumulative impacts to aesthetic resources, views, and light and glare. However, cumulative projects would generally enhance existing visual and aesthetic quality

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819 Los Angeles County Metropolitan Transportation Authority (Metro), Metro Green Line to LAX, Project Overview Fact Sheet, Available: http://www.metro.net/projects_studies/green_line_lax/images/Green_Line_LAX_Overview.pdf, accessed June 21, 2012.

820 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011.

821 While the Airport Metro Connector Project has a horizon year 2035, the Airport Metro Connector Project is analyzed as part of the cumulative analysis of this EIR because it could contribute to long-term cumulative impacts in conjunction with the SPAS alternatives and other cumulative development.

because they would involve improvements and modernization of the existing structures, creation of new visual treatments, and would reflect a high level of attention to design due to imposition of LAWA design guidelines and associated reviews.

Terminal improvements under Alternative 1 include the addition of new Terminal 0, loss or modifications to concourse areas and/or gates at Terminals 1 and 2, replacement of the Terminal 3 concourse, and the modification and northern extension of concourse areas and gates at Tom Bradley International Terminal (TBIT) and the future MSC. Ground access improvements within the CTA consist of the easterly relocation of Sky Way (the primary access road connecting the CTA to southbound Sepulveda Boulevard and 96th Street Bridge). These improvements would be located in a highly lit environment. Since the existing terminal buildings are aging, functional in nature, and generally do not include extensive architectural features and/or landscaping, they do not contribute meaningfully to the aesthetic quality of the CTA. As such, modification and improvements of terminal buildings would not constitute the loss of valued visual and aesthetic resources. Furthermore, the new Terminal 0, and reconstruction and modifications of the Terminal 3 concourse and gates would, pursuant to the LAX Plan and *LAX Street Frontage and Landscape Development Plan Update*, incorporate more modern design elements and greater architectural articulation than current conditions. In addition, the LAX Specific Plan requires the development of conceptual design guidelines for new central terminals. Thus, the new Terminal 0 and modified facilities are expected to represent an aesthetic improvement within the CTA that would promote the airport's image as a Gateway to the City of Los Angeles. Therefore, impacts to aesthetic and visual resources associated with terminal improvements within the CTA under Alternative 1 would be less than significant. Terminal and airfield improvements within/near the CTA under Alternative 1 would take place on the airfield and north of World Way. These improvements would not obstruct or degrade views of the Theme Building within the CTA and there are no other notable public views within the CTA.

An additional CTA improvement proposed as part of Alternative 1 is the relocation of Sky Way eastward between the future Terminal 0 and Sepulveda Boulevard. These modifications involve the relocation of an existing roadway, which would not detract from, and would not constitute a loss of, a valued visual resource. Existing views of Sky Way are not notable, and notable views within the CTA would not be altered with the relocation of Sky Way.

Since development of terminal improvements under Alternative 1 would not degrade features that contribute to the valued aesthetic character of the area, impacts to aesthetic and visual resources would be less than significant. As development of the terminal improvements under Alternative 1 would not affect views from a designated scenic highway, corridor, or parkway or obstruct valued focal or panoramic views, impacts to views would also be less than significant.

As noted above, a number of cumulative projects are proposed within the CTA. In particular, the New Face of the CTA is geared toward upgrading visual quality in the most visually prominent areas within the CTA, including terminal building exterior finishes and other improvements along walkways and curbside waiting areas. These improvements would not obstruct or degrade views of the Theme Building within the CTA and there are no other notable views within the CTA that would be obstructed.

The LAX Sign District would codify specific regulations and standards regarding the location, type, and size of allowable signs associated with non-airport related advertising, and their placement within the CTA and on terminals and passenger boarding bridges visible from apron areas. Implementation of the LAX Sign District would enhance the ability for signage at the airport to be cohesive and fit within a unified design theme.

The Bradley West Project, currently under construction, will represent an aesthetic improvement within the CTA and will be complementary to existing aesthetically valued elements of the area. The project is part of an overall architectural design vision for the modernization of LAX.[822] The North Terminals Improvements and future central processor component of the MSC, neither of which has undergone

[822] City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Bradley West Project, September 2009.

preliminary design, would similarly be expected to represent an aesthetic improvement within the CTA, and would be designed to complement the other terminal improvements currently planned or underway. Together, these projects would result in beneficial impacts to aesthetics within the CTA.

The CUP Replacement Project would replace the existing, outdated CUP currently located west of the Airport Traffic Control Tower and the Theme Building with a new facility designed to current LAWA standards. While the replacement CUP would be located closer to the Theme Building and Airport Traffic Control Tower, notable visual features and views of the Airport Traffic Control Tower and Theme Building would not be affected. Scenic views from vantage points outside of the CTA of the City and coastline would not be affected as the facility would be well below the line-of-sight from these vantages. Furthermore, the existing CUP does not contribute meaningfully to the aesthetic quality within the CTA. As such, the replacement of the CUP would not constitute the loss of a valued aesthetic or visual resource. Impacts to views related to the CUP Replacement Project would be less than significant.[823]

As discussed earlier, as part of the Airport Metro Connector Project, Metro is examining ways to connect the transit system to LAX. Modes under consideration include Light Rail Transit, APM, and Bus Rapid Transit along a number of different alignments, including an underground option. Depending on the outcome, elevated elements of the project have the potential to contribute to cumulative impacts to views, aesthetics, and visual resources in the CTA. Within the CTA, components of the APM, Light Rail Transit, and Bus Rapid Transit options could be developed in a configuration that would extend to the area of the Theme Building. Depending on the specific location, design, and height of the elevated elements and support structures, implementation of the APM, Light Rail Transit, or Bus Rapid Transit options could diminish focal views of the Theme Building from various vantage points in the CTA. Although it is too early in the project development process to identify a route or specific project features for the Airport Metro Connector Project, this analysis assumes that, similar to the Metro Crenshaw/LAX Transit Corridor and Station, a number of urban design principles and features would be implemented as part of the Airport Metro Connector Project to ensure visual compatibility and reduce visual conflicts between the proposed transit system and the surrounding area. However, depending on the selected alternative, elevated elements associated with the Airport Metro Connector Project would affect views of the Theme Building, a valued focal view, within the CTA. In light of applicable airport design guidelines, including the *LAX Street Frontage and Landscape Plan Update*, LAX Master Plan commitments, and existing visual quality, improvements under Alternative 1, in combination with cumulative projects, would not degrade an area valued for its aesthetic character, or involve the removal of features that contribute to the aesthetic image of the area. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare.

With the exception of the Airport Metro Connector Project, the cumulative projects would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic views. Elevated elements related to the Airport Metro Connector Project could affect views of the Theme Building within the CTA. Although the Airport Metro Connector Project may contribute to a cumulatively significant impact on views of the Theme Building depending on the alternative selected, as improvements within the CTA under Alternative 1 would take place on the airfield and north of Sky Way, and would not obstruct or degrade views of the Theme Building, the contribution of Alternative 1 would not be cumulatively considerable.

Southern Boundary

Cumulative projects within the southern boundary area, listed above, in combination with airfield and terminal modifications occurring under Alternative 1, would contribute to cumulative impacts to aesthetic resources, views, and light and glare. Various terminal and airfield modifications under Alternative 1

823 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Central Utility Plant Replacement Project, Appendix A, October 2009.

would not introduce a new land use that would materially alter the overall visual character of the airfield, CTA, or aircraft operations. Changes to the north airfield and terminal improvements in the northern portion of the CTA would not alter existing long-range views of the Santa Monica Mountains due to the distance of the improvements and the substantially higher vantage points to the south. Improvements under Alterative 1 would not alter valued views in El Segundo of airfield operations, such as arriving and departing aircraft, or introduce substantial new sources of light. Therefore, impacts to views or visual and aesthetic characteristics from the south of LAX under Alternative 1 would be less than significant.

The West Aircraft Maintenance Area would involve the development of a new maintenance hangar, along with aircraft Remain Overnight (RON) apron area, and a ground run-up enclosure. These facilities would be visible from some western vantage points. However, the West Aircraft Maintenance Area project site is located in a highly disturbed area, and is mostly surrounded by airport uses that have limited aesthetic value. While development of the West Aircraft Maintenance Area would occur above grade and would be visible from western vantage points along Pershing Drive, aesthetic impacts from vantage points along Pershing Drive and from more distant points north and south of the airport would not be significant since the area does not currently support a high level of visual quality or contain important aesthetic elements. Furthermore, the improvements would not obstruct scenic views as the facility would be sited below and out of the line-of-sight of scenic views of the City and coastline.

Airfield improvements, including the SAIP and other taxiway and runway improvements, would not alter existing aircraft operations or the aesthetic character of the airfield. These improvements consist of pavement improvements and would not add any new structures to the viewshed.

The proposed Relocatable Aircraft Maintenance Hangar would be located south of World Way West, west of Taxiway R. The design of the proposed project allows it to be relocatable (i.e., consists of pre-fabricated pieces that are assembled at a site and can later be unassembled and moved elsewhere). Construction of the proposed facility would include site preparation, erection of the hangar frame, placement of exterior cover, and interior finishing. The project site is located in a highly disturbed area, and is mostly surrounded by airport uses that have limited aesthetic value. While development of the Relocatable Aircraft Maintenance Hangar would occur above grade and would be visible from western vantage points along Pershing Drive and from more distant points north and south of the airport, the area does not currently support a high level of visual quality or contain important aesthetic elements. Furthermore, the Relocatable Aircraft Maintenance Hangar would be similar in height to other nearby structures, such as the Aircraft Fire Fighting and Rescue (AFRR) station, the American Airlines High Bay Hangar, and the Bradley West Project (currently under construction) and would not introduce a notable new visual element to the area or impact focal views.

Various airfield modifications and terminal improvements related to cumulative projects, listed above, would not introduce land uses that would adversely alter the overall visual character of the airfield, CTA, or aircraft operations. Furthermore, views of the existing airfield, while of public interest, and more distant views to the CTA, are not scenic. Moreover, projects such as the Bradley West Project and the MSC would enhance views of the airport. Changes to the south airfield, enhancements to AOA perimeter fencing, development of the West Aircraft Maintenance Area, various terminal improvements, and the Metro Crenshaw/LAX Transit Corridor Project would not alter existing long-range views of the Santa Monica Mountains due to the distance of the improvements and the substantially higher vantage points to the south. Improvements would also not alter valued views in El Segundo of airfield operations, such as arriving and departing aircraft.

In light of applicable design guidelines, including the *LAX Street Frontage and Landscape Plan Update*, LAX Master Plan commitments, and existing visual quality, improvements under Alternative 1 in combination with cumulative projects would not degrade an area valued for its aesthetic character, or involve the removal of features that contribute to the aesthetic image of the area. Moreover, cumulative projects in combination with Alternative 1 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of

glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the southern boundary area under Alternative 1 would be less than significant.

Western Boundary

Cumulative projects within the western boundary area, listed above, in combination with airfield and terminal modifications occurring under Alternative 1, would contribute to cumulative impacts to aesthetic resources, views, and light and glare. Development within the western boundary area would be somewhat limited under Alternative 1. Runway 6L/24R would be extended to the west, and taxiways would be improved and extended near the western end of the site. These improvements would represent a continuation of existing airfield uses. Aesthetic and view impacts from vantage points along Pershing Drive and from more distant points north and south of the airport would not be significant since the area does not currently support a high level of visual quality or contain important aesthetic elements. The runway improvements would generally occur at grade level and would not block any valued focal or panoramic view. Additionally, with the exception of changes to existing navigational aids, no development would take place in the El Segundo Blue Butterfly Habitat Restoration Area (Habitat Restoration Area), and views of the Los Angeles/El Segundo Dunes (Dunes) and views along Vista del Mar, a City of Los Angeles-designated Scenic Highway, would not materially change.

In order to accommodate the relocation of Runway 6L/24R, and the adjustment to the Runway 6R/24L landing threshold, existing navigational aids under Alternative 1 would be removed and new facilities would be installed and modified to align with the runway configurations. No increase in navigational aids would occur. Similar to baseline conditions, new and modified navigational aids would be low in profile and would not comprise a noticeable portion of the overall viewshed. In addition, the relocated navigational aids would not introduce a new light source. Accordingly, with no increase in navigational aids, relocation or modification of these facilities would not change the character of the area or obstruct or degrade a scenic view.

As noted above, a number of cumulative projects are proposed within the western portion of the airfield and within the CTA. The impacts of several of these projects are discussed previously in this analysis. The Coastal Dunes Improvement Project involves restoration/improvement of coastal dune habitat west of Pershing Drive. This project would result in an improvement of coastal and biological habitat that would improve the visual character of the Dunes, would not impede views, and would not introduce a new light source. See Section 4.3, *Biological Resources*, for a discussion of measures in place to ensure restoration of the Dunes once construction of navigational aids related to Alternative 1 is completed.

The proposed Stormwater Infiltration and Treatment Facility to be located north of Westchester Parkway and east of Pershing Drive would treat urban runoff and would include stormwater flow diversion structures, debris removal and underground detention and infiltration facilities that would remove pollutants. These facilities would include underground and low-profile structures that would not be visually prominent, would not block valued views of visual resources such as the iconic Theme Building or a panoramic view, and would not introduce substantial new lighting to the area.

In light of applicable design guidelines, including the *LAX Street Frontage and Landscape Plan Update*, LAX Master Plan commitments, and existing visual quality, improvements under Alternative 1 in combination with cumulative projects would not degrade an area valued for its aesthetic character, or involve the removal of features that contribute to the aesthetic image of the area. Moreover, cumulative projects in combination with Alternative 1 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the western boundary area under Alternative 1 would be less than significant.

Northern Boundary

Cumulative projects within the northern boundary area, listed above, in combination with airfield, terminal, and ground access improvements occurring under Alternative 1, would contribute to cumulative impacts to aesthetic resources, views, and light and glare. Implementation of Alternative 1 would involve changes to the north airfield and terminal improvements that would be visible from northern vantage points. Under Alternative 1, Lincoln Boulevard would be realigned to the north, with approximately 540 linear feet below grade and/or covered. Since the site of the new alignment is currently vacant and lies between two existing roadways, the area is not currently valued for its aesthetic character, and the improvements would not be at a height or location that would obstruct scenic views, impacts to aesthetic resources would be less than significant.

As noted above, a number of cumulative projects are proposed within the northern boundary area. The impacts of several of these projects are discussed previously in this analysis. In particular, the LAX Northside area is currently entitled for development of a mix of retail uses, hotels, offices, airport support facilities, education and community facilities, and open space under the adopted LAX Northside Plan. The approved development plan provides entitlements for 4.5 million square feet of development, subject to a limitation on the total number of daily trips. Formulation of a new land use development concept for the area is currently in process. The proposed LAX Northside Plan Update calls for less dense development as well as additional open space and community facilities while providing a mix of retail, office space, research and development, and non-profit uses.[824] The development of a mix of new land uses within this vacant area, even at a less dense level than previously entitled, would represent a substantial change in visual character and has the potential to affect views from residential development to the north. In addition, the conversion of the largely vacant LAX Northside would result in a noticeable increase in ambient light and glare as seen from existing adjacent light-sensitive uses in the Westchester area. However, the LAX Northside area is subject to height restrictions, setback requirements, and lighting and landscape guidelines and requirements contained in the *LAX Northside Design Plan and Development Guidelines* and the LAX Specific Plan with the goal of avoiding land use conflicts, creating a visually open appearance, and promoting design sensitivity to the residential interface, enhancing privacy. In addition, light spillover and substantial glare associated with the relocation of Lincoln Boulevard and its associated street lighting northward, in combination with development under LAX Northside, would be avoided. This is because the Lincoln Boulevard relocation improvements would be subject to LAX Master Plan Commitments LI-3, Lighting Controls, and DA-1, Construction Fencing, while both the Lincoln Boulevard relocation improvements and development in LAX Northside would be subject to LAMC Section 93.0117 and *LAX Northside Design Plan and Development Guidelines* regulating light spillover in residential areas.

Implementation of these design provisions would create an aesthetically pleasing interface with the Westchester community to the north, and setbacks and height limits would reduce visual intrusion and the obscuring of distant views. Implementation of the LAX Northside Plan would create intervening development between residential uses and existing views of the airfield would be limited. Although views from certain high-rise apartment buildings on the west side of Lincoln Boulevard would change, existing views of LAX Northside and LAX are not considered scenic or of high aesthetic quality. More distant views of the Theme Building would also be limited by the new development; however, due to the distance of the Theme Building from northern vantage points, existing views of the Theme Building that might be obstructed are not considered scenic.

The Westchester Golf Course Three-Hole Restoration Project, completed in 2010, involved the replacement of three holes at the Westchester Golf Course that were eliminated many years ago with the construction of Westchester Parkway, thereby returning the overall playing area to 18 holes. Landscaping for the project was provided in accordance with the *LAX Street Frontage and Landscape Development Plan Update*. The golf course is separated from nearby residences by a 12-foot-high

[824] City of Los Angeles, Los Angeles World Airports, LAX Northside Plan Update, Available: http://www.lawa.org/GDZ., accessed December 30, 2012.

masonry wall atop an 8-foot-high landscaped berm, effectively shielding any views of the golf course from nearby residences and preventing any light spillover or substantial glare. As such, impacts to aesthetic resources associated with this project were less than significant. Similarly, because of the masonry wall and berm, and given the light and glare controls discussed above (e.g., LAX Master Plan Commitments LI-3 and DA-1, LAMC Section 93.0117, and *LAX Northside Design Plan and Development Guidelines*), any increase in light and glare resulting from the combination of light from the Lincoln Boulevard relocation and development in LAX Northside would result in less than significant light and glare impacts.

Various airfield modifications and terminal improvements related to cumulative projects, listed above, would not introduce land uses that would adversely alter the overall visual character of the airfield, CTA, or aircraft operations. Furthermore, views of the existing airfield, while of public interest, are at a considerable distance from residences in Westchester and Playa del Rey. More distant views to the CTA are not scenic. Projects such as the Bradley West Project, the MSC, and the North Terminals Improvements would enhance views of the airport. Changes to the north airfield, enhancements to AOA perimeter fencing, and various terminal improvements, would not alter views of airfield operations, such as arriving and departing aircraft.

In light of applicable design guidelines, including the *LAX Street Frontage and Landscape Plan Update* and the *LAX Northside Design Plan and Development Guidelines*, LAX Master Plan commitments, and existing visual quality, improvements under Alternative 1 in combination with cumulative projects would not degrade an area valued for its aesthetic character, or involve the removal of features that contribute to the aesthetic image of the area. Moreover, cumulative projects in combination with Alternative 1 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the northern boundary area under Alternative 1 would be less than significant.

Construction

If construction of airfield, terminal, and ground access improvements associated with Alternative 1 were to occur at the same time as construction of other cumulative projects, the combined construction activity would generate cumulative impacts to aesthetics and light and glare that would be greater than would occur if these projects were not to overlap. Cumulative construction activities would cause some areas of the airport environs to have an incomplete, disrupted, and unattractive quality. In addition, construction activities would require temporary nighttime lighting of the construction sites and construction staging areas. Use of Construction Staging Areas A, B, C, and D may occur in conjunction with the construction of LAX Northside, the Stormwater Infiltration and Treatment Facility, and the Coastal Dunes Improvement Project. These construction activities would be visible from residential areas north of Westchester Parkway, the Westchester Golf Course, and elevated residential areas northwest of Pershing Drive. Although Construction Staging Areas A, B, C, and D and construction activities associated with other cumulative projects would be visible to some degree from off-site vantage points to the north, most of these construction staging areas already accommodate existing construction activities and associated construction lighting. Construction staging equipment, activities, and light and glare from cumulative construction activities would not contrast or be out of character with existing views, which include existing construction staging activities, airfield runways, and auxiliary structures located to the south.

Use of Construction Staging Areas E and F in the mostly vacated Belford and Manchester Square areas may occur in conjunction with construction of cumulative projects, such as the Metro Crenshaw/LAX Transit Corridor and Station. These cumulative construction activities would be visible from surrounding commercial, industrial, and surface parking uses. Views of the Manchester Square area would also be visible from the limited number of multi-family homes to the north, some of which would have elevated views of the site from upper stories. Construction Staging Areas E and F would be also visible from surrounding roadways. While Construction Staging Areas E and F in conjunction with construction

activities associated with other cumulative projects would be visible to surrounding uses and vantage points, most of these areas have some existing lighting and currently accommodate some construction activities. Moreover, cumulative construction activities would be located in a lit urban setting, the existing visual quality in these areas is low, and the areas do not support notable views.

Use of Construction Staging Area G (the Continental City site) may occur in conjunction with the construction of the Metro Crenshaw/LAX Transit Corridor, both of which would be visible along on Aviation Boulevard, 111th Street, and I-105. Residential areas south of I-105 have limited views of the Continental City site due to the presence of I-105 support pilings, a sound wall, and right-of-way fronting Imperial Highway. Construction Staging Area G and construction activities associated with cumulative projects, such as the Metro Crenshaw/LAX Transit Corridor, would not detract from an area with valued aesthetic quality. Currently, the Continental City site is vacant and does not contain valued aesthetic resources or notable views. Cumulative construction activities in this area would not alter existing long-range views of the Santa Monica Mountains due to the distance of the improvements and the substantially higher vantage points to the south, nor would these activities alter valued views in El Segundo of airfield operations, such as arriving and departing aircraft. Furthermore, the area is located within the highly lit and glare-generating Century, Sepulveda, and Aviation Boulevard corridors, which are dominated by street lights, surface parking lot lighting, and lighting from building and parking structure interiors, and any construction-related light and glare generate would represent a small incremental increase in existing light and glare in this area.

Impacts related to temporary construction activities on the airport property would be reduced by LAX Master Plan Mitigation Measure MM-DA-1, Construction Fencing. Specifically, MM-DA-1 would ensure construction fencing and pedestrian canopies would be installed by LAWA to the degree feasible and appropriate to ensure maximum screening of areas under construction along major public approach and perimeter roadways. Along Century Boulevard, Sepulveda Boulevard, and in other areas where the quality of public views are a high priority, treatment of the fencing to reduce temporary visual impacts would occur. Construction lighting associated with Alternative 1 and other LAX Master Plan projects would be oriented toward airport property and away from adjacent sensitive receptors in accordance with LAX Master Plan Commitment LI-3, Lighting Controls. Temporary construction impacts related to the Metro Crenshaw/LAX Transit Corridor and Station and Airport Metro Connector Project would be subject to screening measures enforced by Metro, such as the replacement of street trees and vegetation and siting of stockpile and staging areas in less visually-sensitive areas. Therefore, cumulative short-term aesthetic impacts related to temporary construction activities would be less than significant. Similarly, since construction activities associated with the cumulative projects, in combination with construction activities under Alternative 1, would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare, cumulative construction-related light and glare impacts would also be less than significant.

5.5.1.2 Alternative 2

There would be no northerly relocation of Runway 6L/24R under this alternative; instead, high-speed taxiway exits from Runway 6L/24R would be modified. In addition, this alternative does not include the relocation of Lincoln Boulevard. All other airfield and terminal improvements associated with this alternative would be the same as Alternative 1. As with Alternative 1, impacts to aesthetic resources, scenic views, and light and glare associated with Alternative 2 would be less than significant.

Cumulative impacts to aesthetic resources, views, and light and glare resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described for Alternative 1. As with Alternative 1, in light of applicable design guidance, including the *LAX Street Frontage and Landscape Plan Update* and requirements incorporated into Metro environmental documents, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 2 improvements, would not degrade valued aesthetic resources or involve the removal of features that contribute to the aesthetic image of the

area. Cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, associated with Alternative 2 would be less than significant. Cumulative projects would not affect views from a designated scenic highway, corridor, or parkway, and, with the exception of the Airport Metro Connector Project depending on the selected alternative, would not obstruct/diminish other valued focal or panoramic views. Although the Airport Metro Connector Project may contribute to a cumulatively significant impact on views of the Theme Building depending on the alternative selected, as improvements within the CTA under Alternative 2 would take place on the airfield and north of Sky Way, and would not obstruct or degrade views of the Theme Building, the contribution of Alternative 2 would not be cumulatively considerable.

5.5.1.3 Alternative 3

Century Corridor/Eastern Boundary

Ground access improvements associated with Alternative 3, such as two landside APM systems, Ground Transportation Center (GTC) at Manchester Square, and Consolidated Rental Car Facility (CONRAC), in combination with other cumulative projects within the Century Corridor/eastern boundary area, listed above, would contribute to cumulative impacts to aesthetic resources, scenic views, and light and glare. Under Alternative 3, improvements such as the APM, GTC, and CONRAC would occur within an area of poor visual quality and would not affect views from a designated scenic highway, corridor, or parkway or obstruct scenic views. In addition, the affected area already includes existing light sources (e.g., street lights, parking lot lighting, security lighting, and lighting from building and parking structure interiors) typical of a highly urbanized environment. The APM, GTC, and CONRAC would be subject to airport design guidelines, including those set forth in the *LAX Street Frontage and Landscape Development Plan Update*, for screening, buffers, landscaping, setbacks, pedestrian amenities, and high architectural standards, as well as LAX Master Plan Commitments DA-1, Provide and Maintain Airport Buffer Areas, and LU-4, Neighborhood Compatibility Program, to promote visual compatibility. Provisions addressing light and glare would also apply, including LAX Master Plan Commitment LI-2, Use of Non-Glare Generating Building Materials; LAX Master Plan Commitment LI-3, Lighting Controls; and LAMC Section 93.0117. As a result, aesthetic and light and glare impacts associated with Alternative 3 would be less than significant.

As discussed under Alternative 1, other cumulative projects would result in less than significant impacts to aesthetic resources, views, and light and glare as these projects are not located in areas of high visual quality or containing notable views. The cumulative projects would incorporate urban design features and mitigation to ensure visual compatibility and reduce visual and light and glare conflicts between the proposed projects and surrounding community. Cumulative airport projects would be subject to design standards contained within the *LAX Street Frontage and Landscape Development Plan Update*, and non-airport projects may also be subject to design requirements.

In light of applicable design guidelines, LAX Master Plan commitments, and existing visual quality, improvements under Alternative 3 in combination with cumulative projects would not degrade an area valued for its aesthetic character, or involve the removal of features that contribute to the aesthetic image of the area. Moreover, cumulative projects in combination with Alternative 3 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the Century Corridor/eastern boundary area under Alternative 3 would be less than significant.

Central Terminal Area

Alternative 3 would include the demolition of the concourses/gates at Terminals 1 through 3 and replacement with a new linear concourse, elimination of the northernmost gates at TBIT, replacement of the existing CTA parking structures with new passenger processing terminals, and construction of an APM. These improvements would be located in a highly lit environment. Since the existing terminal buildings and parking garages are aging, functional in nature, and generally do not include extensive architectural features and/or landscaping, they do not contribute meaningfully to the aesthetic quality of the CTA. As such, for the most part, the improvements under Alternative 3 would not constitute the loss of valued visual resources and are expected to represent an aesthetic improvement within the CTA. However, as addressed in Section 4.1, *Aesthetics*, the new passenger terminals and APM associated with Alternative 3 would affect views of the Theme Building from different vantage points within the CTA. With incorporation of Mitigation Measure MM-HA (SPAS)-1, Preservation of Historic Resources: Theme Building and Setting (Alternative 3), this impact would be less than significant.

As discussed previously under Alternative 1, other cumulative projects within the CTA, including the Bradley West Project, central processor component of the MSC Program, North Terminals Improvements, CUP Replacement Project, New Face of the CTA Improvements/Enhancements, and LAX Sign District, would enhance visual and aesthetic quality since they would improve and modernize the existing structures, create new visual treatments, introduce modern design elements and greater architectural articulation, and impose stricter design guidance than current conditions. New and modified facilities are expected to represent an aesthetic improvement within the CTA that would promote the airport's image as a Gateway to the City of Los Angeles and would not involve the removal of features that contribute to the aesthetic character of the area. Similarly, development of the cumulative projects in combination with Alternative 3 within the CTA would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare.

As discussed earlier, as part of the Airport Metro Connector Project, the APM, Light Rail Transit, and Bus Rapid Transit options could be developed in a configuration that would extend to the area of the Theme Building. Depending on the specific location, design, and height of the elevated elements and support structures, implementation of the APM, Light Rail Transit, or Bus Rapid Transit options could diminish focal views of the Theme Building from various vantage points in the CTA. Similar to the Metro Crenshaw/LAX Transit Corridor and Station, a number of urban design principles and features would likely be implemented as part of the Airport Metro Connector Project to ensure visual compatibility and reduce visual conflicts between the proposed transit system and the surrounding area. Although the Airport Metro Connector Project may contribute to a cumulatively significant impact on views of the Theme Building depending on the alternative selected, in light of proposed Mitigation Measure MM-HA (SPAS)-1, Preservation of Historic Resources: Theme Building and Setting (Alternative 3), the contribution of Alternative 3 to cumulative impacts would not be cumulatively considerable.

Southern Boundary

Ground access improvements associated with Alternative 3, such as the Intermodal Transportation Center (ITC) at the Continental City site, the surface parking facility north of 111th Street, and various airfield and terminal improvements, in combination with cumulative projects listed above, would contribute to cumulative impacts to aesthetic resources, views, and light and glare. The parking facility and the ITC would be developed in areas that have a poor visual quality and would not involve the removal of features that contribute to the aesthetic character of the area. Furthermore, the parking facility and ITC would be subject to design guidelines for screening, buffers, landscaping, setbacks, pedestrian amenities, and high architectural standards as well as LAX Master Plan Commitments DA-1, Provide and Maintain Airport Buffer Areas, and LU-4, Neighborhood Compatibility Program, to promote visual compatibility. Provisions addressing light and glare would also apply, including LAX Master Plan Commitment LI-2, Use of Non-Glare Generating Building Materials; LAX Master Plan Commitment LI-3, Lighting Controls; and LAMC

Section 93.0117. As a result, aesthetic impacts associated with Alternative 3 would be less than significant.

Impacts associated with cumulative projects near the southern boundary area are addressed under Alternative 1. As noted in that discussion, impacts to aesthetic resources associated with these projects would be less than significant.

In light of applicable design guidelines, including the *LAX Street Frontage and Landscape Plan Update*, LAX Master Plan commitments, and existing visual quality, improvements under Alternative 3 in combination with cumulative projects would not degrade an area valued for its aesthetic character, or involve the removal of features that contribute to the aesthetic image of the area. Moreover, cumulative projects in combination with Alternative 3 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the southern boundary area under Alternative 3 would be less than significant.

Western Boundary

Under Alternative 3, development of the West Employee Parking facility; airfield improvements such as movement of Runway 6R/24L 340 feet south, the addition of a new centerfield taxiway, westerly extension of Runway 6L/24R, relocation and improvements to Taxiway E, and westerly extension of Taxilane D; and various terminal improvements, in combination with other cumulative projects listed above, would contribute to cumulative impacts to aesthetic resources, views, and light and glare. Development of the West Employee Parking facility under Alternative 3 would occur above grade and would be visible from western vantage points. However, aesthetic and view impacts from vantage points along Pershing Drive and from more distant points north and south of the airport would not be significant since the area does not currently support a high level of visual quality or contain important aesthetic elements. Additionally, with the exception of changes to existing navigational aids, no development would take place in the Habitat Restoration Area, and views of the Dunes and views along Vista del Mar, a City of Los Angeles-designated Scenic Highway, would not materially change. Under Alternative 3, a number of existing navigational aids would be removed and replaced resulting in a net increase in navigational aids. However, similar to baseline conditions, new and modified navigational aids would be low in profile or would be narrow, thin structures that would not comprise a noticeable portion of the overall viewshed. In addition, the relocated navigational aids would not introduce a new light source. Overall, aesthetic impacts associated with Alternative 3 would be less than significant.

Impacts associated with cumulative projects near the western boundary area are addressed under Alternative 1. As noted in that discussion, impacts to aesthetic resources associated with these projects would be less than significant.

In light of applicable design guidelines, including the *LAX Street Frontage and Landscape Plan Update*, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 3 improvements, would not degrade valued aesthetic resources or involve the removal of features that contribute to the aesthetic character of the area. Moreover, cumulative projects in combination with Alternative 3 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the western boundary area under Alternative 3 would be less than significant.

Northern Boundary

Cumulative projects within the northern boundary area, listed above, in combination with airfield, terminal, and ground access improvements occurring under Alternative 3, would contribute to cumulative impacts to aesthetic resources, views, and light and glare. Under Alternative 3, development of the CONRAC would occur on a site with poor visual quality that is currently developed with surface parking and rental car facilities. Furthermore, the CONRAC would be subject to design guidelines for screening, buffers, landscaping, setbacks, pedestrian amenities, and high architectural standards as well as LAX Master Plan Commitments DA-1, Provide and Maintain Airport Buffer Areas, and LU-4, Neighborhood Compatibility Program, to promote visual compatibility. Provisions addressing light and glare would also apply, including LAX Master Plan Commitment LI-2, Use of Non-Glare Generating Building Materials; LAX Master Plan Commitment LI-3, Lighting Controls; and LAMC Section 93.0117. Therefore, impacts to aesthetic resources under Alternative 3 would be less than significant.

Impacts associated with cumulative projects near the northern boundary area are addressed under Alternative 1. As noted in that discussion, impacts to aesthetic resources associated with these projects would be less than significant.

In light of applicable design guidelines, including the *LAX Street Frontage and Landscape Plan Update* and the *LAX Northside Design Plan and Development Guidelines*, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 3 improvements, would not degrade valued aesthetic resources or involve the removal of features that contribute to the aesthetic character of the area. Moreover, cumulative projects in combination with Alternative 3 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the northern boundary area under Alternative 3 would be less than significant.

Construction

Cumulative impacts associated with construction of Alternative 3, in conjunction with other cumulative projects, would be the same as the cumulative impacts described for Alternative 1. As with Alternative 1, construction of these projects would be subject to screening measures associated with LAX Master Plan Mitigation Measure MM-DA-1, Construction Fencing, and LAX Master Plan Commitment LI-3, Lighting Controls, to reduce aesthetic impacts. Therefore, cumulative short-term aesthetic impacts related to temporary construction activities would be less than significant. Similarly, since construction activities associated with the cumulative projects, in combination with construction activities under Alternative 3, would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare, cumulative construction-related light and glare impacts would also be less than significant.

5.5.1.4 Alternative 4

Century Corridor/Eastern Boundary

Under Alternative 4, improvements within the Century Corridor/eastern boundary area would be limited to the construction of the CONRAC at Lot C. Impacts to aesthetic and visual resources, views, and light and glare related to the CONRAC, in combination with cumulative projects listed above, would be the same as discussed previously for Alternative 3.

As with Alternative 3, in light of applicable design guidelines, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 4 improvements, would not degrade valued aesthetic resources or involve the removal of

features that contribute to the aesthetic character of the area. Moreover, cumulative projects in combination with Alternative 4 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct valued focal or panoramic views. Similarly, cumulative development in combination with Alternative 4 improvements would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the Century Corridor/eastern boundary area under Alternative 4 would be less than significant.

Central Terminal Area

Alternative 4 does not include any improvements within the CTA and thus there would be no cumulative impact on aesthetic resources or views, or light and glare, within the CTA.

Southern Boundary

Under Alternative 4, the Continental City site would be developed with a parking structure. Development of the parking structure would upgrade a currently vacant site that has poor visual quality and would not involve the removal of features that contribute to the aesthetic character of the area. LAX Master Plan Commitments DA-1, Provide and Maintain Airport Buffer Areas, and LU-4, Neighborhood Compatibility Program, would serve to promote visual compatibility, and LAX Master Plan Commitments LI-2, Use of Non-Glare Generating Building Materials, and LI-3, Lighting Controls, along with LAMC Section 93.0117, would address light and glare. Therefore, impacts to aesthetic resources under Alternative 4 would be less than significant.

Impacts associated with cumulative projects near the southern boundary area are addressed under Alternative 1. As noted in that discussion, impacts to aesthetic resources associated with these projects would be less than significant.

In light of applicable design guidance, including the *LAX Street Frontage and Landscape Plan Update*, LAX Master Plan commitments, and existing visual quality, development of cumulative projects at and adjacent to LAX, in combination with Alternative 4 improvements, would not degrade valued aesthetic resources or involve the removal of features that contribute to the aesthetic image of the area. Moreover, cumulative projects in combination with Alternative 4 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare which would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the southern boundary area under Alternative 4 would be less than significant.

Western Boundary

Under Alternative 4, the only improvements in the western boundary area consist of relocated navigational aids. As the number of navigational aids would not increase, and lighting would be directed at oncoming aircraft, impacts would be less than significant.

Impacts associated with cumulative projects near the western boundary area are addressed under Alternative 1. As noted in that discussion, impacts to aesthetic resources associated with these projects would be less than significant.

In light of applicable design guidelines, including the *LAX Street Frontage and Landscape Plan Update*, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 4 improvements, would not degrade valued aesthetic resources or involve the removal of features that contribute to the aesthetic image of the area. Moreover, cumulative projects in combination with Alternative 4 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic

views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the western boundary area under Alternative 4 would be less than significant.

Northern Boundary

Under Alternative 4, the CONRAC at Lot C would be constructed as well as very limited improvements to the north airfield. Aesthetic and view impacts related to the CONRAC would be the same as Alternative 3. As with Alternative 3, the CONRAC would be developed on a site with poor visual quality and would be subject to airport design guidelines and LAX Master Plan commitments to promote visual compatibility and reduce aesthetic impacts. The airfield improvements, consisting of the easterly extension of Runway 6R/24L and Taxiway E, would represent a continuation of existing airfield uses and would not block any visual resources or views. Therefore, impacts to aesthetic resources associated with Alternative 4 would be less than significant.

Impacts associated with cumulative projects near the northern boundary area are addressed under Alternative 1. As noted in that discussion, impacts to aesthetic resources associated with these projects would be less than significant.

In light of applicable design guidelines, including the *LAX Street Frontage and Landscape Plan Update* and the *LAX Northside Design Plan and Development Guidelines*, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 4 improvements, would not degrade valued aesthetic resources or involve the removal of features that contribute to the aesthetic image of the area. Moreover, cumulative projects in combination with Alternative 4 improvements would not affect views from a designated scenic highway, corridor, or parkway or obstruct/diminish other valued focal or panoramic views. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, within the northern boundary area under Alternative 4 would be less than significant.

Construction

Cumulative impacts associated with construction of Alternative 4, in conjunction with other cumulative projects, would be similar to the cumulative impacts described for Alternative 1. As with Alternative 1, construction of these projects would be subject to screening measures and LAX Master Plan commitments to reduce aesthetic impacts. Therefore, cumulative short-term aesthetic impacts related to temporary construction activities would be less than significant. Similarly, since construction activities associated with the cumulative projects, in combination with construction activities under Alternative 4, would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare, cumulative construction-related light and glare impacts would also be less than significant.

5.5.1.5 Alternative 5

Alternative 5 focuses on airfield improvements. Such improvements would not affect aesthetic resources in the Century Corridor/eastern boundary area and thus there would be no cumulative impacts to aesthetic resources, views, or light and glare in this area. Relative to airfield improvements, Runway 6L/24R would be relocated approximately 90 feet farther north under Alternative 5 compared to Alternative 1. All other airfield and terminal improvements associated with this alternative would be similar to Alternative 1. As with Alternative 1, impacts to aesthetic resources, views, and light and glare associated with Alternative 5 would be less than significant.

Cumulative impacts to aesthetic resources, views, and light and glare resulting from the combination of Alternative 5 and other cumulative projects would be the same as the cumulative impacts described for Alternative 1, except for the Century Corridor/eastern boundary area as described above. Within the other areas, as with Alternative 1, in light of applicable design guidelines, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 5 improvements, would not degrade valued aesthetic resources or involve the removal of features that contribute to the aesthetic image of the area. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Although the Airport Metro Connector Project may contribute to a cumulatively significant impact on views of the Theme Building depending on the alternative selected, as improvements within the CTA under Alternative 5 would take place on the airfield and north of Sky Way, and would not obstruct or degrade views of the Theme Building, the contribution of Alternative 5 would not be cumulatively considerable.

5.5.1.6 Alternative 6

Alternative 6 focuses on airfield improvements. Such improvements would not affect aesthetic resources in the Century Corridor/eastern boundary area and thus there would be no cumulative impacts to aesthetic resources, views, or light and glare in this area. Relative to airfield improvements, Runway 6L/24R would be relocated 160 feet farther away from the northern boundary than under Alternative 1. All other airfield and terminal improvements associated with this alternative would be similar to Alternative 1. As with Alternative 1, impacts to aesthetic resources, views, and light and glare associated with Alternative 6 would be less than significant.

Cumulative impacts to aesthetic resources, views, and light and glare resulting from the combination of Alternative 6 and other cumulative projects would be the same as the cumulative impacts described for Alternative 1, except for the Century Corridor/eastern boundary area as described above. Within the other areas, as with Alternative 1, in light of applicable design guidelines, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 6 improvements, would not degrade valued aesthetic resources or involve the removal of features that contribute to the aesthetic image of the area. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Although the Airport Metro Connector Project may contribute to a cumulatively significant impact on views of the Theme Building depending on the alternative selected, as improvements within the CTA under Alternative 6 would take place on the airfield and north of Sky Way, and would not obstruct or degrade views of the Theme Building, the contribution of Alternative 6 would not be cumulatively considerable.

5.5.1.7 Alternative 7

Alternative 7 focuses on airfield improvements. Such improvements would not affect aesthetic resources in the Century Corridor/eastern boundary area and thus there would be no cumulative impacts to aesthetic resources, views, or light and glare in this area. Relative to airfield improvements, there would be no northerly relocation of Runway 6L/24R under this alternative. Rather, Runway 6R/24L would be relocated 100 feet south. All other airfield and terminal improvements associated with this alternative would be similar to Alternative 1. As with Alternative 1, impacts to aesthetic resources, views, and light and glare associated with Alternative 7 would be less than significant.

Cumulative impacts to aesthetic resources, views, and light and glare resulting from the combination of Alternative 7 and other cumulative projects would be the same as the cumulative impacts described for Alternative 1, except for the Century Corridor/eastern boundary area as described above. Within the other areas, as with Alternative 1, in light of applicable design guidelines, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 7 improvements, would not degrade valued aesthetic resources or involve the removal of

features that contribute to the aesthetic image of the area. Similarly, cumulative development would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Although the Airport Metro Connector Project may contribute to a cumulatively significant impact on views of the Theme Building depending on the alternative selected, as improvements within the CTA under Alternative 7 would take place on the airfield and north of Sky Way, and would not obstruct or degrade views of the Theme Building, the contribution of Alternative 7 would not be cumulatively considerable.

5.5.1.8 Alternative 8

Alternative 8 focuses on ground access improvements. Such improvements would not affect aesthetic resources in the CTA, southern boundary area, or western boundary area and thus there would be no cumulative impacts to aesthetic resources, views, or light and glare in these areas. Ground access improvements under this alternative include a CONRAC and public parking in Manchester Square and public parking east of Lot C in the Century Corridor/eastern boundary and northern boundary areas. These facilities would be constructed in areas with poor visual quality with no notable views, but with existing light sources (e.g., street lights, parking lot lighting, security lighting, and lighting from building and parking structure interiors) typical of a highly urbanized environment. Since these improvements would be compatible with surrounding land uses, and would be subject to design guidelines, impacts to aesthetic resources would be less than significant. All other ground access improvements associated with this alternative would be the same as Alternative 1. As with Alternative 1, impacts to aesthetic resources, views, and light and glare associated with these improvements would be less than significant.

Cumulative impacts to aesthetic resources, views, and light and glare in the Century Corridor/eastern boundary and northern boundary areas resulting from the combination of Alternative 8 and other cumulative projects would be the same as the cumulative impacts to these areas described for Alternative 1. As with Alternative 1, in light of applicable design guidelines, LAX Master Plan commitments, and existing visual quality, the development of cumulative projects at and adjacent to LAX, in combination with Alternative 8 improvements, would not degrade valued aesthetic resources or involve the removal of features that contribute to the aesthetic image of the area. Similarly, cumulative development in combination with Alternative 8 improvements would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare. Therefore, cumulative impacts to aesthetic resources and views, and cumulative impacts related to light and glare, under Alternative 8 would be less than significant.

5.5.1.9 Alternative 9

Alternative 9 focuses on ground access improvements. Such improvements would not affect aesthetic resources in the southern boundary or western boundary areas and thus there would be no cumulative impacts to aesthetic resources, views, or light and glare in these areas. Ground access improvements under this alternative include a CONRAC and public parking in Manchester Square, public parking east of Lot C, and an APM connecting the CONRAC to the CTA. These improvements would be located within the Century Corridor/eastern boundary and northern boundary areas and in the CTA. Within the Century Corridor/eastern boundary and northern boundary areas, the CONRAC, public parking, and APM would be constructed in areas with poor visual quality with no notable views, but with existing light sources (e.g., street lights, parking lot lighting, security lighting, and lighting from building and parking structure interiors) typical of a highly urbanized environment. Since these improvements would be compatible with surrounding land uses, and would be subject to design guidelines, impacts to aesthetic resources would be less than significant. All other ground access improvements associated with this alternative would be the same as Alternative 1.

As addressed in Section 4.1, *Aesthetics*, within the CTA, the APM associated with Alternative 9 would affect views of the Theme Building. With incorporation of Mitigation Measure MM-HA Mitigation Measure MM-HA (SPAS)-2, Preservation of Historic Resources: Theme Building and Setting (Alternative 9), this

impact would be less than significant. As discussed previously under Alternative 1, other cumulative projects within the CTA, including the Bradley West Project, central processor component of the MSC Program, North Terminals Improvements, CUP Replacement Project, New Face of the CTA Improvements/Enhancements, and the LAX Sign District, would enhance visual and aesthetic quality since they would improve and modernize the existing structures, create new visual treatments, introduce modern design elements and greater architectural articulation, and impose stricter design guidance than current conditions and would not involve the removal of features that contribute to the aesthetic character of the area. Development of these cumulative projects in combination with Alternative 9 within the CTA would not result in a change in lighting or lighting intensity such that light would spill off and adversely affect light-sensitive areas, and would not result in a substantial new source of glare that would adversely affect nighttime views in adjacent areas sensitive to glare.

As discussed under Alternative 1, elevated elements related to the Airport Metro Connector Project could potentially affect views of the Theme Building within the CTA. Although the Airport Metro Connector Project may contribute to a cumulatively significant impact on views of the Theme Building depending on the alternative selected, in light of proposed Mitigation Measure MM-HA (SPAS)-2, Preservation of Historic Resources: Theme Building and Setting (Alternative 9), the contribution of Alternative 9 to cumulative impacts would not be cumulatively considerable.

5.5.2 Air Quality

5.5.2.1 Construction Impacts

Construction air quality impacts tend to be primarily local in nature (i.e., impacts such as fugitive dust and construction equipment emissions are mostly realized in the immediate area around a construction site), although construction-related air pollutant emissions also contribute incrementally to degradation of regional ambient air quality. Cumulative projects with the most notable potential to contribute to cumulative construction air quality impacts, adding to the construction-related impacts associated with each of the SPAS alternatives, would be those under construction at the same time and in the same general vicinity as the SPAS alternatives. As such, the geographic study area for evaluation of cumulative construction air quality impacts is focused primarily on projects at LAX and the immediate surroundings. It should be noted, however, that the basis used in this EIR for determining significant air quality impacts, whether project-specific or cumulative, are the thresholds established by the South Coast Air Quality Management District (SCAQMD). The SCAQMD is the regional air pollution control agency for the South Coast Air Basin, which includes all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties, and sets forth regulations, policies, and programs designed to address air quality on a regional (Basin-wide) basis.

As described above in Section 5.3, numerous past, present, and reasonably foreseeable development projects are located at and around LAX. Past and present projects involving substantial construction activities include the South Airfield Improvement Project, Taxiway R, the Bradley West Project including Taxiways S and T, and the Central Utility Plant (CUP) Replacement Project. Construction of these projects has been, or is anticipated to be, completed prior to start of construction of SPAS improvements in 2015. There are also several other smaller projects described in Section 5.3 that have been, or would be, completed prior to 2015 (see anticipated timeframes within the description of each project). Reasonably foreseeable projects involving substantial construction activities between 2015 and 2025, concurrent with construction of SPAS improvements, include the Midfield Satellite Concourse (MSC) and associated taxiways and passenger processor, LAX Northside, and the Metro Crenshaw/LAX Transit Corridor and Station. Additional smaller development projects anticipated to occur during this time period are described in Section 5.3, as are several other projects for which construction schedules have not yet been determined but would nevertheless contribute to cumulative construction air quality impacts at some point.

According to the SCAQMD, if an individual project results in air emissions of criteria pollutants that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then the project would also result in a cumulatively considerable net increase of these criteria pollutants.[825] Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

5.5.2.1.1 Alternative 1

Construction of the past, present, and reasonably foreseeable future projects described above, along with the improvements proposed under Alternative 1, would collectively exceed the SCAQMD thresholds of significance; hence, there would be significant cumulative impacts to air quality. As indicated in Sections 4.2.6.1 and 4.2.6.2, estimated emissions from construction of Alternative 1 would exceed the SCAQMD thresholds of significance for CO, VOC, NO_x, PM10, and PM2.5, and concentrations of criteria pollutants from construction would exceed the SCAQMD thresholds of significance for NO_2 and PM10. The contribution of Alternative 1 to cumulative emissions and concentrations of these specific pollutants would, therefore, be cumulatively considerable.

Construction emission and concentration impacts of SO_2 and construction concentration impacts of CO and PM2.5 would not exceed the SCAQMD thresholds of significance under Alternative 1 and, therefore, would not be cumulatively considerable relative to these specific pollutants.

Overall, based on the above, construction of Alternative 1 would result in a cumulatively considerable impact on air quality.

5.5.2.1.2 Alternative 2

Construction of the past, present, and reasonably foreseeable future projects described above, along with the improvements proposed under Alternative 2, would collectively exceed the SCAQMD thresholds of significance; hence, there would be significant cumulative impacts to air quality. As indicated in Sections 4.2.6.1 and 4.2.6.2, estimated emissions from construction of Alternative 2 would exceed the SCAQMD thresholds of significance for CO, VOC, NO_x, PM10, and PM2.5, and concentrations of criteria pollutants from construction would exceed the SCAQMD thresholds of significance for NO_2 and PM10. The contribution of Alternative 2 to cumulative emissions and concentrations of these specific pollutants would, therefore, be cumulatively considerable.

Construction emission and concentration impacts of SO_2 and construction concentration impacts of CO and PM2.5 would not exceed the SCAQMD thresholds of significance under Alternative 2 and, therefore, would not be cumulatively considerable relative to these specific pollutants.

Overall, based on the above, construction of Alternative 2 would result in a cumulatively considerable impact on air quality.

5.5.2.1.3 Alternative 3

Construction of the past, present, and reasonably foreseeable future projects described above, along with the improvements proposed under Alternative 3, would collectively exceed the SCAQMD thresholds of significance; hence, there would be significant cumulative impacts to air quality. As indicated in Sections 4.2.6.1 and 4.2.6.2, estimated emissions from construction of Alternative 3 would exceed the SCAQMD thresholds of significance for CO, VOC, NO_x, PM10, and PM2.5, and concentrations of criteria pollutants from construction would exceed the SCAQMD thresholds of significance for NO_2 and PM10. The contribution of Alternative 3 to cumulative emissions and concentrations of these specific pollutants would, therefore, be cumulatively considerable.

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825 South Coast Air Quality Management District, White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution, August 2003, Appendix D, Available: http://www.aqmd.gov/hb/2003/030929a.html, accessed June 15, 2012.

Construction emission and concentration impacts of SO_2 and construction concentration impacts of CO and PM2.5 would not exceed the SCAQMD thresholds of significance under Alternative 3 and, therefore, would not be cumulatively considerable relative to these specific pollutants.

Overall, based on the above, construction of Alternative 3 would result in a cumulatively considerable impact on air quality.

5.5.2.1.4 Alternative 4

Construction of the past, present, and reasonably foreseeable future projects described above, along with the improvements proposed under Alternative 4, would collectively exceed the SCAQMD thresholds of significance; hence, there would be significant cumulative impacts to air quality. As indicated in Sections 4.2.6.1 and 4.2.6.2, estimated emissions from construction of Alternative 4 would exceed the SCAQMD thresholds of significance for NO_x and PM10, and concentrations of criteria pollutants from construction would exceed the SCAQMD thresholds of significance for NO_2 and PM10. The contribution of Alternative 4 to cumulative emissions and concentrations of these specific pollutants would, therefore, be cumulatively considerable.

Construction emission and concentration impacts of CO, SO_2, and PM2.5 and construction emission impacts of VOC would not exceed the SCAQMD thresholds of significance under Alternative 4 and, therefore, would not be cumulatively considerable relative to these specific pollutants.

Overall, based on the above, construction of Alternative 4 would result in a cumulatively considerable impact on air quality.

5.5.2.1.5 Alternative 5

Construction of the past, present, and reasonably foreseeable future projects described above, along with the improvements proposed under Alternative 5, would collectively exceed the SCAQMD thresholds of significance; hence, there would be significant cumulative impacts to air quality. As indicated in Sections 4.2.6.1 and 4.2.6.2, estimated emissions from construction of Alternative 5 would exceed the SCAQMD thresholds of significance for CO, VOC, NO_x, PM10, and PM2.5, and concentrations of criteria pollutants from construction would exceed the SCAQMD thresholds of significance for NO_2 and PM10. The contribution of Alternative 5 to cumulative emissions and concentrations of these specific pollutants would, therefore, be cumulatively considerable.

Construction emission and concentration impacts of SO_2 and construction concentration impacts of CO and PM2.5 would not exceed the SCAQMD thresholds of significance under Alternative 5 and, therefore, would not be cumulatively considerable relative to these specific pollutants.

Overall, based on the above, construction of Alternative 5 would result in a cumulatively considerable impact on air quality.

5.5.2.1.6 Alternative 6

Construction of the past, present, and reasonably foreseeable future projects described above, along with the improvements proposed under Alternative 6, would collectively exceed the SCAQMD thresholds of significance; hence, there would be significant cumulative impacts to air quality. As indicated in Sections 4.2.6.1 and 4.2.6.2, estimated emissions from construction of Alternative 6 would exceed the SCAQMD thresholds of significance for CO, VOC, NO_x, PM10, and PM2.5, and concentrations of criteria pollutants from construction would exceed the SCAQMD thresholds of significance for NO_2 and PM10. The contribution of Alternative 6 to cumulative emissions and concentrations of these specific pollutants would, therefore, be cumulatively considerable.

Construction emission and concentration impacts of SO_2 and construction concentration impacts of CO and PM2.5 would not exceed the SCAQMD thresholds of significance under Alternative 6 and, therefore, would not be cumulatively considerable relative to these specific pollutants.

Overall, based on the above, construction of Alternative 6 would result in a cumulatively considerable impact on air quality.

5.5.2.1.7 Alternative 7

Construction of the past, present, and reasonably foreseeable future projects described above, along with the improvements proposed under Alternative 7, would collectively exceed the SCAQMD thresholds of significance; hence, there would be significant cumulative impacts to air quality. As indicated in Sections 4.2.6.1 and 4.2.6.2, estimated emissions from construction of Alternative 7 would exceed the SCAQMD thresholds of significance for CO, VOC, NO_x, PM10, and PM2.5, and concentrations of criteria pollutants from construction would exceed the SCAQMD thresholds of significance for NO_2 and PM10. The contribution of Alternative 7 to cumulative emissions and concentrations of these specific pollutants would, therefore, be cumulatively considerable.

Construction emission and concentration impacts of SO_2 and construction concentration impacts of CO and PM2.5 would not exceed the SCAQMD thresholds of significance under Alternative 7 and, therefore, would not be cumulatively considerable relative to these specific pollutants.

Overall, based on the above, construction of Alternative 7 would result in a cumulatively considerable impact on air quality.

5.5.2.1.8 Alternative 8

Construction of the past, present, and reasonably foreseeable future projects described above, along with the improvements proposed under Alternative 8, would collectively exceed the SCAQMD thresholds of significance; hence, there would be significant cumulative impacts to air quality. As indicated in Sections 4.2.6.1 and 4.2.6.2, estimated emissions from construction of Alternative 8 would exceed the SCAQMD thresholds of significance for CO, VOC, NO_x, PM10, and PM2.5, and concentrations of criteria pollutants from construction would exceed the SCAQMD thresholds of significance for NO_2 and PM10. The contribution of Alternative 8 to cumulative emissions and concentrations of these specific pollutants would, therefore, be cumulatively considerable.

Construction emission and concentration impacts of SO_2 and construction concentration impacts of CO and PM2.5 would not exceed the SCAQMD thresholds of significance under Alternative 8 and, therefore, would not be cumulatively considerable relative to these specific pollutants.

Overall, based on the above, construction of Alternative 8 would result in a cumulatively considerable impact on air quality.

5.5.2.1.9 Alternative 9

Construction of the past, present, and reasonably foreseeable future projects described above, along with the improvements proposed under Alternative 9, would collectively exceed the SCAQMD thresholds of significance; hence, there would be significant cumulative impacts to air quality. As indicated in Sections 4.2.6.1 and 4.2.6.2, estimated emissions from construction of Alternative 9 would exceed the SCAQMD thresholds of significance for CO, VOC, NO_x, PM10, and PM2.5, and concentrations of criteria pollutants from construction would exceed the SCAQMD thresholds of significance for NO_2 and PM10. The contribution of Alternative 9 to cumulative emissions and concentrations of these specific pollutants would, therefore, be cumulatively considerable.

Construction emission and concentration impacts of SO_2 and construction concentration impacts of CO and PM2.5 would not exceed the SCAQMD thresholds of significance under Alternative 9 and, therefore, would not be cumulatively considerable relative to these specific pollutants.

Overall, based on the above, construction of Alternative 9 would result in a cumulatively considerable impact on air quality.

5.5.2.2 Operational Impacts

Operational emissions associated with past, present, and reasonably foreseeable future projects such as those described above in Section 5.3 would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. Such operational emissions would be both localized, occurring at each project site, and regional in nature relative to mobile source emissions associated with vehicle travel to and from each site. According to the SCAQMD, if an individual project results in air emissions of criteria pollutants that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then the project would also result in a cumulatively considerable net increase of these criteria pollutants.

5.5.2.2.1 Alternative 1

Operational emissions and concentrations associated with past, present, and reasonably foreseeable future projects, along with Alternative 1, would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. As discussed in Section 4.2.6.3, operational emissions associated with Alternative 1 would exceed the SCAQMD's threshold for SO_2, PM10, and PM2.5. The SO_2 exceedance is primarily due to aircraft emissions during takeoff and to auxiliary power units (APUs). Although SO_2 emissions from other cumulative projects would be much more limited, given that the vast majority of non-aviation fuel types are subject to existing regulatory requirements that limit sulfur content to very low levels (i.e., no more than 15 parts per million), the impact of Alternative 1 relative to SO_2, which exceeds the SCAQMD threshold of significance, would be a cumulatively considerable contribution to a significant impact for that pollutant. Emissions of PM10 and PM2.5 would, under Alternative 1, exceed the SCAQMD thresholds of significance due primarily to off-airport vehicle travel, which would also occur with many of the other cumulative projects. The contribution of Alternative 1 to cumulative impacts for those pollutants would be cumulatively considerable. As discussed in Section 4.2.6.4, concentrations of NO_2 would exceed the SCAQMD's threshold of significance, due primarily to pollutant emissions associated with aircraft takeoffs, and concentrations of PM10 and PM2.5 would also exceed the SCAQMD thresholds of significance. Alternative 1 would, therefore, also have a cumulatively considerable impact relative to those pollutants. As discussed in Section 4.2.7, mitigation measures would be implemented to address operational impacts; however, no feasible mitigation measures are available to reduce those impacts to a level that is less than significant.

Operational emission impacts of CO, VOC, and NO_x, and operational concentration impacts of CO and SO_2 would not be significant under Alternative 1 and, therefore, would not be cumulatively considerable relative to those pollutants.

Overall, based on the above, operation of Alternative 1 would result in a cumulatively considerable impact on air quality.

5.5.2.2.2 Alternative 2

Operational emissions and concentrations associated with past, present, and reasonably foreseeable future projects, along with Alternative 2, would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. As discussed in Section 4.2.6.3, operational emissions associated with Alternative 2 would exceed the SCAQMD's threshold for SO_2, PM10, and PM2.5. The SO_2 exceedance is primarily due to aircraft emissions during takeoff and to APUs. Although SO_2 emissions from other cumulative projects would be much more limited, given that the vast majority of non-aviation fuel types are subject to existing regulatory requirements that limit sulfur content to very low levels (i.e., no more than 15 parts per million), the impact of Alternative 2 relative to SO_2, which exceeds the SCAQMD threshold of significance, would be a cumulatively considerable contribution to a significant impact for that pollutant. Emissions of PM10 and PM2.5 would, under Alternative 2, exceed the SCAQMD thresholds of significance due primarily to off-airport vehicle travel, which would also occur with many of the other cumulative projects. The contribution of Alternative 2 to cumulative impacts for those pollutants would be cumulatively considerable. As

discussed in Section 4.2.6.4, concentrations of NO_2 would exceed the SCAQMD's threshold of significance, due primarily to pollutant emissions associated with aircraft takeoffs, and concentrations of PM10 and PM2.5 would also exceed the SCAQMD thresholds of significance. Alternative 2 would, therefore, also have a cumulatively considerable impact relative to those pollutants. As discussed in Section 4.2.7, mitigation measures would be implemented to address operational impacts; however, no feasible mitigation measures are available to reduce those impacts to a level that is less than significant.

Operational emission impacts of CO, VOC, and NO_x, and operational concentration impacts of CO and SO_2 would not be significant under Alternative 2 and, therefore, would not be cumulatively considerable relative to those pollutants.

Overall, based on the above, operation of Alternative 2 would result in a cumulatively considerable impact on air quality.

5.5.2.2.3 Alternative 3

Operational emissions and concentrations associated with past, present, and reasonably foreseeable future projects, along with Alternative 3, would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. As discussed in Section 4.2.6.3, operational emissions associated with Alternative 3 would exceed the SCAQMD's threshold for SO_2, PM10, and PM2.5. The SO_2 exceedance is primarily due to aircraft emissions during takeoff and to APUs. Although SO_2 emissions from other cumulative projects would be much more limited, given that the vast majority of non-aviation fuel types are subject to existing regulatory requirements that limit sulfur content to very low levels (i.e., no more than 15 parts per million), the impact of Alternative 3 relative to SO_2, which exceeds the SCAQMD threshold of significance, would be a cumulatively considerable contribution to a significant impact for that pollutant. Emissions of PM10 and PM2.5 would, under Alternative 3, exceed the SCAQMD thresholds of significance due primarily to off-airport vehicle travel, which would also occur with many of the other cumulative projects. The contribution of Alternative 3 to cumulative impacts for those pollutants would be cumulatively considerable. As discussed in Section 4.2.6.4, concentrations of NO_2 would exceed the SCAQMD's threshold of significance, due primarily to pollutant emissions associated with aircraft takeoffs, and concentrations of PM10 and PM2.5 would also exceed the SCAQMD thresholds of significance. Alternative 3 would, therefore, also have a cumulatively considerable impact relative to those pollutants. As discussed in Section 4.2.7, mitigation measures would be implemented to address operational impacts; however, no feasible mitigation measures are available to reduce those impacts to a level that is less than significant.

Operational emission impacts of CO, VOC, and NO_x, and operational concentration impacts of CO and SO_2 would not be significant under Alternative 3 and, therefore, would not be cumulatively considerable relative to those pollutants.

Overall, based on the above, operation of Alternative 3 would result in a cumulatively considerable impact on air quality.

5.5.2.2.4 Alternative 4

Operational emissions and concentrations associated with past, present, and reasonably foreseeable future projects, along with Alternative 4, would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. As discussed in Section 4.2.6.3, operational emissions associated with Alternative 4 would exceed the SCAQMD's threshold for SO_2, PM10, and PM2.5. The SO_2 exceedance is primarily due to aircraft emissions during takeoff and to APUs. Although SO_2 emissions from other cumulative projects would be much more limited, given that the vast majority of non-aviation fuel types are subject to existing regulatory requirements that limit sulfur content to very low levels (i.e., no more than 15 parts per million), the impact of Alternative 4 relative to SO_2, which exceeds the SCAQMD threshold of significance, would be a cumulatively considerable contribution to a significant impact for that pollutant. Emissions of PM10 and PM2.5 would, under Alternative 4, exceed the SCAQMD thresholds of significance due primarily to off-airport vehicle travel, which would also occur with many of the other cumulative projects. The contribution

of Alternative 4 to cumulative impacts for those pollutants would be cumulatively considerable. As discussed in Section 4.2.6.4, concentrations of NO_2 would exceed the SCAQMD's threshold of significance, due primarily to pollutant emissions associated with aircraft takeoffs, and concentrations of PM10 and PM2.5 would also exceed the SCAQMD thresholds of significance. Alternative 4 would, therefore, also have a cumulatively considerable impact relative to those pollutants. As discussed in Section 4.2.7, mitigation measures would be implemented to address operational impacts; however, no feasible mitigation measures are available to reduce those impacts to a level that is less than significant.

Operational emission impacts of CO, VOC, and NO_x, and operational concentration impacts of CO and SO_2 would not be significant under Alternative 4 and, therefore, would not be cumulatively considerable relative to those pollutants.

Overall, based on the above, operation of Alternative 4 would result in a cumulatively considerable impact on air quality.

5.5.2.2.5 Alternative 5

Operational emissions and concentrations associated with past, present, and reasonably foreseeable future projects, along with Alternative 5, would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. As discussed in Section 4.2.6.3, operational emissions associated with Alternative 5 would exceed the SCAQMD's threshold for SO_2, PM10, and PM2.5. The SO_2 exceedance is primarily due to aircraft emissions during takeoff and to APUs. Although SO_2 emissions from other cumulative projects would be much more limited, given that the vast majority of non-aviation fuel types are subject to existing regulatory requirements that limit sulfur content to very low levels (i.e., no more than 15 parts per million), the impact of Alternative 5 relative to SO_2, which exceeds the SCAQMD threshold of significance, would be a cumulatively considerable contribution to a significant impact for that pollutant. Emissions of PM10 and PM2.5 would, under Alternative 5, exceed the SCAQMD thresholds of significance due primarily to off-airport vehicle travel, which would also occur with many of the other cumulative projects. The contribution of Alternative 5 to cumulative impacts for those pollutants would be cumulatively considerable. As discussed in Section 4.2.6.4, concentrations of NO_2 would exceed the SCAQMD's threshold of significance, due primarily to pollutant emissions associated with aircraft takeoffs, and concentrations of PM10 and PM2.5 would also exceed the SCAQMD thresholds of significance. Alternative 5 would, therefore, also have a cumulatively considerable impact relative to those pollutants. As discussed in Section 4.2.7, mitigation measures would be implemented to address operational impacts; however, no feasible mitigation measures are available to reduce those impacts to a level that is less than significant.

Operational emission impacts of CO, VOC, and NO_x, and operational concentration impacts of CO and SO_2 would not be significant under Alternative 5 and, therefore, would not be cumulatively considerable relative to those pollutants.

Overall, based on the above, operation of Alternative 5 would result in a cumulatively considerable impact on air quality.

5.5.2.2.6 Alternative 6

Operational emissions and concentrations associated with past, present, and reasonably foreseeable future projects, along with Alternative 6, would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. As discussed in Section 4.2.6.3, operational emissions associated with Alternative 6 would exceed the SCAQMD's threshold for SO_2, PM10, and PM2.5. The SO_2 exceedance is primarily due to aircraft emissions during takeoff and to APUs. Although SO_2 emissions from other cumulative projects would be much more limited, given that the vast majority of non-aviation fuel types are subject to existing regulatory requirements that limit sulfur content to very low levels (i.e., no more than 15 parts per million), the impact of Alternative 6 relative to SO_2, which exceeds the SCAQMD threshold of significance, would be a cumulatively considerable contribution to a significant impact for that pollutant. Emissions of PM10 and PM2.5 would, under Alternative 6, exceed the SCAQMD thresholds of significance due primarily to off-

airport vehicle travel, which would also occur with many of the other cumulative projects. The contribution of Alternative 6 to cumulative impacts for those pollutants would be cumulatively considerable. As discussed in Section 4.2.6.4, concentrations of NO_2 would exceed the SCAQMD's threshold of significance, due primarily to pollutant emissions associated with aircraft takeoffs, and concentrations of PM10 and PM2.5 would also exceed the SCAQMD thresholds of significance. Alternative 6 would, therefore, also have a cumulatively considerable impact relative to those pollutants. As discussed in Section 4.2.7, mitigation measures would be implemented to address operational impacts; however, no feasible mitigation measures are available to reduce those impacts to a level that is less than significant.

Operational emission impacts of CO, VOC, and NO_x, and operational concentration impacts of CO and SO_2 would not be significant under Alternative 6 and, therefore, would not be cumulatively considerable relative to those pollutants.

Overall, based on the above, operation of Alternative 6 would result in a cumulatively considerable impact on air quality.

5.5.2.2.7 Alternative 7

Operational emissions and concentrations associated with past, present, and reasonably foreseeable future projects, along with Alternative 7, would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. As discussed in Section 4.2.6.3, operational emissions associated with Alternative 7 would exceed the SCAQMD's threshold for SO_2, PM10, and PM2.5. The SO_2 exceedance is primarily due to aircraft emissions during takeoff and to APUs. Although SO_2 emissions from other cumulative projects would be much more limited, given that the vast majority of non-aviation fuel types are subject to existing regulatory requirements that limit sulfur content to very low levels (i.e., no more than 15 parts per million), the impact of Alternative 7 relative to SO_2, which exceeds the SCAQMD threshold of significance, would be a cumulatively considerable contribution to a significant impact for that pollutant. Emissions of PM10 and PM2.5 would, under Alternative 7, exceed the SCAQMD thresholds of significance due primarily to off-airport vehicle travel, which would also occur with many of the other cumulative projects. The contribution of Alternative 7 to cumulative impacts for those pollutants would be cumulatively considerable. As discussed in Section 4.2.6.4, concentrations of NO_2 would exceed the SCAQMD's threshold of significance, due primarily to pollutant emissions associated with aircraft takeoffs, and concentrations of PM10 and PM2.5 would also exceed the SCAQMD thresholds of significance. Alternative 7 would, therefore, also have a cumulatively considerable impact relative to those pollutants. As discussed in Section 4.2.7, mitigation measures would be implemented to address operational impacts; however, no feasible mitigation measures are available to reduce those impacts to a level that is less than significant.

Operational emission impacts of CO, VOC, and NO_x, and operational concentration impacts of CO and SO_2 would not be significant under Alternative 7 and, therefore, would not be cumulatively considerable relative to those pollutants.

Overall, based on the above, operation of Alternative 7 would result in a cumulatively considerable impact on air quality.

5.5.2.2.8 Alternative 8

Operational emissions and concentrations associated with past, present, and reasonably foreseeable future projects, along with Alternative 8, would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. As discussed in Section 4.2.6.3, operational emissions associated with Alternative 8 would exceed the SCAQMD's threshold for SO_2, PM10, and PM2.5. The SO_2 exceedance is primarily due to aircraft emissions during takeoff and to APUs and the underlying assumption that the ground access improvements associated with this alternative would be paired with the airfield improvements of another alternative (i.e., Alternative 1, 2, 5, 6, or 7); regardless of which airfield improvement scenario is assumed, this exceedance of the daily operational threshold for SO_2 would occur. Although SO_2 emissions from other cumulative projects would be much more limited, given that the vast majority of non-aviation fuel

types are subject to existing regulatory requirements that limit sulfur content to very low levels (i.e., no more than 15 parts per million), the impact of Alternative 8 relative to SO_2, which exceeds the SCAQMD threshold of significance, would be a cumulatively considerable contribution to a significant impact for that pollutant. Emissions of PM10 and PM2.5 would, under Alternative 8, exceed the SCAQMD thresholds of significance due primarily to off-airport vehicle travel, which would also occur with many of the other cumulative projects. The contribution of Alternative 8 to cumulative impacts for those pollutants would be cumulatively considerable. As discussed in Section 4.2.6.4, concentrations of NO_2 would exceed the SCAQMD's threshold of significance, due primarily to pollutant emissions associated with aircraft takeoffs (with the assumption that this alternative would be paired with airfield improvements, as noted above), and concentrations of PM10 and PM2.5 would also exceed the SCAQMD thresholds of significance. Alternative 8 would, therefore, also have a cumulatively considerable impact relative to those pollutants. As discussed in Section 4.2.7, mitigation measures would be implemented to address operational impacts; however, no feasible mitigation measures are available to reduce those impacts to a level that is less than significant.

Operational emission impacts of CO, VOC, and NO_x, and operational concentration impacts of CO and SO_2 would not be significant under Alternative 8 and, therefore, would not be cumulatively considerable relative to those pollutants.

Overall, based on the above, operation of Alternative 8 would result in a cumulatively considerable impact on air quality.

5.5.2.2.9 Alternative 9

Operational emissions and concentrations associated with past, present, and reasonably foreseeable future projects, along with Alternative 9, would contribute to cumulative criteria pollutant emissions in excess of SCAQMD thresholds of significance; therefore, significant cumulative impacts would occur. As discussed in Section 4.2.6.3, operational emissions associated with Alternative 9 would exceed the SCAQMD's threshold for SO_2, PM10, and PM2.5. The SO_2 exceedance is primarily due to aircraft emissions during takeoff and to APUs and the underlying assumption that the ground access improvements associated with this alternative would be paired with the airfield improvements of another alternative (i.e., Alternative 1, 2, 5, 6, or 7); regardless of which airfield improvement scenario is assumed, this exceedance of the daily operational threshold for SO_2 would occur. Although SO_2 emissions from other cumulative projects would be much more limited, given that the vast majority of non-aviation fuel types are subject to existing regulatory requirements that limit sulfur content to very low levels (i.e., no more than 15 parts per million), the impact of Alternative 9 relative to SO_2, which exceeds the SCAQMD threshold of significance, would be a cumulatively considerable contribution to a significant impact for that pollutant. Emissions of PM10 and PM2.5 would, under Alternative 9, exceed the SCAQMD thresholds of significance due primarily to off-airport vehicle travel, which would also occur with many of the other cumulative projects. The contribution of Alternative 9 to cumulative impacts for those pollutants would be cumulatively considerable. As discussed in Section 4.2.6.4, concentrations of NO_2 would exceed the SCAQMD's threshold of significance, due primarily to pollutant emissions associated with aircraft takeoffs (with the assumption that this alternative would be paired with airfield improvements, as noted above), and concentrations of PM10 and PM2.5 would also exceed the SCAQMD thresholds of significance. Alternative 9 would, therefore, also have a cumulatively considerable impact relative to those pollutants. As discussed in Section 4.2.7, mitigation measures would be implemented to address operational impacts; however, no feasible mitigation measures are available to reduce those impacts to a level that is less than significant.

Operational emission impacts of CO, VOC, and NO_x, and operational concentration impacts of CO and SO_2 would not be significant under Alternative 9 and, therefore, would not be cumulatively considerable relative to those pollutants.

Overall, based on the above, operation of Alternative 9 would result in a cumulatively considerable impact on air quality.

5.5.3 Biological Resources

The cumulative study area related to biological resources includes the SPAS project area and the immediate vicinity of LAX; however, the cumulative study area varies among affected resource types. For example, the cumulative study area for El Segundo blue butterfly is limited to the Los Angeles/El Segundo Dunes (including the Dockweiler Beach Habitat Restoration area which is also part of the Airport Dunes Recovery Unit for this species as set forth by the U.S. Fish and Wildlife Service[826]) and other nearby populations because of the narrow habitat requirements for this species, while the cumulative study area for nesting migratory birds includes any suitable nesting sites in the immediate vicinity of LAX. The area surrounding LAX is, and has long been, largely urbanized and there are few undeveloped areas that support sensitive biological resources. The nearest undeveloped areas are the Ballona Wetlands, Ballona Creek, and open space areas associated with the Playa Vista Project. Most of the area associated with the originally proposed Playa Vista Project, specifically areas northeast, northwest, and southwest of where Lincoln Boulevard crosses over the Ballona Channel, have been transferred to the State of California and/or are proposed to remain as natural habitat and permanent open space. The remaining quadrant of the original Playa Vista Project, located southeast of the Lincoln Boulevard/Ballona Channel, was previously occupied by the former Hughes Aircraft Company and McDonnell Douglas Corporation industrial complexes and has been largely redeveloped with residential, commercial, employment, recreational, and open space uses, beginning in 2001 and continuing to date. As the Playa Vista Project was located in an area that was already disturbed, project impacts to biological resources were limited, and included impacts to degraded wetlands in various locations in the Playa Vista Planning Area for construction of a freshwater wetland system and mixed-use development, as well as a reduction in undeveloped area for nesting birds and migrant raptors. These impacts were mitigated to a level that is less than significant by an extensive habitat restoration program.

The majority of projects in the surrounding area would add or increase the intensity of development in already urbanized settings (see **Table 5-2**). Projects in these urbanized settings, whether sited on currently empty lots or already developed lots, are not generally considered a factor in reducing sensitive habitat or special status species populations. The projects at LAX that would contribute to cumulative impacts to biological resources, when combined with the SPAS project, include the proposed LAX Northside Project; various proposed, ongoing, and completed airside improvement projects; and the ongoing residential acquisition in Manchester Square. The ongoing Coastal Dunes Improvement Project would result in beneficial impacts to biological resources in the Los Angeles/El Segundo Dunes. The Los Angeles/El Segundo Dunes is a remnant of a more extensive dune ecosystem that once covered 2,900 acres. Development has eliminated the majority of the original Los Angeles/El Segundo Dunes complex, with the only remaining dunes being the 302 acres at LAX, about 55 acres of degraded dunes east of the Hyperion Treatment Plant south of LAX, 1.6 acres at the Chevron El Segundo blue butterfly preserve south of the Hyperion Treatment Plant, and 4 acres at Sand Dunes Park in Manhattan Beach, which is open to public recreation and has been highly degraded.[827] Impacts to the Los Angeles/El Segundo Dunes throughout much of their original area have resulted in the loss of both the native habitats/vegetation associations that occur on the Dunes, as well as alteration of coastal dune landforms through extensive grading. As discussed below, although the SPAS project would result in the loss of a small amount of native habitat area, the Los Angeles/El Segundo Dunes would not be impacted by large-scale landform alteration.

5.5.3.1 Alternative 1

Vegetation Associations/Habitats

As discussed in Section 4.3, *Biological Resources*, under Alternative 1, impacts on ruderal vegetation, Disturbed Southern Dune Scrub, and Encelia Scrub in the north airfield and Construction Staging Areas

826 U.S. Fish and Wildlife Service, Recovery Plan for the El Segundo Blue Butterfly (*Euphilotes battoides allyni*), 1998.

827 Environmental Science Associates, Sapphos Environmental, and Rudolf H.T. Mattoni, Long-Term Habitat Management Plan for Los Angeles Airport/El Segundo Dunes, June 23, 1994.

A, B, C, D, and G would be less than significant. Projects in the LAX vicinity that would contribute to cumulative impacts to ruderal vegetation include the LAX Northside Project and various ongoing airside improvement projects, which collectively would reduce ruderal areas within LAX. The LAX Northside Project area is coincident with Staging Areas A, B, C, and D, as well as areas of ruderal vegetation north of Westchester Parkway. The construction staging areas do not support any known sensitive biological resources and, under Alternative 1, impacts to ruderal vegetation in these areas would be less than significant. Similarly, the areas of ruderal vegetation north of Westchester Parkway do not support any sensitive biological resources. These areas are, and have been for many years, actively managed to discourage wildlife use that would present an aviation hazard. Moreover, the various completed, ongoing, and proposed airside improvement projects are sited in areas of ruderal vegetation that either do not support sensitive biological resources, or support sensitive biological resources for which significant impacts have been/would be reduced to a level that is less than significant with implementation of mitigation measures identified in the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP). Therefore, cumulative impacts to ruderal vegetation resulting from the combination of Alternative 1 and other cumulative projects would be less than significant.

As discussed in Section 4.3, *Biological Resources*, impacts from Alternative 1 on Disturbed Southern Dune Scrub would be less than significant with implementation of Mitigation Measure MM-BIO (SPAS)-14, Replacement of Habitat Units. The only other project in the LAX vicinity that would affect this habitat type is the ongoing Coastal Dunes Improvement Project, which will result in a beneficial impact on Disturbed Southern Dune Scrub habitat. As impacts from Alternative 1 on Disturbed Southern Dune Scrub would be less than significant, and the Coastal Dunes Improvement Project would result in beneficial impacts to Disturbed Southern Dune Scrub vegetation, cumulative impacts would be less than significant.

Impacts to Encelia Scrub from Alternative 1 would be less than significant. There are no other projects in the LAX vicinity that would result in impacts to Encelia Scrub. Therefore, no cumulative impacts would occur.

Under Alternative 1, impacts on Sandbar Willow Thicket, California Bulrush Marsh, and ruderal vegetation within the Argo Drainage Channel would be less than significant, as none of these vegetation types is considered sensitive. There are no other reasonably foreseeable projects that would result in impacts to these vegetation associations within the Argo Drainage Channel, or these habitats/vegetation associations within the LAX vicinity. The area surrounding LAX is highly urbanized, and current and future projects in the study area generally consist of infill and redevelopment projects that would not impact riparian and wetland vegetation, as drainages in the LAX vicinity are generally either concrete box channels, or have been covered and converted to underground drains. Although the planned Runway 6L/24R East End Runway Safety Area (RSA) Improvements Project would also have impacts on these habitats, these runway improvements would only occur in the absence of Alternative 1. As there are no other reasonably foreseeable projects in the vicinity of LAX, including projects in **Table 5-2**, that would impact the vegetation associations found in the Argo Drainage Channel, and there are no other nearby drainages that contain riparian and wetland vegetation, no cumulative impacts to riparian and wetland vegetation would occur. Impacts related to jurisdictional issues associated with the Argo Drainage Channel are addressed below.

As discussed in Section 4.3, *Biological Resources*, Alternative 1 would require new navigational aids and a related new service road within the north airfield and/or Los Angeles/El Segundo Dunes. Installation of navigational aids in the Dunes would have a significant impact on state-designated sensitive habitats in the Los Angeles/El Segundo Dunes, although these impacts would be reduced to a level that is less than significant with implementation of mitigation measures described in Section 4.3, *Biological Resources*. The only project in the LAX vicinity that would contribute to cumulative impacts to state-designated sensitive habitats in the Dunes is the Coastal Dunes Improvement Project, which will result in beneficial impacts to biological resources in the Los Angeles/El Segundo Dunes, including state-designated sensitive habitats. There are no other reasonably foreseeable projects in the cumulative study area that would impact the vegetation associations found in the Los Angeles/El Segundo Dunes or the other

remnants of the dune ecosystem at degraded dunes east of the Hyperion Treatment Plant south of LAX, the Chevron El Segundo blue butterfly preserve south of the Hyperion Treatment Plant, and the degraded Sand Dunes Park in Manhattan Beach. As impacts from Alternative 1 would be less than significant with implementation of mitigation measures, and the Coastal Dunes Improvement Project would result in beneficial impacts to the state-designated sensitive habitats in the Dunes, cumulative impacts would be less than significant.

Under Alternative 1, operation of the proposed improvements would not have an impact on sensitive habitats and vegetation associations, as operation would not result in any additional physical disturbance leading to a substantial reduction in any federally-designated critical habitat, locally-designated natural communities including state-designated sensitive habitats, Environmentally Sensitive Habitat Areas (ESHAs), and habitat preservation areas designated pursuant to local ordinances. Operation of the proposed improvements would also not conflict with any local policies or ordinances protecting biological resources. Therefore, no cumulative impacts from the operation of the improvements would occur.

Under both construction of and operation of the improvements associated with Alternative 1, there would be no conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plans, as no such plan covers any portion of the biological resources study area. Moreover, Alternative 1 would not cause a substantial reduction in a locally-designated natural habitat or plant community, as no locally-designated habitats or plant communities are associated with the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Plants

As discussed in Section 4.3, *Biological Resources*, impacts to sensitive plant species at the western end of the north airfield, in Construction Staging Areas B, C, and D, and in the Los Angeles/El Segundo Dunes under Alternative 1 would be significant. These impacts would be reduced to a level that is less than significant with implementation of mitigation measures described in Section 4.3, *Biological Resources*. There are no other reasonably foreseeable projects proposed for the western end of the north airfield where Lewis' evening primrose has been documented to occur. The only other potentially suitable habitat for sensitive plants elsewhere in the project area east of Pershing Drive is within Construction Staging Areas B, C, and D, which are proposed for future development under the LAX Northside Project. If southern tarplant occurs within Construction Staging Areas B, C, and D, it would be impacted and mitigated prior to development of the LAX Northside Project. Therefore, cumulative impacts to sensitive plants east of Pershing Drive would be less than significant.

The project in the LAX vicinity that would contribute to cumulative impacts to sensitive plants within the Dunes is the Coastal Dunes Improvement Project. There are no other reasonably foreseeable projects within the geographical scope of this analysis that would impact suitable habitat, within the Dunes or elsewhere in the vicinity of LAX, for the sensitive plant species that occur or have potential to occur within the Dunes. Since impacts from Alternative 1 on sensitive plants within the Dunes would be less than significant with implementation of mitigation measures described in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project will have beneficial impacts to sensitive plants in the Dunes, cumulative impacts would be less than significant.

Under Alternative 1, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated plant species are known to occur within the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Wildlife

As discussed in Section 4.3, *Biological Resources*, impacts to burrowing owl associated with the Argo Drainage Channel and other undeveloped areas where suitable habitat occurs under Alternative 1 would be significant. These impacts would be reduced to a level that is less than significant with implementation of the mitigation measure described in Section 4.3, *Biological Resources*. The projects in the LAX vicinity that would contribute to cumulative impacts to burrowing owl include the LAX Northside Project and

various ongoing airside improvement projects. It is possible that if ground squirrel activity changes in the future, potentially suitable burrows could occur in currently vacant portions of the LAX Northside Project not used as construction staging areas for SPAS, as well as areas that would be affected by various airside improvement projects. Impacts to burrowing owl associated with Alternative 1 would be reduced to a level that is less than significant with implementation of proposed mitigation. Many of the various ongoing airside improvement projects, as well as the LAX Northside Project, are subject to similar mitigation pursuant to the LAX Master Plan MMRP. Nevertheless, cumulative impacts to burrowing owl associated with the LAX Northside Project and various airside improvement projects, in combination with Alternative 1, would be significant. However, with implementation of mitigation described in Section 4.3, *Biological Resources*, the contribution of Alternative 1 to this significant cumulative impact would not be cumulatively considerable.

As discussed in Section 4.3, *Biological Resources*, Alternative 1 would result in significant impacts to sensitive wildlife species. These impacts would occur primarily within the Los Angeles/El Segundo Dunes, affecting sensitive arthropods, gastropods, and reptiles, loggerhead shrike, burrowing owl, and El Segundo blue butterfly. With implementation of LAX Master Plan mitigation measures, impacts to El Segundo blue butterfly under Alternative 1 would be less than significant. Potential impacts to the other sensitive wildlife species in the Los Angeles/El Segundo Dunes would be reduced to a level that is less than significant with implementation of mitigation measures described in Section 4.3, *Biological Resources*. The project in the LAX vicinity that would contribute to cumulative impacts to sensitive wildlife associated with the Dunes is the Coastal Dunes Improvement Project. There are no other reasonably foreseeable projects that would impact El Segundo blue butterfly at its known population locations, including the Dockweiler Beach bluffs, the Chevron Preserve, Malaga Cove, scattered locations in the Palos Verdes bluffs, and recently colonized habitat restoration areas in Redondo Beach. Additionally, there are no reasonably foreseeable projects in the project vicinity that would impact, within the Dunes or elsewhere in the vicinity of LAX, the other sensitive wildlife that occur within the Dunes. Since impacts from Alternative 1 on sensitive wildlife within the Dunes would be less than significant with implementation of LAX Master Plan mitigation measures and mitigation measures described in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project will have beneficial impacts on sensitive wildlife in the Dunes, cumulative impacts would be less than significant.

As discussed in Section 4.3, *Biological Resources*, under Alternative 1, any activity that would remove mature trees from the project area used for nesting by migratory birds or raptors, including the trees associated with the relocation of Lincoln Boulevard and the proposed use of Staging Areas B, C, D, and F, would have the potential to impact nesting birds/raptors protected under the Migratory Bird Treaty Act (MBTA) or Fish and Game Code Section 3503 or 3503.5, which would be a significant impact. Reasonably foreseeable projects in the LAX vicinity that would contribute to cumulative impacts to mature trees that could be utilized by nesting raptors include the LAX Northside Project and the residential acquisition in Manchester Square, since these two areas contain residential street trees have been or may be removed. As discussed in Section 4.3, *Biological Resources*, none of the mature trees in the LAX Northside Project area or Manchester Square are known to support nesting raptors. Moreover, the removal of mature trees within LAX Northside is subject to mitigation pursuant to the LAX Master Plan MMRP. Nevertheless, the potential removal of mature trees used for nesting under Alternative 1, in combination with the potential removal of such trees associated with the LAX Northside Project and residential acquisition in Manchester Square, would result in a significant cumulative impact on nesting raptors. However, with implementation of mitigation measures described in Section 4.3, *Biological Resources*, the contribution of Alternative 1 to significant cumulative impacts would not be cumulatively considerable.

Any project within the vicinity of LAX that would remove vegetation that could be used by nesting migratory birds would result in significant impacts to nesting migratory birds. The Playa Vista Project resulted in significant impacts to nesting migratory birds due to loss of suitable nesting vegetation. Cumulative impacts to nesting migratory birds due to loss of suitable nesting vegetation associated with projects in the vicinity of LAX, including Playa Vista, in combination with Alternative 1, would be significant. However, with implementation of mitigation measures described in Section 4.3, *Biological*

Resources, the contribution of Alternative 1 to this significant cumulative impact would not be cumulatively considerable.

Upon completion of construction, operation of the facilities associated with Alternative 1 would not result in significant impacts to sensitive wildlife species. Therefore, operation of the facilities associated with Alternative 1 would not contribute to cumulative impacts to sensitive wildlife species.

Under Alternative 1, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated wildlife species are known to occur within the biological resources study area. Moreover, there are no wildlife movement/migration corridors associated with any portion of the biological resources study area, including the Argo Drainage Channel. Therefore, no cumulative impacts would occur.

Jurisdictional Aquatic Features

As discussed in Section 4.3, *Biological Resources*, Alternative 1 would affect all potential U.S. Army Corps of Engineers (USACOE) and California Department of Fish and Game (CDFG) jurisdictional areas associated with the Argo Drainage Channel. This impact would be reduced to a level that is less than significant with implementation of the proposed mitigation measure described in Section 4.3, *Biological Resources*. As noted above, there are no other projects that would result in impacts within the Argo Drainage Channel, nor are there any reasonably foreseeable projects within the geographic scope of analysis that would impact jurisdictional aquatic features. Nevertheless, given the historical loss of jurisdictional aquatic features in the vicinity, including at Playa Vista, cumulative impacts to jurisdictional aquatic features are considered significant. With implementation of the mitigation measure described in Section 4.3, *Biological Resources*, the contribution of Alternative 1 to this significant cumulative impact would not be cumulatively considerable.

5.5.3.2 Alternative 2

Vegetation Associations/Habitats

Cumulative impacts to ruderal, Disturbed Southern Dune Scrub, and Encelia Scrub vegetation in the north airfield and construction staging areas resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant.

Cumulative impacts to state-designated sensitive habitats in the Los Angeles/El Segundo Dunes resulting from the combination of Alternative 2 and the Coastal Dunes Improvement Project would be the same as the cumulative impacts described above for Alternative 1. As impacts from Alternative 2 would be less than significant with implementation of the mitigation outlined in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project would result in beneficial impacts to the state-designated habitats in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to sensitive habitats and vegetation associations from operation of the Alternative 2 improvements would be the same as the cumulative impacts described above for Alternative 1. Similarly, as with Alternative 1, construction of and operation of the improvements associated with Alternative 2 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans, as no such plan covers any portion of the biological resources study area. Moreover, Alternative 2 would not cause a substantial reduction in a locally-designated natural habitat or plant community, as no locally-designated habitats or plant communities are associated with the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Plants

Cumulative impacts to sensitive plant species in the north airfield, Construction Staging Areas B, C, and D, and the Los Angeles/El Segundo Dunes would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. Under Alternative 2, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species,

as no locally-designated plant species are known to occur within the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Wildlife

Cumulative impacts to burrowing owl associated with areas of suitable habitat at LAX resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Although many of the cumulative projects at LAX, including Alternative 2, are subject to mitigation for burrowing owl, cumulative impacts to burrowing owl associated with the LAX Northside Project and/or various airside improvement projects, in combination with Alternative 2, would be significant. However, with implementation of mitigation described in Section 4.3, *Biological Resources*, the contribution of Alternative 2 to this significant cumulative impact would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife within the Los Angeles/El Segundo Dunes, including sensitive arthropods and reptiles, burrowing owl, loggerhead shrike, and El Segundo blue butterfly, resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Since impacts from Alternative 2 on sensitive wildlife within the Dunes would be less than significant with implementation of LAX Master Plan mitigation measures and mitigation measures described in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project will have beneficial impacts on sensitive wildlife in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to mature trees that could be used by nesting raptors, as well as nesting migratory birds, resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be significant. With implementation of mitigation measures described in Section 4.3, *Biological Resources*, the contribution of Alternative 2 to significant cumulative impacts would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife from operation of the Alternative 2 improvements would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, operation of the facilities associated with Alternative 2 would not contribute to cumulative impacts to sensitive wildlife species.

As with Alternative 1, under Alternative 2, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated wildlife species are known to occur within the biological resources study area. Moreover, there would be no impacts to wildlife movement/migration corridors. Therefore, no cumulative impacts would occur.

Jurisdictional Aquatic Features

Within the project area, jurisdictional aquatic features are found only in or associated with the Argo Drainage Channel. Alternative 2 would not affect the Argo Drainage Channel and associated jurisdictional aquatic features; therefore, no cumulative impacts would occur.

5.5.3.3 Alternative 3

Vegetation Associations/Habitats

Cumulative impacts to ruderal, Encelia Scrub, and Disturbed Southern Dune Scrub vegetation in the north airfield and construction staging areas resulting from the combination of Alternative 3 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant.

Cumulative impacts to state-designated sensitive habitats in the Los Angeles/El Segundo Dunes resulting from the combination of Alternative 3 and the Coastal Dunes Improvement Project would be the same as the cumulative impacts described above for Alternative 1. As impacts from Alternative 3 would be less than significant with implementation of the mitigation outlined in Section 4.3, *Biological Resources*, and

the Coastal Dunes Improvement Project would result in beneficial impacts to the state-designated habitats in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to sensitive habitats and vegetation associations from operation of the Alternative 3 improvements would be the same as the cumulative impacts described above for Alternative 1. Similarly, as with Alternative 1, construction of and operation of the improvements associated with Alternative 3 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans, as no such plan covers any portion of the biological resources study area. Moreover, Alternative 3 would not cause a substantial reduction in a locally-designated natural habitat or plant community, as no locally-designated habitats or plant communities are associated with the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Plants

Cumulative impacts to sensitive plant species in the north airfield, Construction Staging Areas B, C, and D, and the Los Angeles/El Segundo Dunes would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. Under Alternative 3, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated plant species are known to occur within the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Wildlife

Cumulative impacts to burrowing owl associated with areas of suitable habitat at LAX resulting from the combination of Alternative 3 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Although many of the cumulative projects at LAX, including Alternative 3, are subject to mitigation for burrowing owl, cumulative impacts to burrowing owl associated with the LAX Northside Project and/or various airside improvement projects, in combination with Alternative 3, would be significant. However, with implementation of mitigation described in Section 4.3, *Biological Resources*, the contribution of Alternative 3 to this significant cumulative impact would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife within the Los Angeles/El Segundo Dunes, including sensitive arthropods and reptiles, burrowing owl, loggerhead shrike, and El Segundo blue butterfly, resulting from the combination of Alternative 3 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Since impacts from Alternative 3 on sensitive wildlife within the Dunes would be less than significant with implementation of LAX Master Plan mitigation measures and mitigation measures described in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project will have beneficial impacts on sensitive wildlife in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to mature trees that could be used by nesting raptors, as well as nesting migratory birds, resulting from the combination of Alternative 3 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be significant. With implementation of mitigation measures described in Section 4.3, *Biological Resources*, the contribution of Alternative 3 to significant cumulative impacts would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife from operation of the Alternative 3 improvements would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, operation of the facilities associated with Alternative 3 would not contribute to cumulative impacts to sensitive wildlife species.

As with Alternative 1, under Alternative 3, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated wildlife species are known to occur within the biological resources study area. Moreover, there would be no impacts to wildlife movement/migration corridors. Therefore, no cumulative impacts would occur.

Jurisdictional Aquatic Features

Within the project area, jurisdictional aquatic features are found only in or associated with the Argo Drainage Channel. Alternative 3 would not affect the Argo Drainage Channel and associated jurisdictional aquatic features; therefore, no cumulative impacts would occur.

5.5.3.4 Alternative 4

Vegetation Associations/Habitats

Cumulative impacts to ruderal, Disturbed Southern Dune Scrub, and Encelia Scrub vegetation in the north airfield and construction staging areas resulting from the combination of Alternative 4 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant.

Cumulative impacts to state-designated sensitive habitats in the Los Angeles/El Segundo Dunes resulting from the combination of Alternative 4 and the Coastal Dunes Improvement Project would be the same as the cumulative impacts described above for Alternative 1. As impacts from Alternative 4 would be less than significant with implementation of the mitigation outlined in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project would result in beneficial impacts to the state-designated habitats in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to sensitive habitats and vegetation associations from operation of the Alternative 4 improvements would be the same as the cumulative impacts described above for Alternative 1. Similarly, as with Alternative 1, construction of and operation of the improvements associated with Alternative 4 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans, as no such plan covers any portion of the biological resources study area. Moreover, Alternative 4 would not cause a substantial reduction in a locally-designated natural habitat or plant community, as no locally-designated habitats or plant communities are associated with the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Plants

Cumulative impacts to sensitive plant species in the north airfield and Construction Staging Areas B, C, and D would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. Under Alternative 4, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated plant species are known to occur within the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Wildlife

Cumulative impacts to burrowing owl associated with areas of suitable habitat at LAX resulting from the combination of Alternative 4 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Although many of the cumulative projects at LAX, including Alternative 4, are subject to mitigation for burrowing owl, cumulative impacts to burrowing owl associated with the LAX Northside Project and/or various airside improvement projects, in combination with Alternative 4, would be significant. However, with implementation of mitigation described in Section 4.3, *Biological Resources*, the contribution of Alternative 4 to this significant cumulative impact would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife within the Los Angeles/El Segundo Dunes, including sensitive arthropods and reptiles, burrowing owl, loggerhead shrike, and El Segundo blue butterfly, resulting from the combination of Alternative 4 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Since impacts from Alternative 4 on sensitive wildlife within the Dunes would be less than significant with implementation of LAX Master Plan mitigation measures and mitigation measures described in Section 4.3, *Biological Resources*, and the Coastal Dunes

Improvement Project will have beneficial impacts on sensitive wildlife in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to mature trees that could be used by nesting raptors, as well as nesting migratory birds, resulting from the combination of Alternative 4 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be significant. With implementation of mitigation measures described in Section 4.3, *Biological Resources*, the contribution of Alternative 4 to significant cumulative impacts would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife from operation of the Alternative 4 improvements would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, operation of the facilities associated with Alternative 4 would not contribute to cumulative impacts to sensitive wildlife species.

As with Alternative 1, under Alternative 4, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated wildlife species are known to occur within the biological resources study area. Moreover, there would be no impacts to wildlife movement/migration corridors. Therefore, no cumulative impacts would occur.

Jurisdictional Aquatic Features

Within the project area, jurisdictional aquatic features are found only in or associated with the Argo Drainage Channel. Alternative 4 would not affect the Argo Drainage Channel and associated jurisdictional aquatic features; therefore, no cumulative impacts would occur.

5.5.3.5 Alternative 5

Vegetation Associations/Habitats

Cumulative impacts to ruderal, Disturbed Southern Dune Scrub, and Encelia Scrub vegetation in the north airfield and construction staging areas resulting from the combination of Alternative 5 and the Coastal Dunes Improvement Project would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. Cumulative impacts to Sandbar Willow Thicket, California Bulrush Marsh, and ruderal vegetation within the Argo Drainage Channel would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, no cumulative impacts would occur.

Cumulative impacts to state-designated sensitive habitats in the Los Angeles/El Segundo Dunes resulting from the combination of Alternative 5 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As impacts from Alternative 5 would be less than significant with implementation of the mitigation outlined in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project would result in beneficial impacts to the state-designated habitats in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to sensitive habitats and vegetation associations from operation of the Alternative 5 improvements would be the same as the cumulative impacts described above for Alternative 1. Similarly, as with Alternative 1, construction of and operation of the improvements associated with Alternative 5 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans, as no such plan covers any portion of the biological resources study area. Moreover, Alternative 5 would not cause a substantial reduction in a locally-designated natural habitat or plant community, as no locally-designated habitats or plant communities are associated with the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Plants

Cumulative impacts to sensitive plant species in the north airfield, Construction Staging Areas B, C, and D, and the Los Angeles/El Segundo Dunes would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. Under Alternative 5, there would not be a

substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated plant species are known to occur within the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Wildlife

Cumulative impacts to burrowing owl associated with the Argo Drainage Channel and other areas of suitable habitat at LAX resulting from the combination of Alternative 5 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Although many of the cumulative projects at LAX, including Alternative 5, are subject to mitigation for burrowing owl, cumulative impacts to burrowing owl associated with the LAX Northside Project and/or various airside improvement projects, in combination with Alternative 5, would be significant. However, with implementation of mitigation described in Section 4.3, *Biological Resources*, the contribution of Alternative 5 to this significant cumulative impact would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife within the Los Angeles/El Segundo Dunes, including sensitive arthropods and reptiles, burrowing owl, loggerhead shrike, and El Segundo blue butterfly, resulting from the combination of Alternative 5 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Since impacts from Alternative 5 on sensitive wildlife within the Dunes would be less than significant with implementation of LAX Master Plan mitigation measures and mitigation measures described in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project will have beneficial impacts on sensitive wildlife in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to mature trees that could be used by nesting raptors, as well as nesting migratory birds, resulting from the combination of Alternative 5 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be significant. With implementation of mitigation measures described in Section 4.3, *Biological Resources*, the contribution of Alternative 5 to significant cumulative impacts would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife from operation of the Alternative 5 improvements would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, operation of facilities associated with Alternative 5 would not contribute to cumulative impacts to sensitive wildlife species.

As with Alternative 1, under Alternative 5, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated wildlife species are known to occur within the biological resources study area. Moreover, there would be no impacts to wildlife movement/migration corridors. Therefore, no cumulative impacts would occur.

Jurisdictional Aquatic Features

As with Alternative 1, Alternative 5 would result in significant impacts to all potential USACOE and CDFG jurisdictional areas associated with the Argo Drainage Channel. However, as described for Alternative 1, there are no other projects that would result in impacts within the Argo Drainage Channel, nor are there any reasonably foreseeable projects within the geographic scope of analysis that would impact jurisdictional aquatic features. Nevertheless, given the historical loss of jurisdictional aquatic features in the vicinity, including at Playa Vista, cumulative impacts to jurisdictional aquatic features are considered to be significant. With implementation of the mitigation measure described in Section 4.3, *Biological Resources*, the contribution of Alternative 5 to this significant cumulative impact would not be cumulatively considerable.

5.5.3.6 Alternative 6

Vegetation Associations/Habitats

Cumulative impacts to ruderal, Disturbed Southern Dune Scrub, and Encelia Scrub vegetation in the north airfield and construction staging areas resulting from the combination of Alternative 6 and other

cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. Cumulative impacts to California Bulrush Marsh and ruderal vegetation within the Argo Drainage Channel would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, no cumulative impacts would occur.

Cumulative impacts to state-designated sensitive habitats in the Los Angeles/El Segundo Dunes resulting from the combination of Alternative 6 and the Coastal Dunes Improvement Project would be the same as the cumulative impacts described above for Alternative 1. As impacts from Alternative 6 would be less than significant with implementation of the mitigation outlined in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project would result in beneficial impacts to the state-designated habitats in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to sensitive habitats and vegetation associations from operation of the Alternative 6 improvements would be the same as the cumulative impacts described above for Alternative 1. Similarly, as with Alternative 1, construction of and operation of the improvements associated with Alternative 6 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans, as no such plan covers any portion of the biological resources study area. Moreover, Alternative 6 would not cause a substantial reduction in a locally-designated natural habitat or plant community, as no locally-designated habitats or plant communities are associated with the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Plants

Cumulative impacts to sensitive plant species in the north airfield, Construction Staging Areas B, C, and D, and the Los Angeles/El Segundo Dunes would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. Under Alternative 6, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated plant species are known to occur within the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Wildlife

Cumulative impacts to burrowing owl associated with the Argo Drainage Channel and other areas of suitable habitat at LAX resulting from the combination of Alternative 6 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Although many of the cumulative projects at LAX, including Alternative 6, are subject to mitigation for burrowing owl, cumulative impacts to burrowing owl associated with the LAX Northside Project and/or various airside improvement projects, in combination with Alternative 6, would be significant. However, with implementation of mitigation described in Section 4.3, *Biological Resources*, the contribution of Alternative 6 to this significant cumulative impact would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife within the Los Angeles/El Segundo Dunes, including sensitive arthropods and reptiles, burrowing owl, loggerhead shrike, and El Segundo blue butterfly, resulting from the combination of Alternative 6 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Since impacts from Alternative 6 on sensitive wildlife within the Dunes would be less than significant with implementation of LAX Master Plan mitigation measures and mitigation measures described in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project will have beneficial impacts on sensitive wildlife in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to mature trees that could be used by nesting raptors, as well as nesting migratory birds, resulting from the combination of Alternative 6 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be significant. With implementation of mitigation measures described in Section 4.3, *Biological Resources*, the contribution of Alternative 6 to significant cumulative impacts would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife from operation of the Alternative 6 improvements would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, operation of the facilities associated with Alternative 6 would not contribute to cumulative impacts to sensitive wildlife species.

As with Alternative 1, under Alternative 6, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated wildlife species are known to occur within the biological resources study area. Moreover, there would be no impacts to wildlife movement/migration corridors. Therefore, no cumulative impacts would occur.

Jurisdictional Aquatic Features

As with Alternative 1, Alternative 6 would result in significant impacts to potential USACOE and CDFG jurisdictional areas associated with the Argo Drainage Channel. However, as described for Alternative 1, there are no other projects that would result in impacts within the Argo Drainage Channel, nor are there any reasonably foreseeable projects within the geographic scope of analysis that would impact jurisdictional aquatic features. Nevertheless, given the historical loss of jurisdictional aquatic features in the vicinity, including at Playa Vista, cumulative impacts to jurisdictional aquatic features are considered to be significant. With implementation of the mitigation measure described in Section 4.3, *Biological Resources*, the contribution of Alternative 6 to this significant cumulative impact would not be cumulatively considerable.

5.5.3.7 Alternative 7

Vegetation Associations/Habitats

Cumulative impacts to ruderal and Disturbed Southern Dune Scrub vegetation in the north airfield and construction staging areas resulting from the combination of Alternative 7 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant.

Cumulative impacts to state-designated sensitive habitats in the Los Angeles/El Segundo Dunes resulting from the combination of Alternative 7 and the Coastal Dunes Improvement Project would be the same as the cumulative impacts described above for Alternative 1. As impacts from Alternative 7 would be less than significant with implementation of the mitigation outlined in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project would result in beneficial impacts to the state-designated habitats in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to sensitive habitats and vegetation associations from operation of the Alternative 7 improvements would be the same as the cumulative impacts described above for Alternative 1. Similarly, as with Alternative 1, construction of and operation of the improvements associated with Alternative 7 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans, as no such plan covers any portion of the biological resources study area. Moreover, Alternative 7 would not cause a substantial reduction in a locally-designated natural habitat or plant community, as no locally-designated habitats or plant communities are associated with the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Plants

Cumulative impacts to sensitive plant species in the north airfield, Construction Staging Areas B, C, and D, and the Los Angeles/El Segundo Dunes would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. Under Alternative 7, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated plant species are known to occur within the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Wildlife

Cumulative impacts to burrowing owl associated with areas of suitable habitat at LAX resulting from the combination of Alternative 7 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Although many of the cumulative projects at LAX, including Alternative 7, are subject to mitigation for burrowing owl, cumulative impacts to burrowing owl associated with the LAX Northside Project and/or various airside improvement projects, in combination with Alternative 7, would be significant. However, with implementation of mitigation described in Section 4.3, *Biological Resources*, the contribution of Alternative 7 to this significant cumulative impact would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife within the Los Angeles/El Segundo Dunes, including sensitive arthropods and reptiles, burrowing owl, loggerhead shrike, and El Segundo blue butterfly, resulting from the combination of Alternative 7 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Since impacts from Alternative 7 on sensitive wildlife within the Dunes would be less than significant with implementation of LAX Master Plan mitigation measures and mitigation measures described in Section 4.3, *Biological Resources*, and the Coastal Dunes Improvement Project will have beneficial impacts on sensitive wildlife in the Dunes, cumulative impacts would be less than significant.

Cumulative impacts to mature trees that could be used by nesting raptors, as well as nesting migratory birds, resulting from the combination of Alternative 7 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be significant. With implementation of mitigation measures described in Section 4.3, *Biological Resources*, the contribution of Alternative 7 to significant cumulative impacts would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife from operation of the Alternative 7 improvements would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, operation of facilities associated with Alternative 7 would not contribute to cumulative impacts to sensitive wildlife species.

As with Alternative 1, under Alternative 7, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated wildlife species are known to occur within the biological resources study area. Moreover, there would be no impacts to wildlife movement/migration corridors. Therefore, no cumulative impacts would occur.

Jurisdictional Aquatic Features

Within the project area, jurisdictional aquatic features are found only in or associated with the Argo Drainage Channel. Alternative 7 would not affect the Argo Drainage Channel and associated jurisdictional aquatic features; therefore, no cumulative impacts would occur.

5.5.3.8 Alternative 8

Vegetation Associations/Habitats

Cumulative impacts to ruderal and Disturbed Southern Dune Scrub vegetation in the construction staging areas resulting from the combination of Alternative 8 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant.

Alternative 8 focuses on ground access improvements only. Such improvements would not affect state-designated sensitive habitats in the Los Angeles/El Segundo Dunes; therefore, no cumulative impacts would occur.

As with Alternative 1, construction of and operation of the improvements associated with Alternative 8 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans, as no such plan covers any portion of the biological resources study area. Moreover, Alternative 8 would not cause a substantial reduction in a locally-designated natural

habitat or plant community, as no locally-designated habitats or plant communities are associated with the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Plants

Cumulative impacts to sensitive plant species in Construction Staging Areas B, C, and D would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. As Alternative 8 focuses on ground improvements only, there would be no impacts to sensitive plants in the Los Angeles/El Segundo Dunes. Under Alternative 8, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated plant species are known to occur within the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Wildlife

Cumulative impacts to burrowing owl associated with areas of suitable habitat at LAX resulting from the combination of Alternative 8 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Although many of the cumulative projects at LAX, including Alternative 8, are subject to mitigation for burrowing owl, cumulative impacts to burrowing owl associated with the LAX Northside Project and/or various airside improvement projects, in combination with Alternative 8, would be significant. However, with implementation of mitigation described in Section 4.3, *Biological Resources*, the contribution of Alternative 8 to this significant cumulative impact would not be cumulatively considerable.

Alternative 8 focuses on ground access improvements only. Such improvements would not affect sensitive wildlife associated with the Los Angeles/El Segundo Dunes; therefore, no cumulative impacts would occur.

Cumulative impacts to mature trees that could be used by nesting raptors, as well as nesting migratory birds, resulting from the combination of Alternative 8 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be significant. With implementation of mitigation measures described in Section 4.3, *Biological Resources*, the contribution of Alternative 8 to significant cumulative impacts would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife from operation of the Alternative 8 improvements would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, operation of facilities associated with Alternative 8 would not contribute to cumulative impacts to sensitive wildlife species.

As with Alternative 1, under Alternative 8, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated wildlife species are known to occur within the biological resources study area. Moreover, there would be no impacts to wildlife movement/migration corridors. Therefore, no cumulative impacts would occur.

Jurisdictional Aquatic Features

Within the project area, jurisdictional aquatic features are found only in or associated with the Argo Drainage Channel. Alternative 8 would not affect the Argo Drainage Channel and associated jurisdictional aquatic features; therefore, no cumulative impacts would occur.

5.5.3.9 Alternative 9

Vegetation Associations/Habitats

Cumulative impacts to ruderal and Disturbed Southern Dune Scrub vegetation in the construction staging areas resulting from the combination of Alternative 9 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant.

Alternative 9 focuses on ground access improvements only. Such improvements would not affect state-designated sensitive habitats in the Los Angeles/El Segundo Dunes; therefore, no cumulative impacts would occur.

As with Alternative 1, construction of and operation of the improvements associated with Alternative 9 would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans, as no such plan covers any portion of the biological resources study area. Moreover, Alternative 9 would not cause a substantial reduction in a locally-designated natural habitat or plant community, as no locally-designated habitats or plant communities are associated with the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Plants

Cumulative impacts to sensitive plant species in Construction Staging Areas B, C, and D would be the same as the cumulative impacts described above for Alternative 1, and would be less than significant. As Alternative 9 focuses on ground improvements only, there would be no impacts to sensitive plants in the Los Angeles/El Segundo Dunes. Under Alternative 9, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated plant species are known to occur within the biological resources study area. Therefore, no cumulative impacts would occur.

Sensitive Wildlife

Cumulative impacts to burrowing owl associated with areas of suitable habitat at LAX resulting from the combination of Alternative 9 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. Although many of the cumulative projects at LAX, including Alternative 9, are subject to mitigation for burrowing owl, cumulative impacts to burrowing owl associated with the LAX Northside Project and/or various airside improvement projects, in combination with Alternative 9, would be significant. However, with implementation of mitigation described in Section 4.3, *Biological Resources*, the contribution of Alternative 9 to this significant cumulative impact would not be cumulatively considerable.

Alternative 9 focuses on ground access improvements only. Such improvements would not affect sensitive wildlife associated with the Los Angeles/El Segundo Dunes; therefore, no cumulative impacts would occur.

Cumulative impacts to mature trees that could be used by nesting raptors, as well as nesting migratory birds, resulting from the combination of Alternative 9 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1, and would be significant. With implementation of mitigation measures described in Section 4.3, *Biological Resources*, the contribution of Alternative 9 to significant cumulative impacts would not be cumulatively considerable.

Cumulative impacts to sensitive wildlife from operation of the Alternative 9 improvements would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, operation of facilities associated with Alternative 9 would not contribute to cumulative impacts to sensitive wildlife species.

As with Alternative 1, under Alternative 9, there would not be a substantial loss of individuals or substantial reduction of existing habitat of a locally-designated species, as no locally-designated wildlife species are known to occur within the biological resources study area. Moreover, there would be no impacts to wildlife movement/migration corridors. Therefore, no cumulative impacts would occur.

Jurisdictional Aquatic Features

Within the project area, jurisdictional aquatic features are found only in or associated with the Argo Drainage Channel. Alternative 9 would not affect the Argo Drainage Channel and associated jurisdictional aquatic features; therefore, no cumulative impacts would occur.

5.5.4 Coastal Resources

Anticipated regional growth with the potential for cumulative impacts to coastal resources includes new development within or adjacent to the coastal zone. As shown in **Figure 5-1**, there are a number of projects located northwest of LAX within or near the coastal zone. The projects are primarily mixed-use developments with residential and restaurant/retail uses. Generally, LAX is located in a highly urbanized area. Many of the cumulative projects would replace existing development, or be developed on vacant parcels in urbanized areas. Development within the coastal zone is strictly regulated by the California Coastal Commission. The most proximate cumulative project is the Coastal Dunes Improvement Project, located in the northernmost portion of the Los Angeles/El Segundo Dunes (Dunes), west of Pershing Drive. The Coastal Dunes Improvement Project consists of the restoration and improvement of coastal dune habitat through the removal of streetscape, retaining walls, sidewalks, light poles, and other abandoned structures; the removal of select invasive non-native plant species; the installation of native plant species in disturbed areas; the recontouring of, and installation of erosion control measures on, newly exposed sites; and the restoration of periphery curb and gutter to minimize direct discharges from runoff.

5.5.4.1 Alternative 1

As discussed in Section 4.4.6.1, Alternative 1 would require installation of various navigational aids and a new service road within the Dunes associated with the reconfiguration of runways in the north airfield. Overall, the area of the Dunes to be occupied by navigational aids under Alternative 1 would be comparable to that under the existing conditions and would not conflict with the goals of the California Coastal Act (CCA); therefore, impacts would be less than significant. With implementation of existing LAX Master Plan and proposed SPAS mitigation measures described in Section 4.3, *Biological Resources*, impacts on biological resources in the coastal zone as a result of the installation of navigational aids and an associated service road within the Dunes would be less than significant.

The Coastal Dunes Improvement Project would result in beneficial impacts to coastal resources. As such, there is no potential for the impacts of that project to combine with the impacts to coastal resources under Alternative 1. Therefore, no significant cumulative impacts to coastal resources would occur.

5.5.4.2 Alternative 2

Similar to Alternative 1, Alternative 2 would require installation of navigational aids within the Dunes. With implementation of existing LAX Master Plan and proposed SPAS mitigation measures described in Section 4.3, *Biological Resources*, impacts to the coastal zone and biological resources in the coastal zone would be less than significant. There is no potential for the impacts of the Coastal Dunes Improvement Project to combine with impacts to coastal resources resulting from Alternative 2. Therefore, no significant cumulative impacts to coastal resources would occur.

5.5.4.3 Alternative 3

Similar to Alternative 1, Alternative 3 would require installation of navigational aids and new service roads within the Dunes. With implementation of existing LAX Master Plan and proposed SPAS mitigation measures described in Section 4.3, *Biological Resources*, impacts to the coastal zone and biological resources in the coastal zone would be less than significant. There is no potential for the impacts of the Coastal Dunes Improvement Project to combine with impacts to coastal resources resulting from Alternative 3. Therefore, no significant cumulative impacts to coastal resources would occur.

5.5.4.4 Alternative 4

Similar to Alternative 1, Alternative 4 would require installation of navigational aids within the Dunes. With implementation of existing LAX Master Plan and proposed SPAS mitigation measures described in Section 4.3, *Biological Resources*, impacts to the coastal zone and biological resources in the coastal zone would be less than significant. There is no potential for the impacts of the Coastal Dunes

Improvement Project to combine with impacts to coastal resources resulting from Alternative 4. Therefore, no significant cumulative impacts to coastal resources would occur.

5.5.4.5 Alternative 5

Similar to Alternative 1, Alternative 5 would require installation of navigational aids and a new service road within the Dunes. With implementation of existing LAX Master Plan and proposed SPAS mitigation measures described in Section 4.3, *Biological Resources*, impacts to the coastal zone and biological resources in the coastal zone would be less than significant. There is no potential for the impacts of the Coastal Dunes Improvement Project to combine with impacts to coastal resources resulting from Alternative 5. Therefore, no significant cumulative impacts to coastal resources would occur.

5.5.4.6 Alternative 6

Similar to Alternative 1, Alternative 6 would require installation of navigational aids and a new service road within the Dunes. With implementation of existing LAX Master Plan and proposed SPAS mitigation measures described in Section 4.3, *Biological Resources*, impacts to the coastal zone and biological resources in the coastal zone would be less than significant. There is no potential for the impacts of the Coastal Dunes Improvement Project to combine with impacts to coastal resources resulting from Alternative 6. Therefore, no significant cumulative impacts to coastal resources would occur.

5.5.4.7 Alternative 7

Similar to Alternative 1, Alternative 7 would require installation of navigational aids and a new service road within the Dunes. With implementation of existing LAX Master Plan and proposed SPAS mitigation measures described in Section 4.3, *Biological Resources*, impacts to the coastal zone and biological resources in the coastal zone would be less than significant. There is no potential for the impacts of the Coastal Dunes Improvement Project to combine with impacts to coastal resources resulting from Alternative 7. Therefore, no significant cumulative impacts to coastal resources would occur.

5.5.4.8 Alternative 8

Alternative 8 focuses on ground access improvements only. Such improvements would not affect coastal resources; therefore, there would be no cumulative impacts to coastal resources associated with Alternative 8.

5.5.4.9 Alternative 9

Alternative 9 focuses on ground access improvements only. Such improvements would not affect coastal resources; therefore, there would be no cumulative impacts to coastal resources associated with Alternative 9.

5.5.5 Cultural Resources

Cumulative impacts to identified potentially eligible, eligible, and listed cultural resources would occur due to combined effects on such resources associated with SPAS alternatives structural improvements and other projects at or adjacent to LAX involving improvements that could materially impair the physical characteristics of the resources that justify their inclusion in, or eligibility for inclusion in, the National Register (NR), California Register (CR), or listing in the City of Los Angeles Historic-Cultural Monuments Register (LAHCM).

Historical Resources

There are five eligible or listed historical resources within the SPAS cultural resources study area: Hangar One (NR listed), Theme Building and Setting (CR/LAHCM listed), World War II Munitions Storage Bunker (NR/CR/LAHCM eligible), Intermediate Terminal Complex (CR/LAHCM eligible), and the Union Savings and Loan Building (CR/LAHCM eligible), shown in Figure 4.5-1. Of these historical resources, two have the potential to be affected by structural improvements proposed under one or more of the SPAS

alternatives, the Theme Building and Setting, and the Union Savings and Loan Building. The SPAS alternatives would not have any impacts on Hangar One, the World War II Munitions Storage Bunker, or the Intermediate Terminal Complex due to the distance of these resources from SPAS-related improvements. Therefore, the SPAS alternatives would not contribute to cumulative impacts to these historical resources, and Hangar One, the World War II Munitions Storage Bunker, and the Intermediate Terminal Complex are not addressed further in this analysis.

The following cumulative projects at or adjacent to LAX involve visible, aboveground physical improvements that may directly or indirectly affect historical resources or their immediate surrounds, or the removal of features that may potentially contribute to the historic character or immediate surroundings of historical resources. Within the Central Terminal Area (CTA), these projects include the Bradley West Project, North Terminals Improvements, South Terminals Improvements, Central Utility Plant (CUP) Replacement Project, the new passenger processor component of the Midfield Satellite Concourse (MSC)Program, the LAX Sign District, the New Face of the CTA Improvements/Enhancements, and, depending upon the selected alternative, the Airport Metro Connector Project, which, in conjunction with SPAS improvements, such as the design and/or construction of terminals and the Automated People Mover (APM), have the potential for cumulative impacts to views/viewsheds associated with the NR-eligible Theme Building and Setting. The only cumulative project in proximity to the Union Savings and Loan Building is the Radisson Hotel project, which involves the construction of a new hotel and two parking structures on the site of an existing conference center and recreation building that lies adjacent to the Union Savings and Loan Building.

Archaeological Resources

Relative to archaeological resources, excavation associated with other development projects at or near LAX has the potential to encounter previously undiscovered archaeological resources, which could result in cumulative impacts. There are a number of cumulative projects with the potential to encounter archaeological resources, including the CUP Replacement Project, North Terminals Improvements, MSC Program including related taxiway improvements, new passenger processor component of the MSC Program, West Aircraft Maintenance Area Project, and Runway 7L/25R East End Reconstruction. Other projects at or adjacent to LAX with the potential for cumulative impacts on archaeological resources include LAX Northside, Coastal Dunes Improvement Project, Stormwater Infiltration and Treatment Facility, and Metro Crenshaw/LAX Transit Corridor and Airport Metro Connector projects. Excavation related to past and present projects at LAX, such as the South Airfield Improvement Project, Taxiway R, Bradley West Project and associated taxiway improvements, and Westchester Golf Course Three-Hole Restoration Project, did not reveal any undiscovered archaeological resources. Therefore, these projects would not contribute to cumulative impacts to archaeological resources.

5.5.5.1 Alternative 1

Historical Resources

As indicated in Section 4.5, *Cultural Resources*, impacts to the Theme Building and Setting associated with the airfield and terminal improvements under Alternative 1 would be less than significant. The proposed Alternative 1 terminal improvements in the vicinity of the Theme Building and Setting include the addition of a new Terminal 0, loss/modifications to concourse areas and/or gates at Terminals 1, 2, and 3, and the modification and northern extension of concourse area and gates at the Tom Bradley International Terminal (TBIT) and the future MSC passenger processor. These improvements would be compatible in design, scale, proportion, and massing, and would be largely blocked from view from the Theme Building by the existing concourses. For these reasons, and with compliance with LAX Master Plan Commitment HR-1, Preservation of Historic Resources, impacts on the Theme Building and Setting under Alternative 1 would be less than significant. Potential indirect impacts to the Union Savings and Loan Building from the proposed Alternative 1 ground access improvements, specifically, an elevated transit structure along 98th Street and extending over Sepulveda Boulevard, would be less than significant due to their proposed location within or north of the 98th Street right-of-way, their distance from

the eligible Union Savings and Loan Building, and the incorporation of LAX Master Plan Commitment HR-1, Preservation of Historic Resources.

As noted above, related cumulative projects in proximity to the Theme Building and Setting include the Bradley West Project, North Terminals Improvements, South Terminals Improvements, the CUP Replacement Project, the new passenger processor component of the MSC Program, the LAX Sign District, the New Face of the CTA Improvements/Enhancements, and, depending upon the selected alternative, the Airport Metro Connector Project, which, in conjunction with the Alternative 1 improvements, have the potential for cumulative impacts. The setting west of the new Airport Traffic Control Tower is altered and generally noncontributing to the Theme Building, as views from the Theme Building to the west are interrupted and obscured by the new Airport Traffic Control Tower. The CUP Replacement Project and the proposed new passenger processor component of the MSC Program are separated from the Theme Building by the Airport Traffic Control Tower and would not contribute to cumulative impacts to the Theme Building and Setting since these projects would not be visible from, or within view of, the Theme Building.

Although located west of the new Airport Traffic Control Tower, the Bradley West Project is visible from, and within view of, the Theme Building and Setting. The architectural design of the building areas is inspired by the adjacent Pacific Ocean and will include modern design elements, architectural articulation, and landscape amenities. The upgrades associated with the Bradley West Project are also designed to be complimentary of the regional airport theme of LAX and the iconic Theme Building and Airport Traffic Control Tower.[828] The North Terminals Improvements would occur in areas within and between the existing passenger processing facilities at Terminals 1, 2, and 3. The South Terminals Improvements include improvements and building system upgrades to Terminals 5 through 8. These improvements are largely to the building interiors and do not include substantive changes to the building footprints or exteriors. Collectively, these terminal improvements could have indirect long-term visual impacts on the setting of the Theme Building. These effects relate to the potential for the design, bulk, placement, and/or proximity of the new terminal buildings to alter the immediate surroundings and/or the setting that contributes to the eligibility of the Theme Building in relation to the airport context. However, height limitations, design, and distance of the proposed terminal improvements, and the incorporation of LAX Master Plan Commitment HR-1, Preservation of Historic Resources, which requires careful review of design and development of projects adjacent to historical resources in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties, would address the effects related to these cumulative projects.

The LAX Sign District Project would place supergraphic and digital signs associated with non-airport-related advertising within approved areas at the airport, limited to areas within the CTA and on terminals and passenger boarding bridges visible from apron areas. Signs would not be visible from the surrounding community. The signs would be located along the faces of existing structures and columns, but would not extend above the height of the existing terminal buildings or parking garages. As a result, the signs would not interfere with scale, proportion, or massing of the Theme Building and Setting, and impacts on this resource would be less than significant.[829] The New Face of the CTA Improvements/Enhancements project will enhance and unify the aesthetic appearance of the CTA. The project includes enhancements to exterior lighting, signage, walkways, and curbside waiting areas. These improvements would be compatible in design, scale, proportion, and massing with the Theme Building, and would not interfere with views of the airport or airfield from the Theme Building.

As part of the Airport Metro Connector Project, Metro is examining ways to connect the transit system to LAX. Modes under consideration include Light Rail Transit, Automated People Mover (APM), and Bus Rapid Transit, along a number of different alignments, including an underground option. Depending upon the outcome, elevated elements of the project have the potential for cumulative impacts to historical

828 City of Los Angeles, Final Environmental Impact Report for Los Angeles International Airport (LAX) Bradley West Project, September 2009.

829 City of Los Angeles, Los Angeles World Airports, Notice of Preparation for the LAX Sign District Project, March 16, 2012.

resources within the Century Corridor area with potential routes along Century Boulevard and 98th Street. Similar to the Metro Crenshaw/LAX Transit Corridor and Station, a number of urban design principles and features would likely be implemented as part of the Airport Metro Connector Project per Metro's Rail Design Criteria to ensure architectural and visual compatibility between the proposed transit system and the surrounding area to reduce potential indirect impacts to historical resources. Project features would include incorporation of art, landscaping, pedestrian amenities, awnings, street furniture, and other visual treatments into the design of the station and alignment. The Federal Transit Administration (FTA) Circular 9400.1A, Design and Art in Transit Projects, encourages the use of design and artist considerations in transit projects. Within the CTA, components of the APM, Light Rail Transit, and Bus Rapid Transit options could be developed in a configuration that would extend to the area of the Theme Building. Depending on the specific location, design, and height of the elevated elements and support structures, implementation of the APM, Light Rail Transit, or Bus Rapid Transit options could diminish focal views of the Theme Building from various vantage points in the CTA. Additionally, due to the close proximity of the project, construction of the Airport Metro Connector Project could alter or remove contributing features of the Theme Building and Setting.

With the exception of the Airport Metro Connector Project, the cumulative projects in the CTA would be compatible with the historic materials, features, size, scale and proportion, and massing of the Theme Building and Setting and would protect the integrity of the historical resource and its environment. Although implementation of the Airport Metro Connector Project may contribute to a cumulatively significant impact on the Theme Building and Setting depending on the alternative selected, with height limitations, design, and distance of the proposed Alternative 1 terminal improvements, and the incorporation of LAX Master Plan Commitment HR-1, Preservation of Historic Resources, the contribution of Alternative 1 would not be cumulatively considerable.

Cumulative projects located in proximity to the Union Savings and Loan Building are the Radisson Hotel project and a potential route of the Airport Metro Connector Project along 98th Street. As noted above, the Radisson Hotel project involves the construction of a new hotel and two parking structures. Options under consideration for the Airport Metro Connector Project include Light Rail Transit, Automated People Mover (APM), and Bus Rapid Transit, with potential routes along Century Boulevard and 98th Street as well as an underground option. Depending upon the selected alternative, elevated elements of the project along 98th Street have the potential to result in cumulative impacts to the Union Savings and Loan Building. These cumulative projects, and the elevated transit structure along 98th Street associated with Alternative 1, would be compatible with the features, size, scale and proportion, and massing of the Union Savings and Loan Building. Therefore, cumulative impacts to this resource would be less than significant.

Archaeological Resources

No known archaeological resources that are unique or eligible for federal, state, or local designation would be affected by Alternative 1. However, the number of archaeological resources previously recorded within LAX and the surrounding area suggests that there is a possibility of discovering archaeological resources during construction. Impacts associated with the disturbance or destruction of undiscovered archaeological resources during construction of Alternative 1 improvements would be less than significant with implementation of Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, discussed in Section 4.5.7.2.

This same potential for encountering undiscovered resources exists for other cumulative projects within LAX and nearby that would include construction excavations. These potential impacts, which would be less than significant at the project level, would be cumulatively significant when viewed in combination with the progressive cumulative loss of archaeological resources associated with other past, present, and reasonably anticipated future projects. Even though regulatory controls and project-level mitigation measures would reduce these effects, there would be a cumulatively significant impact to undiscovered archaeological resources associated with cumulative projects.

With the exception of the north airfield and the navigational aids in the Los Angeles/El Segundo Dunes, the improvements associated with Alternative 1 are located in disturbed areas. The north airfield

improvements and navigational aids would not require deep excavations, and the area subject to excavation for the navigational aids would be small. The lack of deep excavations reduces the potential to encounter undiscovered archaeological resources because deep excavations may encounter previously undisturbed soils conducive to retaining undiscovered archaeological resources. Shallow excavations are likely to be conducted in previously disturbed soils that are likely not conducive to retaining undiscovered archaeological resources because resources in these soils may have been destroyed or displaced from prior disturbances (e.g., rough grading or trenching, road/airstrip construction). Since improvements associated with the north airfield and navigational aids would include shallow excavations in disturbed soils, the likelihood of encountering undiscovered significant archaeological resources during construction would be limited. In light of this circumstance, and compliance with Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, the contribution of Alternative 1 to cumulative impacts would not be cumulatively considerable.

5.5.5.2 Alternative 2

Historical Resources

Cumulative impacts to identified eligible or listed historical resources resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, although implementation of the Airport Connector Project may contribute to a cumulatively significant impact on the Theme Building and Setting depending on the alternative selected, with height limitations, design, and distance of the proposed Alternative 2 terminal improvements, and the incorporation of LAX Master Plan Commitment HR-1, Preservation of Historic Resources, the contribution of Alternative 2 would not be cumulatively considerable.

As with Alternative 1, the Radisson Hotel project, the elevated elements of the Airport Metro Connector Project along 98th Street under certain project alternatives, and the elevated transit structure associated with Alternative 2 would be compatible with the features, size, scale and proportion, and massing of the Union Savings and Loan Building. Therefore, cumulative impacts to this resource would be less than significant.

Archaeological Resources

Cumulative impacts to archaeological resources resulting from the combination of Alternative 2 and other cumulative projects would be similar to those described above for Alternative 1, although a smaller project area would be developed, resulting in a lesser cumulative effect. As with Alternative 1, impacts associated with the disturbance or destruction of undiscovered archaeological resources during construction of Alternative 2 improvements would be less than significant with implementation of Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, discussed in Section 4.5.7.2. However, the potential for cumulative projects to disturb or destroy undiscovered resources would be cumulatively significant when viewed in combination with the progressive cumulative loss of archaeological resources associated with other past, present, and reasonably anticipated future projects. Even though regulatory controls and project-level mitigation measures would reduce these effects, there would be a cumulatively significant impact to undiscovered archaeological resources associated with cumulative projects.

With the exception of the north airfield and the navigational aids in the Los Angeles/El Segundo Dunes, the improvements associated with Alternative 2 are located in disturbed areas. The north airfield improvements and navigational aids would not require deep excavations. Therefore, as described for Alternative 1, the likelihood of encountering undiscovered significant archaeological resources during construction would be limited. Moreover, construction activities would be subject to Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan. For these reasons, the contribution of Alternative 2 to cumulative impacts would not be cumulatively considerable.

5.5.5.3 Alternative 3

Historical Resources

As indicated in Section 4.5, *Cultural Resources*, the proposed passenger processing terminals and APM under Alternative 3 would have potential indirect long-term visual impacts on the NR-eligible Theme Building and Setting. These effects relate to the potential for the design, bulk, placement, and/or proximity of these improvements to materially alter the immediate surroundings and/or the setting that contributes to the eligibility of the Theme Building and Setting as a historical resource, the potential for the APM to block views of the Theme Building, and the potential elimination of the view corridor between the Theme Building and the 1961 Airport Traffic Control Tower. With implementation of Mitigation Measure MM-HA (SPAS)-1, Preservation of Historic Resources: Theme Building and Setting (Alternative 3), significant impacts would be avoided because the view corridor between the Theme Building and the 1961 Airport Traffic Control Tower would be protected, and views of the north and south elevations of the Theme Building would not be impaired by the APM.

When Alternative 3 was originally designed, the Union Savings and Loan Building located at 9800 S. Sepulveda Boulevard was not of an age to be considered historic. Since the building now meets the definition of a historical resource under State CEQA Guidelines 15064.5(a)(3), construction of the APM, as conceptually defined, could result in a significant impact due to building demolition or proximate indirect impacts. Mitigation Measure MM-HA (SPAS)-3, Preservation of Historic Resources: Union Savings and Loan Building would adjust the alignment to avoid demolition of, or unavoidable indirect impacts to, the historic building and impacts would be less than significant.

As described above for Alternative 1, cumulative projects within the CTA have the potential for long-term visual impacts on the setting of the Theme Building. These effects relate to the potential for the design, bulk, placement, and/or proximity of the new terminal buildings and other improvements associated with cumulative projects to alter the immediate surroundings and/or the setting that contributes to the eligibility of the Theme Building in relation to the airport context. However, height limitations, design, and distance of the proposed terminal improvements associated with the cumulative projects, and the incorporation of LAX Master Plan Commitment HR-1, Preservation of Historic Resources, which requires careful review of design and development of projects adjacent to historical resources in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties, would address these cumulative effects. With the exception of the Airport Metro Connector Project, the cumulative projects in the CTA would be compatible with the historic materials, features, size, scale and proportion, and massing of the Theme Building and Setting and would protect the integrity of the historical resource and its environment. Although implementation of the Airport Metro Connector Project may contribute to a cumulatively significant impact on the Theme Building and Setting depending on the alternative selected, in light of proposed Mitigation Measure MM-HA (SPAS)-1, Preservation of Historic Resources: Theme Building and Setting (Alternative 3), the contribution of Alternative 3 to cumulative impacts to this resource would not be cumulatively considerable.

As described above, impacts on the Union Savings and Loan Building under Alternative 3 would be avoided through implementation of Mitigation Measure MM-HA (SPAS)-3, Preservation of Historic Resources: Union Savings and Loan Building. The only cumulative projects located in proximity to the Union Savings and Loan Building are the Radisson Hotel project and the Airport Metro Connector Project, depending on the alternative selected. These projects, and the improvements associated with Alternative 3, including the Consolidated Rental Car Facility (CONRAC) in Lot C and the realigned APM, would be compatible with the features, size, scale and proportion, and massing of the Union Savings and Loan Building. Therefore, cumulative impacts to this resource would be less than significant.

Archaeological Resources

Cumulative impacts to archaeological resources resulting from the combination of Alternative 3 and other cumulative projects would be similar to those described above for Alternative 1, although a greater project area would be developed, resulting in a slightly greater cumulative effect. As with Alternative 1, impacts

associated with the disturbance or destruction of undiscovered archaeological resources during construction of Alternative 3 improvements would be less than significant with implementation of Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, discussed in Section 4.5.7.2. However, the potential for cumulative projects to disturb or destroy undiscovered resources would be cumulatively significant when viewed in combination with the progressive cumulative loss of archaeological resources associated with other past, present, and reasonably anticipated future projects. Even though regulatory controls and project-level mitigation measures would reduce these effects, there would be a cumulatively significant impact to undiscovered archaeological resources associated with cumulative projects.

With the exception of the navigational aids in the Los Angeles/El Segundo Dunes, the improvements associated with Alternative 3 are located in disturbed areas. The navigational aids would not require deep excavations. Therefore, as described for Alternative 1, the likelihood of encountering undiscovered significant archaeological resources during construction would be limited. Moreover, construction activities would be subject to Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan. For these reasons, the contribution of Alternative 3 to cumulative impacts would not be cumulatively considerable.

5.5.5.4 Alternative 4

Historical Resources

Alternative 4 does not include any improvements in proximity to the Theme Building and Setting and thus there would be no cumulative impacts on this resource.

The only cumulative projects located in proximity to the Union Savings and Loan Building are the Radisson Hotel project and the Airport Metro Connector Project, depending on the alternative selected. These projects, and development of a CONRAC in Lot C under Alternative 4, would be compatible with the features, size, scale and proportion, and massing of the Union Savings and Loan Building. Therefore, cumulative impacts to this resource would be less than significant.

Archaeological Resources

Cumulative impacts to archaeological resources resulting from the combination of Alternative 4 and other cumulative projects would be similar to those described above for Alternative 1, although a smaller project area would be developed, resulting in a lesser cumulative effect. As with Alternative 1, impacts associated with the disturbance or destruction of undiscovered archaeological resources during construction of Alternative 4 improvements would be less than significant with implementation of Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, discussed in Section 4.5.7.2. However, the potential for cumulative projects to disturb or destroy undiscovered resources would be cumulatively significant when viewed in combination with the progressive cumulative loss of archaeological resources associated with other past, present, and reasonably anticipated future projects. Even though regulatory controls and project-level mitigation measures would reduce these effects, there would be a cumulatively significant impact to undiscovered archaeological resources associated with cumulative projects.

The improvements associated with Alternative 4, which include the easterly extension of Runway 6R/24L and the development of a CONRAC in Lot C, are located in disturbed areas. Moreover, these improvements consist of pavement areas and would not require deep excavations. Therefore, as described for Alternative 1, the likelihood of encountering undiscovered significant archaeological resources during construction would be limited. Moreover, construction activities would be subject to Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan. For these reasons, the contribution of Alternative 4 to cumulative impacts would not be cumulatively considerable.

5.5.5.5 Alternative 5

Historical Resources

Cumulative impacts to the Theme Building and Setting resulting from the combination of airfield and terminal improvements under Alternative 5 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, with the exception of the Airport Metro Connector Project, the cumulative projects in the CTA would be compatible with the historic materials, features, size, scale and proportion, and massing of the Theme Building and Setting and would protect the integrity of the historical resource and its environment. Although implementation of the Airport Connector Project may contribute to a cumulatively significant impact on the Theme Building and Setting depending on the alternative selected, with height limitations, design, and distance of the proposed Alternative 5 terminal improvements, and the incorporation of LAX Master Plan Commitment HR-1, Preservation of Historic Resources, the contribution of Alternative 5 would not be cumulatively considerable.

Alternative 5 does not include any improvements in proximity to the Union Savings and Loan Building and thus there would be no cumulative impacts on this resource.

Archaeological Resources

Cumulative impacts to archaeological resources resulting from the combination of Alternative 5 and other cumulative projects would be similar to those described above for Alternative 1. As with Alternative 1, impacts associated with the disturbance or destruction of undiscovered archaeological resources during construction of Alternative 5 improvements would be less than significant with implementation of Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, discussed in Section 4.5.7.2. However, the potential for cumulative projects to disturb or destroy undiscovered resources would be cumulatively significant when viewed in combination with the progressive cumulative loss of archaeological resources associated with other past, present, and reasonably anticipated future projects. Even though regulatory controls and project-level mitigation measures would reduce these effects, there would be a cumulatively significant impact to undiscovered archaeological resources associated with cumulative projects.

With the exception of the north airfield and the navigational aids in the Los Angeles/El Segundo Dunes, the improvements associated with Alternative 5 are located in disturbed areas. The north airfield improvements and navigational aids would not require deep excavations. Therefore, as described for Alternative 1, the likelihood of encountering undiscovered significant archaeological resources during construction would be limited. Moreover, construction activities would be subject to Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan. For these reasons, the contribution of Alternative 5 to cumulative impacts would not be cumulatively considerable.

5.5.5.6 Alternative 6

Historical Resources

Cumulative impacts to the Theme Building and Setting resulting from the combination of airfield and terminal improvements under Alternative 6 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, with the exception of the Airport Metro Connector Project, the cumulative projects in the CTA would be compatible with the historic materials, features, size, scale and proportion, and massing of the Theme Building and Setting and would protect the integrity of the historical resource and its environment. Although implementation of the Airport Connector Project may contribute to a cumulatively significant impact on the Theme Building and Setting depending on the alternative selected, with height limitations, design, and distance of the proposed Alternative 6 terminal improvements, and the incorporation of LAX Master Plan Commitment HR-1, Preservation of Historic Resources, the contribution of Alternative 6 would not be cumulatively considerable.

Alternative 6 does not include any improvements in proximity to the Union Savings and Loan Building and thus there would be no cumulative impacts on this resource.

Archaeological Resources

Cumulative impacts to archaeological resources resulting from the combination of Alternative 6 and other cumulative projects would be similar to those described above for Alternative 1. As with Alternative 1, impacts associated with the disturbance or destruction of undiscovered archaeological resources during construction of Alternative 6 improvements would be less than significant with implementation of Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, discussed in Section 4.5.7.2. However, the potential for cumulative projects to disturb or destroy undiscovered resources would be cumulatively significant when viewed in combination with the progressive cumulative loss of archaeological resources associated with other past, present, and reasonably anticipated future projects. Even though regulatory controls and project-level mitigation measures would reduce these effects, there would be a cumulatively significant impact to undiscovered archaeological resources associated with cumulative projects.

With the exception of the north airfield and the navigational aids in the Los Angeles/El Segundo Dunes, the improvements associated with Alternative 6 are located in disturbed areas. The north airfield improvements and navigational aids would not require deep excavations. Therefore, as described for Alternative 1, the likelihood of encountering undiscovered significant archaeological resources during construction would be limited. Moreover, construction activities would be subject to Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan. For these reasons, the contribution of Alternative 6 to cumulative impacts would not be cumulatively considerable.

5.5.5.7 Alternative 7

Historical Resources

Cumulative impacts to the Theme Building and Setting resulting from the combination of airfield and terminal improvements under Alternative 7 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, with the exception of the Airport Metro Connector Project, the cumulative projects in the CTA would be compatible with the historic materials, features, size, scale and proportion, and massing of the Theme Building and Setting and would protect the integrity of the historical resource and its environment. Although implementation of the Airport Connector Project may contribute to a cumulatively significant impact on the Theme Building and Setting depending on the alternative selected, with height limitations, design, and distance of the proposed Alternative 7 terminal improvements, and the incorporation of LAX Master Plan Commitment HR-1, Preservation of Historic Resources, the contribution of Alternative 7 would not be cumulatively considerable.

Alternative 7 does not include any improvements in proximity to the Union Savings and Loan Building and thus there would be no cumulative impacts on this resource.

Archaeological Resources

Cumulative impacts to archaeological resources resulting from the combination of Alternative 7 and other cumulative projects would be similar to those described above for Alternative 1. As with Alternative 1, impacts associated with the disturbance or destruction of undiscovered archaeological resources during construction of Alternative 7 improvements would be less than significant with implementation of Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, discussed in Section 4.5.7.2. However, the potential for cumulative projects to disturb or destroy undiscovered resources would be cumulatively significant when viewed in combination with the progressive cumulative loss of archaeological resources associated with other past, present, and reasonably anticipated future projects. Even though regulatory controls and project-level mitigation measures would reduce these effects, there would be a cumulatively significant impact to undiscovered archaeological resources associated with cumulative projects.

With the exception of the navigational aids in the Los Angeles/El Segundo Dunes, the improvements associated with Alternative 7 are located in disturbed areas. The navigational aids would not require deep excavations. Therefore, as described for Alternative 1, the likelihood of encountering undiscovered significant archaeological resources during construction would be limited. Moreover, construction activities would be subject to Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan. For these reasons, the contribution of Alternative 7 to cumulative impacts would not be cumulatively considerable.

5.5.5.8 Alternative 8

Historical Resources

Cumulative impacts to the Union Savings and Loan Building resulting from the combination of the dedicated transit access under Alternative 8 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, the Radisson Hotel project, the elevated elements of the Airport Metro Connector Project along 98th Street under certain project alternatives, and the elevated transit structure associated with Alternative 8 would be compatible with the features, size, scale and proportion, and massing of the Union Savings and Loan Building. Therefore, cumulative impacts to this resource would be less than significant.

Alternative 8, which focuses on ground access improvements, does not include any improvements in proximity to the Theme Building and Setting and thus there would be no cumulative impacts on this resource.

Archaeological Resources

Cumulative impacts to archaeological resources resulting from the combination of Alternative 8 and other cumulative projects would be similar to those described above for the ground access improvements under Alternative 1. As with Alternative 1, impacts associated with the disturbance or destruction of undiscovered archaeological resources during construction of Alternative 8 improvements would be less than significant with implementation of Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, discussed in Section 4.5.7.2. However, the potential for cumulative projects to disturb or destroy undiscovered resources would be cumulatively significant when viewed in combination with the progressive cumulative loss of archaeological resources associated with other past, present, and reasonably anticipated future projects. Even though regulatory controls and project-level mitigation measures would reduce these effects, there would be a cumulatively significant impact to undiscovered archaeological resources associated with cumulative projects.

The improvements associated with Alternative 8 are located in disturbed areas that are likely not conducive to retaining undiscovered archaeological resources because resources in disturbed soils may have been destroyed or displaced from prior disturbances (e.g., rough grading or trenching, road/airstrip construction). Moreover, construction activities would be subject to Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan. For these reasons, the contribution of Alternative 8 to cumulative impacts would not be cumulatively considerable.

5.5.5.9 Alternative 9

Historical Resources

As indicated in Section 4.5, *Cultural Resources*, Alternative 9 includes an APM from Manchester Square into the CTA. The APM route between Manchester Square and the east edge of the CTA would generally follow the same alignment as the elevated transit access associated with Alternatives 1, 2, and 8. Within the CTA, the APM would have potential indirect long-term visual impacts on the NR-eligible Theme Building and Setting. With implementation of Mitigation Measure MM-HA (SPAS)-2, Preservation of Historic Resources: Theme Building and Setting (Alternative 9), significant impacts would be avoided because views of the north and south elevations of the Theme Building would not be impaired by the APM.

Cumulative impacts to the Theme Building and Setting would be similar to Alternative 3. As with Alternative 3, although implementation of the Airport Metro Connector Project may contribute to a cumulatively significant impact on the Theme Building and Setting depending on the alternative selected, in light of proposed Mitigation Measure MM-HA (SPAS)-2, Preservation of Historic Resources: Theme Building and Setting (Alternative 9), the contribution of Alternative 9 to cumulative impacts on this resource would not be cumulatively considerable.

Cumulative impacts to the Union Savings and Loan Building resulting from the combination of the dedicated transit access under Alternative 9 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, the Radisson Hotel project, the elevated elements of the Airport Metro Connector Project along 98th Street under certain project alternatives, and the elevated transit structure associated with APM under Alternative 9 would be compatible with the features, size, scale and proportion, and massing of the Union Savings and Loan Building. Therefore, cumulative impacts to this resource would be less than significant.

Archaeological Resources

Cumulative impacts to archaeological resources resulting from the combination of Alternative 9 and other cumulative projects would be similar to those described above for Alternative 1. As with Alternative 1, impacts associated with the disturbance or destruction of undiscovered archaeological resources during construction of Alternative 9 improvements would be less than significant with implementation of Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan, discussed in Section 4.5.7.2. However, the potential for cumulative projects to disturb or destroy undiscovered resources would be cumulatively significant when viewed in combination with the progressive cumulative loss of archaeological resources associated with other past, present, and reasonably anticipated future projects. Even though regulatory controls and project-level mitigation measures would reduce these effects, there would be a cumulatively significant impact to undiscovered archaeological resources associated with cumulative projects.

The improvements associated with Alternative 9 are located in disturbed areas that are likely not conducive to retaining undiscovered archaeological resources because resources in disturbed soils may have been destroyed or displaced from prior disturbances (e.g., rough grading or trenching, road/airstrip construction). Moreover, construction activities would be subject to Mitigation Measure MM-HA (SPAS)-4, Conformance with LAX Master Plan Archaeological Treatment Plan. For these reasons, the contribution of Alternative 9 to cumulative impacts would not be cumulatively considerable.

5.5.6 Greenhouse Gases

The analysis of greenhouse gases (GHG), by its nature, considers cumulative conditions in that it evaluates the contributions of the SPAS alternatives in the context of global changes in the concentrations of atmospheric pollutants and their cumulative impact on global climate change. Due to the global nature of GHG emissions and their potential effects, GHG emissions are typically addressed in a cumulative impacts analysis. (see, e.g., EPA, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904 (April 24, 2009) [cumulative emissions are responsible for the cumulative change in the stock of concentrations in the atmosphere]; California Air Pollution Control Officers Association, CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act (January 2008) (CAPCOA White Paper), at p. 35 [GHG impacts are exclusively cumulative impacts; there are no noncumulative GHG emission impacts from a climate change perspective].) The analysis below considers other projects that would contribute to cumulative impacts related to GHG, as well as the contribution of the SPAS alternatives to those cumulative impacts.

5.5.6.1 Alternative 1

As indicated in Section 4.6.6, construction and operation of Alternative 1 would result in a significant impact relative to GHG emissions, primarily related to construction activities, aircraft operations, ground support equipment (GSE), and motor vehicle operations, when compared to baseline conditions.

Cumulative development in the region, and at LAX specifically, would also result in increased GHG emissions as a result of construction and operational activity. As mentioned in Section 4.6.6, Alternative 1 would result in lower GHG emissions from aircraft operations, which is the primary source of GHG emission increases compared to baseline conditions, than would otherwise occur in 2025 without the project. Alternative 1 would comply with requirements of the City of Los Angeles Green Building Code, which includes a number of measures that serve to reduce GHG emissions. On a per capita (per passenger) basis, implementation of Alternative 1 would result in approximately 13.1 percent less GHG emissions that the per capita GHG emissions associated with baseline conditions. The California Assembly Bill (AB) 32 Scoping Plan indicates that at least a 16 percent reduction in GHG emissions is necessary to achieve the goal of reducing GHG emissions projected to occur in California by 2020 under "business as usual" down to levels that occurred in the state in 1990. Meeting this GHG reduction goal statewide is intended to address cumulative GHG emissions within the state. Given that Alternative 1 cannot achieve a 16 percent reduction in GHG emissions, on a per capita basis compared to baseline conditions, the resultant significant GHG emissions impact would be cumulatively considerable.

5.5.6.2 Alternative 2

As indicated in Section 4.6.6, construction and operation of Alternative 2 would result in a significant impact relative to GHG emissions, primarily related to construction activities, aircraft operations, GSE, and motor vehicle operations, when compared to baseline conditions. Cumulative development in the region, and at LAX specifically, would also result in increased GHG emissions as a result of construction and operational activity. As mentioned in Section 4.6.6, Alternative 2 would result in lower GHG emissions from aircraft operations, which is the primary source of GHG emission increases compared to baseline conditions, than would otherwise occur in 2025 without the project. Alternative 2 would comply with requirements of the City of Los Angeles Green Building Code, which includes a number of measures that serve to reduce GHG emissions. On a per capita (per passenger) basis, implementation of Alternative 2 would result in approximately 13.7 percent less GHG emissions that the per capita GHG emissions associated with baseline conditions. The California AB 32 Scoping Plan indicates that at least a 16 percent reduction in GHG emissions is necessary to achieve the goal of reducing GHG emissions projected to occur in California by 2020 under "business as usual" down to levels that occurred in the state in 1990. Meeting this GHG reduction goal statewide is intended to address cumulative GHG emissions within the state. Given that Alternative 2 cannot achieve a 16 percent reduction in GHG emissions, on a per capita basis compared to baseline conditions, the resultant significant GHG emissions impact would be cumulatively considerable.

5.5.6.3 Alternative 3

As indicated in Section 4.6.6, construction and operation of Alternative 3 would result in a significant impact relative to GHG emissions, primarily related to construction activities, aircraft operations, GSE, and motor vehicle operations, when compared to baseline conditions. Cumulative development in the region, and at LAX specifically, would also result in increased GHG emissions as a result of construction and operational activity. As mentioned in Section 4.6.6, Alternative 3 would result in lower GHG emissions from aircraft operations, which is the primary source of GHG emission increases compared to baseline conditions, than would otherwise occur in 2025 without the project. Alternative 3 would comply with requirements of the City of Los Angeles Green Building Code, which includes a number of measures that serve to reduce GHG emissions. On a per capita (per passenger) basis, implementation of Alternative 3 would result in approximately 13.3 percent less GHG emissions that the per capita GHG emissions associated with baseline conditions. The California AB 32 Scoping Plan indicates that at least a 16 percent reduction in GHG emissions is necessary to achieve the goal of reducing GHG emissions projected to occur in California by 2020 under "business as usual" down to levels that occurred in the state in 1990. Meeting this GHG reduction goal statewide is intended to address cumulative GHG emissions within the state. Given that Alternative 3 cannot achieve a 16 percent reduction in GHG emissions, on a per capita basis compared to baseline conditions, the resultant significant GHG emissions impact would be cumulatively considerable.

5.5.6.4 Alternative 4

As indicated in Section 4.6.6, construction and operation of Alternative 4 would result in a significant impact relative to GHG emissions, primarily related to aircraft operations, GSE, and motor vehicle operations, when compared to baseline conditions. Cumulative development in the region, and at LAX specifically, would also result in increased GHG emissions as a result of construction and operational activity. As mentioned in Section 4.6.6, Alternative 4 would result in lower GHG emissions from aircraft operations, which is the primary source of GHG emission increases compared to baseline conditions, than would otherwise occur in 2025 without the project. Alternative 4 would comply with requirements of the City of Los Angeles Green Building Code, which includes a number of measures that serve to reduce GHG emissions. On a per capita (per passenger) basis, implementation of Alternative 4 would result in approximately 14.3 percent less GHG emissions that the per capita GHG emissions associated with baseline conditions. The California AB 32 Scoping Plan indicates that at least a 16 percent reduction in GHG emissions is necessary to achieve the goal of reducing GHG emissions projected to occur in California by 2020 under "business as usual" down to levels that occurred in the state in 1990. Meeting this GHG reduction goal statewide is intended to address cumulative GHG emissions within the state. Given that Alternative 4 cannot achieve a 16 percent reduction in GHG emissions, on a per capita basis compared to baseline conditions, the resultant significant GHG emissions impact would be cumulatively considerable.

5.5.6.5 Alternative 5

As indicated in Section 4.6.6, construction and operation of Alternative 5 would result in a significant impact relative to GHG emissions, primarily related to construction activities, aircraft operations, GSE, and motor vehicle operations, when compared to baseline conditions. Cumulative development in the region, and at LAX specifically, would also result in increased GHG emissions as a result of construction and operational activity. As mentioned in Section 4.6.6, Alternative 5 would result in lower GHG emissions from aircraft operations, which is the primary source of GHG emission increases compared to baseline conditions, than would otherwise occur in 2025 without the project. Alternative 5 would comply with requirements of the City of Los Angeles Green Building Code, which includes a number of measures that serve to reduce GHG emissions. On a per capita (per passenger) basis, implementation of Alternative 5 would result in between approximately 13.1 and 15.0 percent less GHG emissions that the per capita GHG emissions associated with baseline conditions. The California AB 32 Scoping Plan indicates that at least a 16 percent reduction in GHG emissions is necessary to achieve the goal of reducing GHG emissions projected to occur in California by 2020 under "business as usual" down to levels that occurred in the state in 1990. Meeting this GHG reduction goal statewide is intended to address cumulative GHG emissions within the state. Given that Alternative 5 cannot achieve a 16 percent reduction in GHG emissions, on a per capita basis compared to baseline conditions, the resultant significant GHG emissions impact would be cumulatively considerable.

5.5.6.6 Alternative 6

As indicated in Section 4.6.6, construction and operation of Alternative 6 would result in a significant impact relative to GHG emissions, primarily related to construction activities, aircraft operations, GSE, and motor vehicle operations, when compared to baseline conditions. Cumulative development in the region, and at LAX specifically, would also result in increased GHG emissions as a result of construction and operational activity. As mentioned in Section 4.6.6, Alternative 6 would result in lower GHG emissions from aircraft operations, which is the primary source of GHG emission increases compared to baseline conditions, than would otherwise occur in 2025 without the project. Alternative 6 would comply with requirements of the City of Los Angeles Green Building Code, which includes a number of measures that serve to reduce GHG emissions. On a per capita (per passenger) basis, implementation of Alternative 6 would result in between approximately 13.4 and 15.4 percent less GHG emissions that the per capita GHG emissions associated with baseline conditions. The California AB 32 Scoping Plan indicates that at least a 16 percent reduction in GHG emissions is necessary to achieve the goal of reducing GHG emissions projected to occur in California by 2020 under "business as usual" down to

levels that occurred in the state in 1990. Meeting this GHG reduction goal statewide is intended to address cumulative GHG emissions within the state. Given that Alternative 6 cannot achieve a 16 percent reduction in GHG emissions, on a per capita basis compared to baseline conditions, the resultant significant GHG emissions impact would be cumulatively considerable.

5.5.6.7 Alternative 7

As indicated in Section 4.6.6, construction and operation of Alternative 7 would result in a significant impact relative to GHG emissions, primarily related to construction activities, aircraft operations, GSE, and motor vehicle operations, when compared to baseline conditions. Cumulative development in the region, and at LAX specifically, would also result in increased GHG emissions as a result of construction and operational activity. As mentioned in Section 4.6.6, Alternative 7 would result in lower GHG emissions from aircraft operations, which is the primary source of GHG emission increases compared to baseline conditions, than would otherwise occur in 2025 without the project. Alternative 7 would comply with requirements of the City of Los Angeles Green Building Code, which includes a number of measures that serve to reduce GHG emissions. On a per capita (per passenger) basis, implementation of Alternative 7 would result in between approximately 13.2 and 15.2 percent less GHG emissions that the per capita GHG emissions associated with baseline conditions. The California AB 32 Scoping Plan indicates that at least a 16 percent reduction in GHG emissions is necessary to achieve the goal of reducing GHG emissions projected to occur in California by 2020 under "business as usual" down to levels that occurred in the state in 1990. Meeting this GHG reduction goal statewide is intended to address cumulative GHG emissions within the state. Given that Alternative 7 cannot achieve a 16 percent reduction in GHG emissions, on a per capita basis compared to baseline conditions, the resultant significant GHG emissions impact would be cumulatively considerable.

5.5.6.8 Alternative 8

As indicated in Section 4.6.6, construction and operation of Alternative 8 would result in a significant impact relative to GHG emissions when compared to baseline conditions. This impact is primarily due to construction activities, as well as to operational aircraft and GSE emissions and the underlying assumption that the ground access improvements associated with this alternative would be paired with the airfield improvements of another alternative (i.e., Alternative 1, 2, 5, 6, or 7); no matter which airfield improvement scenario is assumed, this impact would occur. Cumulative development in the region, and at LAX specifically, would also result in increased GHG emissions as a result of construction and operational activity. As mentioned in Section 4.6.6, Alternative 8 would result in lower GHG emissions from aircraft operations, which is the primary source of GHG emission increases compared to baseline conditions, than would otherwise occur in 2025 without the project. Alternative 8 would comply with requirements of the City of Los Angeles Green Building Code, which includes a number of measures that serve to reduce GHG emissions. On a per capita (per passenger) basis, implementation of Alternative 8 would result in between approximately 14.8 and 15.6 percent less GHG emissions that the per capita GHG emissions associated with baseline conditions. The California AB 32 Scoping Plan indicates that at least a 16 percent reduction in GHG emissions is necessary to achieve the goal of reducing GHG emissions projected to occur in California by 2020 under "business as usual" down to levels that occurred in the state in 1990. Meeting this GHG reduction goal statewide is intended to address cumulative GHG emissions within the state. Given that Alternative 8 cannot achieve a 16 percent reduction in GHG emissions, on a per capita basis compared to baseline conditions, the resultant significant GHG emissions impact would be cumulatively considerable.

5.5.6.9 Alternative 9

As indicated in Section 4.6.6, construction and operation of Alternative 9 would result in a significant impact relative to GHG emissions when compared to baseline conditions. This impact is primarily due to construction activities, as well as to operational aircraft and GSE emissions and the underlying assumption that the ground access improvements associated with this alternative would be paired with the airfield improvements of another alternative (i.e., Alternative 1, 2, 5, 6, or 7); no matter which airfield

improvement scenario is assumed, this impact would occur. Cumulative development in the region, and at LAX specifically, would also result in increased GHG emissions as a result of construction and operational activity. As mentioned in Section 4.6.6, Alternative 9 would result in lower GHG emissions from aircraft operations, which is the primary source of GHG emission increases compared to baseline conditions, than would otherwise occur in 2025 without the project. Alternative 9 would comply with requirements of the City of Los Angeles Green Building Code, which includes a number of measures that serve to reduce GHG emissions. On a per capita (per passenger) basis, implementation of Alternative 9 would result in between approximately 14.8 and 15.6 percent less GHG emissions that the per capita GHG emissions associated with baseline conditions. The California AB 32 Scoping Plan indicates that at least a 16 percent reduction in GHG emissions is necessary to achieve the goal of reducing GHG emissions projected to occur in California by 2020 under "business as usual" down to levels that occurred in the state in 1990. Meeting this GHG reduction goal statewide is intended to address cumulative GHG emissions within the state. Given that Alternative 9 cannot achieve a 16 percent reduction in GHG emissions, on a per capita basis compared to baseline conditions, the resultant significant GHG emissions impact would be cumulatively considerable.

5.5.7 Hazards/Hazardous Materials

5.5.7.1 Human Health Risk Assessment

Unlike air quality, for which standards have been established that determine acceptable levels of pollutant concentrations, no standards exist that establish acceptable levels of human health risks or that identify a threshold of significance for cumulative health risk impacts. Therefore, the discussion below addresses cumulative health risk impacts, and SPAS-related contributions to those impacts; however, no determination is made regarding the significance of cumulative impacts. Since these results are not used for significance determination and cumulative results do not provide sufficient resolution to distinguish cumulative impacts separately for each alternative, a general discussion of the cumulative impacts for all of the SPAS alternatives is provided. Based on information available from the South Coast Air Quality Management District (SCAQMD) and U.S. Environmental Protection Agency (USEPA), relative to regional cancer risk estimates and toxic air contaminant (TAC) predictions, the geographic areas considered in the cumulative health risk impacts analysis include the South Coast Air Basin for cancer risk and the LAX area for non-cancer health hazards, as further described below.

5.5.7.1.1 Cumulative Cancer Risks

The SCAQMD conducted an urban air toxics monitoring and evaluation study for the South Coast Air Basin from April 2004 through March 2006 called Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-III).[830] MATES-III is a follow up to MATES-II[831] and provides an updated general evaluation of cancer risks associated with TAC from all sources within the South Coast Air Basin. According to MATES-III, cancer risks in the South Coast Air Basin range from 870 in one million to 1,400 in one million, with an average of 1,200 in one million. These cancer risk estimates are high and indicate that current impacts associated with ongoing releases of TAC (e.g., from vehicle exhaust) and from sources of TAC from past and present projects in the region are substantial. The MATES-III study is an appropriate estimate of present cumulative impacts of TAC emissions in the South Coast Air Basin. It does not, however, have sufficient resolution to determine the fractional contribution of current LAX operations to TAC in the airshed. Only possible incremental contributions to cumulative impacts can be assessed.

Meaningful quantification of future cumulative health risk exposure in the entire South Coast Air Basin is not possible. Moreover, the threshold of significance used to determine cancer risk impacts associated

830 South Coast Air Quality Management District, Final Report, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-III), September 2008, Available: http://www.aqmd.gov/prdas/matesIII/matesIII.html, accessed June 21, 2012.

831 South Coast Air Quality Management District, Final Report, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-II), March 2000, Available: http://www.aqmd.gov/matesiidf/es.pdf, accessed June 21, 2012.

with the SPAS alternatives is based on the cancer risks associated with individual projects; this threshold is not appropriately applied to conclusions regarding cumulative cancer risk in the South Coast Air Basin. However, based on the relatively high cancer risk level associated with current concentrations of TAC in air in the South Coast Air Basin, as represented by baseline (2009) conditions (i.e., an additional 1,200 cancer cases per million), with the exception of Alternative 3, the SPAS alternatives would not add incrementally to the already high cumulative cancer risk in the South Coast Air Basin. In fact, as discussed in Section 4.7.1.6.1, estimated incremental cancer risks for nearly all receptors for all of the SPAS alternatives are negative. Negative values indicate that implementing alternatives would result in decreases of some TAC concentrations (most notably diesel particulate matter), which would then lead to decreases in cumulative cancer risk estimates when compared to 2009 baseline impacts (i.e., impacts may be beneficial). The exception is cancer risks to off-site workers under Alternative 3. As identified in Section 4.7.1.6.1, cancer risks to off-site workers would increase slightly under Alternative 3, but would still be substantially below the threshold of significance (1.6 in one million with a significance threshold of 10 in one million). This small increase would not be measurable against urban background conditions in the South Coast Air Basin.

The above comparisons do not account for possible positive changes in air quality in the South Coast Air Basin in the future. SCAQMD and other agencies are consistently working to reduce air pollution. In particular, reductions in emissions of diesel particulates are being considered and implemented. Since diesel particulate matter is the major contributor to estimated cancer risks, substantial reductions in diesel emissions would result in substantial reductions in cumulative cancer risks. These, and other such regulations intended to reduce TAC emissions within the South Coast Air Basin, would reduce cumulative impacts overall. While continued, if not increased, regulation by the SCAQMD of point sources as well as more stringent emission controls on mobile sources would reduce TAC emissions, whether such measures would alter incremental contributions of TAC releases to cumulative impacts under the SPAS alternatives cannot be ascertained.

5.5.7.1.2 Cumulative Chronic Non-Cancer Health Hazards

Acrolein is the TAC of concern that is responsible for the majority of all predicted chronic non-cancer health hazards associated with LAX operations. In 2011, USEPA published an independent study of possible annual average air concentrations within the South Coast Air Basin associated with a variety of TAC, including acrolein.[832] These estimates provide a means for assessing cumulative chronic non-cancer health hazard impacts of airport operations in much the same manner as cumulative cancer risks were assessed using the MATES-III results.

Within the Human Health Risk Assessment (HHRA) study area, USEPA predictions[833] for annual average acrolein concentrations yield a range of hazard indices from 0.3 to 15, with an average of 4. Maximum incremental hazard indices for the SPAS alternatives (discussed in Section 4.7.1.6.2) were estimated to range from 0.05 to 0.49, all less than the threshold of significance of one. Given the large uncertainty factor for the chronic toxicity value of acrolein (a factor of 1,000) and the relatively small hazard indices associated with airport emissions, the SPAS alternatives are not expected to add significantly to cumulative chronic non-cancer health hazards.

Because of the substantial uncertainties associated with the USEPA estimates,[834] the cumulative analysis for chronic non-cancer health hazard impacts is semi-quantitative and based on a range of possible contributions. This cumulative analysis does not address the issue of potential interactions among acrolein and criteria pollutants. Such interactions cannot, at this time, be addressed in a quantitative

832 U.S. Environmental Protection Agency, 2005 National-Scale Air Toxics Assessment, 2011, Available: www.epa.gov/ttn/atw/nata2005/tables.html.

833 U.S. Environmental Protection Agency, 2005 National-Scale Air Toxics Assessment, 2011, Available: www.epa.gov/ttn/atw/nata2005/tables.html.

834 U.S. Environmental Protection Agency, 2005 National-Scale Air Toxics Assessment, 2011, Available: www.epa.gov/ttn/atw/nata2005/tables.html.

fashion. A qualitative discussion of the issue is presented in the LAX Master Plan Final EIR[835] Technical Report S-9a, Section 7.

As discussed in the LAX Master Plan Final EIR[836] (Section 4.24.1.2), limited data are available for describing acrolein emissions. Therefore, estimates of chronic non-cancer health hazards are very uncertain. Chronic non-cancer health hazards associated with the SPAS alternatives should only be used to provide a relative comparison to basin-wide conditions. These hazards should not be viewed as absolute estimates of potential health impacts. Moreover, USEPA's estimates are based on data that are now several years old. Emissions from some important sources may have been reduced as a result of continuing efforts by SCAQMD and other agencies to improve air quality in the South Coast Air Basin. Finally, the estimates do not consider degradation of TAC in the atmosphere. Degradation may be very important for relatively reactive chemicals such as acrolein.

5.5.7.1.3 Cumulative Acute Non-Cancer Health Hazards

Predicted concentrations of TAC released from operational activities for the SPAS alternatives suggest that slight impacts to human health may occur associated with acute non-cancer health hazards. The assessment of cumulative acute non-cancer health hazards follows the methods used to evaluate cumulative acute non-cancer health hazards presented in the LAX Master Plan Final EIR[837] (Section 4.24.1.7 and Technical Report S-9a, Section 6.3), incorporating updated National-Scale Air Toxics Assessment (NATA) tables from 2005. USEPA-modeled emission estimates by census tract were used to estimate annual average ambient air concentrations. These census tract emission estimates are subject to high uncertainty, and USEPA warns against using them to predict local concentrations. Thus, for the analysis of cumulative acute non-cancer health hazards, estimates for each census tract within the HHRA study area were identified, and the range of concentrations was used as an estimate of the possible range of annual average concentrations in the general vicinity of the airport. This range of concentrations was used to estimate a range of acute non-cancer hazard indices using the same methods as described in the LAX Master Plan Final EIR[838] (Section 4.24.1.7 and Technical Report S-9a, Section 6.1). This range of hazard indices was then used as a basis for comparison with estimated maximum acute non-cancer health hazards for the SPAS alternatives. The relative magnitude of acute non-cancer health hazards calculated on the basis of the USEPA estimates and maximum hazards estimated for the SPAS alternatives were taken as a general measure of relative cumulative impacts. Emphasis must be placed on the relative nature of these estimates. Uncertainties in the analysis preclude estimation of absolute impacts; uncertainties in the methods are further discussed in Appendix G1, *Human Health Risk Assessment*.

When USEPA annual average estimates are converted to possible 1-hour maximum concentrations, acute hazard indices associated with total acrolein concentrations are estimated to range from 0.03 to 1.5, with an average of 0.4, for locations within the HHRA study area. Predicted overall maximum incremental acute non-cancer health hazards associated with acrolein for the SPAS alternatives range from 2.2 to 3.9. USEPA modeled acute hazard indices associated with formaldehyde exposure are estimated to range from 0.1 to 2.2, with an average of 1.0, for locations within the HHRA study area. Predicted maximum acute non-cancer health hazards associated with formaldehyde for the operation of the SPAS alternatives range from 0.41 to 0.87. Results suggest that the SPAS alternatives would add to total 1-hour maximum acrolein concentrations at some locations in the HHRA study area and, therefore, to cumulative acute non-cancer health hazards associated with exposure to acrolein.

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

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

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

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

5.5.7.1.4 Conclusions

Although no defined thresholds for cumulative health risk impacts are available, it is the policy of the SCAQMD to use the same significance thresholds for cumulative impacts as for the project-specific impacts analyzed in the EIR.[839] If cumulative health risks are evaluated following this SCAQMD policy, the project's contribution to the cumulative cancer risk would not be cumulatively considerable since the incremental cancer risk impacts of the SPAS alternatives are all negative (i.e., beneficial) and thus below the individual cancer risk significance thresholds of 10 in one million.

However, the SCAQMD policy does have different significance thresholds for project-specific and cumulative impacts for hazard indices for TAC emissions. A project-specific significance threshold is one (1.0) while the cumulative threshold is 3.0. Based on this SCAQMD policy, the relatively small chronic non-cancer hazard indices associated with airport emissions under the SPAS alternatives would not be cumulatively considerable. However, acute non-cancer hazard indices would be greater than the cumulative threshold of 3.0 for Alternatives 1, 3, 4, 8, and 9, and, therefore, would be cumulatively considerable under those alternatives.

5.5.7.2 Safety

The cumulative impacts analysis for safety addresses whether and how related projects at or near LAX in combination with each SPAS alternative may affect the potential for aviation incidents and accidents, including birdstrikes, at LAX. The geographic scope of analysis includes areas in proximity to the north airfield, particularly as related to FAA safety areas for airfield operations. This area of analysis was defined in light of the nature and locations of the SPAS improvements and the projects shown in **Figure 5-2** above.

Cumulative projects near the north airfield include the LAX Northside development, as well as projects located in or near the CTA, including the North Terminals Improvements, the Central Utility Plant (CUP) Replacement Project, the Bradley West Project and associated taxiways, Taxiway R, and the Midfield Satellite Concourse (MSC) and associated taxiway improvements and passenger processor. Such improvements are generally located away from the north airfield operations area and/or are designed and operated in accordance with FAA safety requirements. In some cases, such as the taxiway improvements associated with Bradley West, MSC, and Taxiway R, the improvements are intended and designed to improve the safety and efficiency of large aircraft (i.e., Aircraft Design Group (ADG) VI) operations.

5.5.7.2.1 Alternative 1

Cumulative projects would not increase the potential for the occurrence of birdstrikes. The likelihood of birdstrikes mainly depends on the presence of bird attractants, such as undeveloped open space, on or very near the airfield. Cumulative projects nearby, such as the LAX Northside development, would reduce the amount of undeveloped open space in the airport vicinity. Additionally, no projects or other land uses that would attract birds, such as solid waste landfills, are planned in the area. Therefore, there would be no cumulative impacts related to birdstrikes.

None of the ongoing and reasonably foreseeable on-airport improvements identified in Section 5.3 would increase the potential for aviation incidents or accidents. Future development within LAX Northside would place new structures north of the north airfield complex. As described in Section 4.7.2.6.1, the relocation of Runway 6L/24R 260 feet north and the 604-foot westerly shift of the displaced landing threshold for Runway 24L would shift the associated FAR Part 77 Airspace Surfaces accordingly, drawing them closer to LAX Northside. Depending on the location, design, height, and timing of future development in LAX Northside, there would be a potential cumulative impact on aviation safety due to structures penetrating

839 South Coast Air Quality Management District, White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution, August 2003, Appendix D, Available: http://www.aqmd.gov/hb/2003/030929a.html, accessed June 15, 2012.

the Part 77 Airspace Surfaces (i.e., the potential for future development to penetrate existing Part 77 surfaces and, in combination with the shifting of the surfaces, increase the amount of penetration). As described in Section 4.7.2.3, FAR Part 77 imaginary surfaces are primarily intended to serve as a means of identifying objects that require more detailed analyses specific to the types of airspace operations and related safety requirements that occur within those surfaces. A determination of whether such penetrations of a Part 77 surface pose an aviation safety hazard, and the identification of the appropriate measure(s) to address any such hazard, occur through the more detailed analysis, which is completed by, or in coordination with, the FAA. Options to address potential aviation safety hazards can range from doing nothing (i.e., for low-risk objects), to placing high-visibility markings and lighting on structures to make them highly visible to pilots and indicating such objects on avigation maps, to identifying the need for proposed structures to be lower in height or removed. The combination of moving a runway and associated safety surfaces, and developing new uses directly north of the airport, would normally be a significant cumulative impact, and the contribution of Alternative 1 to this impact would be cumulatively considerable. However, both the northward relocation of Runway 6L/24R and the future development within LAX Northside are directly controlled by LAWA and are subject to FAA approval. As such, both LAWA and the FAA will plan, evaluate, and closely regulate future development within LAX Northside to address potential safety concerns, understanding that the safe and efficient operation of aircraft is the first priority. Such review, coordination, and requirement of FAA approval relative to the runway relocation would automatically occur through the airport layout plan (ALP) amendment process. While it is anticipated that such Part 77 review and approval by FAA relative to development in LAX Northside would occur through the normal course of ongoing coordination between LAWA and the FAA, Mitigation Measure MM-SAF (SPAS)-1, FAR Part 77 Review, presented in Section 5.5.7.2.10 below, is recommended to provide additional certainty that potential aviation safety hazards are addressed through the Part 77 review process for LAX Northside development. With implementation of this mitigation measure, no cumulative impacts to aviation safety would occur.

5.5.7.2.2 Alternative 2

Cumulative impacts to aviation safety from the combination of Alternative 2 and other cumulative projects would be comparable to the cumulative impacts described above for Alternative 1, except that under Alternative 2, there would be no shift in the existing FAR Part 77 Airspace Surfaces associated with Runway 6L/24R. Therefore, there would be no cumulative impact to aviation safety under Alternative 2.

5.5.7.2.3 Alternative 3

Cumulative impacts to aviation safety from the combination of Alternative 3 and other cumulative projects would be comparable to the cumulative impacts described above for Alternative 1, except that under Alternative 3, there would be no shift in the existing FAR Part 77 Airspace Surfaces associated with Runway 6L/24R. While there would be a southward shift in the Part 77 Airspace Surfaces for Runway 6R/24L, there are no cumulative projects within the area that would be affected by the southward shift. Therefore, there would be no cumulative impact to aviation safety under Alternative 3.

5.5.7.2.4 Alternative 4

Cumulative impacts to aviation safety from the combination of Alternative 4 and other cumulative projects would be comparable to the cumulative impacts described above for Alternative 1, except that under Alternative 4, there would be no shift in the existing FAR Part 77 Airspace Surfaces associated with Runway 6L/24R. Therefore, there would be no cumulative impact to aviation safety under Alternative 4.

5.5.7.2.5 Alternative 5

Cumulative impacts to aviation safety resulting from the combination of Alternative 5 and other cumulative projects would be comparable to the cumulative impacts described above for Alternative 1, except that under Alternative 5, the northward shift in the existing FAR Part 77 Airspace Surfaces associated with Runway 6L/24R would be by 350 feet instead of 260 feet. As described above for Alternative 1, this would normally be a significant cumulative impact, and the contribution of Alternative 5 to this impact

would be cumulatively considerable; however, future development within LAX Northside is directly controlled by LAWA and is subject to FAA approval. It is anticipated that both LAWA and the FAA will plan, evaluate, and closely regulate future development within LAX Northside to address potential safety concerns, understanding that the safe and efficient operation of aircraft is the first priority. Mitigation Measure MM-SAF (SPAS)-1, FAR Part 77 Review, presented in Section 5.5.7.2.10 below, is recommended to provide additional certainty that such coordination and completion of the Part 77 evaluation process reduces potential aviation safety hazard impacts to a level that is less than significant. Therefore, with implementation of this mitigation measure, there would be no cumulative impact to aviation safety under Alternative 5.

5.5.7.2.6 Alternative 6

Cumulative impacts to aviation safety resulting from the combination of Alternative 6 and other cumulative projects would be comparable to the cumulative impacts described above for Alternative 1, except that under Alternative 6, the northward shift in the existing FAR Part 77 Airspace Surfaces associated with Runway 6L/24R would be by 100 feet instead of 260 feet. As described above for Alternative 1, this would normally be a significant cumulative impact, and the contribution of Alternative 6 to this impact would be cumulatively considerable; however, future development within LAX Northside is directly controlled by LAWA and is subject to FAA approval. It is anticipated that both LAWA and the FAA will plan, evaluate, and closely regulate future development within LAX Northside to address potential safety concerns, understanding that the safe and efficient operation of aircraft is the first priority. Mitigation Measure MM-SAF (SPAS)-1, FAR Part 77 Review, presented in Section 5.5.7.2.10 below, is recommended to provide additional certainty that such coordination and completion of the Part 77 evaluation process reduces potential aviation safety hazard impacts to a level that is less than significant. Therefore, with implementation of this mitigation measure, there would be no cumulative impact to aviation safety under Alternative 6.

5.5.7.2.7 Alternative 7

Cumulative impacts to aviation safety resulting from the combination of Alternative 7 and other cumulative projects would be comparable to the cumulative impacts described above for Alternative 3. Therefore, there would be no cumulative impact to aviation safety under Alternative 7.

5.5.7.2.8 Alternative 8

Alternative 8 focuses on ground access improvements only. Such improvements would not affect aviation safety; therefore, no cumulative analysis of this topic is warranted for Alternative 8.

5.5.7.2.9 Alternative 9

Alternative 9 focuses on ground access improvements only. Such improvements would not affect aviation safety; therefore, no cumulative analysis of this topic is warranted for Alternative 9.

5.5.7.2.10 Mitigation Measures

The following mitigation measure would reduce the cumulatively considerable contribution of Alternatives 1, 5, and 6 to impacts to aviation safety from building/structural penetrations of FAR Part 77 imaginary surfaces. With implementation of this mitigation measure, the contribution of Alternatives 1, 5, and 6 to cumulative aviation safety impacts would not be cumulatively considerable.

- **MM-SAF (SPAS)-1. FAR Part 77 Review (Alternatives 1, 5, and 6).**

  LAWA shall ensure that any future development planned for the LAX Northside will not impact the safe and efficient operation of aircraft through completion of FAR Part 77 review of proposed development. Should any proposed structures penetrate any Part 77 imaginary surfaces, a detailed evaluation of potential aviation safety hazards associated with that structure(s) shall be completed by the FAA, or be completed in consultation with, and be subject to review and approval by, the FAA.

Based on the findings and conclusions of that analysis, measures identified in the analysis as being necessary to achieve an appropriate aviation safety level, as determined by the FAA, shall be incorporated into development design and operation plans and/or otherwise implemented in conjunction with LAX Northside development.

5.5.7.3 Hazardous Materials

Impacts associated with hazardous materials include the potential exposure of construction workers to contamination, interference with ongoing remediation efforts, the potential for SPAS-related activities to result in soil or groundwater contamination, and the potential for impairment to the implementation of emergency response activities.

The exposure of construction workers to contaminated substances is not subject to cumulative effects, as this impact is site-specific and limited to particular construction workers that are employed at a construction site where contaminated materials may be uncovered. With respect to interference with ongoing remediation efforts, as noted in Section 4.7.3, *Hazardous Materials*, there are a number of sites within the hazardous materials study area that contain contaminated soil and/or groundwater and are undergoing remediation. Each of the SPAS alternatives has a potential to interfere with the remediation activities at some or all of these sites. However, contamination and remediation at these sites is limited geographically, and there are no other cumulative projects that would affect these ongoing remediation activities. Therefore, there would be no cumulative impacts related to ongoing remediation efforts.

Cumulative increases in the use of hazardous materials can result in an increased potential for a spill or release that, in turn, may result in soil or groundwater contamination. The potential for cumulative impacts focuses on cumulative development at LAX, as releases at LAX have the potential to affect the same soil or groundwater media. Such cumulative development includes construction of other projects at LAX, as well as operation of LAX improvements such as the Central Utility Plant (CUP) Replacement Project, the West Maintenance Area, and LAX Northside. The potential for cumulative impacts associated with these projects is addressed below.

There is a potential for cumulative impacts relating to the impairment of the implementation of emergency response activities. Within the airport, there are several substantial cumulative projects within the Central Terminal Area (CTA), including the passenger processor component of the Midfield Satellite Concourse (MSC) Program, CUP Replacement Project, and North Terminals Improvements. As indicated in the introduction to this chapter, there are also a number of cumulative projects within the local area that would result in increased traffic on local roadways. The potential for cumulative impacts associated with these projects is addressed below.

5.5.7.3.1 Alternative 1

As described in Section 4.7.3, *Hazardous Materials*, hazardous materials use and storage would increase under Alternative 1 compared to baseline conditions, which could increase the chances of a spill or release of these substances. Compliance with existing regulations and operating procedures, such as LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction*, would reduce the potential for releases to occur and would minimize the impact of a release were one to occur. Therefore, this impact would be less than significant. Cumulative projects at LAX would be subject to the same regulations and operating procedures. Therefore, cumulative impacts would also be less than significant.

The analysis of on-airport traffic conditions in the CTA provided in Section 4.12.1, *On-Airport Transportation*, includes roadway modifications associated with the SPAS alternatives as well as changes from the North Terminals Improvements, the MSC passenger processor, and CUP Replacement Project. As indicated in Section 4.7.3, *Hazardous Materials*, with implementation of Alternative 1 and these cumulative projects, traffic within the CTA would operate at acceptable levels of service, and the implementation of emergency response activities would not be impaired. Similarly, the analysis of off-airport traffic in Section 4.12.2, *Off-Airport Transportation*, accounts for traffic associated with the SPAS alternatives as well as regional growth. Although traffic would increase on off-airport roadways,

conditions would by typical of the region. Moreover, there are three fire stations located on the airfield that have direct access to the airport without using off-airport roadways. For those emergency response providers located off-airport, there are multiple alternative routes to reach the airport and the roadway system would continue to operate such that emergency access would continue to be available. Therefore, cumulative impacts associated with emergency response activities would be less than significant.

5.5.7.3.2 Alternative 2

Cumulative impacts to hazardous materials resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, increased hazardous materials use and storage could increase the chances of a spill or release of these substances. As with Alternative 1, compliance with LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction* would reduce the potential for releases to occur with implementation of Alternative 2 and other cumulative projects at LAX, and would minimize the impact of a release were one to occur. Therefore, as with Alternative 1, cumulative impacts would be less than significant.

Cumulative impacts relating to the impairment of the implementation of emergency response activities resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described for Alternative 1. As with Alternative 1, as roadways on and off the airport would continue to allow emergency access, and on-airport fire stations would have direct access to the airport without using area roadways, cumulative impacts relating to emergency response activities would be less than significant.

5.5.7.3.3 Alternative 3

Cumulative impacts to hazardous materials resulting from the combination of Alternative 3 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, increased hazardous materials use and storage could increase the chances of a spill or release of these substances. As with Alternative 1, compliance with LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction* would reduce the potential for releases to occur with implementation of Alternative 3 and other cumulative projects at LAX, and would minimize the impact of a release were one to occur. Therefore, as with Alternative 1, cumulative impacts would be less than significant. Under Alternative 3, the CTA would be closed to traffic; therefore, there would be no impacts to emergency access on the airport.

Cumulative impacts relating to the impairment of the implementation of emergency response activities resulting from increased traffic on local roads from the combination of Alternative 3 and other cumulative projects would be the same as the cumulative impacts described for Alternative 1. As with Alternative 1, as local roadways would continue to allow emergency access, and on-airport fire stations would have direct access to the airport without using area roadways, there would be no cumulative impacts relating to impairment of the implementation of emergency response activities.

5.5.7.3.4 Alternative 4

Cumulative impacts to hazardous materials resulting from the combination of Alternative 4 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, hazardous materials use and storage could increase the chances of a spill or release of these substances. As with Alternative 1, compliance with LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction* would reduce the potential for releases to occur with implementation of Alternative 4 and other cumulative projects at LAX, and would minimize the impact of a release were one to occur. Therefore, as with Alternative 1, cumulative impacts would be less than significant.

Cumulative impacts relating to the impairment of the implementation of emergency response activities resulting from the combination of Alternative 4 and other cumulative projects would be the same as the

cumulative impacts described for Alternative 1. As with Alternative 1, as roadways on and off the airport would continue to allow emergency access, and on-airport fire stations would have direct access to the airport without using area roadways, there would be no cumulative impacts relating to impairment of the implementation of emergency response activities.

5.5.7.3.5 Alternative 5

Cumulative impacts to hazardous materials resulting from the combination of Alternative 5 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, hazardous materials use and storage could increase the chances of a spill or release of these substances. As with Alternative 1, compliance with LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction* would reduce the potential for releases to occur with implementation of Alternative 5 and other cumulative projects at LAX, and would minimize the impact of a release were one to occur. Therefore, as with Alternative 1, cumulative impacts would be less than significant.

As described in Section 4.7.3, *Hazardous Materials*, there are no proposed ground access improvements associated with Alternative 5. Therefore, there would be no cumulative impacts relating to the impairment of the implementation of emergency response activities under this alternative.

5.5.7.3.6 Alternative 6

Cumulative impacts to hazardous materials resulting from the combination of Alternative 6 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, hazardous materials use and storage could increase the chances of a spill or release of these substances. As with Alternative 1, compliance with LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction* would reduce the potential for releases to occur with implementation of Alternative 6 and other cumulative projects at LAX, and would minimize the impact of a release were one to occur. Therefore, as with Alternative 1, cumulative impacts would be less than significant.

There are no proposed ground access improvements associated with Alternative 6. Therefore, there would be no cumulative impacts relating to the impairment of the implementation of emergency response activities under this alternative.

5.5.7.3.7 Alternative 7

Cumulative impacts to hazardous materials resulting from the combination of Alternative 7 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, hazardous materials use and storage could increase the chances of a spill or release of these substances. As with Alternative 1, compliance with LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction* would reduce the potential for releases to occur with implementation of Alternative 7 and other cumulative projects at LAX, and would minimize the impact of a release were one to occur. Therefore, as with Alternative 1, cumulative impacts would be less than significant.

There are no proposed ground access improvements associated with Alternative 7. Therefore, there would be no cumulative impacts relating to the impairment of the implementation of emergency response activities under this alternative.

5.5.7.3.8 Alternative 8

Cumulative impacts to hazardous materials resulting from the combination of Alternative 8 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, hazardous materials use and storage could increase the chances of a spill or release of these substances. As with Alternative 1, compliance with LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction* would reduce the potential for releases to

occur with implementation of Alternative 8 and other cumulative projects at LAX, and would minimize the impact of a release were one to occur. Therefore, as with Alternative 1, cumulative impacts would be less than significant.

Cumulative impacts relating to the impairment of the implementation of emergency response activities resulting from the combination of Alternative 8 and other cumulative projects would be the same as the cumulative impacts described for Alternative 1. As with Alternative 1, as roadways on and off the airport would continue to allow emergency access, there would be no cumulative impacts relating to impairment of the implementation of emergency response activities.

5.5.7.3.9 Alternative 9

Cumulative impacts to hazardous materials resulting from the combination of Alternative 9 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, hazardous materials use and storage could increase the chances of a spill or release of these substances. As with Alternative 1, compliance with LAWA's *Procedure for the Management of Contaminated Materials Encountered During Construction* would reduce the potential for releases to occur with implementation of Alternative 9 and other cumulative projects at LAX, and would minimize the impact of a release were one to occur. Therefore, as with Alternative 1, cumulative impacts would be less than significant.

Cumulative impacts relating to the impairment of the implementation of emergency response activities resulting from the combination of Alternative 9 and other cumulative projects would be the same as the cumulative impacts described for Alternative 1. As with Alternative 1, as roadways on and off the airport would continue to allow emergency access, there would be no cumulative impacts relating to impairment of the implementation of emergency response activities.

5.5.8 Hydrology/Water Quality

This section considers the cumulative impacts relative to hydrology/water quality from past, present, and reasonably foreseeable future development projects in combination with each SPAS alternative. The analysis focuses on development projects located in the watersheds within which the SPAS improvements are located (i.e., those projects with the greatest potential to have impacts to hydrology and water quality that could combine with impacts of the SPAS alternatives). In particular, the two projects at LAX with the potential to contribute to significant cumulative hydrology impacts are LAX Northside and the West Aircraft Maintenance Area, both of which would convert existing largely vacant land to future urban/airport development. LAX Northside is proposed to include a mix of retail uses, hotels, offices, educational and community facilities, and open space. The development of LAX Northside would result in conversion of largely vacant property to other land uses, such as commercial uses and roads. The West Aircraft Maintenance Area is proposed to be located on a 60-acre site on the west end of the airport. Development of the site would result in a land use conversion from airport open space to airport operations. Other development projects at/adjacent to LAX, as delineated in **Figure 5-2**, that occur within the same sub-basins as the SPAS improvements, generally involve smaller improvements on areas that are already developed (i.e., surfaces are already impervious with surface water quality typical of developed/urbanized areas and, therefore, unlikely to change existing hydrology and water quality).

5.5.8.1 Alternative 1

The vast majority of the LAX Northside area is vacant. The future development of urban uses on the site would increase the volumes and velocity of surface runoff due to the addition of impervious surfaces and would change the water quality characteristics within the runoff due to urban activities (e.g., traffic, parking, landscape maintenance, washing of surfaces) and building surfaces (i.e., roof/siding materials). Additionally, construction activities associated with future development within this area would pose the potential for temporary increases in erosion and sedimentation. The hydrology and water quality impacts from development of LAX Northside would occur within the Argo sub-basin, which drains to the Santa Monica Bay.

The site proposed for the West Aircraft Maintenance Area is generally undeveloped, although portions of the site are paved and used for construction trailers/offices related to various improvement projects at LAX. Development of the West Aircraft Maintenance Area would increase the volumes and velocity of surface runoff due to the addition of impervious surfaces and would change the water quality characteristics within runoff. The change in water quality would occur from the replacement of existing vacant/disturbed ground, which generates mostly sediments and suspended solids within runoff, to aircraft apron/ramp area where aircraft would be parked or taxiing, introducing a source of pollutants such as oils and grease, metals, and particulate matter (e.g., tire particles). The hydrology and water quality impacts associated with implementation of the West Aircraft Maintenance Area project would occur within the Pershing sub-basin which drains to the Santa Monica Bay.

As discussed in Section 4.8, *Hydrology/Water Quality*, and shown in Table 4.8.5 therein, implementation of Alternative 1 would result in an increase in impervious surface area and an increase in several types of water quality pollutants, although there would be reductions in total suspended solids and fecal enterococcus bacteria. Implementation of Alternative 1 would also result in short-term construction-related water quality impacts such as erosion and sedimentation. The impacts of Alternative 1 would include both the Argo sub-basin and the Pershing sub-basin. As such, there would be cumulative drainage impacts within the Argo sub-basin area from the combination of LAX Northside development and Alternative 1, and cumulative drainage impacts within the Pershing sub-basin area from the combination of the West Aircraft Maintenance Area project and Alternative 1 (the two sub-basins do not share a common storm drain system, consequently cumulative drainage impacts would only be from the combination of Alternative 1 and each of the other projects within their respective sub-basins). Cumulative water quality impacts would occur from the combination of all three of the projects given that both affected sub-basins drain to Santa Monica Bay. The combination of these projects would not result in cumulative hydrology or water quality impacts related to the Dominguez Channel because neither LAX Northside or the West Aircraft Maintenance Area project drain to the Dominguez Channel sub-basin.

The LAX Master Plan Final EIR includes LAX Master Plan Commitment HWQ-1, which required preparation of the LAX Conceptual Drainage Plan (CDP) to identify the drainage system improvements and Best Management Practices (BMPs) necessary to avoid significant hydrology and water quality impacts from LAX Master Plan projects. While implementation of the current CDP would serve to mitigate hydrology and water quality impacts from future development within the LAX Master Plan area, within which all three projects - LAX Northside, West Aircraft Maintenance Area, and Alternative 1 - are located, the overall development characteristics of the combined projects would not be the same as the LAX Master Plan assumed during preparation of the CDP. As such, the cumulative hydrology and water quality impacts of the combined projects are considered to only be partially mitigated through implementation of LAX Master Plan Commitment HWQ-1, Conceptual Drainage Plan, and the remaining impact would be significant without additional mitigation. The contribution of Alternative 1 to this cumulatively significant impact would be cumulatively considerable.

As discussed in Section 4.8.7, Mitigation Measure MM-HWQ (SPAS)-1, Conceptual Drainage Plan Revision and Update, is recommended to revise and update the current CDP to account for changes in the development assumptions of SPAS alternatives, as compared to those of the LAX Master Plan, as well as other existing or proposed improvement projects at LAX. That revision and update of the CDP would serve to achieve the same level of mitigation intended by LAX Master Plan Commitment HWQ-1, that is, to reduce hydrology and water quality impacts to a level that is less than significant. Given that LAX Northside, the West Aircraft Maintenance Area project, and Alternative 1 would be accounted for through implementation of Mitigation Measure MM-HWQ (SPAS)-1, the cumulative hydrology and water quality impacts of these projects would be less than significant, and Alternative 1 would no longer have a cumulatively considerable contribution.

5.5.8.2 Alternative 2

The hydrology and water quality impacts associated with future development of LAX Northside and the West Aircraft Maintenance Area project are described above in the discussion of Alternative 1.

As discussed in Section 4.8, *Hydrology/Water Quality*, and shown in Table 4.8.5 therein, implementation of Alternative 2 would not result in an increase in impervious surface area within sub-basins draining to Santa Monica Bay and would not contribute to cumulative impacts related to hydrology.

Implementation of Alternative 2 would result in increases in certain surface water quality pollutants. Temporary construction-related impacts and long-term operational impacts associated with Alternative 2, combined with those from development of LAX Northside and the West Aircraft Maintenance Area project, would result in cumulative impacts to water quality in Santa Monica Bay.

The LAX Master Plan Final EIR includes LAX Master Plan Commitment HWQ-1, which required preparation of the CDP to identify the drainage system improvements and BMPs necessary to avoid significant hydrology and water quality impacts from LAX Master Plan projects. While implementation of the current CDP would serve to mitigate hydrology and water quality impacts from future development within the LAX Master Plan area, within which all three projects - LAX Northside, West Aircraft Maintenance Area, and Alternative 2 - are located, the overall development characteristics of the combined projects would not be the same as the LAX Master Plan assumed during preparation of the CDP. As such, the cumulative water quality impacts of the combined projects are considered to only be partially mitigated through implementation of LAX Master Plan Commitment HWQ-1, Conceptual Drainage Plan, and the remaining impact would be significant without additional mitigation. The contribution of Alternative 2 to this cumulatively significant impact would be cumulatively considerable.

As discussed in Section 4.8.7, Mitigation Measure MM-HWQ (SPAS)-1, Conceptual Drainage Plan Revision and Update, is recommended to revise and update the current CDP to account for changes in the development assumptions of SPAS alternatives, as compared to those of the LAX Master Plan, as well as other existing or proposed improvement projects at LAX. That revision and update of the CDP would serve to achieve the same level of mitigation intended by LAX Master Plan Commitment HWQ-1, that is, to reduce hydrology and water quality impacts to a level that is less than significant. Given that LAX Northside, the West Aircraft Maintenance Area project, and Alternative 2 would be accounted for through implementation of Mitigation Measure MM-HWQ (SPAS)-1, the cumulative water quality impacts of these projects would be less than significant, and Alternative 2 would no longer have a cumulatively considerable contribution.

5.5.8.3 Alternative 3

Under Alternative 3, cumulative hydrology and water quality impacts would be limited to the combination of LAX Northside development and development of the improvements contemplated in the LAX Master Plan. Under Alternative 3, the West Employee Parking facility would be developed as proposed in the LAX Master Plan, and the West Aircraft Maintenance Area project, which is currently being considered for the same site, would not be implemented.

The LAX Master Plan Final EIR includes LAX Master Plan Commitment HWQ-1, which required preparation of the CDP to identify the drainage system improvements and BMPs necessary to avoid significant hydrology and water quality impacts from LAX Master Plan projects. Implementation of the current CDP is intended to mitigate hydrology and water quality impacts from future development within the LAX Master Plan area. Given that both the improvements proposed under Alternative 3 and development of LAX Northside would be consistent with the LAX Master Plan, the resultant hydrology and water quality impacts of those projects would be addressed through implementation of the current CDP. No significant cumulative hydrology or water quality impacts would occur.

5.5.8.4 Alternative 4

The hydrology and water quality impacts associated with future development of LAX Northside and the West Aircraft Maintenance Area project are described above in the discussion of Alternative 1.

As discussed in Section 4.8, *Hydrology/Water Quality*, and shown in Table 4.8.5 therein, implementation of Alternative 4 would not result in an increase in impervious surface area within sub-basins draining to Santa Monica Bay and would not contribute to cumulative impacts related to hydrology. Implementation

of Alternative 4 would result in increases in certain surface water quality pollutants. Temporary construction-related impacts and long-term operational impacts associated with Alternative 4, combined with those from development of LAX Northside and the West Aircraft Maintenance Area project, would result in cumulative impacts to water quality in Santa Monica Bay.

The LAX Master Plan Final EIR includes LAX Master Plan Commitment HWQ-1, which required preparation of the CDP to identify the drainage system improvements and BMPs necessary to avoid significant hydrology and water quality impacts from LAX Master Plan projects. While implementation of the current CDP would serve to mitigate hydrology and water quality impacts from future development within the LAX Master Plan area, within which all three projects - LAX Northside, West Aircraft Maintenance Area, and Alternative 4 - are located, the overall development characteristics of the combined projects would not be the same as the LAX Master Plan assumed during preparation of the CDP. As such, the cumulative water quality impacts of the combined projects are considered to only be partially mitigated through implementation of LAX Master Plan Commitment HWQ-1, Conceptual Drainage Plan, and the remaining impact would be significant without additional mitigation. The contribution of Alternative 4 to this cumulatively significant impact would be cumulatively considerable.

As discussed in Section 4.8.7, Mitigation Measure MM-HWQ (SPAS)-1, Conceptual Drainage Plan Revision and Update, is recommended to revise and update the current CDP to account for changes in the development assumptions of SPAS alternatives, as compared to those of the LAX Master Plan, as well as other existing or proposed improvement projects at LAX. That revision and update of the CDP would serve to achieve the same level of mitigation intended by LAX Master Plan Commitment HWQ-1, that is, to reduce hydrology and water quality impacts to a level that is less than significant. Given that LAX Northside, the West Aircraft Maintenance Area project, and Alternative 4 would be accounted for through implementation of Mitigation Measure MM-HWQ (SPAS)-1, the cumulative water quality impacts of these projects would be less than significant, and Alternative 4 would no longer have a cumulatively considerable contribution.

5.5.8.5 Alternative 5

The hydrology and water quality impacts associated with future development of LAX Northside and the West Aircraft Maintenance Area project are described above in the discussion of Alternative 1.

As discussed in Section 4.8, *Hydrology/Water Quality*, and shown in Table 4.8.5 therein, implementation of Alternative 5 would result in an increase in impervious surface area and an increase in several types of water quality pollutants, although there would be reductions in total suspended solids and fecal enterococcus bacteria. Implementation of Alternative 5 would also result in short-term construction-related water quality impacts such as erosion and sedimentation. The impacts of Alternative 5 would include both the Argo sub-basin and the Pershing sub-basin. As such, there would be cumulative drainage impacts within the Argo sub-basin area from the combination of LAX Northside development and Alternative 5, and cumulative drainage impacts within the Pershing sub-basin area from the combination of the West Aircraft Maintenance Area project and Alternative 5 (the two sub-basins do not share a common storm drain system, consequently cumulative drainage impacts would only be from the combination of Alternative 5 and each of the other projects within their respective sub-basins). Cumulative water quality impacts would occur from the combination of all three of the projects given that both affected sub-basins drain to Santa Monica Bay. The combination of these projects would not result in cumulative hydrology or water quality impacts related to the Dominguez Channel because neither LAX Northside or the West Aircraft Maintenance Area project drain to the Dominguez Channel sub-basin.

The LAX Master Plan Final EIR includes LAX Master Plan Commitment HWQ-1, which required preparation of the CDP to identify the drainage system improvements and BMPs necessary to avoid significant hydrology and water quality impacts from LAX Master Plan projects. While implementation of the current CDP would serve to mitigate hydrology and water quality impacts from future development within the LAX Master Plan area, within which all three projects - LAX Northside, West Aircraft Maintenance Area, and Alternative 5 - are located, the overall development characteristics of the combined projects would not be the same as the LAX Master Plan assumed during preparation of the

CDP. As such, the cumulative hydrology and water quality impacts of the combined projects are considered to only be partially mitigated through implementation of LAX Master Plan Commitment HWQ-1, Conceptual Drainage Plan, and the remaining impact would be significant without additional mitigation. The contribution of Alternative 5 to this cumulatively significant impact would be cumulatively considerable.

As discussed in Section 4.8.7, Mitigation Measure MM-HWQ (SPAS)-1, Conceptual Drainage Plan Revision and Update, is recommended to revise and update the current CDP to account for changes in the development assumptions of SPAS alternatives, as compared to those of the LAX Master Plan, as well as other existing or proposed improvement projects at LAX. That revision and update of the CDP would serve to achieve the same level of mitigation intended by LAX Master Plan Commitment HWQ-1, that is, to reduce hydrology and water quality impacts to a level that is less than significant. Given that LAX Northside, the West Aircraft Maintenance Area project, and Alternative 5 would be accounted for through implementation of Mitigation Measure MM-HWQ (SPAS)-1, the cumulative hydrology and water quality impacts of these projects would be less than significant, and Alternative 5 would no longer have a cumulatively considerable contribution.

5.5.8.6 Alternative 6

The hydrology and water quality impacts associated with future development of LAX Northside and the West Aircraft Maintenance Area project are described above in the discussion of Alternative 1.

As discussed in Section 4.8, *Hydrology/Water Quality*, and shown in Table 4.8.5 therein, implementation of Alternative 6 would result in an increase in impervious surface area and an increase in several types of water quality pollutants, although there would be reductions in total suspended solids and fecal enterococcus bacteria. Implementation of Alternative 6 would also result in short-term construction-related water quality impacts such as erosion and sedimentation. The impacts of Alternative 6 would include both the Argo sub-basin and the Pershing sub-basin. As such, there would be cumulative drainage impacts within the Argo sub-basin area from the combination of the LAX Northside development and Alternative 6, and cumulative drainage impacts within the Pershing sub-basin area from the combination of the West Aircraft Maintenance Area project and Alternative 6 (the two sub-basins do not share a common storm drain system, consequently cumulative drainage impacts would only be from the combination of Alternative 6 and each of the other projects within their respective sub-basins). Cumulative water quality impacts would occur from the combination of all three of the projects given that both affected sub-basins drain to Santa Monica Bay. The combination of these projects would not result in cumulative hydrology or water quality impacts related to the Dominguez Channel because neither LAX Northside or the West Aircraft Maintenance Area project drain to the Dominguez Channel sub-basin.

The LAX Master Plan Final EIR includes LAX Master Plan Commitment HWQ-1, which required preparation of the CDP to identify the drainage system improvements and BMPs necessary to avoid significant hydrology and water quality impacts from LAX Master Plan projects. While implementation of the current CDP would serve to mitigate hydrology and water quality impacts from future development within the LAX Master Plan area, within which all three projects - LAX Northside, West Aircraft Maintenance Area, and Alternative 6 - are located, the overall development characteristics of the combined projects would not be the same as the LAX Master Plan assumed during preparation of the CDP. As such, the cumulative hydrology and water quality impacts of the combined projects are considered to only be partially mitigated through implementation of LAX Master Plan Commitment HWQ-1, Conceptual Drainage Plan, and the remaining impact would be significant without additional mitigation. The contribution of Alternative 6 to this cumulatively significant impact would be cumulatively considerable.

As discussed in Section 4.8.7, Mitigation Measure MM-HWQ (SPAS)-1, Conceptual Drainage Plan Revision and Update, is recommended to revise and update the current CDP to account for changes in the development assumptions of SPAS alternatives, as compared to those of the LAX Master Plan, as well as other existing or proposed improvement projects at LAX. That revision and update of the CDP would serve to achieve the same level of mitigation intended by LAX Master Plan Commitment HWQ-1,

that is, to reduce hydrology and water quality impacts to a level that is less than significant. Given that LAX Northside, the West Aircraft Maintenance Area project, and Alternative 6 would be accounted for through implementation of Mitigation Measure MM-HWQ (SPAS)-1, the cumulative hydrology and water quality impacts of these projects would be less than significant, and Alternative 6 would no longer have a cumulatively considerable contribution.

5.5.8.7 Alternative 7

The hydrology and water quality impacts associated with future development of LAX Northside and the West Aircraft Maintenance Area project are described above in the discussion of Alternative 1.

As discussed in Section 4.8, *Hydrology/Water Quality*, and shown in Table 4.8.5 therein, implementation of Alternative 7 would not result in an increase in impervious surface area within sub-basins draining to Santa Monica Bay and would not contribute to cumulative impacts related to hydrology. Implementation of Alternative 7 would result in increases in certain surface water quality pollutants. Temporary construction-related impacts and long-term operational impacts associated with Alternative 7, combined with those from development of LAX Northside and the West Aircraft Maintenance Area project, would result in cumulative impacts to water quality in Santa Monica Bay.

The LAX Master Plan Final EIR includes LAX Master Plan Commitment HWQ-1, which required preparation of the CDP to identify the drainage system improvements and BMPs necessary to avoid significant hydrology and water quality impacts from LAX Master Plan projects. While implementation of the current CDP would serve to mitigate hydrology and water quality impacts from future development within the LAX Master Plan area, within which all three projects - LAX Northside, West Aircraft Maintenance Area, and Alternative 7 - are located, the overall development characteristics of the combined projects would not be the same as the LAX Master Plan assumed during preparation of the CDP. As such, the cumulative water quality impacts of the combined projects are considered to only be partially mitigated through implementation of LAX Master Plan Commitment HWQ-1, Conceptual Drainage Plan, and the remaining impact would be significant without additional mitigation. The contribution of Alternative 7 to this cumulatively significant impact would be cumulatively considerable.

As discussed in Section 4.8.7, Mitigation Measure MM-HWQ (SPAS)-1, Conceptual Drainage Plan Revision and Update, is recommended to revise and update the current CDP to account for changes in the development assumptions of SPAS alternatives, as compared to those of the LAX Master Plan, as well as other existing or proposed improvement projects at LAX. That revision and update of the CDP would serve to achieve the same level of mitigation intended by LAX Master Plan Commitment HWQ-1, that is, to reduce hydrology and water quality impacts to a level that is less than significant. Given that LAX Northside, the West Aircraft Maintenance Area project, and Alternative 7 would be accounted for through implementation of Mitigation Measure MM-HWQ (SPAS)-1, the cumulative water quality impacts of these projects would be less than significant, and Alternative 7 would no longer have a cumulatively considerable contribution.

5.5.8.8 Alternative 8

As described in Chapter 2, *Project Description*, Alternative 8 focuses on variations to ground access improvements that could be paired with the airfield and terminal improvements proposed under certain other alternatives such as Alternatives 1, 2, 5, 6, and 7. Cumulative hydrology and water quality impacts associated with those other alternatives are presented above. There is nothing about Alternative 8 that would result in cumulative hydrology and water quality impacts different from those already presented for those other alternatives. While the distinguishing element of the ground access system proposed under Alternative 8 compared to that of Alternatives 1 and 2 is the inclusion of the Consolidated Rental Car Facility (CONRAC) at Manchester Square instead of only surface parking, there is essentially no material difference in the hydrology and water quality characteristics of those transportation-related land uses. Moreover, the inclusion of a CONRAC at Manchester Square, instead of just surface parking, would occur within the Dominguez Channel sub-basin, which does not share a cumulative relationship with the Argo

and Pershing sub-basins where the other cumulative development projects (LAX Northside and West Aircraft Maintenance Area) would occur.

Based on the above, cumulative hydrology and water quality impacts associated with Alternative 8 would be the same as described above for Alternatives 1, 2, 5, 6, and 7, depending on which airfield/terminal improvements under one of those alternatives are paired with the ground access improvements of Alternative 8. With implementation of Mitigation Measure MM-HWQ (SPAS)-1, Conceptual Drainage Plan Revision and Update, the cumulative water quality impacts and potential cumulative hydrology impacts, of the cumulative projects and the airfield/terminal components of Alternatives 1, 2, 5, 6, or 7, as paired with the ground access improvements associated with Alternative 8, would be less than significant.

5.5.8.9 Alternative 9

As described in Chapter 2, *Project Description*, Alternative 9 focuses on variations to ground access improvements that could be paired with the airfield and terminal improvements proposed under certain other alternatives such as Alternatives 1, 2, 5, 6, and 7. Cumulative hydrology and water quality impacts associated with those other alternatives are presented above. There is nothing about Alternative 9 that would result in cumulative hydrology and water quality impacts different from those already presented for those other alternatives. While the distinguishing element of the ground access system proposed under Alternative 9 compared to that of Alternatives 1 and 2 is the inclusion of the CONRAC at Manchester Square instead of only surface parking and the development of an Automated People Mover (APM) system instead of an elevated/dedicated busway along a common alignment, there is essentially no material difference in the hydrology and water quality characteristics of those transportation-related land uses. Additionally, the ground access improvements proposed under Alternative 9 would occur almost entirely within the Dominguez Channel sub-basin, which does not share a cumulative relationship with the Argo and Pershing sub-basins where the other cumulative development projects (LAX Northside and West Aircraft Maintenance Area) would occur.

Based on the above, cumulative hydrology and water quality impacts associated with Alternative 9 would be the same as described above for Alternatives 1, 2, 5, 6, and 7, depending on which airfield/terminal improvements under one of those alternatives are paired with the ground access improvements of Alternative 9. With implementation of Mitigation Measure MM-HWQ (SPAS)-1, Conceptual Drainage Plan Revision and Update, the cumulative water quality impacts, and potential cumulative hydrology impacts, of the cumulative projects and the airfield/terminal components of Alternatives 1, 2, 5, 6, or 7, as paired with the ground access improvements associated with Alternative 9, would be less than significant.

5.5.9 Land Use and Planning

The cumulative analysis for land use and planning incorporates the same significance thresholds presented in Section 4.9, *Land Use and Planning*, and also considers aircraft noise impacts on future noise-sensitive uses that could be introduced through cumulative project development. Therefore, a significant land use impact would occur if the SPAS alternatives in combination with the relevant cumulative projects would: 1) conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect and/or 2) create physical incompatibility with existing and future land uses through increased aircraft noise exposure.

Cumulative projects that are located at or adjacent to LAX are shown in **Figure 5-2**. The cumulative projects that are evaluated in this analysis are those that have the potential for combined effects associated with the SPAS alternatives where the SPAS alternatives include proposed amendments to plans that have the potential for adverse environmental impacts. Depending on the alternative, the SPAS alternatives include changes to some or all of the following on-airport and off-airport land use plans: the LAX Plan, LAX Specific Plan, Los Angeles Airport/El Segundo Dunes Specific Plan, City of Los Angeles Transportation Element, and City of Los Angeles 2010 Bicycle Plan. Cumulative projects that are not expected to conflict with these plans or are not expected to have combined physical effects in association with the SPAS land use plan impacts are not evaluated in this analysis. The cumulative projects evaluated in this analysis include the Coastal Dunes Improvement Project, LAX Northside, Metro

Crenshaw/LAX Transit Corridor and Station, Airport Metro Connector Project, and the Coastal Dunes Improvement Project.

As described in Section 4.9, *Land Use and Planning*, the SPAS alternatives are consistent with the Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), SCAG 2012-2012 RTP/SCS Aviation and Ground Access Appendix, and SCAG 2004 Compass Blueprint Growth Vision, in large part because no changes are proposed to the practical capacity of LAX of 78.9 million annual passengers (MAP) and the SPAS alternatives otherwise support regional transportation policies. Furthermore, changes proposed under the SPAS alternatives are primarily within the existing airport boundary and would not result in changes to land use and development patterns on a regional scale. Therefore, cumulative impacts associated with the SPAS alternatives and potential conflicts with SCAG plans are not evaluated further in this analysis.

In addition to evaluation of cumulative impacts associated with consistency with plans, cumulative land use impacts were considered where cumulative projects with noise-sensitive uses are proposed in areas subject to significant aircraft noise exposure due to Alternatives 1 through 7, where incompatible land use could result with development of proposed projects. Alternatives 8 and 9 only include ground access improvements; therefore, cumulative impacts associated with these alternatives and aircraft noise are not evaluated. Cumulative noise impacts on noise-sensitive receptors associated with aircraft noise, road traffic noise, construction traffic and equipment noise, and transit noise and vibration are analyzed in Section 5.5.10, *Noise*.

5.5.9.1 Alternative 1

Plan Consistency

LAX Plan/LAX Specific Plan

As discussed in Section 4.9.6.1, Alternative 1 includes proposed amendments to the LAX Plan and LAX Specific Plan to ensure precise consistency with these plans. These amendments include the realignment of Lincoln Boulevard and related conversion of a small portion of LAX Northside (Areas 8 and 9) to Airport Airside rather than the areas' current commercial designation. However, the potential for commercial use on these areas is limited due to the close proximity to the LAX north airfield, and associated noise impacts, safety requirements, and height restrictions. Under the LAX Northside Plan Update, these areas are proposed for Airport Support. The slight reduction of commercial or airport support uses could be accommodated within other areas of LAX Northside. Also under Alternative 1, the relocation of Runway 6L/24R would require changes to navigational aids within the Dunes Specific Plan Area, which is designated as Open Space in the LAX Plan. Since the planned navigational aids would be similar in function and number to the existing facilities, and impacts to biological resources would be fully mitigated through restoration and enhancement of state-designated sensitive habitat (see Section 4.3, *Biological Resources*), this use would be consistent with the Open Space designation of the LAX Plan and physical impacts associated with the plan change would be less than significant. Therefore, no conflicts with land use designations would occur, with precise consistency supported through the amendments to the LAX Plan and LAX Specific Plan. As a result, impacts associated with Alternative 1 would be less than significant.

A cumulative project that would also affect development within the LAX Plan and LAX Specific Plan is LAX Northside. LAX Northside is an approved plan that includes future development of 4.5 million square feet of development consisting of a mix of employment, retail, restaurant, office, hotel, research and development, education, civic, airport support, recreation, and buffer uses that support the needs of surrounding communities and LAWA. Formulation of a new reduced land use development program for the subject area is currently in process as part of the LAX Northside Plan Update, which will be followed by completion of environmental review studies. The LAX Northside area serves as an airport buffer zone (comprised of compatible development and landscape) for the Westchester community and is subject to use restrictions, height restrictions, setback requirements, and landscape requirements to avoid or reduce land use conflicts. The LAX Northside Plan Update currently in process, would include landscaped buffer

areas, updated Design Guidelines, and other measures to avoid or reduce land use conflicts. The LAX Northside Plan Update would not affect areas within the Dunes Specific Plan Area.

Improvements proposed under Alternative 1 would generally not affect the LAX Northside area with the exception of the realignment of Lincoln Boulevard. The roadway realignment would be compatible with both the existing LAX Northside commercial designation and the proposed LAX Northside Plan Update designation of Airport Support. Furthermore, the slight reduction of commercial or airport support uses could be accommodated within other areas of LAX Northside. Therefore, cumulative impacts associated with consistency with the LAX Plan and LAX Specific Plan would be less than significant.

Los Angeles Airport/El Segundo Dunes Specific Plan

As previously described, Alternative 1 would require changes to navigational aids within the Dunes Habitat Preserve, as designated in the Los Angeles Airport/El Segundo Dunes Specific Plan. However, with conditions that would be required for approval of a Coastal Development Permit, and implementation of LAX Master Plan and proposed SPAS mitigation measures described in Section 4.3, *Biological Resources*, Alternative 1 would be consistent with the Los Angeles Airport/El Segundo Dunes Specific Plan, and physical impacts associated with the plan change would be less than significant.

A cumulative project that would also affect development within the Los Angeles Airport/El Segundo Dunes Specific Plan is the Coastal Dunes Improvement Project. However, this project consists of the restoration and improvement of coastal dune habitat located in a 47-acre site in the northern portion of the Dunes. Accordingly, this project would have a beneficial effect on the Dunes.

Based on the above, Alternative 1 in combination with the Coastal Dunes Improvement Project would not result in significant cumulative impacts on the Dunes due to inconsistencies with the Los Angeles Airport/El Segundo Dunes Specific Plan.

City of Los Angeles Transportation Element

Alternative 1 would involve ground access improvements, including alterations to the existing circulation system. These improvements would be consistent with Policy 5.4 of the Transportation Element to establish ground access plans to guide future development of LAX. With amendments to the City of Los Angeles Transportation Element to ensure precise consistency, impacts related to conflicts with plans and regulations would be less than significant.

Two cumulative projects that would also affect access to LAX are the Metro Crenshaw/LAX Transit Corridor and Station and the Airport Metro Connector Project. The Metro Crenshaw/LAX Transit Corridor and Station project includes an 8.5-mile light-rail transit line that would connect the existing Metro Green Line and the Metro Expo Line. Near LAX, the alignment would be located along Aviation Boulevard and a station is proposed near the intersection of Century Boulevard and Aviation Boulevard. The Metro Crenshaw/LAX Transit Corridor and Station would be consistent with policies of the City of Los Angeles Transportation Element to provide high capacity transit service and extend transit service along priority corridors.[840] The Airport Metro Connector Project would connect the Metro Rail System to LAX. Options under consideration include Light Rail Transit, APM, and Bus Rapid Transit along a number of different alignments. The Airport Metro Connector Project would also be consistent with the same policies of the City of Los Angeles Transportation Element as described above for the Metro Crenshaw/LAX Transit Corridor and Station.

Ground access improvements proposed under Alternative 1 in combination with the Metro Crenshaw/LAX Transit Corridor and Station and Airport Metro Connector Project would involve coordination between Metro and LAWA and would result in overall improved access to LAX. Furthermore, amendments to the Transportation Element in association with Alternative 1 and the cumulative projects would ensure

[840] U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011.

precise consistency with the plan. Therefore, cumulative impacts associated with the City of Los Angeles Transportation Element would be less than significant.

City of Los Angeles 2010 Bicycle Plan

Alternative 1, would include the realignment of Lincoln Boulevard, identified as a future Backbone Bikeway Network, and therefore would include proposed amendments to the 2010 Bicycle Plan to ensure precise consistency. With implementation of LAX Master Plan Commitment LU-5, Comply with City of Los Angeles Transportation Element Bicycle Plan, and an amendment to the City of Los Angeles 2010 Bicycle Plan, Alternative 1 would be consistent with the 2010 Bicycle Plan and impacts related to conflicts with plans and regulations would be less than significant.

Various cumulative projects shown in **Figure 5-2** and listed in **Table 5-2** have the potential to affect existing and proposed bicycle networks. Cumulative projects requiring discretionary review would be reviewed at a project-specific level for compliance with the 2010 Bicycle Plan and mitigation measures would be imposed, as needed, to ensure that adequate bicycle facilities are provided. Therefore, changes to the bicycle networks that could occur with the development of cumulative projects would be less than significant.

In light of cumulative project requirements for consistency with the 2010 Bicycle Plan and the potential for associated mitigation requirements, and with implementation of LAX Master Plan Commitment LU-5 under Alternative 1, cumulative impacts associated with the City of Los Angeles Bicycle Plan would be less than significant.

Aircraft Noise Exposure

Cumulative noise impacts on noise-sensitive uses associated with aircraft noise, road traffic noise, construction traffic and equipment noise, and transit noise and vibration are analyzed in Section 5.5.10, *Noise*. As described in Section 5.5.10, the aircraft noise impacts analysis completed for the SPAS EIR accounts for present aircraft operations at LAX (i.e., baseline [2009] conditions) and reasonably foreseeable future aircraft operations at LAX (i.e., future [2025] conditions). As also indicated in that discussion, implementation of any of the SPAS alternatives, including Alternative 1, would result in significant aircraft noise impacts to noise-sensitive uses around the airport. These impacts can be reduced through implementation of LAX Master Plan commitments, compliance with Title 24 requirements, and review of certain projects located within the airport influence area by the Airport Land Use Commission (ALUC) for compliance with the Los Angeles County Airport Land Use Plan (ALUP) but not to a level that is less than significant. In light of such impacts, implementation of the SPAS alternatives, including Alternative 1, would have a cumulatively considerable contribution to significant future aircraft noise impacts on existing and potential future noise-sensitive uses within the 65 CNEL noise contour.

5.5.9.2 Alternative 2

Plan Consistency

LAX Plan/LAX Specific Plan

As discussed in Section 4.9.6.2, under Alternative 2, the modification of the Runway 6R landing threshold would require changes to navigational aids within the Dunes Specific Plan Area, which is designated as Open Space in the LAX Plan. As described under Alternative 1, this use would be consistent with the Open Space designation of the LAX Plan and with implementation of mitigation measures relating to biological resources in the Dunes, physical impacts associated with the plan change would be less than significant. No cumulative impacts on development in the Dunes would occur as described under the Los Angeles Airport/El Segundo Dunes Specific Plan. Development of Alternative 2 would not affect any parcels within LAX Northside, since no realignment of Lincoln Boulevard is proposed.

Los Angeles Airport/El Segundo Dunes Specific Plan

As previously described for Alternative 1, Alternative 2 in combination with the Coastal Dunes Improvement Project, would not result in cumulative impacts associated with the Los Angeles Airport/El Segundo Dunes Specific Plan, as the Coastal Dunes Improvement Project would have a beneficial effect on the Dunes and impacts within the Dunes under Alternative 2 would be less than significant as described in greater detail in Section 4.9.6.2.

City of Los Angeles Transportation Element

Cumulative impacts associated with Alternative 2 in combination with the Metro Crenshaw/LAX Transit Corridor and Station and Airport Metro Connector Project would be the same as the cumulative impacts described above for Alternative 1. Cumulative impacts associated with the City of Los Angeles Transportation Element would be less than significant.

City of Los Angeles 2010 Bicycle Plan

Alternative 2 would not include proposed amendments to the City of Los Angeles 2010 Bicycle Plan to ensure precise consistency since no existing or proposed bicycle networks would be affected. Therefore, no cumulative impacts associated with the City of Los Angeles Bicycle Plan would occur.

Aircraft Noise Exposure

Aircraft noise impacts on existing and future noise-sensitive uses that would be exposed to noise levels of 65 CNEL or higher would be the same as described above for Alternative 1. These cumulative impacts would be significant and the contribution of Alternative 2 to this significant cumulative impact would be cumulatively considerable.

5.5.9.3 Alternative 3

Plan Consistency

LAX Plan/LAX Specific Plan

As discussed in Section 4.9.6.3, under Alternative 3, the relocation of Runway 6R/24L would require changes to navigational aids within the Dunes Specific Plan Area, which is designated as Open Space in the LAX Plan. As described under Alternative 1, this use would be consistent with the Open Space designation of the LAX Plan and with implementation of mitigation measures relating to biological resources in the Dunes, physical impacts associated with the plan change would be less than significant. No cumulative impacts on development in the Dunes would occur as described under the Los Angeles Airport/El Segundo Dunes Specific Plan. Development of Alternative 3 would not affect any parcels within LAX Northside, since no realignment of Lincoln Boulevard is proposed.

Los Angeles Airport/El Segundo Dunes Specific Plan

As previously described for Alternative 1, Alternative 3 in combination with the Coastal Dunes Improvement Project, would not result in cumulative impacts associated with the Los Angeles Airport/El Segundo Dunes Specific Plan, as the Coastal Dunes Improvement Project would have a beneficial effect on the Dunes and impacts within the Dunes under Alternative 3 would be less than significant as described in greater detail in Section 4.9.6.3.

City of Los Angeles Transportation Element

Cumulative impacts associated with Alternative 3 in combination with the Metro Crenshaw/LAX Transit Corridor and Station and Airport Metro Connector Project would be the same as the cumulative impacts described above for Alternative 1. Cumulative impacts associated with the City of Los Angeles Transportation Element would be less than significant.

City of Los Angeles 2010 Bicycle Plan

The construction of the CONRAC under Alternative 3 may preclude the development of portions of the future Backbone Bikeway Network planned along Jenny Avenue, between Westchester Parkway and 96th Street. Therefore, proposed amendments to the 2010 Bicycle Plan would be included to ensure precise consistency. With implementation of LAX Master Plan Commitment LU-5, Comply with City of Los Angeles Transportation Element Bicycle Plan, and amendments to the City of Los Angeles 2010 Bicycle Plan, Alternative 3 would be consistent with the 2010 Bicycle Plan and impacts related to conflicts with plans and regulations would be less than significant.

As previously described for Alternative 1, various cumulative projects have the potential to affect existing and proposed bicycle networks. Cumulative projects requiring discretionary review would be reviewed at a project-specific level for compliance with the 2010 Bicycle Plan and mitigation measures would be imposed, as needed, to ensure that adequate bicycle facilities are provided. Therefore, changes to the bicycle networks that could occur with the development of cumulative projects would be less than significant.

In light of cumulative project requirements for consistency with the 2010 Bicycle Plan and the potential for associated mitigation requirements, and with implementation of LAX Master Plan Commitment LU-5 under Alternative 3, cumulative impacts associated with the 2010 Bicycle Plan would be less than significant.

Aircraft Noise Exposure

Aircraft noise impacts on existing and future noise-sensitive uses that would be exposed to noise levels of 65 CNEL or higher would be the same as described above for Alternative 1. These cumulative impacts would be significant and the contribution of Alternative 3 to this significant cumulative impact would be cumulatively considerable.

5.5.9.4 Alternative 4

Plan Consistency

LAX Plan/LAX Specific Plan

As discussed in Section 4.9.6.4, Alternative 4 would require changes to navigational aids within the Dunes Specific Plan Area, which is designated as Open Space in the LAX Plan. As described under Alternative 1, this use would be consistent with the Open Space designation of the LAX Plan and with implementation of mitigation measures relating to biological resources in the Dunes, physical impacts associated with the plan change would be less than significant. No cumulative impacts on development in the Dunes would occur as described under the Los Angeles Airport/El Segundo Dunes Specific Plan. Development of Alternative 4 would not affect any parcels within LAX Northside, since no realignment of Lincoln Boulevard is proposed.

Los Angeles Airport/El Segundo Dunes Specific Plan

As previously described for Alternative 1, Alternative 4 in combination with the Coastal Dunes Improvement Project, would not result in significant cumulative impacts associated with the Los Angeles Airport/El Segundo Dunes Specific Plan, as the Coastal Dunes Improvement Project would have a beneficial effect on the Dunes and impacts within the Dunes under Alternative 4 would be less than significant as described in greater detail in Section 4.9.6.4.

City of Los Angeles Transportation Element

Cumulative impacts associated with Alternative 4 in combination with the Metro Crenshaw/LAX Transit Corridor and Station and Airport Metro Connector Project would be the same as the cumulative impacts described above for Alternative 1. Cumulative impacts associated with the City of Los Angeles Transportation Element would be less than significant.

City of Los Angeles 2010 Bicycle Plan

Cumulative impacts associated with Alternative 4 in combination with other cumulative projects would be the same as the cumulative impacts described above for Alternative 3. Cumulative impacts associated with the City of Los Angeles 2010 Bicycle Plan would be less than significant.

Aircraft Noise Exposure

Aircraft noise impacts on existing and future noise-sensitive uses that would be exposed to noise levels of 65 CNEL or higher would be the same as described above for Alternative 1. These cumulative impacts would be significant and the contribution of Alternative 4 to this significant cumulative impact would be cumulatively considerable.

5.5.9.5 Alternative 5

Plan Consistency

LAX Plan/LAX Specific Plan

Cumulative impacts associated with Alternative 5 in combination with LAX Northside would be the same as the cumulative impacts described above for Alternative 1. These cumulative impacts on the LAX Plan/LAX Specific Plan would be less than significant.

As discussed in Section 4.9.6.5, under Alternative 5, the relocation of Runway 6L/24R and modification of the Runway 6R landing threshold would require changes to navigational aids within the Dunes Specific Plan Area, which is designated as Open Space in the LAX Plan. As described under Alternative 1, this use would be consistent with the Open Space designation of the LAX Plan and with implementation of mitigation measures relating to biological resources in the Dunes, physical impacts associated with the plan change would be less than significant. No cumulative impacts on development in the Dunes would occur as described under the Los Angeles Airport/El Segundo Dunes Specific Plan.

Los Angeles Airport/El Segundo Dunes Specific Plan

As previously described for Alternative 1, Alternative 5 in combination with the Coastal Dunes Improvement Project, would not result in significant cumulative impacts associated with the Los Angeles Airport/El Segundo Dunes Specific Plan, as the Coastal Dunes Improvement Project would have a beneficial effect on the Dunes and impacts within the Dunes under Alternative 5 would be less than significant as described in greater detail in Section 4.9.6.5.

City of Los Angeles Transportation Element

Alternative 5 would not include proposed amendments to the City of Los Angeles Transportation Element to ensure precise consistency since only airfield and terminal improvements are proposed. Therefore, no cumulative impacts associated with the City of Los Angeles Transportation Element would occur.

City of Los Angeles 2010 Bicycle Plan

Cumulative impacts associated with Alternative 5 in combination with other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. These cumulative impacts associated with the City of Los Angeles 2010 Bicycle Plan would be less than significant.

Aircraft Noise Exposure

Aircraft noise impacts on existing and future noise-sensitive uses that would be exposed to noise levels of 65 CNEL or higher would be the same as described above for Alternative 1. These cumulative impacts would be significant and the contribution of Alternative 5 to this significant cumulative impact would be cumulatively considerable.

5.5.9.6 Alternative 6

Plan Consistency

LAX Plan/LAX Specific Plan

Cumulative impacts associated with Alternative 6 in combination with LAX Northside would be the same as the cumulative impacts described above for Alternative 1. These cumulative impacts on the LAX Plan/LAX Specific Plan would be less than significant.

As discussed in Section 4.9.6.6, under Alternative 6, the relocation of Runway 6L/24R and modification of the Runway 6R landing threshold would require changes to navigational aids within the Dunes Specific Plan Area, which is designated as Open Space in the LAX Plan. As described under Alternative 1, this use would be consistent with the Open Space designation of the LAX Plan and with implementation of mitigation measures relating to biological resources in the Dunes, physical impacts associated with the plan change would be less than significant. No cumulative impacts on development in the Dunes would occur as described under the Los Angeles Airport/El Segundo Dunes Specific Plan.

Los Angeles Airport/El Segundo Dunes Specific Plan

As previously described for Alternative 1, Alternative 6 in combination with the Coastal Dunes Improvement Project, would not result in significant cumulative impacts associated with the Los Angeles Airport/El Segundo Dunes Specific Plan, as the Coastal Dunes Improvement Project would have a beneficial effect on the Dunes and impacts within the Dunes under Alternative 6 would be less than significant as described in greater detail in Section 4.9.6.6.

City of Los Angeles Transportation Element

Alternative 6 would not include proposed amendments to the City of Los Angeles Transportation Element to ensure precise consistency since only airfield and terminal improvements are proposed. Therefore, no cumulative impacts associated with the City of Los Angeles Transportation Element would occur.

City of Los Angeles 2010 Bicycle Plan

Cumulative impacts associated with Alternative 6 in combination with other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. These cumulative impacts associated with the City of Los Angeles 2010 Bicycle Plan would be less than significant.

Aircraft Noise Exposure

Aircraft noise impacts on existing and future noise-sensitive uses that would be exposed to noise levels of 65 CNEL or higher would be the same as described above for Alternative 1. These cumulative impacts would be significant and the contribution of Alternative 6 to this significant cumulative impact would be cumulatively considerable.

5.5.9.7 Alternative 7

Plan Consistency

LAX Plan/LAX Specific Plan

As discussed in Section 4.9.6.7, under Alternative 7, the relocation of Runway 6R/24L would require changes to navigational aids within the Dunes Specific Plan Area, which is designated as Open Space in the LAX Plan. As described under Alternative 1, this use would be consistent with the Open Space designation of the LAX Plan and with implementation of mitigation measures relating to biological resources in the Dunes, physical impacts associated with the plan change would be less than significant. No cumulative impacts on development in the Dunes would occur as described under the Los Angeles Airport/El Segundo Dunes Specific Plan. Development of Alternative 7 would not affect any parcels within LAX Northside, since no realignment of Lincoln Boulevard is proposed.

Los Angeles Airport/El Segundo Dunes Specific Plan

As previously described for Alternative 1, Alternative 7 in combination with the Coastal Dunes Improvement Project, would not result in significant cumulative impacts associated with the Los Angeles Airport/El Segundo Dunes Specific Plan, as the Coastal Dunes Improvement Project would have a beneficial effect on the Dunes and impacts within the Dunes under Alternative 7 would be less than significant as described in greater detail in Section 4.9.6.7.

City of Los Angeles Transportation Element

Alternative 7 would not include proposed amendments to the City of Los Angeles Transportation Element to ensure precise consistency since only airfield and terminal improvements are proposed. Therefore, no cumulative impacts associated with the City of Los Angeles Transportation Element would occur.

City of Los Angeles 2010 Bicycle Plan

Alternative 7 would not include proposed amendments to the City of Los Angeles 2010 Bicycle Plan to ensure precise consistency since no realignment of Lincoln Boulevard is proposed and no existing or proposed bicycle networks would be affected. Therefore, no cumulative impacts associated with the City of Los Angeles Bicycle Plan would occur.

Aircraft Noise Exposure

Aircraft noise impacts on existing and future noise-sensitive uses that would be exposed to noise levels of 65 CNEL or higher would be the same as described above for Alternative 1. These cumulative impacts would be significant and the contribution of Alternative 7 to this significant cumulative impact would be cumulatively considerable.

5.5.9.8 Alternative 8

Plan Consistency

LAX Plan/LAX Specific Plan

As discussed in Section 4.9.6.8, Alternative 8 includes only ground access components. Since no changes to navigational aids within the Dunes Specific Plan Area would occur and no parcels within LAX Northside would be affected, no cumulative impacts associated with the LAX Plan or the LAX Specific Plan would occur.

Los Angeles Airport/El Segundo Dunes Specific Plan

Alternative 8 would not affect the Dunes since no relocation of navigational aids within the Dunes would occur. Therefore, no cumulative impacts associated with the Los Angeles Airport/El Segundo Dunes Specific Plan would occur.

City of Los Angeles Transportation Element

Cumulative impacts associated with Alternative 8 in combination with the Metro Crenshaw/LAX Transit Corridor and Station and Airport Metro Connector Project would be the same as the cumulative impacts described above for Alternative 1. Cumulative impacts associated with the City of Los Angeles Transportation Element would be less than significant.

City of Los Angeles 2010 Bicycle Plan

Alternative 8 would not include proposed amendments to the City of Los Angeles 2010 Bicycle Plan to ensure precise consistency since no existing or proposed bicycle networks would be affected. Therefore, no cumulative impacts associated with the City of Los Angeles Bicycle Plan would occur.

Aircraft Noise Exposure

Alternative 8 only includes ground access components. Therefore, no cumulative impacts associated with aircraft noise would occur.

5.5.9.9 Alternative 9

Plan Consistency

LAX Plan/LAX Specific Plan

As discussed in Section 4.9.6.9, Alternative 9 includes only ground access components. Since no changes to navigational aids within the Dunes Specific Plan Area would occur and no parcels within LAX Northside would be affected, no cumulative impacts associated with the LAX Plan or the LAX Specific Plan would occur.

Los Angeles Airport/El Segundo Dunes Specific Plan

Alternative 9 would not affect the Dunes since no relocation of navigational aids within the Dunes is would occur. Therefore, no cumulative impacts associated with the Los Angeles Airport/El Segundo Dunes Specific Plan would occur.

City of Los Angeles Transportation Element

Cumulative impacts associated with Alternative 9 in combination with the Metro Crenshaw/LAX Transit Corridor and Station and Airport Metro Connector Project would be the same as the cumulative impacts described above for Alternative 1. Cumulative impacts associated with the City of Los Angeles Transportation Element would be less than significant.

City of Los Angeles 2010 Bicycle Plan

Alternative 9 would not include proposed amendments to the City of Los Angeles 2010 Bicycle Plan to ensure precise consistency since no existing or proposed bicycle networks would be affected. Therefore, no cumulative impacts associated with the City of Los Angeles Bicycle Plan would occur.

Aircraft Noise Exposure

Alternative 9 only includes ground access components. Therefore, no cumulative impacts associated with aircraft noise would occur.

5.5.10 Noise

The following addresses the potential for cumulative impacts associated with aircraft noise, road traffic noise, construction traffic and equipment noise, and transit noise and vibration. The cumulative impacts analysis also takes into consideration past, present, and reasonably foreseeable future projects specific to each of those four types of noise sources and also addresses the project's contribution to potential cumulative impacts from those four types of noise sources combined (i.e., the potential for noise-sensitive receptors to be impacted from project-related increases in aircraft noise, road traffic noise, transit noise, and the possibility of project-related construction equipment and traffic noise overlapping with project-related increases in operational noise). Some of the individual resource sections have already provided cumulative analyses. See Section 4.10.1.2 (Aircraft Noise), Section 4.10.2.2 (Road Traffic Noise), for additional discussion of cumulative methodology and conclusions. Cumulative construction traffic and equipment noise impacts are evaluated separately for each alternative, taking into consideration the construction activities and locations associated with each alternative.

5.5.10.1 Aircraft Noise

The potential for cumulative aircraft noise impacts is defined primarily by past, present, and reasonably foreseeable future operations at LAX. Although there are other airports in the nearby area, such as

Hawthorne Municipal Airport approximately five miles southeast of LAX and Compton Airport approximately ten miles southeast of LAX, they are primarily small municipal airports with relatively few daily operations compared to LAX and flight paths separate from the primary arrivals and departure routes for LAX. Commercial airports, such as Bob Hope International Airport approximately 20 miles northeast of LAX and Long Beach International Airport approximately 15 miles southeast of LAX, have higher daily operations than the aforementioned local airports and may share some of the same regulated air space routes as operations at LAX; however, such common use of regulated air space would occur at higher altitudes that would not contribute appreciably to cumulative noise levels on the ground in the vicinity of LAX.

The aircraft noise impacts analysis presented in Section 4.10.1, *Aircraft Noise*, accounts for present operations at LAX (i.e., baseline [2009] conditions) and reasonably foreseeable future operations at LAX (i.e., future [2025] conditions). In general, aircraft noise conditions have improved over the past two decades at most major airports in the U.S. with the federally-mandated phase-out of older noisier (FAR Part 36 Stage 2) aircraft.

As indicated in Section 4.10.1.8.1, implementation of any of the SPAS alternatives would result in significant aircraft noise impacts at buildout in 2025, compared to baseline conditions. Although LAX Master Plan Commitment N-1 and LAX Master Plan Mitigation Measure MM-N-4 would reduce aircraft noise impacts, they cannot fully mitigate the noise impacts associated with implementation of any of the SPAS alternatives. Further, no other operational noise abatement measures are available to fully mitigate the noise impacts of the SPAS alternatives. Based on the above, implementation of any of the SPAS alternatives would have a cumulatively considerable contribution to significant future aircraft noise impacts.

Regarding classroom disruption impacts, as described in Section 4.10.1.8, LAX Master Plan Mitigation Measure MM-LU-1, Implement Revised Aircraft Noise Mitigation Program, would incorporate all eligible dwellings and non-residential noise-sensitive facilities, including schools, that are newly exposed to noise levels 65 CNEL or higher into the Aircraft Noise Mitigation Program (ANMP) to mitigate the significant noise impacts associated with the SPAS alternatives. Further, LAX Master Plan Mitigation Measures MM-LU-3, Conduct Study of the Relationship Between Aircraft Noise Levels and the Ability of Children to Learn, and MM-LU-4, Provide Additional Sound Insulation for Schools Shown by MM-LU-3 to be Significantly Impacted by Aircraft Noise, would ultimately serve to mitigate adverse noise impacts on schools as a result of the SPAS alternatives. Because the noise-related land use mitigation measures would take several years to fully implement, it is possible that significant noise impacts related to classroom disruption would be experienced in the area after implementation of the selected SPAS alternative but before the mitigation measures are fully implemented. Based on the above, implementation of any of the SPAS alternatives would have an interim cumulatively considerable contribution to significant future classroom disruption.

Regarding nighttime awakenings, as discussed in Section 4.10.1, *Aircraft Noise*, none of the SPAS alternatives would result in a substantial increase in the probability of nighttime awakenings under the project level and cumulative analyses; therefore, the impact would be less than significant and the project's contribution to cumulative impacts would not be cumulatively considerable (i.e., less than significant).

5.5.10.2 Road Traffic Noise

The analysis of road traffic noise impacts presented in Section 4.10.2, *Road Traffic Noise*, includes traffic from past, present, and reasonably foreseeable future projects in the region under future (2025) conditions, including regional growth projections from the Southern California Association of Governments (SCAG). As indicated below in **Table 5-3** the contribution of SPAS-related traffic impacts to future cumulative road traffic noise levels at each noise-sensitive receptor location would be less than 3 dBA. As such, none of the SPAS alternatives would result in a cumulatively considerable contribution to future cumulative road traffic noise.

Table 5-3

Contribution of SPAS Alternatives to Future (2025) Road Traffic Noise Levels

	dBA CNEL Future (2025)									
	Alt. 1-2		Alt. 3		Alt. 4		Alt. 8		Alt. 9	
Receptor ID	Cumulative Road Noise	Alt.'s Contribution	Cumulative Road Noise	Alt.'s Contribution	Cumulative Road Noise	Alt.'s Contribution	Cumulative Road Noise	Alt.'s Contribution	Cumulative Road Noise	Alt.'s Contribution
RD1	65.5	-0.2	65.2	-0.5	65.8	0.1	65.5	-0.2	65.5	-0.2
RD2	70.0	-0.7	70.1	-0.6	70.0	-0.7	70.0	-0.7	70.0	-0.7
RD3	73.2	0.0	73.4	0.2	73.3	0.1	73.2	0.0	73.2	0.0
RD4	70.4	0.0	70.3	-0.1	70.4	0.0	70.4	0.0	70.4	0.0
RD5	59.7	0.7	58.6	-0.4	59.0	0.0	59.6	0.6	59.6	0.6
RD6	59.0	0.8	60.7	2.5	60.6	2.4	59.0	0.8	59.0	0.8
RD7	64.7	1.6	64.3	1.2	64.5	1.4	64.6	1.5	64.6	1.5
RD8	67.5	-0.5	67.0	-1.0	67.7	-0.3	67.6	-0.4	67.6	-0.4
RD9	65.6	1.2	64.8	0.4	64.8	0.4	64.5	0.1	64.5	0.1
RD10	64.1	-0.4	64.4	-0.1	64.4	-0.1	64.5	0.0	64.5	0.0
RD11	60.0	0.5	60.8	1.3	59.7	0.2	60.1	0.6	60.1	0.6
RD12	64.6	0.0	63.9	-0.7	64.5	-0.1	64.5	-0.1	64.5	-0.1
RD13	69.7	0.2	69.6	0.1	69.7	0.2	69.4	-0.1	69.4	-0.1
RD14	55.9	1.1	53.7	-1.1	56.9	2.1	55.6	0.8	55.6	0.8
RD15	71.6	-0.6	72.3	0.1	72.3	0.1	72.3	0.1	72.3	0.1

Source: CDM Smith, 2012.

5.5.10.3 Construction Traffic and Equipment Noise

The following analysis of cumulative impacts focuses on construction equipment noise associated with development projects at/adjacent to LAX and each of the SPAS alternatives. There is not sufficient information at this conceptual level of planning to estimate the construction schedules, construction traffic trip generation, or trip distribution associated with the various development projects, including the SPAS alternatives. Notwithstanding, it is considered unlikely that the nature, location, and timing of the various construction projects would coincide such that traffic volumes on the nearby arterial roadways and highways would double or triple resulting in significant construction traffic noise impacts. As described in Section 4.10.3.6.1, even using very conservative assumptions regarding construction-related traffic generation and distribution for a recent major development project at LAX (i.e., the Bradley West Project), the traffic volumes on nearby arterial roadways and freeways would not double or triple. It would be speculative at this conceptual level of planning to estimate the nature, timing, and construction traffic characteristics of major improvements projects particular to each of the SPAS alternatives along with the nature, timing, and construction traffic characteristics of other development projects that may occur between now and 2025, such that a specific combination of projects would result in a doubling or tripling of traffic on specific roadways in the airport vicinity. Regarding increases in road traffic noise associated with regional growth anticipated to occur by 2025, please see Section 4.10.2, *Road Traffic Noise*.

The geographic scope of analysis for cumulative construction equipment noise impacts generally encompasses the land uses immediately north, east, and south of the airport; specifically, the southern edges of Playa del Rey and Westchester, the northeastern edges of Inglewood and Lennox, and the northern edges of Del Aire and El Segundo. Such areas contain noise-sensitive uses that could be exposed to combined construction equipment noise from local development projects and from improvements proposed under each alternative. The nature and location of specific noise-sensitive uses within these areas, as well as existing exterior ambient noise levels in those areas, are described in Section 4.10.3.3 (construction noise - existing conditions). Section 4.10.3.2 (construction noise analysis

methodology) describes the assumptions and approach used to estimate a daily CNEL noise level of 89 dBA at 50 feet for overall construction activity, which, in turn, was used to estimate construction-related increases in existing exterior ambient noise levels at the nearest noise-sensitive use. An increase of 5 dBA in the existing exterior ambient noise level from construction traffic and equipment noise is defined as being a significant impact.[841]

The local development projects considered in the cumulative construction equipment noise analysis are shown in **Figure 5-2**, at the beginning of this chapter. Although the general characteristics of these projects are known, specifics regarding the proposed construction program for each project have not yet been defined. That is also the case for the SPAS alternatives. As such, the cumulative construction equipment noise analysis presented below is based on the general location of each project, the aforementioned 89 dBA CNEL at 50 feet assumed for all projects unless otherwise stated, a sound attenuation rate of -4.5 dBA per doubling of distance, no intervening topography or noise barriers unless specifically stated, and an existing exterior ambient noise level of approximately 65 dBA CNEL for all of the nearby noise-sensitive area, except for Playa del Rey, which is estimated to be approximately 68 dBA CNEL. Additionally, in evaluating combined construction equipment noise levels, the analysis below includes a conservative assumption that construction timing of future development projects coincides with that of SPAS improvements in the nearby area. Local development projects that have been completed, such as the South Airfield Improvement Project, Crossfield Taxiway Project, and Westchester Golf Course Three-Hole Restoration Project, would not contribute to cumulative construction equipment noise impacts with the SPAS alternatives and are therefore not further addressed below.

As described in Section 4.10.3.2, Alternatives 1 through 4 are "fully-integrated" alternatives that include specific airfield improvements, terminal improvements, and ground access improvements. Alternatives 5 through 7 focus on variations to the airfield improvements, which, in turn, affect the terminal improvements. Alternatives 8 and 9 focus on variations to the ground access improvements. There is a certain amount of compatibility or "interchangeability" between the SPAS alternatives -- the airfield and terminal improvements in Alternatives 5 through 7 are equally compatible with the ground access improvements in Alternatives 1, 2, 8, and 9, and the ground access improvements in Alternatives 8 and 9 are equally compatible with the airfield and terminal improvements in Alternatives 1, 2, 5, 6, and 7. Within the cumulative construction equipment noise impacts discussions provided below for Alternatives 5 through 9, the analysis of each focuses on the cumulative impacts particular to improvements proposed in that alternative (i.e., airfield improvements for Alternatives 5 through 7 and ground access improvements for Alternatives 8 and 9). The cumulative impacts associated with other improvements that each of those alternatives could be paired with are delineated in those other alternatives. For example, the cumulative impacts discussion for Alternative 5 addresses impacts specific to the airfield improvements proposed under that alternative, while the cumulative impacts discussion related to ground access improvements that could be paired with Alternative 5 is presented in the discussions for those other alternatives (i.e., ground access impacts discussions for Alternatives 1, 2, 8, and 9).

5.5.10.3.1 Alternative 1

Cumulative projects with the potential to affect noise-sensitive uses in Playa del Rey and Westchester include the Coastal Dunes Improvement Project, the City of Los Angeles Bureau of Sanitation Stormwater Infiltration and Treatment Facility, and LAX Northside, along with the airfield improvements proposed under Alternative 1. Other future projects at LAX, such as the completion of the Bradley West Project, the Midfield Satellite Concourse and associated taxiways, and North Terminals Improvements, would occur over 3,000 feet away from noise-sensitive uses in Westchester and are unlikely to contribute to cumulatively significant construction equipment noise impacts in conjunction with Alternative 1.

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841 As explained in Section 4.10.3.6.1, the construction equipment noise impacts analysis focuses on the potential for a 5 dBA increase in the existing ambient exterior noise level measured in terms of CNEL. Although the threshold of significance for construction noise also recognizes a 5 dBA increase in ambient noise levels during certain evening and nighttime hours as being significant, the analysis of the impacts to 24-hour CNEL values is considered more conservative.

The combined construction equipment noise levels associated with the Coastal Dunes Improvement Project and Alternative 1 airfield improvements nearby, specifically, the relocation of runway navigational aids, would not result in significant cumulative construction equipment noise impacts to residences in Playa del Rey, based on the distances between source and receptor and the nature of construction equipment likely to be used for both projects. Based on an estimated 86 dBA at 50 feet for construction equipment noise for both projects (i.e., neither project would require a full mix of heavy construction equipment that might otherwise produce an overall noise level of 89 dBA at 50 feet), the combined noise level at the nearest residential uses in Playa del Rey from the relocation of navigational aids under Alternative 1 (approximately 1,300 feet away) and the Coastal Dunes Improvement Project (approximately 750 feet away) would increase the existing exterior ambient noise level by 4.1 dBA CNEL, which would be less than significant. Additional noise contribution from the development and use of Construction Staging Area A could also occur; however, based on its distance and location (i.e., is not in direct line-of-sight from the nearest residences in Playa del Rey due to an intervening hill on the northwest corner of Pershing Drive and Westchester Parkway), the combined noise level with the other two projects described above would still result in the increase in existing exterior ambient noise level being less than 5 dBA CNEL (i.e., estimated to be approximately 4.8 dBA increase).

Relative to cumulative construction noise impacts to Saint Bernard High School, residential uses along the southern edge of Westchester, and the Park West Apartments northwest of Lincoln Boulevard south of La Tijera, all three areas would be significantly impacted by airfield-related improvements and construction staging area use under Alternative 1. Construction equipment noise from other nearby projects, such as the Stormwater Infiltration and Treatment Facility and LAX Northside, would add to that significant impact. The contribution of Alternative 1 to the impact would be cumulatively considerable.

With regard to the residential uses along 88th Street between Liberator Avenue and Sepulveda Westway, these uses are not expected to be significantly impacted by airfield-related improvements and construction staging area use under Alternative 1, based on the nature and location of activities occurring under Alternative 1 and the presence of an existing noise wall along the north side of 88th Street. Construction activities associated with LAX Northside would result in temporary significant noise impacts to those residences, particularly if multi-story structures are developed nearby (i.e., construction activities could occur above the heights of the existing noise wall). The contribution of Alternative 1 to such an impact would not exceed the significance threshold and would not be cumulatively considerable.

Within Belford and Manchester Square, potential cumulative construction equipment noise impacts would occur from construction of the Metro Crenshaw/LAX Transit Corridor and Station and the Airport Metro Connector Project (depending on the selected alignment) in combination with ground access improvements associated with Alternative 1 including the Intermodal Transportation Facility (ITF) and the elevated busway. Additionally, use of Belford and Manchester Square as construction staging sites and also future development of new uses within those two areas would further contribute to cumulative impacts. Existing noise-sensitive uses in Belford and Manchester Square, if still present when Alternative 1 is implemented, would be significantly impacted by ground access improvements proposed under Alternative 1 and by construction staging area use. Construction equipment noise from the other local development projects described above would add to that significant impact. The contribution of Alternative 1 to the impact would be cumulatively considerable.

The Animo Leadership Charter High School located near the northeast corner of Arbor Vitae Street and Aviation Boulevard[842] would be subject to significant cumulative construction equipment noise impacts from development of ground access improvements associated with Alternative 1, specifically, the surface parking within Manchester Square, the use of Manchester Square for construction staging, and the

[842] At the publication time of the Notice of Preparation for the SPAS Draft EIR, October 2010 (i.e., the baseline year for the EIR impacts analysis), the Animo Leadership Charter High School was located at the northeast corner of Aviation Boulevard and Arbor Vitae Street, across from Manchester Square. This school is, however, proposed to move to a new location in Lennox, approximately 2.5 miles from the current site (see http://anewhomeforanimoleadership.wordpress.com/abouttheproject/, accessed on June 16, 2012). It is anticipated that the new facility and relocation will be completed in 2012. At the time of this writing, the school was still at the Arbor Vitae Street location; hence, it is included in the impacts analysis.

development of the Metro Crenshaw/LAX Transit Corridor. Given the proximity of Manchester Square to the subject school site and the fact that Alternative 1 would alone result in a significant construction equipment noise impact at the school site, the contribution of Alternative 1 to the overall combined significant construction noise impact would be cumulatively considerable.

With regard to construction equipment noise impacts to residential uses in Inglewood, development and construction staging activities in Manchester Square associated with Alternative 1 would generate noise; however, based on the presence of the I-405 Freeway and associated noise wall between the two subject areas, no significant construction equipment noise impacts to Inglewood are expected to occur. For that same reason, plus the fact that the nearest other local development projects - the Metro Crenshaw/LAX Transit Corridor and Station and the Airport Metro Connector Project - are located approximately 3,000 feet away from that residential area of Inglewood (i.e., 89 dBA at 50 feet would attenuate to 62.3 dBA over that distance), a significant cumulative construction equipment noise impact to Inglewood is not expected to occur.

With regard to residential uses within Del Aire, the development and use of Continental City for construction staging under Alternative 1, and development of the Metro Crenshaw/LAX Transit Corridor and Station would result in cumulative construction equipment noise impacts to that community. The cumulative noise impact is anticipated to increase existing exterior ambient noise levels in the residential area by more than 5 dBA, consequently resulting in a significant cumulative impact. The contribution of Alternative 1 to that impact is not anticipated to be cumulatively considerable, based on the relative distance of Continental City from the community compared to the proximity of the Metro Crenshaw/LAX Transit Corridor (i.e., approximately 800 feet for the former and approximately 250 feet for the latter) and the differences in work area elevations (i.e., portions of the Metro Crenshaw/LAX Transit Corridor and Station improvements would occur at elevations above, and near to, the residences, which Continental City would be at-grade with residences, consequently enabling the intervening noise wall to provide some level of noise attenuation between the construction staging area and the residences).

5.5.10.3.2 Alternative 2

The cumulative construction equipment noise impacts associated with airfield improvements under Alternative 2 would be generally less than those described above for Alternative 1 because there would be fewer airfield improvements occurring in the northern portion of the airport. The potential for Alternative 2 to contribute to cumulative construction equipment noise impacts to Playa del Rey would generally be limited to the development and use of Construction Staging Area A, along with other local development projects such as the Coastal Dunes Improvement Project, which combined would not increase the existing ambient exterior noise level in that community by 5 dBA.

Relative to cumulative construction noise impacts to Saint Bernard High School, residential uses along the southern edge of Westchester, and the Park West Apartments northwest of Lincoln Boulevard south of La Tijera, none of these three areas would be significantly impacted by airfield-related improvements under Alternative 2, but all would be significantly impacted by the development and use of nearby construction staging areas. Construction equipment noise from other local development projects, such as the Stormwater Infiltration and Treatment Facility and LAX Northside, along with the aforementioned airfield improvements and construction staging areas use, would result in significant cumulative construction equipment noise impacts to those noise-sensitive uses. The contribution of Alternative 2 to that impact would be cumulatively considerable.

With regard to the residential uses along 88th Street between Liberator Avenue and Sepulveda Westway, these uses are not expected to be significantly impacted by airfield improvements and construction staging area use under Alternative 2, based on the nature and location of activities occurring under Alternative 2 and the presence of an existing noise wall along the north side of 88th Street. Construction activities associated with LAX Northside would result in temporary significant noise impacts to those residences, particularly if multi-story structures are developed nearby (i.e., construction activities could occur above the heights of the existing noise wall). The contribution of Alternative 2 to such an impact would not exceed the threshold of significance and would not be cumulatively considerable.

The cumulative construction equipment noise impacts related to the ground transportation system improvements proposed under Alternative 2, as well as the development and use of nearby construction staging areas, would be the same as above for Alternative 1. Significant cumulative construction equipment noise impacts would occur at Belford, Manchester Square, and Animo Leadership Charter High School,[843] and the contribution of Alternative 2 to that impact would be cumulatively considerable.

For the same reasons described above for Alternative 1, no significant cumulative construction equipment noise impacts to residential uses in Inglewood would occur from Alternative 2.

Potential cumulative construction equipment noise impacts to residential uses in Del Aire for Alternative 2 would be the same as described above for Alternative 1; a significant cumulative noise impact would occur, but the contribution from Alternative 2 would not be cumulatively considerable.

5.5.10.3.3 Alternative 3

The cumulative construction equipment noise impacts associated with airfield-related improvements under Alternative 3 would be generally comparable to those described above for Alternative 2, given that both alternatives propose relatively few improvements in the northern portion of the airfield.

Similar to Alternative 2, no significant cumulative construction equipment noise impacts would occur in Playa del Rey, but would occur at Saint Bernard High School, residential uses along the southern edge of Westchester, and the Park West Apartments northwest of Lincoln Boulevard south of La Tijera. The contribution of Alternative 3 to those significant impacts, mainly due to the development and use of construction staging areas, would be cumulatively considerable.

With regard to the residential uses along 88th Street between Liberator Avenue and Sepulveda Westway, these uses would be subject to significant cumulative construction equipment noise impacts; however, the contribution of Alternative 3 to those impacts would not be cumulatively considerable.

The cumulative construction equipment noise impacts related to the ground transportation system improvements proposed under Alternative 3 would include impacts to any occupied residential units in Belford. Such impacts would be dominated by construction noise from the Consolidated Rental Car Facility (CONRAC) in Lot C and the Automated People Mover (APM) along 98th Street proposed under Alternative 3 and, to a far lesser degree, noise from the Metro Crenshaw/LAX Transit Corridor and Station and the Airport Metro Connector Project (depending on the selected alignment). As such, the contribution of Alternative 3 to impacts at Belford would be cumulatively considerable. No cumulative construction equipment noise impacts to existing residential and school uses within Manchester Square would occur under Alternative 3, as development of the Ground Transportation Center (GTC) would only occur without those uses present. No cumulative construction equipment noise impacts to noise-sensitive uses north of Parking Lots C and D and the "Jenny Lot" are expected to occur because there are no local development projects proposed near those uses.

For the reasons similar to those described above for the other alternatives, the contribution of Alternative 3 to significant cumulative construction equipment noise impacts at the Animo Leadership Charter High School[844] would be cumulatively considerable.

Construction equipment noise from development of the Intermodal Transportation Center (ITC) at Continental City under Alternative 3 could combine with noise from construction of the Metro Crenshaw/LAX Transit Corridor and Station, resulting in significant cumulative construction equipment noise impacts to residences in Del Aire. The contribution of Alternative 3 to that impact would be cumulatively considerable.

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843 See footnote 842 with regard to the pending relocation of this facility.

844 See footnote 842 with regard to the pending relocation of this facility.

5.5.10.3.4 Alternative 4

The airfield improvements proposed under Alternative 4 (i.e., easterly extension of Runway 6R/24L) would be limited in nature and very distant from noise-sensitive uses in Playa del Rey (i.e., approximately two miles away) and Westchester (i.e., approximately 2,500 feet from the nearest residences), with an existing noise wall located between the airfield and those uses. While it is possible that construction equipment noise associated with those airfield improvements could incrementally add to the construction noise of other local development projects nearby, such as LAX Northside, such contribution would not be cumulatively considerable because it would not exceed the significance threshold.

Similar to all other alternatives, the development and use of construction staging areas in the northern portion of the airport would result in significant construction equipment noise impacts to Saint Bernard High School, residential uses along the southern edge of Westchester, and the Park West Apartments northwest of Lincoln Boulevard south of La Tijera. Construction equipment noise from other local development projects, such as the Stormwater Infiltration and Treatment Facility and LAX Northside, along with the aforementioned airfield improvements and construction staging area use, would result in significant cumulative construction equipment noise impacts to those noise-sensitive uses. The contribution of Alternative 4 to that impact would be cumulatively considerable.

With regard to ground transportation system improvements, the cumulative impacts of Alternative 4 would be similar to those described above for Alternative 3 relative to development of a CONRAC in Lot C and development of an ITC (comparable to construction of the parking structure under Alternative 4). As such, the contribution of Alternative 4 to significant cumulative construction equipment noise impacts at Belford would be cumulatively considerable.

Construction equipment noise from development of the parking structure at Continental City under Alternative 4 could combine with noise from construction of the Metro Crenshaw/LAX Transit Corridor and Station, resulting in significant cumulative construction equipment noise impacts to residences in Del Aire. The contribution of Alternative 4 to that impact would be cumulatively considerable.

Significant cumulative construction equipment noise impacts would occur at Manchester Square and Animo Leadership Charter High School,[845] particularly as related to the potential for Manchester Square to be used as a construction staging area under all SPAS alternatives, and the contribution of Alternative 4 to that impact would be cumulatively considerable.

5.5.10.3.5 Alternative 5

Under Alternative 5, which focuses on airfield improvements, the cumulative construction equipment noise impacts associated with airfield improvements and construction staging area use would be generally similar to those described above for Alternative 1. Relative to potential impacts to Playa del Rey, the combined construction equipment noise levels associated with the Coastal Dunes Improvement Project and Alternative 5 airfield improvements nearby, specifically, the relocation of runway navigational aids, would not result in significant cumulative construction equipment noise impacts to residences in Playa del Rey, based on the distances between source and receptor and the nature of construction equipment likely to be used for both projects. Additional noise contribution from the development and use of Construction Staging Area A could also occur; however, based on its distance and location (i.e., is not in direct line-of-sight from nearest the residences in Playa del Rey due to an intervening hill on the northwest corner of Pershing Drive and Westchester Parkway), the combined noise level would be less than significant and the contribution of Alternative 5 would not be cumulatively considerable.

Relative to cumulative construction noise impacts to Saint Bernard High School, residential uses along the southern edge of Westchester, and the Park West Apartments northwest of Lincoln Boulevard south of La Tijera, all three areas would be significantly impacted by airfield-related improvements and construction staging area use under Alternative 5. Construction equipment noise from other nearby

[845] See footnote 842 with regard to the pending relocation of this facility.

projects, such as the Stormwater Infiltration and Treatment Facility and LAX Northside, would add to that significant impact. The contribution of Alternative 5 to the impact would be cumulatively considerable.

Assuming the implementation of airfield improvements under Alternative 5 would be paired with ground access improvements proposed under Alternatives 1, 2, 8, or 9, Alternative 5 would have cumulatively considerable contributions to significant construction equipment noise impacts to remaining noise-sensitive uses within Belford and Manchester Square, as well as to the Animo Leadership Charter High School.[846]

With regard to the residential uses along 88th Street between Liberator Avenue and Sepulveda Westway, these uses are not expected to be significantly impacted by airfield-related improvements and construction staging area use under Alternative 5, based on the nature and location of activities occurring under Alternative 5 and the presence of an existing noise wall along the north side of 88th Street. Construction activities associated with LAX Northside would result in temporary significant noise impacts to those residences, particularly if multi-story structures are developed nearby (i.e., construction activities could occur above the heights of the existing noise wall). The contribution of Alternative 5 to such an impact would not be cumulatively considerable because it would not exceed the significance threshold.

5.5.10.3.6 Alternative 6

Under Alternative 6, which focuses on an alternative concept for airfield improvements, the cumulative construction equipment noise impacts associated with airfield improvements would be similar to those described above for Alternatives 1 and 5 (i.e., all three alternatives involve the northward relocation of Runway 6L/24R).

Under Alternative 6, there would be no significant cumulative construction equipment noise impacts to Playa del Rey; however, significant cumulative construction equipment noise impacts would occur at Saint Bernard High School, residential uses along the southern edge of Westchester, and the Park West Apartments northwest of Lincoln Boulevard south of La Tijera, and the contribution of Alternative 6 to those impacts would be cumulatively considerable.

Assuming the implementation of airfield improvements under Alternative 6 would be paired with ground access improvements proposed under Alternatives 1, 2, 8, or 9, Alternative 6 would have cumulatively considerable contributions to significant construction equipment noise impacts to remaining noise-sensitive uses within Belford and Manchester Square, as well as to the Animo Leadership Charter High School.[847]

Residential uses along 88th Street between Liberator Avenue and Sepulveda Westway would experience significant cumulative construction equipment noise impacts, mainly from LAX Northside development; however, the contribution of Alternative 6 to such impacts would not be cumulatively considerable.

5.5.10.3.7 Alternative 7

Under Alternative 7, which focuses on an alternative concept for airfield improvements, the cumulative construction equipment noise impacts associated with airfield improvements would be similar to those described above for Alternative 2. Similar to that alternative, the potential cumulative construction noise levels at Playa del Rey would not increase the existing ambient exterior noise level in that community by 5 dBA.

Relative to cumulative construction noise impacts to Saint Bernard High School, residential uses along the southern edge of Westchester, and the Park West Apartments northwest of Lincoln Boulevard south of La Tijera, none of these three areas would be significantly impacted by airfield-related improvements under Alternative 7, but all would be significantly impacted by the development and use of nearby construction staging areas. Construction equipment noise from other local development projects, such as

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846 See footnote 842 with regard to the pending relocation of this facility.

847 See footnote 842 with regard to the pending relocation of this facility.

the Stormwater Infiltration and Treatment Facility and LAX Northside, along with the aforementioned airfield improvements and construction staging areas use, would result in significant cumulative construction equipment noise impacts to those noise-sensitive uses. The contribution of Alternative 7 to that impact would be cumulatively considerable.

Assuming the implementation of airfield improvements under Alternative 7 would be paired with ground access improvements proposed under Alternatives 1, 2, 8, or 9, Alternative 7 would have cumulatively considerable contributions to significant construction equipment noise impacts to remaining noise-sensitive uses within Belford and Manchester Square, as well as to the Animo Leadership Charter High School.[848]

With regard to the residential uses along 88th Street between Liberator Avenue and Sepulveda Westway, these uses are not expected to be significantly impacted by airfield improvements and construction staging area use under Alternative 7, based on the nature and location of activities occurring under Alternative 7 and the presence of an existing noise wall along the north side of 88th Street. Construction activities associated with LAX Northside would result in temporary significant noise impacts to those residences, particularly if multi-story structures are developed nearby (i.e., construction activities could occur above the heights of the existing noise wall). The contribution of Alternative 7 to such an impact would not exceed the threshold of significance and would not be cumulatively considerable.

5.5.10.3.8 Alternative 8

Under Alternative 8, which focuses on an alternative concept for ground transportation system improvements, the cumulative construction equipment noise impacts would be generally similar to those described above for Alternative 1.

Within Belford and Manchester Square, potential cumulative construction equipment noise impacts would occur from construction of the Metro Crenshaw/LAX Transit Corridor and Station and the Airport Metro Connector Project (depending on the selected alignment) in combination with ground access improvements associated with Alternative 8 including the ITF and the elevated busway. Additionally, use of Belford and Manchester Square as construction staging sites and also future development of new uses within those two areas would further contribute to cumulative impacts. Existing noise-sensitive uses in Belford and Manchester Square, if still present when Alternative 8 is implemented, would be significantly impacted by ground access improvements proposed under Alternative 8 and by construction staging area use. Construction equipment noise from the other local development projects described above would add to that significant impact. The contribution of Alternative 8 to the impact would be cumulatively considerable.

The Animo Leadership Charter High School located near the northeast corner of Arbor Vitae Street and Aviation Boulevard[849] would be subject to significant cumulative construction equipment noise impacts from development of ground access improvements associated with Alternative 8, specifically, the CONRAC and parking within Manchester Square, the use of Manchester Square for construction staging under Alternative 8, and the development of the Metro Crenshaw/LAX Transit Corridor. Given the proximity of Manchester Square to the subject school site and the fact that Alternative 8 would alone result in a significant construction equipment noise impact at the school site, the contribution of Alternative 8 to the overall combined significant construction noise impact would be cumulatively considerable.

With regard to construction equipment noise impacts to residential uses in Inglewood, development of the CONRAC and parking in Manchester Square, as well as construction staging, under Alternative 8 would generate noise; however, based on the presence of the I-405 Freeway and associated noise wall between the two subject areas, no significant construction equipment noise impacts to Inglewood are expected to occur. For that same reason, plus the fact that the nearest other local development projects -

[848] See footnote 842 with regard to the pending relocation of this facility.

[849] See footnote 842 with regard to the pending relocation of this facility.

the Metro Crenshaw/LAX Transit Corridor and Station and the Airport Metro Connector Project - are located approximately 3,000 feet away from that residential area of Inglewood (i.e., 89 dBA at 50 feet would attenuate to 62.3 dBA over that distance), a significant cumulative construction equipment noise impact to Inglewood is not expected to occur.

5.5.10.3.9 Alternative 9

Under Alternative 9, which focuses on an alternative concept for ground transportation system improvements, the cumulative construction equipment noise impacts associated with development of that ground transportation system would be the same as those described above for Alternative 8. The only notable difference between Alternatives 8 and 9 is the development of an APM system under Alternative 9, instead of the elevated busway system under Alternative 8; however, both systems propose the same alignment. The construction equipment noise impacts would be the same for both alternatives.

5.5.10.4 Transit Noise and Vibration

The only past, present, or reasonably foreseeable future projects posing the potential to result in a cumulative transit noise and vibration impact would be the combination of the transit improvements proposed under several of the SPAS alternatives (specifically, the elevated/dedicated busway system proposed under Alternatives 1, 2, and 8, and the APM systems proposed under Alternatives 3 and 9), the recently approved Metro Crenshaw/LAX Transit Corridor and Station, and the proposed Airport Metro Connector Project (depending on the selected alignment). The geographic scope of the cumulative transit noise and vibration impacts analysis is based on the impact screening distances set forth by the Federal Transit Administration's (FTA's) *Transit Noise and Vibration Impact Assessment*[850] relative to Category 2 land uses, which, in this case, are the hotel uses in the general vicinity of Century Boulevard and 98th Street. For light rail transit projects in the vicinity of Category 2 uses, the FTA screening distance for transit noise impacts is 175 feet and for transit vibration impacts is 150 feet.

The approved Metro Crenshaw/LAX Transit Corridor will extend south from the existing Metro Exposition Line at Crenshaw and Exposition Boulevards approximately 8.5 miles to a proposed station near Century Boulevard and Aviation Boulevard. In the vicinity of LAX, the alignment of the proposed line will extend along the east side of Aviation Boulevard north of Century Boulevard. Based on Table 4-15 in the Final EIS/EIR for the Metro Crenshaw/LAX Transit Corridor,[851] the operational noise level associated with the system near Century Boulevard and Aviation Boulevard would be 60 dBA L_{dn} at a distance of 123 feet from the line trackwork. Relative to the transit-related noise-sensitive receptors addressed in Section 4.10.4, *Transit Noise and Vibration*, of this EIR, Receptor ID# 9A (southeast end of the Hilton Hotel) under SPAS Alternative 3 would be the nearest to the future Metro Crenshaw/LAX Transit Corridor, at a distance of approximately 800 feet. Based on a sound drop off rate of 4.5 dB per doubling of distance, the aforementioned 60 dB noise level would dissipate to 47.8 dB when it reaches the hotel site. That additional noise from the Metro Crenshaw/LAX Transit Corridor and Station would not result in an appreciable increase (i.e., an increase of 0.004 dB) in the 78 dBA CNEL calculated to occur at that receptor site with operation of the APM system proposed under Alternative 3; however, given that the noise level at which a significant impact would occur is 73 dBA CNEL (i.e., a 3 dBA increase over the baseline ambient noise level of 70 dBA CNEL), the combined noise level (78.004 dBA) would be a significant cumulative impact. The contribution of transit noise from Alternative 3 would be cumulatively considerable. Implementation of LAX Master Plan Mitigation Measure MM-N-11, Automated People Mover (APM) Noise Assessment and Control Plan, would serve to reduce the contribution to noise impact from Alternative 3 to a level that is less than cumulatively considerable.

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850 U.S. Department of Transportation, Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, FTA-VA-90-1003-06, May 2006.

851 Los Angeles County Metropolitan Transportation Authority, Crenshaw/LAX Transit Corridor Final Environmental Impact Statement/Final Environmental Impact Report, August 2011.

Given the intervening distance, ground-borne vibration impacts to the hotel from the Metro Crenshaw/LAX Transit Corridor would not combine with vibration from the Alternative 3 APM line. Overall, there would be no cumulative transit noise and vibration impacts from the combination of the Metro Crenshaw/LAX Transit Corridor and the SPAS alternatives which propose transit improvements (Alternatives 1, 2, 3, 8, and 9).

The Airport Metro Connector Project is proposed to extend into the LAX Central Terminal Area (CTA). The Airport Metro Connector Project is still in the early stages of conceptual planning and the range of alternatives, including system design choices (i.e., bus rapid transit, APM, light-rail) and route alignments, to be further investigated and advanced to the EIS and EIR has not been determined. It would be speculative at this time to attempt to quantify potential noise and vibration impacts from the Airport Metro Connector Project, as they may combine with the noise and vibration impacts of the SPAS alternatives addressed in Section 4.10.4, *Transit Noise and Vibration*. Additionally, it would be speculative to estimate and account for how the SPAS transit options, addressed in Section 4.10.4, *Transit Noise and Vibration*, might change in design and operation if the Airport Metro Connector Project is operating on a shared or parallel corridor. As such, it is considered too speculative to draw conclusions at this time regarding cumulative noise and vibration impacts from the combination of the Airport Metro Connector Project and the SPAS alternatives that propose transit improvements (Alternatives 1, 2, 3, 8, and 9).

5.5.10.5 Combined SPAS Aircraft, Road Traffic, Construction Traffic and Equipment, and Transit Noise Impacts

As discussed in Section 4.10, *Noise*, implementation of the SPAS alternatives would result in changes to existing aircraft and road traffic noise, and the generation of construction-related noise and transit noise. **Table 5-4** presents the combined aircraft noise and road traffic noise for future cumulative conditions at each of the 15 noise-sensitive receptor locations addressed in Section 4.10.2, *Road Traffic Noise*. The locations of those noise-sensitive receptors are shown in Figure 4.10.2-1. The aircraft noise level added at each receptor location is based on the nearest Regularly Spaced Grid Point Location modeled in the aircraft noise analysis. Figure 4.10.1-6 delineates the locations of all the grid points. In addition to the combined aircraft and road traffic noise levels at these 15 locations, the addition of transit noise is included in the cumulative noise level estimate for Receptor Location RD14, as that is the only receptor location that would experience combined noise levels from all three noise source types. The locations addressed in the cumulative noise impacts evaluation are representative of the surrounding noise-sensitive uses and are considered conservative given their proximity to the airport. Cumulative noise level estimates were developed for Alternatives 1 through 7. Cumulative noise level estimates associated with Alternatives 8 and 9 are considered to be comparable to those of Alternatives 1, 2, 5, 6, or 7, based on the assumption that selection of Alternative 8 or 9 would be paired with the airfield improvements associated with those other alternatives. As can be seen in **Table 5-3**, the road traffic noise levels associated with Alternatives 8 and 9 are generally comparable to or less than those of Alternatives 1 and 2, and, in addition to have been accounted for in Alternatives 1 and 2, those road traffic noise levels are included in the cumulative noise level estimates for Alternatives 5, 6, and 7.

As indicated in Section 4.10.1, *Aircraft Noise*, implementation of any of the SPAS alternatives would result in significant unavoidable noise exposure impacts to noise-sensitive uses, even with implementation of LAX Master Plan commitments and mitigation measures that would partially mitigate those impacts. **Table 5-4** indicates that implementation of any of the SPAS alternatives would contribute to cumulative increases in combined noise levels at several of the noise-sensitive receptor locations that were analyzed. As such, implementation of any of the SPAS alternatives would have a cumulatively considerable impact relative to combined noise levels.

Implementation of any of the SPAS alternatives is anticipated to occur between 2015 and 2025. It is likely that there would be some overlap in noise impacts from operation (including road traffic noise and transit noise) of SPAS improvements completed during that 11-year period and from ongoing construction. It would be speculative at this conceptual level of planning to estimate the timing, location, and combined noise levels of such overlapping activities. In general terms, however, it is likely that any

overlap of operational noise and construction noise in Playa del Rey and the southern edge of Westchester west of Lincoln Boulevard would be primarily limited to the combination of aircraft noise and construction noise from north airfield improvements; no notable increases in SPAS-related traffic are expected to occur in that area. For residential areas along the southern edge of Westchester, east of Lincoln Boulevard, construction noise associated with north airfield improvements, including realignment of Lincoln Boulevard under Alternatives 1, 5, and 6, would potentially combine with increased aircraft noise and road traffic noise along Lincoln Boulevard and Sepulveda Boulevard. This would also be the case relative to construction of the CONRAC under Alternatives 3 and 4. Relative to construction of the ground access improvements east of the CTA (i.e., busway and ITF under Alternatives 1, 2, and 8; APMs and ITC under Alternative 3; APM and ITF under Alternative 9; surface parking, GTC, or CONRAC/parking in Manchester Square under Alternatives 1-2, 3, and 8-9, respectively), potential combined construction, aircraft, and road traffic noise impacts to noise-sensitive receptors would generally be limited to residences, if any, remaining in Belford and Manchester Square, Animo Leadership Charter High School,[852] and residential uses in Inglewood (although to a lesser degree than the other areas, based on distance from construction areas and the intervening I-405 Freeway). Such overlaps in operational noise and construction noise would potentially overlap and are therefore considered cumulatively considerable contributions to significant cumulative impacts at nearby noise-sensitive uses.

5.5.11 Public Services

5.5.11.1 Fire Protection

The types of development projects at or adjacent to LAX that have the potential to result in cumulative impacts on fire protection include various airside, terminal, land development, infrastructure, security, and transportation projects. These types of projects are further described below. The geographic area of analysis includes nearby areas that may be served by the same fire response resources that serve LAX, including the communities of Playa del Rey, Loyola Village, and Vista del Mar, the Manchester Square area, and portions of Westchester and Dockweiler State Beach.

5.5.11.1.1 Alternative 1

Alternative 1 would alter demands for fire protection services. Many of the components of Alternative 1, such as airfield and ground access improvements, would enhance safety and efficiency at the airport, thereby decreasing the potential need for fire and emergency response. However, development of new terminal areas and new ground access facilities would increase demand for fire protection services. Implementation of LAX Master Plan Commitments FP-1, PS-1, PS-2, C-1, ST-9, ST-12, ST-14, ST-17, ST-18, ST-19, ST-21, and ST-22 and ongoing regulatory compliance would ensure that impacts relative to fire and emergency services would be less than significant.

Cumulative on-airport projects that are independent from SPAS include airfield safety and terminal improvements, installation of security fencing and lighting, construction of the Airport Response Coordination Center (ARCC) and the LAX Public Safety Building and Supporting Facilities, LAX Northside, and various fire system, infrastructure, electrical, and Americans with Disabilities Act (ADA) upgrades. Many of the cumulative projects, including those related to maintenance, signage, and infrastructure upgrades, would have no impact on fire protection. Other projects, such as the Airfield Operating Area (AOA) Perimeter Fence Enhancements and the ARCC, would improve overall safety at the airport and reduce the potential demand for fire and emergency response. On-airport cumulative projects that would increase passenger-serving areas, provide new maintenance or cargo facilities, or add new development, such as the Bradley West Project, Midfield Satellite Concourse (MSC), North and South Terminals Improvements, West Maintenance Area, and LAX Northside, in combination with

[852] See footnote 842 with regard to the pending relocation of this facility.

Table 5-4

Combined Aircraft Noise and Road Traffic Noise in 2025 - Cumulative Impacts

			Alt. 1		Alt. 2		Alt. 3		Alt. 4		Alt. 5[2]		Alt. 6[2]		Alt. 7[2]	
	Receptor ID/Grid Point[1]	Combined Noise Level Without SPAS	Cumulative Combined Noise With SPAS	Contribution of Alternative	Cumulative Combined Noise With SPAS	Contribution of Alternative	Cumulative Combined Noise With SPAS	Contribution of Alternative	Cumulative Combined Noise With SPAS	Contribution of Alternative	Cumulative Combined Noise With SPAS	Contribution of Alternative	Cumulative Combined Noise With SPAS	Contribution of Alternative	Cumulative Combined Noise With SPAS	Contribution of Alternative
Combined Noise	RD1/RG29	67.5		-2.0	67.4	-0.2	66.9	-0.6	67.6	0.1	67.4	-0.2	67.4	-0.2	67.3	-0.2
Combined Noise	RD2/RG51	71.3	70.8	-0.5	70.8	-0.5	70.8	-0.5	70.7	-0.6	70.8	-0.5	70.8	-0.5	70.8	-0.6
Combined Noise	RD3/RG73	76.3	74.0	-2.3	74.0	-2.3	74.0	-2.3	74.0	-2.2	74.0	-2.3	74.0	-2.3	73.9	-2.4
Combined Noise	RD4/RG74	70.6	70.7	0.0	70.7	0.0	70.5	-0.1	70.6	0.0	70.7	0.0	70.7	0.0	70.6	0.0
Combined Noise	RD5/RG84	65.0	66.5	1.5	65.6	0.6	65.5	0.5	65.0	0.0	66.9	1.9	66.0	1.0	65.5	0.6
Combined Noise	RD6/RG84	64.8	66.4	1.6	65.4	0.6	66.0	1.2	65.4	0.7	66.8	2.0	65.8	1.0	65.3	0.6
Combined Noise	RD7/RG95	67.7	69.5	1.8	68.4	0.6	68.5	0.8	68.2	0.5	69.9	2.2	68.8	1.0	68.4	0.6
Combined Noise	RD8/RG105	69.5	69.0	-0.4	69.1	-0.4	69.0	-0.4	69.2	-0.2	69.0	-0.4	69.1	-0.4	69.1	-0.4
Combined Noise	RD9/RG115	73.5	73.6	0.2	73.6	0.2	72.8	-0.7	73.6	0.1	73.6	0.2	73.6	0.2	73.6	0.2
Combined Noise	RD10/RG103	67.8	67.6	-0.2	67.6	-0.2	67.7	-0.1	67.7	0.0	67.6	-0.2	67.6	-0.2	67.6	-0.2
Combined Noise	RD11/RG125	61.8	62.1	0.3	62.1	0.3	62.5	0.7	61.9	0.1	62.1	0.3	62.1	0.3	62.1	0.3
Combined Noise	RD12/RG102	65.7	65.7	0.0	65.7	0.0	65.1	-0.5	65.6	-0.1	65.7	0.0	65.7	0.0	65.7	0.0
Combined Noise	RD13/RG91	70.0	70.2	0.2	70.2	0.2	70.1	0.1	70.2	0.2	70.2	0.2	70.2	0.2	70.2	0.2
Combined Noise	RD14/RG83/3/3A	67.0	66.7	-0.3	67.0	0.1	68.6	1.6	67.1	0.1	66.6	-0.4	66.9	-0.1	67.0	0.1
Combined Noise	RD15/RG70	75.6	75.4	-0.3	75.4	-0.3	75.7	0.0	75.7	0.0	75.4	-0.3	75.4	-0.3	75.4	-0.3

[1] Road traffic noise-sensitive receptor locations shown in Figure 4.10.2-1, and road noise level data derived from Appendix J2. Aircraft noise grid points shown in Figure 4.10.1-6, and aircraft grid point noise data derived from Appendix J1. Transit noise-sensitive receptor locations shown in Figure 4.10.4-2 and transit noise data derived from Appendix J3.

[2] This alternative focuses on airfield improvements. Aircraft noise estimates are specific to this alternative. Road traffic noise for this alternative is assumed to be comparable to that of Alternative 1.

Source: Ricondo & Associates, Inc., CDM Smith, 2012.

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Alternative 1, have the potential to increase demand for fire and emergency services. The majority of projects that would contribute to this cumulative impact are related to the LAX Master Plan, and would be subject to LAX Master Plan commitments and regulatory requirements that would ensure that cumulative impacts from airport-related development would be less than significant. The LAX Northside project would also add new development that would have the potential to increase demand for fire and emergency services. The LAX Northside project would be reviewed through standard City processes to ensure compliance with the Uniform Fire Code, Los Angeles Fire Code, City of Los Angeles General Plan Fire Prevention Plan, and other applicable Los Angeles Fire Department (LAFD) requirements. In addition, measures that address fire protection are incorporated in the development requirements for the LAX Northside Sub-Area in the LAX Specific Plan. With implementation of these conditions, fulfillment of LAX Master Plan commitments, and the recent relocation and expansion of Station 5, the potential impacts of the LAX Northside project on levels of fire protection services would be less than significant. With implementation of LAX Master Plan commitments, regulatory requirements, past improvements in fire protection facilities, and planned upgrades such as the LAX Public Safety Building and Supporting Facilities, cumulative impacts associated with airport-related development would be less than significant.

Regarding cumulative off-airport projects, the development of the Metro Crenshaw/LAX Transit Corridor Project and the Airport Metro Connector would introduce new rail systems in the airport vicinity and within the CTA, with a corresponding potential increase in demand for fire and emergency services. However, Metro would be responsible for implementing System Safety Program Plans and System Security Plans for Metro projects, which would address the safety and security of transit commuter operations, mitigate accidents, and support compliance with state regulations.[853] These safety measures have been established to provide employee and passenger safety, crime prevention, adequate emergency response, and emergency procedures. In addition, the proposed stations would be designed to promote pedestrian safety and would be adequately lit and monitored by security personnel.

The Metro Crenshaw/LAX Transit Corridor would have a beneficial effect on the regional transportation network compared to existing conditions.[854] Although the Airport Metro Connector Project is currently being studied with various alternatives under consideration, it is also expected to have a beneficial effect on the regional transportation network. This reduced traffic congestion would reduce the potential for degradation of response times adjacent to LAX. In addition, the removal of remaining residences within the Manchester Square and Belford areas through implementation of LAWA's residential acquisition program would reduce the overall demand for fire protection services in the LAX area.

In light of past and planned improvements to airport-related fire protection facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 1 in combination with cumulative projects would not restrict emergency access, increase response times, or extend station response distances beyond the standards maintained by the agencies serving LAX and the surrounding communities. Moreover, cumulative development would not result in the need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels. Therefore, cumulative impacts on fire protection services under Alternative 1 would be less than significant.

5.5.11.1.2 Alternative 2

Cumulative impacts to fire protection services resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. In light of past and planned improvements to airport-related fire protection facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance,

853 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011, p. 4-267 and p. F-65.

854 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011, p. 3-37.

improvements under Alternative 2 in combination with cumulative projects would not restrict emergency access, increase response times, or extend station response distances beyond the standards maintained by the agencies serving LAX and the surrounding communities. Moreover, cumulative development would not result in the need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels. Therefore, cumulative impacts on fire protection services under Alternative 2 would be less than significant.

5.5.11.1.3 Alternative 3

Cumulative impacts to fire protection services resulting from the combination of Alternative 3 and other cumulative projects may be greater than Alternative 1. Similar to Alternative 1, many of the components of Alternative 3, such as airfield and ground access improvements, would enhance safety and efficiency at the airport, thereby decreasing the potential need for fire and emergency response. However, the ground access facilities associated with Alternative 3 are substantially larger than those associated with the other SPAS alternatives, and would create substantial passenger handling capacity along the Aviation Boulevard corridor. These improvements, in conjunction with on-airport projects and off-airport projects, including the adjacent Metro Crenshaw/LAX Transit Corridor Project, would introduce a greater population concentration along Aviation Boulevard and at the intersection of Century and Aviation Boulevards (adjacent to the planned Metro station) than would the other SPAS alternatives. Depending upon the selected alternative, the Airport Metro Connector may introduce a new transit system within the CTA and the Century Corridor area. This would potentially create greater demand on fire protection resources. Implementation of LAX Master Plan Commitments FP-1, PS-1, PS-2, C-1, ST-9, ST-12, ST-14, ST-17, ST-18, ST-19, ST-21, and ST-22 and ongoing regulatory compliance would ensure that impacts relative to fire and emergency services would be less than significant.

Cumulative on-airport projects that are independent from SPAS include airfield safety and terminal improvements, installation of security fencing and lighting, construction of the ARCC and the LAX Public Safety Building and Supporting Facilities, LAX Northside, and various fire system, infrastructure, electrical, and ADA upgrades. Many of these projects would improve overall safety at the airport and reduce the potential demand for fire and emergency response and others would have no impact on fire protection. Although development of LAX Northside would increase demand for fire protection and emergency services, with compliance with regulatory requirements, [Q] zoning conditions, and LAX Master Plan commitments, and the recent relocation and expansion of Station 5, impacts of the LAX Northside project on fire protection services would be less than significant. As noted in the discussion of Alternative 1, the majority of airport-related projects that would contribute to cumulative increases in the demand for fire protection services are related to the LAX Master Plan, and would be subject to LAX Master Plan commitments and regulatory compliance that would ensure that cumulative impacts from airport-related development would be less than significant. Moreover, fire protection facilities that serve the airport have recently been upgraded and future improvements are planned. Overall, cumulative impacts associated with airport-related development would be less than significant.

Regarding cumulative off-airport projects, the development of the Metro Crenshaw/LAX Transit Corridor Project and the Airport Metro Connector would introduce new rail systems and increase the concentration of people in the airport vicinity, with a corresponding potential increase in demand for fire and emergency services. Similarly, depending on the alternative selected, the Airport Metro Connector would also introduce a new rail system within the CTA and the Century Corridor area. However, Metro would be responsible for implementing System Safety Program Plans and System Security Plans for Metro projects, which would address the safety and security of transit commuter operations, mitigate accidents, and support compliance with state regulations.[855] These safety measures have been established to provide employee and passenger safety, crime prevention, adequate emergency response, and

[855] U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011, p. 4-267 and p. F-65.

emergency procedures. In addition, the proposed stations would be designed to promote pedestrian safety and would be adequately lit and monitored by security personnel.

The Metro Crenshaw/LAX Transit Corridor would have a beneficial effect on the regional transportation network compared to existing conditions.[856] Although the Airport Metro Connector Project is currently being studied with various alternatives under consideration, it is also expected to have a beneficial effect on the regional transportation network. This reduced traffic congestion would reduce the potential for degradation of response times adjacent to LAX. In addition, the removal of remaining residences within the Manchester Square and Belford areas through implementation of LAWA's residential acquisition program would reduce the overall demand for fire protection services in the LAX area.

In light of past and planned improvements to airport-related fire protection facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 3 in combination with cumulative projects would not restrict emergency access, increase response times, or extend station response distances beyond the standards maintained by the agencies serving LAX and the surrounding communities. Moreover, cumulative development would not result in the need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels. Therefore, cumulative impacts on fire protection services under Alternative 3 would be less than significant.

5.5.11.1.4 Alternative 4

Enhancements to airfield safety under Alternative 4 would not be as extensive as under Alternative 1, and impacts to fire protection services under Alternative 4 would be less than significant with implementation of LAX Master Plan Commitments FP-1, PS-1, PS-2, C-1, ST-9, ST-12, ST-14, ST-17, ST-18, ST-19, ST-21, and ST-22 and ongoing regulatory compliance. As with Alternative 1, in light of past and planned improvements to airport-related fire protection facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 4 in combination with cumulative projects would not restrict emergency access, increase response times, or extend station response distances beyond the standards maintained by the agencies serving LAX and the surrounding communities. Moreover, cumulative development would not result in the need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels. Therefore, cumulative impacts on fire protection services under Alternative 4 would be less than significant.

5.5.11.1.5 Alternative 5

Airfield and terminal improvements under Alternative 5 would be similar to Alternative 1. As with Alternative 1, impacts to fire and emergency services associated with these improvements would be less than significant. Cumulative impacts to fire protection services resulting from the combination of Alternative 5 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. In light of past and planned improvements to airport-related fire protection facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 5 in combination with cumulative projects would not restrict emergency access, increase response times, or extend station response distances beyond the standards maintained by the agencies serving LAX and the surrounding communities. Moreover, cumulative development would not result in the need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels. Therefore, cumulative impacts on fire protection services under Alternative 5 would be less than significant.

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856 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011, p. 3-37.

5.5.11.1.6 Alternative 6

Airfield and terminal improvements under Alternative 6 would be similar to Alternative 1. As with Alternative 1, impacts to fire and emergency services associated with these improvements would be less than significant. Cumulative impacts to fire protection services resulting from the combination of Alternative 6 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. In light of past and planned improvements to airport-related fire protection facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 6 in combination with cumulative projects would not restrict emergency access, increase response times, or extend station response distances beyond the standards maintained by the agencies serving LAX and the surrounding communities. Moreover, cumulative development would not result in the need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels. Therefore, cumulative impacts on fire protection services under Alternative 6 would be less than significant.

5.5.11.1.7 Alternative 7

Airfield and terminal improvements under Alternative 7 would be similar to aspects of Alternative 3 and Alternative 5. As with these alternatives, impacts to fire and emergency services associated with these improvements would be less than significant. Cumulative impacts to fire protection services resulting from the combination of Alternative 7 and other cumulative projects would be similar to the cumulative impacts described above for these alternatives. In light of past and planned improvements to airport-related fire protection facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 7 in combination with cumulative projects would not restrict emergency access, increase response times, or extend station response distances beyond the standards maintained by the agencies serving LAX and the surrounding communities. Moreover, cumulative development would not result in the need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels. Therefore, cumulative impacts on fire protection services under Alternative 7 would be less than significant.

5.5.11.1.8 Alternative 8

Ground access improvements under Alternative 8 would be generally similar to Alternative 1. As with Alternative 1, impacts to fire and emergency services associated with these improvements would be less than significant. Cumulative impacts to fire protection services resulting from the combination of Alternative 8 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. In light of past and planned improvements to airport-related fire protection facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 8 in combination with cumulative projects would not restrict emergency access, increase response times, or extend station response distances beyond the standards maintained by the agencies serving LAX and the surrounding communities. Moreover, cumulative development would not result in the need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels. Therefore, cumulative impacts on fire protection services under Alternative 8 would be less than significant.

5.5.11.1.9 Alternative 9

Ground access improvements under Alternative 9 would be generally similar to Alternative 1. As with Alternative 1, impacts to fire and emergency services associated with these improvements would be less than significant. Cumulative impacts to fire protection services resulting from the combination of Alternative 9 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. In light of past and planned improvements to airport-related fire protection facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 9 in combination with cumulative projects would not restrict

emergency access, increase response times, or extend station response distances beyond the standards maintained by the agencies serving LAX and the surrounding communities. Moreover, cumulative development would not result in the need for a new fire station or the expansion, consolidation, or relocation of an existing facility to maintain adequate service levels. Therefore, cumulative impacts on fire protection services under Alternative 9 would be less than significant.

5.5.11.2 Law Enforcement

The types of development projects at or adjacent to LAX that have the potential to result in cumulative impacts on law enforcement include various airside, terminal, land development, infrastructure, security, and transportation projects. These types of projects are further described below.

5.5.11.2.1 Alternative 1

Alternative 1 would alter demand for law enforcement services. Many of the components of Alternative 1, such as airfield and ground access improvements, would enhance safety at the airport and improve response times, thereby reducing demand for law enforcement services. However, development of new terminal areas and new ground access facilities would increase demand for law enforcement services. Implementation of LAX Master Plan Commitments LE-1, LE-2, PS-1, PS-2, C-1, ST-9, ST-12, ST-14, ST-17, ST-18, ST-19, ST-21, and ST-22 would ensure that impacts to law enforcement services, facilities, and response times would be less than significant in most instances. The removal of the Los Angeles World Airports Police Division (LAWAPD) station and associated facilities on West 96th Street would result in a significant impact to law enforcement if the planned LAX Public Safety Building and Supporting Facilities is not completed prior to removal of these facilities. SPAS Mitigation Measure MM-LE (SPAS)-1, LAWAPD Replacement Facilities, would ensure that adequate law enforcement facilities are maintained. Therefore, impacts to law enforcement services and facilities would be less than significant.

Cumulative on-airport projects that are independent from SPAS include airfield and terminal safety improvements, installation of security fencing and lighting, construction of the Airport Response Coordination Center (ARCC) and the LAX Public Safety Building and Supporting Facilities, LAX Northside, and various other safety, infrastructure, and security upgrades. Many of the cumulative projects, including those related to maintenance, signage, and infrastructure upgrades, would have no impact on law enforcement. Other projects, such as the Airfield Operating Area (AOA) Perimeter Fence Enhancements and the ARCC, would improve overall safety at the airport and reduce the potential demand for law enforcement services and facilities. In particular, the LAX Public Safety Building and Supporting Facilities would consolidate existing facilities and personnel under one roof, creating a larger, more modern and efficient facility that would result in an improvement and expansion of LAWAPD facilities. The new facility would be sited to ensure that adequate response times are maintained. On-airport cumulative projects that would increase passenger-serving areas, provide new maintenance or cargo facilities, or add new development, such as the Bradley West Project, Midfield Satellite Concourse (MSC), North and South Terminals Improvements, West Maintenance Area, and LAX Northside, in combination with Alternative 1, have the potential to increase demands for law enforcement services. The majority of projects that would contribute to this cumulative impact are related to the LAX Master Plan, and would be subject to LAX Master Plan commitments and regulatory requirements that would ensure that cumulative impacts from airport-related development would be less than significant. The LAX Northside project would also add new development that would have the potential to increase demand for law enforcement services. With review of project plans by LAWAPD and Los Angeles Police Department (LAPD), implementation of the security features referenced in the development requirements for the LAX Northside Sub-Area in the LAX Specific Plan, provision of a police station within the area, and fulfillment of LAX Master Plan commitments, impacts on law enforcement services associated with LAX Northside would be less than significant. With implementation of LAX Master Plan commitments, regulatory requirements, and planned upgrades such as the LAX Public Safety Building and Supporting Facilities, cumulative impacts associated with airport-related development would be less than significant.

Regarding cumulative off-airport projects, the development of the Metro Crenshaw/LAX Transit Corridor Project and Airport Metro Connector Project would introduce new rail systems in the airport vicinity and

within the CTA, with a corresponding potential increase in demand for law enforcement services. However, Metro would be responsible for implementing System Safety Program Plans and System Security Plans for Metro projects, which would address the safety and security of transit commuter operations, mitigate accidents, and support compliance with state regulations.[857] These safety measures have been established to provide employee and passenger safety, crime prevention, adequate emergency response, and emergency procedures. In addition, the proposed stations would be designed to avoid obstructions to visibility or observation and would be adequately lit and monitored by security personnel.

The Metro Crenshaw/LAX Transit Corridor would have a beneficial effect on the regional transportation network compared to existing conditions.[858] Although the Airport Metro Connector Project is currently being studied with various alternatives under consideration, it is also expected to have a beneficial effect on the regional transportation network. This reduced traffic congestion would reduce the potential for degradation of response times adjacent to LAX. In addition, the removal of remaining residences within the Manchester Square and Belford areas through implementation of LAWA's residential acquisition program would reduce the overall demand for law enforcement services in the LAX area.

In light of planned improvements to law enforcement facilities, LAX Master Plan commitments, SPAS and project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 1 in combination with cumulative projects would not require a substantial increase in law enforcement services to maintain adequate services or require new or expanded facilities without providing adequate mechanisms for addressing these additional needs. Moreover, cumulative development would not increase emergency response times beyond the limits required by applicable jurisdictions. Therefore, cumulative impacts on law enforcement services under Alternative 1 would be less than significant.

5.5.11.2.2 Alternative 2

Cumulative impacts to law enforcement services resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. In light of planned improvements to law enforcement facilities, LAX Master Plan commitments, SPAS and project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 2 in combination with cumulative projects would not require a substantial increase in law enforcement services to maintain adequate services or require new or expanded facilities without providing adequate mechanisms for addressing these additional needs. Moreover, cumulative development would not increase emergency response times beyond the limits required by applicable jurisdictions. Therefore, cumulative impacts on law enforcement services under Alternative 2 would be less than significant.

5.5.11.2.3 Alternative 3

Cumulative impacts to law enforcement services resulting from the combination of Alternative 3 and other cumulative projects may be greater than Alternative 1. Similar to Alternative 1, many of the components of Alternative 3, such as airfield and ground access improvements, would enhance safety and efficiency at the airport, thereby decreasing the potential need for law enforcement services. However, the ground access facilities associated with Alternative 3 are substantially larger than those associated with the other SPAS alternatives, and would create substantial passenger handling capacity along the Aviation Boulevard corridor. These improvements, in conjunction with on-airport projects and off-airport projects, including the adjacent Metro Crenshaw/LAX Transit Corridor Project, would introduce a greater

857 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011, p. 4-267 and p. F-65.

858 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011, p. 3-37.

population concentration along Aviation Boulevard and at the intersection of Century and Aviation Boulevards (adjacent to the planned Metro station) than would the other SPAS alternatives. Depending upon the selected alternative, the Airport Metro Connector Project may introduce a new transit system within the CTA and the Century Corridor area. This would potentially increase demand on law enforcement resources. However, similar to Alternative 1, implementation of LAX Master Plan Commitments LE-1, LE-2, PS-1, PS-2, C-1, ST-9, ST-12, ST-14, ST-17, ST-18, ST-19, ST-21, and ST-22 would ensure that impacts to law enforcement services, facilities, and response times under Alternative 3 would be less than significant in most instances. The removal of the LAWAPD station and associated facilities on West 96th Street would result in a significant impact to law enforcement if the planned LAX Public Safety Building and Supporting Facilities is not completed prior to removal of these facilities. SPAS Mitigation Measure MM-LE (SPAS)-1, LAWAPD Replacement Facilities, would ensure that adequate law enforcement facilities are maintained. Therefore, impacts to law enforcement services and facilities would be less than significant.

Cumulative on-airport projects that are independent from SPAS include airfield and terminal safety improvements, installation of security fencing and lighting, construction of the ARCC and the LAX Public Safety Building and Supporting Facilities, LAX Northside, and various other safety, infrastructure, and security upgrades. Some of these projects would have no impact on law enforcement and many others would improve overall safety at the airport and reduce the potential demand for law enforcement services and facilities. In particular, the LAX Public Safety Building and Supporting Facilities would consolidate existing facilities and personnel under one roof, creating a larger, more modern and efficient facility that would result in an improvement and expansion of LAWAPD facilities. The new facility would be sited to ensure that adequate response times are maintained. Although development of LAX Northside would increase demand for law enforcement services, with review of project plans by LAWAPD and LAPD, implementation of the security features referenced in the approved [Q] zoning conditions for LAX Northside, provision of a police station within the area, and fulfillment of LAX Master Plan commitments, impacts on law enforcement services associated with LAX Northside would be less than significant. As noted in the discussion of Alternative 1, the majority of airport-related projects that would contribute to cumulative increases in the demand for law enforcement services are related to the LAX Master Plan, and would be subject to LAX Master Plan commitments and regulatory requirements that would ensure that cumulative impacts from airport-related development would be less than significant. Overall, cumulative impacts associated with airport-related development would be less than significant.

Regarding cumulative off-airport projects, the development of the Metro Crenshaw/LAX Transit Corridor Project would introduce a new rail system and would increase the concentration of people in the airport vicinity, specifically along Aviation Boulevard and at the intersection of Century and Aviation Boulevards (adjacent to the planned Metro station) with a corresponding potential increase in demand for law enforcement services. Similarly, depending on the alternative selected, the Airport Metro Connector Project would also introduce a new rail system within the CTA and the Century Corridor area. However, Metro would be responsible for implementing System Safety Program Plans and System Security Plans for Metro projects, which would address the safety and security of transit commuter operations, mitigate accidents, and support compliance with state regulations.[859] These safety measures have been established to provide employee and passenger safety, crime prevention, adequate emergency response, and emergency procedures. In addition, the proposed stations would be designed to avoid obstructions to visibility or observation and would be adequately lit and monitored by security personnel.[860]

The Metro Crenshaw/LAX Transit Corridor would have a beneficial effect on the regional transportation network compared to existing conditions. Although the Airport Metro Connector Project is currently being

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859 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011, p. 4-267 and p. F-65.

860 U.S. Department of Transportation, Federal Transit Administration and Los Angeles County Metropolitan Transportation Authority (Metro), Crenshaw/LAX Transit Corridor Project Final Environmental Impact Report/Environmental Impact Statement, August 2011, p. 3-37.

studied with various alternatives under consideration, it is also expected to have a beneficial effect on the regional transportation network. This reduced traffic congestion would reduce the potential for degradation of response times adjacent to LAX. In addition, the removal of remaining residences within the Manchester Square and Belford areas through implementation of LAWA's residential acquisition program would reduce the overall demand for law enforcement services in the LAX area.

In light of planned improvements to law enforcement facilities, LAX Master Plan commitments, SPAS and project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 3 in combination with cumulative projects would not require a substantial increase in law enforcement services to maintain adequate services or require new or expanded facilities without providing adequate mechanisms for addressing these additional needs. Moreover, cumulative development would not increase emergency response times beyond the limits required by applicable jurisdictions. Therefore, cumulative impacts on law enforcement services under Alternative 3 would be less than significant.

5.5.11.2.4 Alternative 4

Enhancements to airfield safety under Alternative 4 would not be as extensive as under Alternative 1 and no terminal improvements would occur. In addition, Alternative 4 would not require the relocation of the LAWAPD station and associated facilities located at West 96th Street. Implementation of LAX Master Plan Commitments LE-1, LE-2, PS-1, PS-2, C-1, ST-9, ST-12, ST-14, ST-17, ST-18, ST-19, ST-21, and ST-22 would ensure that impacts to law enforcement services, facilities, and response times would be less than significant. In light of planned improvements to law enforcement facilities, LAX Master Plan commitments, project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 4 in combination with cumulative projects would not require a substantial increase in law enforcement services to maintain adequate services or require new or expanded facilities without providing adequate mechanisms for addressing these additional needs. Moreover, cumulative development would not increase emergency response times beyond the limits required by applicable jurisdictions. Therefore, cumulative impacts on law enforcement services under Alternative 4 would be less than significant.

5.5.11.2.5 Alternative 5

Airfield and terminal improvements under Alternative 5 would be similar to Alternative 1. As with Alternative 1, impacts to law enforcement associated with these improvements would be less than significant. Cumulative impacts to law enforcement services resulting from the combination of Alternative 5 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. In light of planned improvements to law enforcement facilities, LAX Master Plan commitments, SPAS and project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 5 in combination with cumulative projects would not require a substantial increase in law enforcement services to maintain adequate services or require new or expanded facilities without providing adequate mechanisms for addressing these additional needs. Moreover, cumulative development would not increase emergency response times beyond the limits required by applicable jurisdictions. Therefore, cumulative impacts on law enforcement services under Alternative 5 would be less than significant.

5.5.11.2.6 Alternative 6

Airfield and terminal improvements under Alternative 6 would be similar to Alternative 1. As with Alternative 1, impacts to law enforcement associated with these improvements would be less than significant. Cumulative impacts to law enforcement services resulting from the combination of Alternative 6 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. In light of planned improvements to law enforcement facilities, LAX Master Plan commitments, SPAS and project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 6 in combination with cumulative projects would not require a substantial increase in law enforcement services to maintain adequate services or require new or

expanded facilities without providing adequate mechanisms for addressing these additional needs. Moreover, cumulative development would not increase emergency response times beyond the limits required by applicable jurisdictions. Therefore, cumulative impacts on law enforcement services under Alternative 6 would be less than significant.

5.5.11.2.7 Alternative 7

Airfield and terminal improvements under Alternative 7 would be similar to aspects of Alternative 3 and Alternative 5. As with these alternatives, impacts to law enforcement associated with these improvements would be less than significant. Cumulative impacts to law enforcement services resulting from the combination of Alternative 7 and other cumulative projects would be similar to the cumulative impacts described above for these alternatives. In light of planned improvements to law enforcement facilities, LAX Master Plan commitments, SPAS and project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 7 in combination with cumulative projects would not require a substantial increase in law enforcement services to maintain adequate services or require new or expanded facilities without providing adequate mechanisms for addressing these additional needs. Moreover, cumulative development would not increase emergency response times beyond the limits required by applicable jurisdictions. Therefore, cumulative impacts on law enforcement services under Alternative 7 would be less than significant.

5.5.11.2.8 Alternative 8

Ground access improvements under Alternative 8 would be generally similar to Alternative 1. As with Alternative 1, impacts to law enforcement services associated with these improvements would be less than significant. Cumulative impacts to law enforcement services resulting from the combination of Alternative 8 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. In light of planned improvements to law enforcement facilities, LAX Master Plan commitments, SPAS and project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 8 in combination with cumulative projects would not require a substantial increase in law enforcement services to maintain adequate services or require new or expanded facilities without providing adequate mechanisms for addressing these additional needs. Moreover, cumulative development would not increase emergency response times beyond the limits required by applicable jurisdictions. Therefore, cumulative impacts on law enforcement services under Alternative 8 would be less than significant.

5.5.11.2.9 Alternative 9

Ground access improvements under Alternative 9 would be generally similar to Alternative 1. As with Alternative 1, impacts to law enforcement services associated with these improvements would be less than significant. Cumulative impacts to law enforcement services resulting from the combination of Alternative 9 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. In light of planned improvements to law enforcement facilities, LAX Master Plan commitments, SPAS and project-specific mitigation measures, design features, and regulatory compliance, improvements under Alternative 9 in combination with cumulative projects would not require a substantial increase in law enforcement services to maintain adequate services or require new or expanded facilities without providing adequate mechanisms for addressing these additional needs. Moreover, cumulative development would not increase emergency response times beyond the limits required by applicable jurisdictions. Therefore, cumulative impacts on law enforcement services under Alternative 9 would be less than significant.

5.5.12 Transportation

5.5.12.1 On-Airport Transportation

Cumulative impacts to on-airport transportation are incorporated into the analysis provided in Section 4.12.1, *On-Airport Transportation*, in Chapter 4, *Environmental Impact Analysis*. More

specifically, the contributions of the SPAS alternatives to cumulative impacts were determined based on a comparison between Future (2025) With Alternative traffic conditions and Future (2025) Without Alternative traffic conditions. Please see Section 4.12.1 for a discussion of the methodology used in the analysis of cumulative on-airport transportation impacts, determination as to whether the contribution of each SPAS alternative to significant cumulative impacts would be considerable, and mitigation proposed to address cumulatively considerable contributions.

5.5.12.2 Off-Airport Transportation

Cumulative impacts to off-airport transportation are incorporated into the analysis provided in Section 4.12.2, *Off-airport Transportation*, in Chapter 4, *Environmental Impact Analysis*. More specifically, the contributions of the SPAS alternatives to cumulative impacts were determined based on a comparison between Future (2025) With Alternative traffic conditions and Future (2025) Without Alternative traffic conditions. Please see Section 4.12.2 for a discussion of the methodology used in the analysis of cumulative off-airport transportation impacts, determination as to whether the contribution of each SPAS alternative to significant cumulative impacts would be considerable, and mitigation proposed to address cumulatively considerable contributions.

5.5.13 Utilities

5.5.13.1 Energy

This section addresses potential cumulative impacts to energy supply associated with Alternatives 1 through 9, in combination with other past, present, and probable future projects. As discussed in Section 4.13.1.3, electricity and natural gas consumption at LAX results from a number of activities, including space heating and cooling, airfield and terminal lighting, food preparation, and office functions. Energy is also used indirectly in the delivery, treatment, and distribution of water used at LAX and the treatment of wastewater generated by airport-related activities. Transportation-related fuel consumption includes aviation fuel (i.e., Jet A) for aircraft, as well as gasoline, diesel, and alternative fuels for on- and off-airport vehicles, construction, and ground support equipment (GSE).

Within LAX, the projects that would contribute to cumulative energy use are the Midfield Satellite Concourse (MSC) Program, LAX Northside, Bradley West Project, North Terminals Improvements, and the LAX Public Safety Building and Supporting Facilities. The regional analysis for electricity is based on future projections of electricity demand and supply from the City of Los Angeles' *Power Integrated Resource Plan*.[861] The regional analysis for natural gas is based on future projections of natural gas demand and supply from the annual *California Gas Report*, prepared by the state's natural gas utilities.[862] Cumulative impacts pertaining to petroleum fuel products consider Southern California Association of Governments (SCAG) regional projections, national demands, and the world's projected oil supply.[863,864]

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861 City of Los Angeles, Department of Water and Power, Power Integrated Resource Plan, December 11, 2011, Available: http://www.lapowerplan.org/.

862 The California Gas and Electric Utilities, 2010 California Gas Report, 2010, Available: http://www.socalgas.com/regulatory/cgr.shtml.

863 Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, April 2012.

864 U.S. Energy Information Administration (EIA), Long-Term World Oil Supply Scenarios, August 2004.

City and regional electricity and natural gas supply planning programs would ensure adequate energy supply for projected cumulative growth within the City of Los Angeles through the year 2025. As indicated in Section 4.13.1, *Energy*, existing energy supplies of electricity, natural gas, and transportation-related fuels are considered to be adequate, with sufficient supplies to meet the future energy needs of LAX.[865,866,867]

5.5.13.1.1 Alternative 1

Electricity and Natural Gas

Under Alternative 1, demand for electricity and natural gas would increase due to new passenger-related facilities and energy use associated with water supply and wastewater treatment. Implementation of LAX Master Plan commitments, adherence to LAWA's *Sustainability Plan*, and compliance with federal policies and state requirements pertaining to energy efficiency would increase the energy efficiency of the proposed buildings. Measures aimed at increasing water conservation would decrease indirect consumption of electricity. As indicated in Section 4.13.1, *Energy*, existing and projected supplies of electricity and natural gas are expected to be sufficient to accommodate demand, including demand associated with Alternative 1.

As indicated above, the projects at LAX that would contribute to cumulative electricity and natural gas use are the MSC, LAX Northside, Bradley West Project, North Terminals Improvements, and LAX Public Safety Building and Supporting Facilities. Cumulative development in the region would also increase electricity and natural gas demand. New buildings would be required to meet energy consumption standards prescribed for new structures in Title 24. New development at LAX would have the added requirement to comply with LAWA's *Sustainability Plan*, including the goal that all new buildings at LAX meet Leadership in Energy and Environmental Design (LEED®) Silver or higher standards. With compliance with these standards, cumulative development would be more energy efficient than buildings built previously. As a result, cumulative projects would not result in a wasteful, inefficient, or unnecessary consumption of electricity or natural gas.

As noted in Section 4.13.1, *Energy*, electricity consumption within the City of Los Angeles Department of Water and Power's (LADWP) service area is projected to increase marginally through 2030, with an annual growth rate of approximately 1.1 percent.[868] Regional natural gas demand is projected to contract at an average annual rate of approximately 0.2 percent through 2030.[869] LADWP and the Southern California Gas Company have sufficient supplies of electricity and natural gas, respectively, to meet existing and future demands. Therefore, cumulative impacts related to electricity and natural gas consumption would be less than significant.

Transportation-Related Fuel

Passenger activity levels at LAX are forecasted to be 78.9 million annual passengers (MAP) by 2025 as a result of projected natural growth. The increase in passenger activity, and related aircraft operations, is expected to occur with or without implementation of this alternative. Projected increased passenger demand and aircraft operations at LAX would result in increased consumption of transportation-related fuels associated with aircraft, on- and off-airport vehicle trips, and GSE. The increased fuel demand would be partially offset by increasingly higher vehicle fleet fuel efficiency. Construction activities

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865 The California Gas and Electric Utilities, 2010 California Gas Report, 2010, Available: http://www.socalgas.com/regulatory/cgr.shtml.

866 City of Los Angeles, Department of Water and Power, Power Integrated Resource Plan, December 11, 2011, Available: http://www.lapowerplan.org/.

867 U.S. Energy Information Administration (EIA), Long-Term World Oil Supply Scenarios, August 2004.

868 City of Los Angeles, Department of Water and Power, Power Integrated Resource Plan, December 11, 2011, Available: http://www.lapowerplan.org/.

869 The California Gas and Electric Utilities, 2010 California Gas Report, 2010, Available: http://www.socalgas.com/regulatory/cgr.shtml.

associated with Alternative 1 would also increase fuel consumption. As indicated in Section 4.13.1, *Energy*, petroleum product supplies, including all forms of transportation-related fuels, are anticipated to be adequate well beyond 2025.[870] Therefore, the impact associated with an increase in fuel consumption under Alternative 1 would be less than significant.

Cumulative development at LAX and in the region would also contribute to increased demand for transportation-related fuels. As indicated above, since adequate supplies of these fuels are anticipated to be available well beyond 2025, the cumulative impact of increased fuel consumption would be less than significant.

5.5.13.1.2 Alternative 2

Cumulative impacts associated with energy consumption resulting from the combination of Alternative 2 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, increased demand for electricity, natural gas, and transportation-related fuels under Alternative 2, in conjunction with cumulative development at LAX and in the region, would result in a cumulative increase in energy consumption. Cumulative demand for energy would be partially offset by energy efficiency standards for buildings and vehicles. Existing and future supplies of electricity, natural gas, and transportation-related fuels would be sufficient to accommodate cumulative demands. Therefore, cumulative impacts associated with energy consumption would be less than significant and cumulative projects would not result in a wasteful, inefficient, or unnecessary consumption of energy.

5.5.13.1.3 Alternative 3

Cumulative impacts associated with energy consumption resulting from the combination of Alternative 3 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, increased demand for electricity, natural gas, and transportation-related fuels under Alternative 3, in conjunction with cumulative development at LAX and in the region, would result in a cumulative increase in energy consumption. Cumulative demand for energy would be partially offset by energy efficiency standards for buildings and vehicles. Existing and future supplies of electricity, natural gas, and transportation-related fuels would be sufficient to accommodate cumulative demands. Therefore, cumulative impacts associated with energy consumption would be less than significant and cumulative projects would not result in a wasteful, inefficient, or unnecessary consumption of energy.

5.5.13.1.4 Alternative 4

Cumulative impacts associated with energy consumption resulting from the combination of Alternative 4 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, increased demand for electricity, natural gas, and transportation-related fuels under Alternative 4, in conjunction with cumulative development at LAX and in the region, would result in a cumulative increase in energy consumption. Cumulative demand for energy would be partially offset by energy efficiency standards for buildings and vehicles. Existing and future supplies of electricity, natural gas, and transportation-related fuels would be sufficient to accommodate cumulative demands. Therefore, cumulative impacts associated with energy consumption would be less than significant and cumulative projects would not result in a wasteful, inefficient, or unnecessary consumption of energy.

5.5.13.1.5 Alternative 5

Cumulative impacts associated with energy consumption resulting from the combination of Alternative 5 and other cumulative projects would be similar to the cumulative impacts described above for

[870] California Energy Commission, Transportation Energy Forecasts and Analysis for the 2009 Integrated Energy Policy Report, May 2010.

Alternative 1. As with Alternative 1, increased demand for electricity, natural gas, and transportation-related fuels under Alternative 5, in conjunction with cumulative development at LAX and in the region, would result in a cumulative increase in energy consumption. Cumulative demand for energy would be partially offset by energy efficiency standards for buildings. Existing and future supplies of electricity, natural gas, and transportation-related fuels would be sufficient to accommodate cumulative demands. Therefore, cumulative impacts associated with energy consumption would be less than significant and cumulative projects would not result in a wasteful, inefficient, or unnecessary consumption of energy.

5.5.13.1.6 Alternative 6

Cumulative impacts associated with energy consumption resulting from the combination of Alternative 6 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, increased demand for electricity, natural gas, and transportation-related fuels under Alternative 6, in conjunction with cumulative development at LAX and in the region, would result in a cumulative increase in energy consumption. Cumulative demand for energy would be partially offset by energy efficiency standards for buildings. Existing and future supplies of electricity, natural gas, and transportation-related fuels would be sufficient to accommodate cumulative demands. Therefore, cumulative impacts associated with energy consumption would be less than significant and cumulative projects would not result in a wasteful, inefficient, or unnecessary consumption of energy.

5.5.13.1.7 Alternative 7

Cumulative impacts associated with energy consumption resulting from the combination of Alternative 7 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, increased demand for electricity, natural gas, and transportation-related fuels under Alternative 7, in conjunction with cumulative development at LAX and in the region, would result in a cumulative increase in energy consumption. Cumulative demand for energy would be partially offset by energy efficiency standards for buildings. Existing and future supplies of electricity, natural gas, and transportation-related fuels would be sufficient to accommodate cumulative demands. Therefore, cumulative impacts associated with energy consumption would be less than significant and cumulative projects would not result in a wasteful, inefficient, or unnecessary consumption of energy.

5.5.13.1.8 Alternative 8

Cumulative impacts associated with energy consumption resulting from the combination of Alternative 8 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, increased demand for electricity, natural gas, and transportation-related fuels under Alternative 8, in conjunction with cumulative development at LAX and in the region, would result in a cumulative increase in energy consumption. Cumulative demand for energy would be partially offset by energy efficiency standards for buildings and vehicles. Existing and future supplies of electricity, natural gas, and transportation-related fuels would be sufficient to accommodate cumulative demands. Therefore, cumulative impacts associated with energy consumption would be less than significant and cumulative projects would not result in a wasteful, inefficient, or unnecessary consumption of energy.

5.5.13.1.9 Alternative 9

Cumulative impacts associated with energy consumption resulting from the combination of Alternative 9 and other cumulative projects would be similar to the cumulative impacts described above for Alternative 1. As with Alternative 1, increased demand for electricity, natural gas, and transportation-related fuels under Alternative 9, in conjunction with cumulative development at LAX and in the region, would result in a cumulative increase in energy consumption. Cumulative demand for energy would be partially offset by energy efficiency standards for buildings and vehicles. Existing and future supplies of electricity, natural gas, and transportation-related fuels would be sufficient to accommodate cumulative demands. Therefore, cumulative impacts associated with energy consumption would be less than

significant and cumulative projects would not result in a wasteful, inefficient, or unnecessary consumption of energy.

5.5.13.2 Solid Waste

Current projections indicate that, under current conditions, existing solid waste disposal facilities will not be able to accommodate daily disposal demands in 2025.[871] Many landfills in the urbanized portions of the County of Los Angeles are at or near capacity, resulting in a need to transport waste to less urban areas of the region, or outside the region. Pursuant to Assembly Bill 939, the *2010 Annual Report on the Countywide Summary Plan and Countywide Siting Element* provided an analysis of nine scenarios to assist the County in meeting projected future disposal demands. These scenarios range from maintaining the status quo (i.e., no new landfills or expansions of existing landfills in the County) to scenarios in which the County successfully permits and develops all in-County landfill expansions; expands transfer and processing infrastructure; studies, promotes, and develops conversion technologies; develops a waste-by-rail system; and maximizes waste reduction and recycling.[872] The report concludes that six of the scenarios have the potential to meet the projected future daily disposal demand through the 15-year planning period (through 2025). Currently, extensions are being sought at several landfills, and the County of Los Angeles is pursuing development of a waste-by-rail system outside the County. Notwithstanding these plans, the ability of the County to meet future disposal demands is uncertain.

The following LAX Master Plan mitigation measure has been adopted by LAWA to reduce cumulative solid waste impacts:

- **MM-SW-1. Provide Landfill Capacity.**

  Additional landfill capacity in the Los Angeles region should be provided through the siting of new landfills, the expansion of existing landfills, or the extension of permits for existing facilities. As an alternative, or to augment regional landfill capacity, landfill capacity outside the region could be accessed by developing the necessary rail haul infrastructure. The responsibility for implementing this mitigation measure lies with state, county, and local solid waste planning authorities. The costs for implementing this mitigation measure will be passed on to LAX and other solid waste generators through increase solid waste disposal costs.

5.5.13.2.1 Alternative 1

Passenger activity levels at LAX are forecasted to be 78.9 million annual passengers (MAP) by 2025 as a result of natural growth. The increase in passenger activity is expected to occur with or without implementation of this alternative. Projected increased passenger demand at LAX, in conjunction with other regional projects and population growth, would result in cumulative increases to municipal solid waste generation within the Los Angeles region. Although the Sunshine Canyon Landfill has the existing physical and permitted capacity to accept solid waste beyond the SPAS planning horizon, and several landfills are scheduled to remain open during this timeframe, future regional solid waste disposal capacity to meet projected demand in Los Angeles County is not assured. As a result, impacts associated with cumulative increases in municipal solid waste generation would be significant and LAX's contribution to these impacts would be cumulatively considerable.

Cumulative impacts from population growth could be mitigated though implementation of LAX Master Plan Mitigation Measure MM-SW-1, Provide Landfill Capacity. Implementation of this mitigation measure is the responsibility of another agency (or agencies). If this mitigation measure is not fully implemented,

871 County of Los Angeles, Department of Public Works, 2010 Annual Report on the Countywide Summary Plan and Countywide Siting Element, October 2011.

872 County of Los Angeles, Department of Public Works, 2010 Annual Report on the Countywide Summary Plan and Countywide Siting Element, October 2011.

cumulative impacts associated with solid waste generation and disposal would remain significant, and LAX's contribution would remain cumulatively considerable.

5.5.13.2.2 Alternative 2

Cumulative impacts to solid waste resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, projected increased passenger demand at LAX under Alternative 2 (which would occur with or without implementation of this alternative), in conjunction with other regional projects and population growth, would result in cumulative increases to municipal solid waste generation within the Los Angeles region. As future regional solid waste disposal capacity to meet projected demand is not assured, these cumulative impacts would be significant and the contribution of Alternative 2 to these impacts would be cumulatively considerable for the same reasons described above for Alternative 1.

Cumulative impacts from population growth could be mitigated though implementation of LAX Master Plan Mitigation Measure MM-SW-1, Provide Landfill Capacity. Implementation of this mitigation measure is the responsibility of another agency (or agencies). If this mitigation measure is not fully implemented, LAX's contribution to significant cumulative impacts associated with solid waste generation and disposal would remain cumulatively considerable.

5.5.13.2.3 Alternative 3

Cumulative impacts to solid waste resulting from the combination of Alternative 3 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, projected increased passenger demand at LAX under Alternative 3 (which would occur with or without implementation of this alternative), in conjunction with other regional projects and population growth, would result in cumulative increases to municipal solid waste generation within the Los Angeles region. As future regional solid waste disposal capacity to meet projected demand is not assured, these cumulative impacts would be significant and the contribution of Alternative 3 to these impacts would be cumulatively considerable for the same reasons described above for Alternative 1.

Cumulative impacts from population growth could be mitigated though implementation of LAX Master Plan Mitigation Measure MM-SW-1, Provide Landfill Capacity. Implementation of this mitigation measure is the responsibility of another agency (or agencies). If this mitigation measure is not fully implemented, LAX's contribution to significant cumulative impacts associated with solid waste generation and disposal would remain cumulatively considerable.

5.5.13.2.4 Alternative 4

Cumulative impacts to solid waste resulting from the combination of Alternative 4 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, projected increased passenger demand at LAX under Alternative 4 (which would occur with or without implementation of this alternative), in conjunction with other regional projects and population growth, would result in cumulative increases to municipal solid waste generation within the Los Angeles region. As future regional solid waste disposal capacity to meet projected demand is not assured, these cumulative impacts would be significant and the contribution of Alternative 4 to these impacts would be cumulatively considerable for the same reasons described above for Alternative 1.

Cumulative impacts from population growth could be mitigated though implementation of LAX Master Plan Mitigation Measure MM-SW-1, Provide Landfill Capacity. Implementation of this mitigation measure is the responsibility of another agency (or agencies). If this mitigation measure is not fully implemented, LAX's contribution to significant cumulative impacts associated with solid waste generation and disposal would remain cumulatively considerable.

5.5.13.2.5 Alternative 5

Cumulative impacts to solid waste resulting from the combination of Alternative 5 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, projected increased passenger demand at LAX under Alternative 5 (which would occur with or without implementation of this alternative), in conjunction with other regional projects and population growth, would result in cumulative increases to municipal solid waste generation within the Los Angeles region. As future regional solid waste disposal capacity to meet projected demand is not assured, these cumulative impacts would be significant and the contribution of Alternative 5 to these impacts would be cumulatively considerable for the same reasons described above for Alternative 1.

Cumulative impacts from population growth could be mitigated though implementation of LAX Master Plan Mitigation Measure MM-SW-1, Provide Landfill Capacity. Implementation of this mitigation measure is the responsibility of another agency (or agencies). If this mitigation measure is not fully implemented, LAX's contribution to significant cumulative impacts associated with solid waste generation and disposal would remain cumulatively considerable.

5.5.13.2.6 Alternative 6

Cumulative impacts to solid waste resulting from the combination of Alternative 6 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, projected increased passenger demand at LAX under Alternative 6 (which would occur with or without implementation of this alternative), in conjunction with other regional projects and population growth, would result in cumulative increases to municipal solid waste generation within the Los Angeles region. As future regional solid waste disposal capacity to meet projected demand is not assured, these cumulative impacts would be significant and the contribution of Alternative 6 to these impacts would be cumulatively considerable for the same reasons described above for Alternative 1.

Cumulative impacts from population growth could be mitigated though implementation of LAX Master Plan Mitigation Measure MM-SW-1, Provide Landfill Capacity. Implementation of this mitigation measure is the responsibility of another agency (or agencies). If this mitigation measure is not fully implemented, LAX's contribution to significant cumulative impacts associated with solid waste generation and disposal would remain cumulatively considerable.

5.5.13.2.7 Alternative 7

Cumulative impacts to solid waste resulting from the combination of Alternative 7 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, projected increased passenger demand at LAX under Alternative 7 (which would occur with or without implementation of this alternative), in conjunction with other regional projects and population growth, would result in cumulative increases to municipal solid waste generation within the Los Angeles region. As future regional solid waste disposal capacity to meet projected demand is not assured, these cumulative impacts would be significant and the contribution of Alternative 7 to these impacts would be cumulatively considerable for the same reasons described above for Alternative 1.

Cumulative impacts from population growth could be mitigated though implementation of LAX Master Plan Mitigation Measure MM-SW-1, Provide Landfill Capacity. Implementation of this mitigation measure is the responsibility of another agency (or agencies). If this mitigation measure is not fully implemented, LAX's contribution to significant cumulative impacts associated with solid waste generation and disposal would remain cumulatively considerable.

5.5.13.2.8 Alternative 8

Cumulative impacts to solid waste resulting from the combination of Alternative 8 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, projected increased passenger demand at LAX under Alternative 8 (which would occur with or without implementation of this alternative), in conjunction with other regional projects and population

growth, would result in cumulative increases to municipal solid waste generation within the Los Angeles region. As future regional solid waste disposal capacity to meet projected demand is not assured, these cumulative impacts would be significant and the contribution of Alternative 8 to these impacts would be cumulatively considerable for the same reasons described above for Alternative 1.

Cumulative impacts from population growth could be mitigated though implementation of LAX Master Plan Mitigation Measure MM-SW-1, Provide Landfill Capacity. Implementation of this mitigation measure is the responsibility of another agency (or agencies). If this mitigation measure is not fully implemented, LAX's contribution to significant cumulative impacts associated with solid waste generation and disposal would remain cumulatively considerable.

5.5.13.2.9 Alternative 9

Cumulative impacts to solid waste resulting from the combination of Alternative 9 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, projected increased passenger demand at LAX under Alternative 9 (which would occur with or without implementation of this alternative), in conjunction with other regional projects and population growth, would result in cumulative increases to municipal solid waste generation within the Los Angeles region. As future regional solid waste disposal capacity to meet projected demand is not assured, these cumulative impacts would be significant and the contribution of Alternative 9 to these impacts would be cumulatively considerable for the same reasons described above for Alternative 1.

Cumulative impacts from population growth could be mitigated though implementation of LAX Master Plan Mitigation Measure MM-SW-1, Provide Landfill Capacity. Implementation of this mitigation measure is the responsibility of another agency (or agencies). If this mitigation measure is not fully implemented, LAX's contribution to significant cumulative impacts associated with solid waste generation and disposal would remain cumulatively considerable.

5.5.13.3 Wastewater Generation

The cumulative impacts analysis pertaining to wastewater generation considers the entire Hyperion Service Area (HSA), which includes the Hyperion Treatment Plant (HTP), Donald C. Tillman Water Reclamation Plant (DCTWRP), and Los Angeles-Glendale Water Reclamation Plant (LAGWRP). Within LAX, the projects that would contribute to cumulative wastewater generation are the Midfield Satellite Concourse (MSC) Program, LAX Northside, Bradley West Project, North Terminals Improvements, and the LAX Public Safety Building and Supporting Facilities. Building areas associated with these projects are consistent with the LAX Master Plan and, therefore, with the 2012 SCAG projections, which are considered by the Los Angeles Department of Water and Power (LADWP) in their wastewater planning, including their *Integrated Resources Plan* (IRP)[873] updates. The regional analysis is based on future projections of wastewater generation associated with the IRP as well as trendlines based on the Southern California Association of Governments (SCAG) 2008 *Regional Transportation Plan* (RTP), which projects the same future passenger activity level at LAX as SCAG's Draft 2012-2035 RTP/Sustainable Communities Strategy.[874]

The City's planning horizon for wastewater facilities is 2020. Projections of future flows within this horizon are provided in Figure 4.13.3-1. As indicated in the *IRP 5-Year Review Draft Documents for Stakeholder Review* (5-Year Review) and illustrated in the figure, with implementation of the IRP, the City expects to have sufficient capacity to treat wastewater flows within the HSA through 2020 and beyond.[875] The IRP

873 City of Los Angeles, Department of Public Works, Bureau of Sanitation and Department of Water and Power, IRP 5-Year Review Draft Documents for Stakeholder Review, January 2012, Available: http://www.lacitysan.org/irp/documents/I5R_DRAFT_Documents-v2.pdf, accessed March 7, 2012.

874 SCAG recently adopted the 2012-2035 RTP/SCS, however, the 2012-2035 RTP/SCS does not include projections of wastewater generation. The 2012-2035 RTP/SCS projects a lower future regional population than did the 2008 RTP; therefore, the trendline based on the 2008 RTP is likely conservative.

875 City of Los Angeles, Department of Public Works, Bureau of Sanitation and Department of Water and Power, IRP 5-Year

also anticipates sufficient future capacity at HTP. The plant, with a design capacity of 450 million gallons per day (mgd), had wastewater flows of 299 mgd[876] in 2010, leaving an available capacity of 151 mgd. Currently there are no plans to expand the design capacity of HTP before 2025.[877]

5.5.13.3.1 Alternative 1

Under Alternative 1, wastewater generation from passenger-related facilities would be 0.11 mgd in 2025. This would represent less than 0.03 percent of HTP's wastewater design capacity (450 mgd), which would not be significant compared to the existing available capacity at HTP. Moreover, as discussed in Section 4.13.3, *Wastewater Generation*, SCAG and HSA flow trendlines indicate that the HSA would have sufficient capacity to handle projected wastewater flows in 2025, including flows associated with Alternative 1.

As noted in Section 4.13.3, *Wastewater Generation*, implementation of the IRP would provide sufficient capacity to treat projected wastewater flows within the HSA, including flows from cumulative growth, through the City's 2020 planning horizon for wastewater facilities. As shown in Figure 4.13.3-1, if the SCAG and HSA wastewater flow trendlines continue beyond 2020, the HSA would have sufficient capacity to handle projected wastewater flows in 2025, including flows associated with Alternative 1, other cumulative projects at LAX, and cumulative growth in the service area. As it is reasonably foreseeable that wastewater treatment capacity would be sufficient to handle cumulative wastewater flows, the cumulative impacts of wastewater generation would be less than significant.

5.5.13.3.2 Alternative 2

Cumulative impacts associated with wastewater resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, with implementation of the IRP, there would be sufficient wastewater treatment capacity at HTP and within the HSA to accommodate projected wastewater flows in 2025, including flows from Alternative 2, other cumulative projects at LAX, and cumulative growth in the service area. As it is reasonably foreseeable that wastewater treatment capacity would be sufficient to handle cumulative wastewater flows, the cumulative impacts of wastewater generation would be less than significant.

5.5.13.3.3 Alternative 3

Under Alternative 3, wastewater generation from passenger-related facilities would be 0.41 mgd in 2025. This would represent 0.09 percent of HTP's wastewater design capacity (450 mgd), which would not be significant compared to the existing available capacity at HTP. Moreover, as discussed in Section 4.13.3, *Wastewater Generation*, SCAG and HSA flow trendlines indicate that the HSA would have sufficient capacity to handle projected wastewater flows in 2025, including flows associated with Alternative 3.

Cumulative impacts associated with wastewater resulting from the combination of Alternative 3 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, with implementation of the IRP, there would be sufficient wastewater treatment capacity at HTP and within the HSA to accommodate projected wastewater flows in 2025, including flows from Alternative 3, other cumulative projects at LAX, and cumulative growth in the service area. As it is reasonably foreseeable that wastewater treatment capacity would be sufficient to handle cumulative wastewater flows, the cumulative impacts of wastewater generation would be less than significant.

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876 City of Los Angeles, Department of Public Works, Bureau of Sanitation and Department of Water and Power, IRP 5-Year Review Draft Documents for Stakeholder Review, January 2012, Available: http://www.lacitysan.org/irp/documents/I5R_DRAFT_Documents-v2.pdf, accessed March 7, 2012.

877 Patel, Dipak, Process Engineer, Hyperion Service Plant, Personal Communication, April 23, 2012.

5.5.13.3.4 Alternative 4

Under Alternative 4, wastewater generation from passenger-related facilities would be 0.06 mgd in 2025. This would represent 0.01 percent of HTP's wastewater design capacity (450 mgd), which would not be significant compared to existing available capacity at HTP. Moreover, as discussed in Section 4.13.3, *Wastewater Generation*, SCAG and HSA flow trendlines indicate that the HSA would have sufficient capacity to handle projected wastewater flows in 2025, including flows associated with Alternative 4.

Cumulative impacts associated with wastewater resulting from the combination of Alternative 4 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, with implementation of the IRP, there would be sufficient wastewater treatment capacity at HTP and within the HSA to accommodate projected wastewater flows in 2025, including flows from Alternative 4, other cumulative projects at LAX, and cumulative growth in the service area. As it is reasonably foreseeable that wastewater treatment capacity would be sufficient to handle cumulative wastewater flows, the cumulative impacts of wastewater generation would be less than significant.

5.5.13.3.5 Alternative 5

Under Alternative 5, wastewater generation from passenger-related facilities would be 0.1 mgd in 2025. This would represent 0.02 percent of HTP's wastewater design capacity (450 mgd), which would not be significant compared to existing available capacity at HTP. Moreover, as discussed in Section 4.13.3, *Wastewater Generation*, SCAG and HSA flow trendlines indicate that the HSA would have sufficient capacity to handle projected wastewater flows in 2025, including flows associated with Alternative 5.

Cumulative impacts associated with wastewater resulting from the combination of Alternative 5 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, with implementation of the IRP, there would be sufficient wastewater treatment capacity at HTP and within the HSA to accommodate projected wastewater flows in 2025, including flows from Alternative 5, other cumulative projects at LAX, and cumulative growth in the service area. As it is reasonably foreseeable that wastewater treatment capacity would be sufficient to handle cumulative wastewater flows, the cumulative impacts of wastewater generation would be less than significant.

5.5.13.3.6 Alternative 6

Under Alternative 6, wastewater generation from passenger-related facilities would be 0.11 mgd in 2025. This would represent 0.02 percent of HTP's wastewater design capacity (450 mgd), which would not be significant compared to existing available capacity at HTP. Moreover, as discussed in Section 4.13.3, *Wastewater Generation*, SCAG and HSA flow trendlines indicate that the HSA would have sufficient capacity to handle projected wastewater flows in 2025, including flows associated with Alternative 6.

Cumulative impacts associated with wastewater resulting from the combination of Alternative 6 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, with implementation of the IRP, there would be sufficient wastewater treatment capacity at HTP and within the HSA to accommodate projected wastewater flows in 2025, including flows from Alternative 6, other cumulative projects at LAX, and cumulative growth in the service area. As it is reasonably foreseeable that wastewater treatment capacity would be sufficient to handle cumulative wastewater flows, the cumulative impacts of wastewater generation would be less than significant.

5.5.13.3.7 Alternative 7

Under Alternative 7, wastewater generation from passenger-related facilities would be 0.09 mgd in 2025. This would represent 0.02 percent of HTP's wastewater design capacity (450 mgd), which would not be significant compared to existing available capacity at HTP. Moreover, as discussed in Section 4.13.3, *Wastewater Generation*, SCAG and HSA flow trendlines indicate that the HSA would have sufficient capacity to handle projected wastewater flows in 2025, including flows associated with Alternative 7.

Cumulative impacts associated with wastewater resulting from the combination of Alternative 7 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, with implementation of the IRP, there would be sufficient wastewater treatment capacity at HTP and within the HSA to accommodate projected wastewater flows in 2025, including flows from Alternative 7, other cumulative projects at LAX, and cumulative growth in the service area. As it is reasonably foreseeable that wastewater treatment capacity would be sufficient to handle cumulative wastewater flows, the cumulative impacts of wastewater generation would be less than significant.

5.5.13.3.8 Alternative 8

Under Alternative 8, wastewater generation from passenger-related facilities would be 0.01 mgd in 2025. This would represent less than 0.003 percent of HTP's wastewater design capacity (450 mgd), which would not be significant compared to existing available capacity at HTP. Moreover, as discussed in Section 4.13.3, *Wastewater Generation*, SCAG and HSA flow trendlines indicate that the HSA would have sufficient capacity to handle projected wastewater flows in 2025, including flows associated with Alternative 8.

Cumulative impacts associated with wastewater resulting from the combination of Alternative 8 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, with implementation of the IRP, there would be sufficient wastewater treatment capacity at HTP and within the HSA to accommodate projected wastewater flows in 2025, including flows from Alternative 8, other cumulative projects at LAX, and cumulative growth in the service area. As it is reasonably foreseeable that wastewater treatment capacity would be sufficient to handle cumulative wastewater flows, the cumulative impacts of wastewater generation would be less than significant.

5.5.13.3.9 Alternative 9

Cumulative impacts associated with wastewater resulting from the combination of Alternative 9 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 8. As with Alternative 8, with implementation of the IRP, there would be sufficient wastewater treatment capacity at HTP and within the HSA to accommodate projected wastewater flows in 2025, including flows from Alternative 9, other cumulative projects at LAX, and cumulative growth in the service area. As it is reasonably foreseeable that wastewater treatment capacity would be sufficient to handle cumulative wastewater flows, the cumulative impacts of wastewater generation would be less than significant.

5.5.13.4 Water Supply

The cumulative impacts analysis pertaining to water demand and supply considers the entire Los Angeles Department of Water and Power (LADWP) service area. Within LAX, the projects that would contribute to cumulative water use are the Midfield Satellite Concourse (MSC) Program, LAX Northside, Bradley West Project, North Terminals Improvements, and the LAX Public Safety Building and Supporting Facilities. The regional analysis is based on future projections of demand and supply in LADWP's 2010 Urban Water Management Plan (UWMP)[878] and the projected growth in urbanization (i.e., population, households, and employment) within the region contained in the Southern California Association of Governments' (SCAG) 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).[879]

5.5.13.4.1 Alternative 1

As described in Section 4.13.4, *Water Supply*, water demand from passenger-related facilities under Alternative 1 would be 126.44 acre-feet per year (AF/yr) in 2025. This would represent less than 0.02

878 City of Los Angeles, Department of Water and Power, Urban Water Management Plan, July 2010.

879 Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, April 2012, Available: http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf.

percent of anticipated LADWP water demand in 2025 (675,600 AF).[880] The UWMP accounts for future activity levels that are consistent with activity levels under Alternative 1. In addition, and as indicated in Section 4.13.4, *Water Supply*, the conclusions of a Water Supply Assessment (WSA) prepared for the LAX Master Plan, which found that adequate water supplies will be available for the project, are still valid because passenger activity at LAX in 2025 would be 78.9 million annual passengers (MAP), the same activity level assumed in the WSA.

As indicated above, projects at LAX with the potential for cumulative impacts include the MSC, LAX Northside, Bradley West Project, North Terminals Improvements, and the LAX Public Safety Building and Supporting Facilities. Building areas associated with these improvements, and projected LAX activity level of 78.9 MAP, were included in the WSA prepared for the LAX Master Plan; hence, cumulative water demand at LAX has been considered by LADWP and is accounted for in the 2010 UWMP. As indicated in Section 4.13.4, *Water Supply*, according to the 2010 UWMP, citywide water supply planning programs will ensure adequate water supply for projected cumulative growth within the City of Los Angeles through the year 2035. The 2010 UWMP water supply projections are based on the 2008 RTP population projections. Subsequent to adoption of the 2010 UWMP, SCAG adopted the 2012-2035 RTP/SCS, which projects a decrease in population growth compared to the SCAG 2008 RTP projections. Therefore, the 2010 UWMP water supply projections remain valid and the City will have sufficient water supplies through 2035. As a result, impacts associated with cumulative increases in water demand would be less significant.

5.5.13.4.2 Alternative 2

Cumulative impacts associated with water use resulting from the combination of Alternative 2 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, water demand associated with Alternative 2, in conjunction with other projects at LAX and within the City, as well as citywide population growth, would result in cumulative increases in water demand. Water demand associated with cumulative projects at LAX is accounted for in the UWMP. Moreover, the UWMP states that sufficient water will be available for citywide growth through 2035. Although the UWMP is based on SCAG 2008 population projections, as noted previously, population projections in the SCAG 2012-2035 RTP/SCS are lower than the 2008 projections. Therefore, the UWMP water demand forecast remains valid. Because the UWMP projects that sufficient water will be available through 2035, impacts associated with cumulative increases in water demand would be less than significant.

5.5.13.4.3 Alternative 3

Cumulative impacts associated with water use resulting from the combination of Alternative 3 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, water demand associated with Alternative 3, in conjunction with other projects at LAX and within the City, as well as citywide population growth, would result in cumulative increases in water demand. Water demand associated with cumulative projects at LAX is accounted for in the UWMP. Moreover, the UWMP which states that sufficient water will be available for citywide growth through 2035. Although the UWMP is based on SCAG 2008 population projections, as noted previously, population projections in the SCAG 2012 RTP/SCS are lower than the 2008 projections. Therefore, the UWMP water demand forecast remains valid. Because the UWMP projects that sufficient water will be available through 2035, impacts associated with cumulative increases in water demand would be less than significant.

5.5.13.4.4 Alternative 4

Cumulative impacts associated with water use resulting from the combination of Alternative 4 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As

[880] City of Los Angeles, Department of Water and Power, Urban Water Management Plan, July 2010.

with Alternative 1, water demand associated with Alternative 4, in conjunction with other projects at LAX and within the City, as well as citywide population growth, would result in cumulative increases in water demand. Water demand associated with cumulative projects at LAX is accounted for in the UWMP. Moreover, the UWMP states that sufficient water will be available for citywide growth through 2035. Although the UWMP is based on SCAG 2008 population projections, as noted previously, population projections in the SCAG 2012 RTP/SCS are lower than the 2008 projections. Therefore, the UWMP water demand forecast remains valid. Because the UWMP projects that sufficient water will be available through 2035, impacts associated with cumulative increases in water demand would be less than significant.

5.5.13.4.5 Alternative 5

Cumulative impacts associated with water use resulting from the combination of Alternative 5 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, water demand associated with Alternative 5, in conjunction with other projects at LAX and within the City, as well as citywide population growth, would result in cumulative increases in water demand. Water demand associated with cumulative projects at LAX is accounted for in the UWMP. Moreover, the UWMP states that sufficient water will be available for citywide growth through 2035. Although the UWMP is based on SCAG 2008 population projections, as noted previously, population projections in the SCAG 2012 RTP/SCS are lower than the 2008 projections. Therefore, the UWMP water demand forecast remains valid. Because UWMP projects that sufficient water will be available through 2035, impacts associated with cumulative increases in water demand would be less than significant.

5.5.13.4.6 Alternative 6

Cumulative impacts associated with water use resulting from the combination of Alternative 6 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, water demand associated with Alternative 6, in conjunction with other projects at LAX and within the City, as well as citywide population growth, would result in cumulative increases in water demand. Water demand associated with cumulative projects at LAX is accounted for in the UWMP. Moreover, the UWMP states that sufficient water will be available for citywide growth through 2035. Although the UWMP is based on SCAG 2008 population projections, as noted previously, population projections in the SCAG 2012 RTP/SCS are lower than the 2008 projections. Therefore, the UWMP water demand forecast remains valid. Because the UWMP projects that sufficient water will be available through 2035, impacts associated with cumulative increases in water demand would be less than significant.

5.5.13.4.7 Alternative 7

Cumulative impacts associated with water use resulting from the combination of Alternative 7 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, water demand associated with Alternative 7, in conjunction with other projects at LAX and within the City, as well as citywide population growth, would result in cumulative increases in water demand. Water demand associated with cumulative projects at LAX is accounted for in the UWMP. Moreover, the UWMP which states that sufficient water will be available for citywide growth through 2035. Although the UWMP is based on SCAG 2008 population projections, as noted previously, population projections in the SCAG 2012 RTP/SCS are lower than the 2008 projections. Therefore, the UWMP water demand forecast remains valid. Because the UWMP projects that sufficient water will be available through 2035, impacts associated with cumulative increases in water demand would be less than significant.

5.5.13.4.8 Alternative 8

Cumulative impacts associated with water use resulting from the combination of Alternative 8 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As

with Alternative 1, water demand associated with Alternative 8, in conjunction with other projects at LAX and within the City, as well as citywide population growth, would result in cumulative increases in water demand. Water demand associated with cumulative projects at LAX is accounted for in the UWMP. Moreover, the UWMP states that sufficient water will be available for citywide growth through 2035. Although the UWMP is based on SCAG 2008 population projections, as noted previously, population projections in the SCAG 2012 RTP/SCS are lower than the 2008 projections. Therefore, the UWMP water demand forecast remains valid. Because the UWMP projects that sufficient water will be available through 2035, impacts associated with cumulative increases in water demand would be less than significant.

5.5.13.4.9 Alternative 9

Cumulative impacts associated with water use resulting from the combination of Alternative 9 and other cumulative projects would be the same as the cumulative impacts described above for Alternative 1. As with Alternative 1, water demand associated with Alternative 9, in conjunction with other projects at LAX and within the City, as well as citywide population growth, would result in cumulative increases in water demand. Water demand associated with cumulative projects at LAX is accounted for in the UWMP. Moreover, the UWMP states that sufficient water will be available for citywide growth through 2035. Although the UWMP is based on SCAG 2008 population projections, as noted previously, population projections in the SCAG 2012 RTP/SCS are lower than the 2008 projections. Therefore, the UWMP water demand forecast remains valid. Because the UWMP projects that sufficient water will be available through 2035, impacts associated with cumulative increases in water demand would be less than significant.

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