

Draft Environmental Impact Report (Draft EIR)

[State Clearinghouse No. 2013021020]

for

Los Angeles International Airport (LAX) Midfield Satellite Concourse

Main Report

City of Los Angeles
Los Angeles World Airports

March 2014



This page intentionally left blank

Draft Environmental Impact Report (Draft EIR)

[State Clearinghouse No. 2013021020]

for

Los Angeles International Airport (LAX) Midfield Satellite Concourse

Main Report

City of Los Angeles
Los Angeles World Airports

March 2014

This page intentionally left blank

Table of Contents

1.0	Introduction and Executive Summary	1-1
1.1	Summary of the Proposed Project	1-1
1.2	Relationship to Existing Plans and Documents	1-2
1.3	Purpose of this Draft EIR	1-3
1.4	Organization of this Draft EIR	1-4
1.5	Summary of Environmental Impacts	1-6
1.6	Environmentally Superior Alternative	1-14
1.7	Areas of Known Controversy and Issues to be Resolved	1-16
2.0	Description of the Proposed Project	2-1
2.1	Midfield Satellite Concourse Background	2-1
2.2	MSC Program as Part of the LAX Master Plan	2-2
2.3	Project Objectives	2-5
2.4	Project Location	2-6
2.5	Project Characteristics	2-9
	2.5.1 Midfield Satellite Concourse Program	2-9
	2.5.2 MSC North Project	2-10
	2.5.3 Removal/Relocation of Existing Facilities	2-41
	2.5.4 Construction Phasing	2-47
	2.5.5 Construction Staging, Parking, and Haul Routes	2-48
	2.5.6 Future Phase(s) of the MSC Program	2-51
2.6	Intended Uses of This Draft EIR	2-56
	2.6.1 Required Approvals/Consultations	2-56
3.0	Overview of Project Setting	3-1
3.1	Land Use Setting	3-1
	3.1.1 MSC North Project	3-1
	3.1.2 MSC Program	3-2
3.2	Environmental Setting	3-2
3.3	Development Setting/Related Projects	3-4
4.0	Environmental Impact Analysis	4-1
4.1	Air Quality	4-7
	4.1.1 Introduction	4-7
	4.1.2 Methodology	4-11
	4.1.3 Existing Conditions	4-20
	4.1.4 Thresholds of Significance	4-28
	4.1.5 Applicable LAX Master Plan Commitments and Mitigation Measures	4-31
	4.1.6 Impact Analysis	4-38
	4.1.7 Cumulative Impacts	4-55
	4.1.8 Mitigation Measures	4-56
	4.1.9 Level of Significance After Mitigation	4-60
4.2	Greenhouse Gas Emissions	4-61
	4.2.1 Introduction	4-61
	4.2.2 Methodology	4-64
	4.2.3 Existing Conditions	4-72
	4.2.4 Thresholds of Significance	4-90
	4.2.5 Applicable LAX Master Plan Commitments and Mitigation Measures	4-92

	4.2.6	Impact Analysis	4-97
	4.2.7	Cumulative Impacts	4-105
	4.2.8	Mitigation Measures	4-105
	4.2.9	Level of Significance after Mitigation	4-116
4.3		Human Health Risk Assessment	4-117
	4.3.1	Introduction	4-117
	4.3.2	Methodology.....	4-119
	4.3.3	Existing Conditions	4-130
	4.3.4	CEQA Thresholds of Significance.....	4-134
	4.3.5	Applicable LAX Master Plan Commitments and Mitigation Measures.....	4-135
	4.3.6	Impact Analysis	4-143
	4.3.7	Cumulative Impacts	4-153
	4.3.8	Mitigation Measures.....	4-154
	4.3.9	Level of Significance after Mitigation	4-155
4.4		Noise	4-157
	4.4.1	Introduction	4-157
	4.4.2	Methodology.....	4-160
	4.4.3	Existing Conditions	4-162
	4.4.4	Thresholds of Significance.....	4-166
	4.4.5	Applicable LAX Master Plan Commitments and Mitigation Measures.....	4-166
	4.4.6	Impact Analysis	4-169
	4.4.7	Cumulative Impacts	4-171
	4.4.8	Mitigation Measures.....	4-172
	4.4.9	Level of Significance After Mitigation	4-172
4.5		Public Services – Fire Protection Services	4-173
	4.5.1	Introduction	4-173
	4.5.2	Methodology.....	4-174
	4.5.3	Existing Conditions	4-174
	4.5.4	Thresholds of Significance.....	4-189
	4.5.5	Applicable LAX Master Plan Commitments	4-189
	4.5.6	Impact Analysis	4-193
	4.5.7	Cumulative Impacts	4-197
	4.5.8	Mitigation Measures.....	4-197
	4.5.9	Level of Significance After Mitigation	4-197
4.6		On-Airport Transportation	4-199
	4.6.1	Introduction	4-199
	4.6.2	Methodology.....	4-200
	4.6.3	Existing Conditions	4-205
	4.6.4	Analysis of Existing Conditions	4-229
	4.6.5	CEQA Thresholds of Significance.....	4-246
	4.6.6	Applicable LAX Master Plan Commitments and Mitigation Measures.....	4-247
	4.6.7	On-Airport Transportation System Improvements	4-248
	4.6.8	Future (2025) Traffic Conditions	4-252
	4.6.9	Evaluation of Traffic Conditions for Analyses Conditions	4-257
	4.6.10	Impact Analysis	4-271
	4.6.11	Mitigation Measures.....	4-280
	4.6.12	Level of Significance After Mitigation	4-280
4.7		Construction Surface Transportation	4-281
	4.7.1	Introduction	4-281
	4.7.2	Methodology.....	4-283
	4.7.3	Existing Conditions	4-288
	4.7.4	Project-Generated Traffic.....	4-301
	4.7.5	Future Cumulative Traffic.....	4-307

4.7.6	Thresholds of Significance.....	4-317
4.7.7	Applicable LAX Master Plan Commitments.....	4-319
4.7.8	Impact Analysis.....	4-321
4.7.9	Mitigation Measures.....	4-329
4.7.10	Level of Significance After Mitigation.....	4-330
5.0	Alternatives.....	5-1
5.1	Introduction.....	5-1
5.2	Significant Impacts of the MSC North Project and Future Phase(s) of the MSC Program.....	5-2
5.3	Project Objectives.....	5-2
5.4	Alternatives.....	5-3
5.4.1	Potential Alternatives Screened-Out from Further Consideration.....	5-3
5.4.2	Alternatives Carried Forward for Further Consideration.....	5-8
5.5	Evaluation of Alternatives.....	5-19
5.5.1	MSC North Project.....	5-19
5.5.2	Future Phase(s) of the MSC Program.....	5-38
5.6	Environmentally Superior Alternative.....	5-46
5.6.1	MSC North Project.....	5-46
5.6.2	Future Phase(s) of the MSC Program.....	5-50
6.0	Other Environmental Considerations.....	6-1
6.1	Significant Unavoidable Impacts.....	6-1
6.2	Irreversible Environmental Changes.....	6-2
6.3	Growth Inducing Impacts.....	6-3
6.3.1	Project Characteristics.....	6-3
6.3.2	Economic Growth.....	6-3
6.3.3	Removal of an Impediment to Growth.....	6-4
6.3.4	Development or Encroachment into an Isolated Open Space.....	6-4
6.3.5	Precedent Setting Action.....	6-4
6.4	Less Than Significant Effects.....	6-4
7.0	List of Preparers, Parties to Whom Sent, List of References, NOP Comments, List of Acronyms.....	7-1
7.1	List of Preparers.....	7-1
7.2	Parties to Whom Sent.....	7-3
7.3	References.....	7-8
7.4	NOP Comments.....	7-15
7.5	List of Acronyms.....	7-16

Appendices

- Appendix A Initial Study and Distribution List, Notice of Preparation (NOP), Scoping Meeting Materials, NOP Comments
- Appendix B Air Quality and Greenhouse Gas Emissions
- Appendix C Human Health Risk Assessment
- Appendix D Noise
- Appendix E On-Airport Traffic
- Appendix F Construction Traffic
- Appendix G Aircraft Gate Closures at LAX

List of Tables

Table 1-1	Summary of Environmental Impacts for the MSC North Project by Resource Topic	1-7
Table 1-2	Summary of Environmental Impacts for the Future Phase(s) of the MSC Program by Resource Topic	1-11
Table 2-1	MSC North Project - Summary of Planned Utility Relocations and Modifications	2-35
Table 2-2	Summary of Existing Facilities to be Removed/Relocated as part of MSC North Project	2-41
Table 3-1	LAX Development Projects Not Related to the MSC Project Elements	3-5
Table 3-2	LAX Area Background Development Projects	3-9
Table 4.1-1	LAX Total Aircraft Operations and Taxi Times, by Calendar Year	4-17
Table 4.1-2	LAX Total Aircraft Operations and Taxi Times, by Calendar Year	4-20
Table 4.1-3	National and California Ambient Air Quality Standards (NAAQS and CAAQS)	4-22
Table 4.1-4	South Coast Air Basin Attainment Status	4-24
Table 4.1-5	Southwest Coastal Los Angeles and South Coastal Los Angeles County Monitoring Station Ambient Air Quality Data	4-26
Table 4.1-6	Existing (2012) Airport Emissions	4-28
Table 4.1-7	SCAQMD CEQA Mass Emission Thresholds of Significance for Air Pollutant Emissions in the South Coast Air Basin	4-29
Table 4.1-8	SCAQMD CEQA Project-Related Concentration Thresholds of Significance for Air Pollutant Concentrations in the South Coast Air Basin	4-30
Table 4.1-9	General Air Quality Control Measures	4-32
Table 4.1-10	Construction-Related Control Measures	4-33
Table 4.1-11	Traffic-Related Air Quality Control Measures	4-35
Table 4.1-12	Operations-Related Air Quality Control Measures	4-36
Table 4.1-13	MSC North Project Maximum Construction Emissions (lbs/day)	4-38
Table 4.1-14	Construction Peak Concentrations	4-39
Table 4.1-15	Aircraft Emissions – 2012 Existing Conditions Compared to 2012 With MSC North Project	4-40
Table 4.1-16	Busing Emissions – 2012 Existing Conditions Compared to 2012 With MSC North Project	4-41
Table 4.1-17	GSE Emissions – 2012 Existing Conditions Compared to 2012 With MSC North Project	4-41
Table 4.1-18	APU Emissions – 2012 Existing Conditions Compared to 2012 With MSC North Project	4-42
Table 4.1-19	Stationary Source Emissions – 2012 Existing Conditions Compared to 2012 With MSC North Project	4-42
Table 4.1-20	Total Operational Emissions – 2012 Existing Conditions Compared to 2012 With MSC North Project	4-42
Table 4.1-21	2012 MSC North Project Emissions Compared to 2012 Existing Conditions (lbs/day)	4-43
Table 4.1-22	Aircraft Emissions – 2019 Without Project Compared to 2019 With MSC North Project	4-43
Table 4.1-23	Busing Emissions – 2019 Without Project Compared to 2019 With MSC North Project	4-44
Table 4.1-24	GSE Emissions – 2019 Without Project Compared to 2019 With MSC North Project	4-44
Table 4.1-25	APU Emissions – 2019 Without Project Compared to 2019 With MSC North Project	4-44
Table 4.1-26	Stationary Source Emissions – 2019 Without Project Compared to 2019 With MSC North Project	4-45

Table 4.1-27	Total Operational Emissions – 2019 Without Project Compared to 2019 With MSC North Project	4-45
Table 4.1-28	2019 Future With MSC North Project Emissions Compared to 2019 Future Without MSC North Project Conditions (lbs/day)	4-46
Table 4.1-29	2012 With MSC North Project Incremental Peak Concentrations Compared to 2012 Existing Conditions	4-47
Table 4.1-30	2019 Future With MSC North Project Incremental Peak Concentrations Compared to 2019 Future Without MSC North Project Conditions	4-48
Table 4.1-31	Aircraft Emissions – 2012 Existing Conditions Compared to 2012 With MSC Program	4-49
Table 4.1-32	GSE Emissions – 2012 Existing Conditions Compared to 2012 With MSC Program	4-50
Table 4.1-33	APU Emissions – 2012 Existing Conditions Compared to 2012 With MSC Program	4-50
Table 4.1-34	Stationary Source Emissions – 2012 Existing Conditions Compared to 2012 With MSC Program	4-50
Table 4.1-35	Total Operational Emissions – 2012 Existing Conditions Compared to 2012 With MSC Program	4-51
Table 4.1-36	2012 MSC Program Emissions Compared to 2012 Existing Conditions (lbs/day)	4-51
Table 4.1-37	Aircraft Emissions – 2025 Without Program Compared to 2025 With MSC Program	4-52
Table 4.1-38	GSE Emissions – 2025 Without Program Compared to 2025 With MSC Program	4-52
Table 4.1-39	APU Emissions – 2025 Without Program Compared to 2025 With MSC Program	4-53
Table 4.1-40	Stationary Source Emissions – 2025 Without Program Compared to 2025 With MSC Program	4-53
Table 4.1-41	On-Airport Roadway Emissions – 2025 Without Program Compared to 2025 With MSC Program	4-53
Table 4.1-42	Total Operational Emissions – 2025 Without Program Compared to 2025 With MSC Program	4-54
Table 4.1-43	2025 Future With MSC Program Emissions Compared to 2025 Future Without MSC Program Conditions (lbs/day)	4-54
Table 4.1-44	Cumulative Construction Projects Peak Daily Emissions Estimates (lbs/day)	4-56
Table 4.1-45	Off-Road Vehicle Compliance Step-Down Schedule	4-59
Table 4.1-46	On-Road Vehicle Compliance Step-Down Schedule	4-59
Table 4.2-1	Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases	4-63
Table 4.2-2	Assumed Aircraft Operations and Taxi Times, MSC North Project by Calendar Year	4-68
Table 4.2-3	Assumed Aircraft Operations and Taxi Times, MSC Program by Calendar Year	4-71
Table 4.2-4	City of Los Angeles Green Building Code (LAGBC) Tier 1 Requirements for Newly-Constructed Nonresidential Buildings	4-79
Table 4.2-5	State of California GHG Emissions	4-89
Table 4.2-6	Existing (2012) Operational GHG Emissions	4-90
Table 4.2-7	General Air Quality Control Measures	4-92
Table 4.2-8	Construction-Related Control Measures	4-93
Table 4.2-9	Traffic-Related Air Quality Control Measures	4-94
Table 4.2-10	Operations-Related Air Quality Control Measures	4-96
Table 4.2-11	Construction Greenhouse Gas Emissions	4-98
Table 4.2-12	2012 MSC North Project Greenhouse Gas Emissions Compared to Existing (2012) Conditions	4-100
Table 4.2-13	2019 Future With MSC North Project Greenhouse Gas Emissions Compared to 2019 Future Without MSC North Project Conditions	4-101

Table 4.2-14	2012 With MSC Program Greenhouse Gas Emissions Compared to Existing (2012) Conditions.....	4-102
Table 4.2-15	2025 Future With MSC Program Greenhouse Gas Emissions Compared to 2025 Future Without MSC Program Conditions.....	4-103
Table 4.2-16	Evaluation of Potential GHG Mitigation Measures from the California Office of the Attorney General.....	4-107
Table 4.2-17	Evaluation of Potential GHG Mitigation Measures from the California Office of Planning and Research.....	4-112
Table 4.3-1	Toxic Air Contaminants (TAC) of Concern for the proposed Project.....	4-120
Table 4.3-2	Parameters Used to Estimate Exposures to TACs of Concern.....	4-122
Table 4.3-3	General Air Quality Control Measures.....	4-135
Table 4.3-4	Construction-Related Control Measures.....	4-137
Table 4.3-5	Traffic-Related Air Quality Control Measures.....	4-139
Table 4.3-6	Operations-Related Air Quality Control Measures.....	4-142
Table 4.3-7	Comparison of CalOSHA Permissible Exposure Limits to Maximum Estimated 8-Hour On-Site Air Concentrations.....	4-143
Table 4.3-8	Incremental Cancer Risks and Chronic Non-Cancer Human Health Hazards for Maximally Exposed Individuals from the MSC North Project.....	4-145
Table 4.3-9	Maximum Incremental Acute Non-Cancer Hazard Indices from Construction.....	4-147
Table 4.3-10	Maximum Incremental Acute Non-Cancer Hazard Indices from Operations.....	4-149
Table 4.4-1	Common Sounds On The A-Weighted Decibel Scale.....	4-158
Table 4.4-2	Daily Number of Operations Arriving/Departing at MSC North.....	4-161
Table 4.4-3	Aircraft SEL Footprints.....	4-162
Table 4.4-4	City of Los Angeles Presumed Ambient Noise Levels.....	4-164
Table 4.4-5	City of Los Angeles Land Use Compatibility for Community Noise.....	4-165
Table 4.4-6	Taxiway Noise CNELs.....	4-170
Table 4.4-7	Taxiway Noise CNELs, Incremental Difference.....	4-171
Table 4.5-1	Federal Regulations.....	4-174
Table 4.5-2	Sections of National Fire Protection Association Code Relevant to MSC.....	4-176
Table 4.5-3	Sections of California Building Code Relevant to MSC.....	4-179
Table 4.5-4	City of Los Angeles Fire Department Stations Located at LAX.....	4-185
Table 4.6-1	CTA Average Daily Traffic Volumes.....	4-211
Table 4.6-2	Summary of Existing (2012) Roadway and Curbside Peak Hours.....	4-217
Table 4.6-3	Existing (2012) CTA Traffic Volumes by Roadway Link.....	4-223
Table 4.6-4	Existing (2012) Passenger Mode Splits and Vehicle Occupancies.....	4-228
Table 4.6-5	Curbside Demand LOS and Utilization Ranges for Curbsides with Dual Lane Passenger Loading/Unloading.....	4-231
Table 4.6-6	Curbside Demand Levels of Service and Utilization Ranges for Curbsides with Single Lane Passenger Loading/Unloading.....	4-232
Table 4.6-7	Existing (2012) Peak Period Curbside Analysis Results.....	4-233
Table 4.6-8	Level of Service Definitions for Signalized Intersections.....	4-238
Table 4.6-9	Peak Hour CTA Signalized Intersection Turning Movement Volumes and Level of Service Analysis - Existing (2012) Conditions.....	4-239
Table 4.6-10	Capacity and Level of Service Ranges for Terminal Area Roadways.....	4-241
Table 4.6-11	Roadway Level of Service and Volume to Capacity (V/C) Ratio Ranges.....	4-242
Table 4.6-12	CTA Roadway Link Analysis - Existing (2012) Conditions.....	4-242
Table 4.6-13	Level of Service Impact Thresholds for On-Airport Curbside Operations.....	4-247
Table 4.6-14	Passenger Distribution to CTP.....	4-253
Table 4.6-15	Summary of Originating and Terminating Passenger Activity During Traffic Analysis Periods.....	4-255
Table 4.6-16	Existing (2012) and Future (2025) Mode Splits.....	4-256
Table 4.6-17	Future (2025) Without and With Program Curbside Utilization.....	4-259
Table 4.6-18	Future (2025) Without Program and With Program Roadway Capacity Analysis.....	4-263

Table 4.6-19	Intersection Level of Service Summary	4-272
Table 4.6-20	CTA Curbside Impact Determination	4-273
Table 4.6-21	CTA Roadway Impact Determination.....	4-276
Table 4.6-22	CTA Intersection Impact Determination	4-280
Table 4.7-1	Study Area Intersections	4-294
Table 4.7-2	Level of Service Thresholds and Definitions for Signalized Intersections	4-298
Table 4.7-3	Baseline Intersection Analysis Results	4-299
Table 4.7-4	Project Peak (December 2018) – Proposed Project-Related Construction Traffic PCEs	4-303
Table 4.7-5	Construction Projects Concurrent with the Proposed Project Construction Period	4-308
Table 4.7-6	AM and PM Construction Peak Hour Traffic PCEs at Overall Cumulative Peak by Project	4-313
Table 4.7-7	Proposed Project - Level of Service Analysis Results - Impact Comparison 1: Baseline Compared to Project Plus Baseline	4-322
Table 4.7-8	Proposed Project - Level of Service Analysis Results - Impact Comparison 2: Cumulative Traffic (December 2018).....	4-325
Table 5-1	Alternative Construction Approach (Reduce Daily Activity Duration) Air Pollutant Emissions.....	5-8
Table 5-2	Reduced Project Alternative Air Pollutant Emissions	5-22
Table 5-3	Comparison of Reduced Project Alternative Greenhouse Gas Emissions to Proposed Project.....	5-24
Table 5-4	MSC South Alternative Regional Construction Emissions	5-26
Table 5-5	Comparison of MSC South Alternative Greenhouse Gas Emissions to Proposed Project	5-29
Table 5-6	Terminal/Concourse 0 Regional Construction Emissions.....	5-33
Table 5-7	Comparison of Terminal/Concourse 0 Alternative Greenhouse Gas Emissions to Proposed Project.....	5-35
Table 5-8	Significant Impacts of MSC North Project Alternatives.....	5-47
Table 5-9	Significant Impacts of Future Phase(s) of MSC Program Alternatives	5-51

List of Figures

Figure 2-1	Alternative D – 2015 Enhanced Safety and Security Plan.....	2-3
Figure 2-2	MSC Program Location.....	2-7
Figure 2-3	MSC North Project Components.....	2-11
Figure 2-4	Sample Aircraft Parking Plan	2-13
Figure 2-5	Conceptual Floor Plan – Automated People Mover (APM) Level.....	2-17
Figure 2-6	Conceptual Floor Plan – Baggage Handling Systems Level	2-19
Figure 2-7	Conceptual Floor Plan – Apron Level	2-21
Figure 2-8	Conceptual Floor Plan – Concourse Level	2-23
Figure 2-9	Conceptual Floor Plan – Club Level	2-25
Figure 2-10	Conceptual Floor Plan – Ramp Tower.....	2-27
Figure 2-11	Conceptual Floor Plan – APM Station Sections	2-29
Figure 2-12	Conceptual Section View	2-31
Figure 2-13	MSC North Utilities – Sewer, Water, and Stormwater	2-37
Figure 2-14	MSC North Utilities – Electrical, Communications, Aircraft Fuel and Natural Gas	2-39
Figure 2-15	Existing Facilities Necessary for Removal and/or Relocation	2-43
Figure 2-16	Construction Parking, Staging Areas, and Haul Routes	2-49
Figure 2-17	Components Associated with the Future Phase(s) of the MSC Program.....	2-53
Figure 4.3-1	Receptor Locations	4-125
Figure 4.3-2	Incremental Acute Non-Cancer Hazards from Acrolein by Receptor Type	4-157
Figure 4.4-1	Modeled Noise Receptor Locations.....	4-167
Figure 4.5-1	Los Angeles International Airport Fire Department Stations	4-187
Figure 4.6-1	Traffic Analysis Study Area Overview.....	4-207
Figure 4.6-2	Curbside Vehicle Allocations - Arrivals Level	4-209
Figure 4.6-3	Data Collection Locations - Departures Level	4-213
Figure 4.6-4	Data Collection Locations - Arrivals Level	4-215
Figure 4.6-5	Existing (2012) Rolling Hour Departure and Arrival Passengers Volumes.....	4-217
Figure 4.6-6	CTA Roadway Links and Key Intersections, Departures Level.....	4-219
Figure 4.6-7	CTA Roadway Links and Key Intersections, Arrivals Level.....	4-221
Figure 4.6-8	Curbside Roadway Throughput Capacity as a Function of Curbside Utilization	4-240
Figure 4.6-9	Future (2025) Without Program Terminating and Departing Passenger Flows at the Curbside.....	4-254
Figure 4.6-10	Future (2025) With Program Terminating and Departing Passenger Flows at the Curbside.....	4-254
Figure 4.6-11	Departures Level Roadway Links for Future (2025)	4-267
Figure 4.6-12	Arrivals Level Roadway Links for Future (2025).....	4-269
Figure 4.7-1	Construction Traffic Analysis Study Area.....	4-291
Figure 4.7-2	Construction Traffic Study Area Intersections	4-295
Figure 4.7-3	Proposed Project Construction Vehicle Routes & Trip Distribution	4-305
Figure 4.7-4	Established Employee Hours for Proposed Project and Other Concurrent Construction Projects.....	4-311
Figure 4.7-5	Employee Parking and Staging Locations for Proposed Project and Other Projects at Construction Peak.....	4-315
Figure 5-1	West Remote Gates/Pads Site Alternative	5-5
Figure 5-2	No Project Alternative	5-9
Figure 5-3	MSC North Project Reduced Project Alternative	5-13
Figure 5-4	MSC North Project South Alternative.....	5-15
Figure 5-5	MSC North Project Alternate Site Alternative – Terminal/Concourse 0.....	5-17

This page intentionally left blank