

CONTENTS

Section	Page
EXECUTIVE SUMMARY	ES-1
ES.1 Introduction	ES-1
ES.2 Purpose of this Draft EIR	ES-2
ES.2.1 Introduction	ES-2
ES.2.2 Project Objectives	ES-2
ES.2.3 Baseline	ES-4
ES.3 Proposed Project	ES-4
ES.3.1 Overview	ES-4
ES.3.2 Project Description	ES-9
ES.4 Alternatives to the Project.....	ES-13
ES.4.1 Basis of Alternatives.....	ES-13
ES.4.2 Alternatives Considered.....	ES-13
ES.4.3 Alternatives Analyzed in this Draft EIR	ES-13
ES.4.4 Alternatives Considered But Eliminated from Further Consideration	ES-15
ES.4.5 Assessment of Other Goods Movement Concepts.....	ES-18
ES.5 Environmental Impacts	ES-20
ES.5.1 Resource Areas Considered in this Draft EIR.....	ES-20
ES.5.2 Significant and Unavoidable Impacts	ES-22
ES.5.3 Summary of Significant Impacts that Can Be Mitigated to Less Than Significant	ES-24
ES.5.4 Summary of Less than Significant Impacts	ES-24
ES.5.5 Lease Measures.....	ES-27
ES.5.6 Cumulative Impacts.....	ES-28
ES.5.7 Environmental Justice	ES-29
ES.5.8 Socioeconomic and Growth-Inducing Impacts.....	ES-30
ES.5.9 Significant Irreversible Changes to the Environment.....	ES-30
ES.5.10 Environmentally Preferred and Environmentally Superior Alternative.....	ES-31
ES.6 Project Conditions Subject to Approval.....	ES-90

ES.6.1 PC AES-1: Intensive Landscaping on West Side of Terminal Island Freeway.....ES-90

ES.6.2 PC AES-2: Compliance with Terminal Lighting Design Guidelines.....ES-90

ES 6.3 PC AQ-11: Zero Emission Technologies Demonstration Program.....ES-90

ES.6.4 PC AQ-12: San Pedro Bay Ports CAAP Measure RL-3.....ES-92

ES.7 Areas of Controversy Raised by Commenters.....ES-92

ES.7.1 Issues to be Resolved.....ES-93

Chapter 1 Introduction.....1-1

1.1 Project Background.....1-1

1.1.1 Project Location and Brief Project Overview.....1-1

1.1.2 Goods Movement Overview.....1-5

1.1.3 Port Intermodal Cargo Transport.....1-8

1.1.4 General Intermodal Railyard Operations.....1-15

1.1.5 San Pedro Bay Ports Cargo Growth and Port Capacity.....1-18

1.2 CEQA and the Purposes of an EIR.....1-27

1.3 Lead, Responsible, and Trustee Agencies.....1-27

1.4 Scope and Content of the EIR.....1-29

1.4.1 Scope of Analysis.....1-33

1.4.2 Intended Uses of this EIR.....1-34

1.4.3 Recirculated Draft EIR Organization.....1-35

1.5 Key Principles Guiding Preparation of this EIR.....1-36

1.5.1 Emphasis on Significant Environmental Effects.....1-36

1.5.2 Forecasting.....1-37

1.5.3 Reliance on Environmental Thresholds and Substantial Evidence.....1-37

1.5.4 Disagreement among Experts.....1-37

1.5.5 CEQA Environmental Setting and Baseline.....1-38

1.5.6 Authority to Mitigate.....1-38

1.5.7 Requirement to Evaluate Alternatives.....1-39

1.6 Other Environmental Programs and Plans.....1-39

1.6.1 San Pedro Bay Ports Clean Air Action Plan (CAAP).....1-39

1.6.2 Ports Trucks (Heavy Duty Vehicles) Program.....1-41

1.6.3 U.S. Environmental Protection Agency Locomotive Rule.....1-42

1.6.4 California Air Resources Board (CARB) Drayage Truck Regulation.....1-42

1.6.5 California Air Resources Board (CARB) Mobile Cargo Handling Equipment Regulation.....1-43

1.6.6	Memoranda of Understanding (MOU) Between California Air Resources Board (CARB), Union Pacific Railroad (UP) and BNSF Railway (BNSF).....	1-44
1.6.7	Other Environmental Programs - Air Quality	1-45
1.6.8	Port of Los Angeles Leasing Policy.....	1-46
1.6.9	Port of Los Angeles Sustainable Construction Guidelines	1-46
1.6.10	Port of Los Angeles Strategic Plan	1-47
1.7	Availability of the Recirculated Draft EIR	1-48
1.8	Noticing and Public Comment.....	1-49
Chapter 2	Project Description.....	2-1
2.1	Introduction and Project Overview	2-1
2.1.1	Long-Term Cargo Projections and On-Dock Capacity	2-4
2.1.2	Near-Dock and Off-Dock Capacity.....	2-4
2.2	Existing Conditions	2-5
2.2.1	Regional Context.....	2-5
2.2.2	Project Setting.....	2-6
2.3	Project Objectives	2-10
2.4	Proposed Project	2-11
2.4.1	Summary.....	2-11
2.4.2	Proposed Project Elements.....	2-18
2.4.3	Construction Activities and Phasing.....	2-28
2.4.4	Proposed Project Operations	2-35
2.5	Project Baseline	2-39
2.6	Relationship to Existing Plans.....	2-39
Chapter 3	Environmental Analysis.....	3-1
3.1	Terminology Used in this Environmental Analysis.....	3.0-2
3.2	Requirements to Evaluate Alternatives.....	3.0-3
Section 3.1	Aesthetics/Visual Resources	3.1-1
3.1.1	Introduction	3.1-1
3.1.2	Existing Environmental Setting	3.1-2
3.1.3	Applicable Regulations and Laws	3.1-25
3.1.4	Impacts and Mitigation Measures	3.1-29
3.1.5	Consideration of Project Conditions Subject to Approval	3.1-48
3.1.6	Significant Unavoidable Impacts	3.1-49
Section 3.2	Air Quality and Meteorology	3.2-1
3.2.1	Introduction	3.2-1
3.2.2	Environmental Setting.....	3.2-1

3.2.3	Applicable Regulations.....	3.2-19
3.2.4	Impacts and Mitigation Measures	3.2-27
3.2.5	Consideration of Project Conditions Subject to Approval.....	3.2-99
3.2.6	Mitigation Measure Monitoring and Tracking	3.2-102
3.2.7	Significant Unavoidable Impacts	3.2-107
Section 3.6 Greenhouse Gas Emissions and Climate Change		3.6-1
3.6.1	Introduction	3.6-1
3.6.2	Environmental Setting	3.6-1
3.6.3	Applicable Regulations.....	3.6-7
3.6.4	Impacts and Mitigation Measures	3.6-20
3.6.5	Significant Unavoidable Impacts	3.6-35
Section 3.7 Hazards and Hazardous Materials		3.7-1
3.7.1	Introduction	3.7-1
3.7.2	Environmental Setting	3.7-1
3.7.3	Applicable Regulations and Laws	3.7-8
3.7.4	Impacts and Mitigation Measures	3.7-12
3.7.5	Significant Unavoidable Impacts	3.7-36
Section 3.8 Land Use		3.8-1
3.8.1	Introduction	3.8-1
3.8.2	Environmental Setting	3.8-1
3.8.3	Applicable Project Area Plans, Programs and Regulations	3.8-8
3.8.4	Impacts and Mitigation Measures	3.8-18
3.8.5	Significant Unavoidable Impacts	3.8-31
Section 3.9 Noise		3.9-1
3.9.1	Introduction	3.9-1
3.9.2	Environmental Setting	3.9-1
3.9.3	Applicable Regulations.....	3.9-25
3.9.4	Impacts and Mitigation Measures	3.9-35
3.9.5	Significant Unavoidable Impacts	3.9-82
Section 3.10 Transportation/Circulation		3.10-1
3.10.1	Introduction	3.10-1
3.10.2	Environmental Setting	3.10-1
3.10.3	Vehicular Traffic and Rail Impacts and Mitigation Measures	3.10-20
3.10.4	Significant Unavoidable Impacts	3.10-62
Chapter 4.	Cumulative Analysis.....	4-1
4.1	Introduction	4-1
4.1.1	Requirements for Cumulative Impact Analysis	4-1

4.1.2	Projects Considered in the Cumulative Analysis.....	4-2
4.2	Cumulative Impact Analysis.....	4-22
4.2.1	Aesthetics.....	4-22
4.2.2	Air Quality and Meteorology.....	4-25
4.2.3	Biological Resources.....	4-33
4.2.4	Cultural Resources.....	4-35
4.2.5	Geology.....	4-38
4.2.6	Greenhouse Gases.....	4-43
4.2.7	Hazards and Hazardous Materials.....	4-45
4.2.8	Land Use.....	4-51
4.2.9	Noise.....	4-55
4.2.10	Transportation and Circulation.....	4-60
4.2.11	Utilities and Public Services.....	4-108
4.2.12	Water Resources.....	4-115
Chapter 5.	Alternatives.....	5-1
5.1	Introduction.....	5-1
5.1.1	CEQA Requirements.....	5-1
5.1.2	Background and Evaluation Criteria.....	5-1
5.1.3	Alternatives and Concepts Considered But Rejected From Further Consideration.....	5-3
5.2	Assessment of Other Goods Movement Concepts.....	5-12
5.2.1	Approaches to Avoiding Building a Near-Dock Yard.....	5-12
5.2.2	Alternative Container Transport Systems.....	5-14
5.2.3	Different Access to the Site.....	5-18
5.3	Alternatives Carried Forward for Analysis.....	5-19
5.4	Alternative 1: No Project.....	5-20
5.4.1	Project Description.....	5-20
5.4.2	Impact Analysis.....	5-22
5.5	Alternative 2: Reduced Project.....	5-53
5.5.1	Project Description.....	5-53
5.5.2	Impact Analysis.....	5-54
5.6	Cumulative Analysis of Alternatives.....	5-92
5.6.1	No Project Alternative.....	5-92
5.6.2	Reduced Project Alternative.....	5-116
5.7	Comparison of Alternatives and the Proposed Project.....	5-145
5.7.1	Impacts and Mitigations.....	5-145
5.7.2	Alternatives and Resource Areas With Unavoidable Significant Impacts.....	5-199
5.7.3	Alternatives and Resource Areas With Significant Impacts That Can Be Mitigated to Less Than Significant.....	5-203

5.7.4	Alternatives and Resource Areas With Less Than Significant Impacts.....	5-204
5.7.5	Environmentally Superior Alternative	5-205
Chapter 6.	Environmental Justice	6-1
6.1	Introduction	6-1
6.2	Environmental Setting.....	6-1
6.3	Environmental Justice Policies and Programs.....	6-8
6.3.1	Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations	6-8
6.3.2	California Government Code Sections 65041-65049; Public Resources Code Sections 71110-71116	6-8
6.3.3	South Coast Air Quality Management District: Environmental Justice Program	6-9
6.3.4	City of Los Angeles General Plan	6-10
6.4	Assessment	6-10
6.4.1	Methodology.....	6-10
6.4.2	Proposed Project.....	6-12
6.4.3	Alternative 1: No Project Alternative	6-16
6.4.4	Alternative 2: Reduced Project.....	6-16
6.5	Public Involvement and Outreach Efforts.....	6-17
6.5.1	LAHD as Lead Agency.....	6-17
6.5.2	BNSF Outreach.....	6-18
Chapter 7.	Socioeconomics and Environmental Quality.....	7-1
7.1	Introduction	7-1
7.2	Environmental Setting.....	7-1
7.2.1	Socioeconomics	7-1
7.2.2	Environmental Quality	7-23
7.3	Project Effects Related to Socioeconomics and Environmental Quality.....	7-27
7.3.1	Project Effects Related to Socioeconomics	7-27
7.3.2	Project Effects Related to Environmental Quality	7-33
Chapter 10.	References	10-1
Chapter 12.	Acronyms	12-1
APPENDICES		
Appendix C1	Criteria Pollutant and GHG Emission Calculations	

Appendix C2 Dispersion Modeling of Criteria Pollutants for the Southern California International Gateway Project

Appendix C3 Health Risk Assessment for the Southern California Intermodal Gateway (SCIG)

Appendix F1 SCIG Noise Technical Study

Appendix G1 SCIG Transportation Appendix

Appendix G2 SCIG Rail Simulation Modeling Study

Appendix G4 Intermodal Rail Analysis

Appendix H Summary of Changes

FIGURES

Figure ES-1. Project Site and Vicinity. ES-6

Figure ES-2a. Proposed Project at Buildout. ES-7

Figure ES-2b. Proposed Project at Buildout. ES-8

Figure 1-1. Regional location of proposed Project. 1-3

Figure 1-2. Overview of the Goods Movement Process (METRO, 2008). 1-6

Figure 1-3. Typical Range of Cargo Transport Modes. 1-8

Figure 1-4. Distribution of Containers by Mode and Distribution of Direct Intermodal Containers by Rail (Source: San Pedro Bay Ports Rail Study Update, Port of Long Beach, Port of Los Angeles, 2006). 1-9

Figure 1-5. Transloaded Intermodal Cargo Flow. 1-10

Figure 1-6. Direct Intermodal Cargo Flow. 1-10

Figure 1-7. Existing and Proposed On-Dock Railyards in the San Pedro Bay Ports. 1-12

Figure 1-8. Location of Existing Near-Dock and Off-Dock Railyards. 1-14

Figure 1-9. General Depiction of Train Loading/Unloading at an Intermodal Railyard. 1-16

Figure 1-10. Assembled Container Train. 1-17

Figure 1-11. 2007 (Base Case/Base Share) and 2009 Cargo Demand Forecast Comparison, in thousands of TEUs (Tioga, 2009). 1-20

Figure 2-1. Regional Location Map. 2-3

Figure 2-2. Proposed Project Site Location. 2-9

Figure 2-3a. Proposed Project Site Plan. 2-14

Figure 2-3b. Proposed Project Site Plan. 2-15

Figure 2-4. SCIG Designated Truck Routes. 2-17

Figure 2-5. Potential Alternate Sites for Businesses. 2-21

Figure 2-6.	Proposed PCH Overpass (view to the south).....	2-26
Figure 2-7.	Proposed Dominguez Channel Rail Bridge.	2-27
Figure 2-8.	Southern California Edison Access Road.....	2-28
Figure 2-9.	Construction Schedule.....	2-29
Figure 3.1-1.	Key Viewpoint Map.....	3.1-9
Figure 3.1-2.	Key View Point 1 – View of the Proposed Railyard Site from Pacific Coast Highway Looking North.	3.1-10
Figure 3.1-3.	Key View Point 2 – View of Proposed Railyard Site from Terminal Island Freeway Looking West/Southwest.	3.1-11
Figure 3.1-4.	Key View Point 3 – View of Proposed Railyard Site from Terminal Island Freeway Looking West/Northwest.	3.1-13
Figure 3.1-5.	Key View Point 4 - View of Sepulveda Boulevard Bridge From Intersection of Terminal Island and Sepulveda Boulevard.....	3.1-15
Figure 3.1-6.	View of the 10-Acre Alternate Site Looking Southwest from Farragut Avenue.....	3.1-17
Figure 3.1-7.	View of the 4.5-Acre Alternate Site Looking West from Farragut Avenue.	3.1-18
Figure 3.1-8.	View Towards the ACTA Alternate Site Looking East from the Intersection of Grant Street and Goodrich Avenue.....	3.1-19
Figure 3.1-9.	Key View Point 1 – Nighttime view of the Proposed Railyard site from Pacific Coast Highway looking north.	3.1-21
Figure 3.1-10.	Key View Point 2 – Nighttime view of Proposed Railyard site from San Gabriel Avenue looking west/southwest.	3.1-22
Figure 3.1-11.	Key View Point 3 – Nighttime view of Proposed Railyard site from Hudson Park looking west/northwest.	3.1-23
Figure 3.1-12.	Key View Point 4 - Nighttime view from Sepulveda Boulevard/Willow Street and Terminal Island Freeway looking west/southwest.	3.1-24
Figure 3.1-13.	Key Viewpoint 1 – Visual Simulation (View from PCH).	3.1-34
Figure 3.1-14.	Key Viewpoint 2- Visual Simulation (Looking West/Southwest from San Gabriel Avenue, Adjacent East of the Terminal Island Freeway).	3.1-35
Figure 3.1-15.	Key Viewpoint 2 – Visual Simulation with Soundwall (Looking West/Southwest from San Gabriel Avenue, adjacent East of the Terminal Island Freeway).....	3.1-36
Figure 3.1-16.	Key Viewpoint 3 – Visual Simulation (Looking West/Northwest from Hudson Park).....	3.1-37
Figure 3.1-17.	Key Viewpoint 3 – Visual Simulation with Soundwall (Looking West/Northwest from Hudson Park).....	3.1-38
Figure 3.1-18.	Key Viewpoint 4 – Visual Simulation (Looking West/Southwest from Sepulveda Boulevard /Willow Street and Terminal Island Freeway Intersection).	3.1-40

Figure 3.1-19. Key Viewpoint 2 – Nighttime Visual Simulation (Looking West/Southwest from San Gabriel Avenue, adjacent East of the Terminal Island Freeway).....	3.1-43
Figure 3.1-20. Key Viewpoint 2 – Nighttime Visual Simulation with Soundwall (Looking West/Southwest from San Gabriel Avenue, adjacent East of the Terminal Island Freeway).	3.1-44
Figure 3.1-21. Key Viewpoint 3 – Nighttime Visual Simulation (Looking West/Northwest from Hudson Park).....	3.1-45
Figure 3.1-22. Key Viewpoint 3 – Nighttime Visual Simulation with Soundwall (Looking West/Northwest from Hudson Park).	3.1-46
Figure 3.2-1. Locations of Sensitive Receptors in the Vicinity of the Proposed Project Site.	3.2-17
Figure 3.2-2. 1-hour NO ₂ Ground-Level Concentration for Unmitigated Project Plus Background.	3.2-70
Figure 3.2-3. Annual NO ₂ Ground-Level Concentration for Unmitigated Project Plus Background.	3.2-71
Figure 3.2-4. 24-Hour PM ₁₀ Ground-Level Concentration for Unmitigated Project Minus Baseline.	3.2-72
Figure 3.2-5. Annual PM ₁₀ Ground-Level Concentration for Unmitigated Project Minus Baseline.	3.2-73
Figure 3.2-6. 24-Hour PM _{2.5} Ground-Level Concentration for Unmitigated Project Minus Baseline.	3.2-74
Figure 3.2-7. 24-Hour PM ₁₀ Ground-Level Concentration for Mitigated Project Minus Baseline.	3.2-77
Figure 3.2-8. Annual PM ₁₀ Ground-Level Concentration for Mitigated Project Minus Baseline.	3.2-78
Figure 3.2-9. 24-Hour PM _{2.5} Ground-Level Concentration for Mitigated Project Minus Baseline.	3.2-79
Figure 3.2-10. Floating Baseline Residential Cancer Risk.	3.2-91
Figure 3.2-11. Unmitigated Proposed Project Residential Cancer Risk.....	3.2-92
Figure 3.2-12. Unmitigated Proposed Project minus Floating Baseline Residential Cancer Risk.	3.2-93
Figure 3.8-1. Long Beach Redevelopment Project Areas.....	3.8-7
Figure 3.8-2. Port of Los Angeles Community Plan.....	3.8-9
Figure 3.8-3. Wilmington – Harbor City Community Plan.	3.8-13
Figure 3.8-4. Carson General Plan.....	3.8-14
Figure 3.9-1. Typical Levels of Ground-Borne Vibration.....	3.9-8
Figure 3.9-2. Location of Noise and Vibration Measurements.....	3.9-11
Figure 3.9-3. FTA Noise Impact Criteria for Transit Projects.....	3.9-30

Figure 3.9-4. FICAN 1997 Recommended Sleep Disturbance Dose-Response Relationship..... 3.9-35

Figure 3.9-5. USEPA Speech Intelligibility Curve..... 3.9-36

Figure 3.9-6. Location of the Recommended Sound Walls for Mitigation. 3.9-64

Figure 3.10-1. Proposed Project Study Area and Study Intersections. 3.10-4

Figure 3.10-2. Proposed Project Study Area and Study Freeway Locations..... 3.10-6

Figure 3.10-3. Map of Southern California Freight Railroad Lines. 3.10-19

Figure 3.10-4. Total Arrivals and Departures for an Isolated Blockage..... 3.10-24

Figure 3.10-5. SCIG Designated Truck Routes..... 3.10-27

Figure 3.10-6. Proposed Project Trip Distribution. 3.10-30

Figure 4-1. Related and Cumulative Projects Location Map..... 4-4

Figure 4-2. 2016 Proposed Project Trip Distribution. 4-63

Figure 4-3. 2023 Proposed Project Trip Distribution. 4-64

Figure 4-4. 035, 2046, and 2066 Proposed Project Trip Distribution. 4-65

Figure 5-1. Alternative Near-Dock Railyard Sites Outside the Ports. 5-5

Figure 5-2. Alternative Near-Dock Railyard Sites Inside the Ports. 5-10

Figure 6-1. Percent Minority Population within 1-mile Buffer of Project Boundary..... 6-4

Figure 6-2. Percent Low Income Population within 1 mile Buffer of Project Boundary..... 6-5

Figure 7-1. Employment in Southern California (1990-2010)..... 7-4

Figure 7-2. Unemployment Rate in Southern California, 1990 – 2010..... 7-6

Figure 7-3. New Privately-Owned Residential Building Permits in Los Angeles County (1990-2010). 7-17

Tables	Page
Table ES-1. Project Summary Matrix.....	ES-12
Table ES-2. Summary of Proposed Project and Alternatives at Full Buildout (2035).	ES-13
Table ES-3. Summary of Potential Significant Impacts and Mitigation for the Proposed Project and Alternatives.....	ES-32
Table 1-1. Updated 2009 TEU Forecast – Base Growth/Base Share, in thousands of TEUs	1-20
Table 1-2. Containers Handled at the Ports of Los Angeles and Long Beach, by Mode, 2010.	1-22

Table 1-3.	Existing and Planned On-dock Railyards (see Figure 1-8 for locations).....	1-23
Table 1-4.	San Pedro Bay Ports Direct Intermodal Cargo Forecast.	1-24
Table 1-5.	Future Cargo Volumes by Mode of Transportation.....	1-24
Table 1-6.	Agencies Expected to Use this EIR.	1-28
Table 1-7.	Summary of Key NOP Comments.	1-30
Table 1-8.	Organization and Contents of the Recirculated Draft EIR.	1-35
Table 2-1.	Existing Land Uses within the Project Site.	2-7
Table 2-2.	Summary of Proposed SCIG Railyard Features and Operations.	2-16
Table 2-3.	Disposition of Existing Businesses.	2-19
Table 2-4.	Applicable Statutes, Plans, Policies, and Other Regulatory Requirements.....	2-40
Table 3.1-1.	Quantitative Nighttime Light Measurements at Project Site and Key View Locations.	3.1-20
Table 3.1-2.	Summary Matrix of Impacts and Mitigation Measures for Aesthetic Effects Associated with the Proposed Project.....	3.1-49
Table 3.1-3.	Mitigation Monitoring and Project Conditions for Aesthetics.	3.1-50
Table 3.6-1.	Baseline (2010) Annual GHG Emissions.	3.6-6
Table 3.6-2.	Summary of Annual Construction Emissions during Construction Period-Proposed Project.	3.6-24
Table 3.6-3.	Summary of Annual Construction Emissions including Business Operations at Alternate Sites during Construction Period-Proposed Project.....	3.6-25
Table 3.6-4.	Summary of Annual Operational Emissions - Proposed Project.	3.6-26
Table 3.6-5.	Summary Matrix of Impacts and Mitigation Measures for GHG Associated with the Proposed Project.	3.6-33
Table 3.6-6.	Mitigation Monitoring for GHG.	3.6-34
Table 3.7-1.	Risk Matrix.	3.7-13
Table 3.7-2.	Criticality and Frequency Classifications.....	3.7-14
Table 3.7-3.	Summary of Train Accident Data.	3.7-16
Table 3.7-4.	Existing and Projected SCIG Truck Accidents.....	3.7-31
Table 3.7-5.	Existing and Projected Project Rail Accidents.....	3.7-32
Table 3.7-6.	Summary of Impacts and Mitigation Related to Hazards and Hazardous Materials.	3.7-37
Table 3.7-7.	Lease Measure Tracking for Hazards.	3.7-38

Table 3.8-1.	Closest Estimated Distance from Proposed Project Site to Residential, School/Park, and Other Non-Industrial Land Uses.....	3.8-3
Table 3.8-2.	Businesses Potentially Moving Elsewhere in the General Port Area.....	3.8-28
Table 3.8-3.	Summary Matrix of Impacts and Mitigation Measures for Land Use Associated with the Proposed Project and Alternatives.....	3.8-32
Table 3.9-1.	Common Acoustical Terminology.....	3.9-4
Table 3.9-2.	Typical A-weighted Exterior and Interior Noise Levels.....	3.9-5
Table 3.9-3.	Human Response to Different Levels of Ground-Borne Vibration.	3.9-10
Table 3.9-4.	Summary of Existing Ambient Noise Measurement Data.	3.9-14
Table 3.9-5.	Summary of Baseline Exterior Lmax and SEL at Long-Term Noise Receptors.	3.9-20
Table 3.9-6.	Summary of Estimated Baseline Interior Lmax and SEL at Long-Term Noise Receptors.....	3.9-21
Table 3.9-7.	Summary of Classroom Noise Reduction Measurements.	3.9-22
Table 3.9-8.	Summary of the Ambient Ground-Borne Vibration Measurement Data.	3.9-24
Table 3.9-9.	Calculated Baseline Roadway Traffic Noise Levels.	3.9-25
Table 3.9-9.	Calculated Baseline Roadway Traffic Noise Levels (concluded).	3.9-26
Table 3.9-10	City of Los Angeles Noise Compatibility Guidelines.	3.9-27
Table 3.9-11.	City of Long Beach Exterior Noise Limits by Receiving Land Use.	3.9-29
Table 3.9-12.	City of Long Beach Interior Noise Limits.....	3.9-29
Table 3.9-13.	Land Use Categories and Metrics for Transit Noise Impact Criteria.	3.9-32
Table 3.9-14.	Noise Abatement Criteria (NAC).....	3.9-33
Table 3.9-15.	FTA Ground-borne Vibration (GBV) Impact Criteria for General Assessment.....	3.9-35
Table 3.9-16.	Summary of Predicted Noise Levels From On-Site Sources.	3.9-44
Table 3.9-17.	Summary of Project-related Operational Train Noise Levels for San Pedro Branch Line.....	3.9-45
Table 3.9-18.	Calculated Existing Plus Project Roadway Traffic Noise Levels.	3.9-46
Table 3.9-19.	Project Roadway Traffic Noise Level Increase.	3.9-48
Table 3.9-20.	Project Roadway Traffic Noise Level, CNEL, Increase.....	3.9-50
Table 3.9-21.	Summary of the Predicted SCIG Train Horn SEL at Nearby Residences and Sleep Disturbance Assessment.	3.9-53
Table 3.9-22.	Summary of the Predicted Daytime Construction Noise Levels for SCIG Construction.....	3.9-55

Table 3.9-23.	Summary of the Predicted Nighttime Construction Noise Levels for SCIG Construction.....	3.9-55
Table 3.9-24.	Summary of the Project’s Construction Noise Levels within Classrooms.	3.9-57
Table 3.9-25.	Predicted Operational Noise Levels for the Proposed Project.	3.9-59
Table 3.9-26.	Business Locations) Operational Noise Levels within Classrooms.	3.9-61
Table 3.9-27.	Summary of the Predicted Daytime Construction Noise Levels for SCIG Construction with Mitigation.....	3.9-67
Table 3.9-28.	Predicted Operational Noise Levels for the Proposed Project with Mitigation.....	3.9-68
Table 3.9-29.	Vibration Source Levels for Construction Equipment.	3.9-70
Table 3.9-30.	Predicted Construction Vibration Levels.	3.9-70
Table 3.9-31.	Predicted Future Train Vibration on the San Pedro Branch Line.	3.9-71
Table 3.9-32.	Summary of the Predicted Nighttime Construction Noise SEL for SCIG Construction and Sleep Disturbance Assessment.	3.9-73
Table 3.9-33.	Summary of the Predicted SCIG Train Horn SEL at Nearby Residences and Sleep Disturbance Assessment.	3.9-73
Table 3.9-34.	Summary of the Predicted Daytime Construction Noise within Classrooms and Speech Intelligibility Assessment.	3.9-74
Table 3.9-35.	Summary of the Project’s Operational Noise within Classrooms and Speech Intelligibility Assessment.	3.9-75
Table 3.9-36.	Predicted SCIG Train Horn SEL within Classrooms and Speech Intelligibility Assessment.	3.9-76
Table 3.9-37.	Summary of the Predicted SCIG Train Horn SEL at Nearby Carson Residences and Sleep Disturbance Assessment.	3.9-79
Table 3.9-38.	Summary Matrix of Impacts and Mitigation Measures for Noise Associated with the Proposed Project.....	3.9-80
Table 3.9-39.	Mitigation Monitoring for Noise.....	3.9-82
Table 3.10-1.	Level of Service Criteria—Signalized Intersections.....	3.10-8
Table 3.10-2.	Freeway Level of Service Criteria.....	3.10-9
Table 3.10-3.	LOS Criteria for Freeway Segments.	3.10-9
Table 3.10-4.	LOS Criteria for Merge and Diverge Areas.....	3.10-9
Table 3.10-5.	LOS Criteria for Weave Areas.....	3.10-10
Table 3.10-6.	Baseline Conditions Intersection Level of Service.	3.10-11
Table 3.10-7.	Baseline Conditions Freeway Level of Service.	3.10-12
Table 3.10-8.	Baseline Conditions Ramp Level of Service.	3.10-13
Table 3.10-9.	Baseline Conditions Weaving Section Level of Service.....	3.10-13
Table 3.10-10.	Baseline Conditions Highway Segment Level of Service.	3.10-14
Table 3.10-11.	Existing Transit Service.	3.10-14

Table 3.10-12.	CEQA Baseline Existing Business Peak Hour Trip Generation (in Passenger Car Equivalents).....	3.10-25
Table 3.10-13.	Drayage Truck Trips per Intermodal Lift for Baseline Intermodal Facilities and the Proposed Project.	3.10-26
Table 3.10-14.	Hourly Factors Applied to Average Daily Traffic (ADT), by County.....	3.10-31
Table 3.10-15.	Time Periods of the Day.....	3.10-33
Table 3.10-16.	Alameda Corridor Train Volume by Time of Day, 2010.	3.10-33
Table 3.10-17.	BNSF Train Volume at Highgrove in Riverside County by Time of Day, 2010.	3.10-33
Table 3.10-18.	BNSF San Bernardino Subdivision, from Hobart-Commerce Yard to San Bernardino, 2010.	3.10-34
Table 3.10-19.	BNSF Cajon Subdivision, from San Bernardino to Barstow, 2010.	3.10-37
Table 3.10-20.	Threshold of Significance for Rail Impacts.	3.10-38
Table 3.10-21.	Proposed Project Daily Trip Generation.	3.10-40
Table 3.10-22.	Proposed Project and Net Change in Pacific Coast Highway Entrance Peak Hour Trip Generation (in Passenger Car Equivalents).....	3.10-41
Table 3.10-23.	Proposed Project Site (Sepulveda Driveways) and Alternate Business Site Peak Hour Trip Generation (in Passenger Car Equivalents).....	3.10-41
Table 3.10-24.	Intersection Level of Service Analysis – CEQA Baseline vs. Construction of the Proposed Project.	3.10-43
Table 3.10-25.	Intersection Level of Service Analysis – Baseline vs. Proposed Project.	3.10-46
Table 3.10-26.	Intersection Level of Service Analysis – Baseline Plus Proposed Project.....	3.10-47
Table 3.10-27.	CEQA Baseline Plus Proposed Project Freeway Contribution.	3.10-49
Table 3.10-28.	CEQA Baseline Plus Proposed Project Freeway Level of Service Analysis.....	3.10-50
Table 3.10-29.	CEQA Baseline Plus Proposed Project Conditions Ramp Level of Service.....	3.10-51
Table 3.10-30.	CEQA Baseline Plus Proposed Project Conditions Weaving Section Level of Service.	3.10-51
Table 3.10-31.	CEQA Baseline Plus Proposed Project Conditions Highway Segment Level of Service.	3.10-52
Table 3.10-32.	Train Volumes, Baseline 2010 and Proposed Project 2035.	3.10-53
Table 3.10-33.	BNSF San Bernardino Subdivision, from Hobart-Commerce Yard to San Bernardino, Baseline Plus Proposed Project.	3.10-54
Table 3.10-34.	BNSF Cajon Subdivision, from San Bernardino to Barstow, Baseline Plus Proposed Project.....	3.10-57

Table 3.10-35.	Summary Matrix of Potential Impacts and Mitigation Measures for Transportation and Circulation Associated with the Proposed Project.	3.10-61
Table 4-1.	Related and Cumulative Projects.....	4-5
Table 4-2.	Proposed Project Daily Trip Generation.	4-66
Table 4-3.	Proposed Project Pacific Coast Highway Entrance Peak Hour Trip Generation (in Passenger Car Equivalents).	4-66
Table 4-4.	Net Change in Peak Hour Trips Proposed Project Pacific Coast Highway Entrance (in Passenger Car Equivalents).	4-67
Table 4-5.	Proposed Project Site (Sepulveda Driveways) and Alternate Business Site Peak Hour Trip Generation (in Passenger Car Equivalents).....	4-67
Table 4-6.	Other Intermodal Facility Peak Hour Trip Generation (in Passenger Car Equivalents).	4-68
Table 4-7.	Cumulative Intersection Level of Service Analysis – Year 2016 Proposed Project.....	4-71
Table 4-8.	Cumulative Intersection Level of Service Analysis – Year 2023 Proposed Project.....	4-72
Table 4-9.	Cumulative Intersection Level of Service Analysis – Year 2035 Proposed Project.....	4-73
Table 4-10.	Cumulative Intersection Level of Service Analysis – Year 2046 Proposed Project.....	4-74
Table 4-11.	Cumulative Intersection Level of Service Analysis – Year 2066 Proposed Project.....	4-75
Table 4-12.	Cumulatively Considerable Intersection Level of Service Analysis – Year 2016 Proposed Project vs. Without Project.	4-76
Table 4-13.	Cumulatively Considerable Intersection Level of Service Analysis – Year 2023 Proposed Project vs. Without Project.	4-77
Table 4-14.	Cumulatively Considerable Intersection Level of Service Analysis – Year 2035 Proposed Project vs. Without Project.	4-78
Table 4-15.	Cumulatively Considerable Intersection Level of Service Analysis – Year 2046 Proposed Project vs. Without Project.	4-79
Table 4-16.	Cumulatively Considerable Intersection Level of Service Analysis – Year 2066 Proposed Project vs. Without Project.	4-80
Table 4-17.	Year 2016 Proposed Project Freeway Analysis.....	4-83
Table 4-18.	Year 2023 Proposed Project Freeway Analysis.....	4-83
Table 4-19.	Year 2035 Proposed Project Freeway Analysis.....	4-84
Table 4-20.	Year 2046 Proposed Project Freeway Analysis.....	4-84
Table 4-21.	Year 2066 Proposed Project Freeway Analysis.....	4-84
Table 4-22.	Year 2016 Proposed Project Cumulative Freeway Analysis.	4-85
Table 4-23.	Year 2023 Proposed Project Cumulative Freeway Analysis.	4-86
Table 4-24.	Year 2035 Proposed Project Cumulative Freeway Analysis.	4-87

Table 4-25.	Year 2046 Proposed Project Cumulative Freeway Analysis.	4-88
Table 4-26.	Year 2066 Proposed Project Cumulative Freeway Analysis.	4-89
Table 4-27.	Year 2016 Proposed Project Cumulatively Considerable Freeway Analysis.....	4-90
Table 4-28.	Year 2023 Proposed Project Cumulatively Considerable Freeway Analysis.....	4-91
Table 4-29.	Year 2035 Proposed Project Cumulatively Considerable Freeway Analysis.....	4-92
Table 4-30.	Year 2046 Proposed Project Cumulatively Considerable Freeway Analysis.....	4-93
Table 4-31.	Year 2066 Proposed Project Cumulatively Considerable Freeway Analysis.....	4-94
Table 4-32.	BNSF San Bernardino Subdivision, from Hobart Yard to San Bernardino, 2035.	4-96
Table 4-33.	BNSF Cajon Subdivision, from San Bernardino to Barstow, 2035.	4-99
Table 4-34.	BNSF San Bernardino Subdivision, from Hobart Yard to San Bernardino, 2046.	4-100
Table 4-35.	BNSF Cajon Subdivision, from San Bernardino to Barstow, 2046.	4-103
Table 4-36.	BNSF San Bernardino Subdivision, from Hobart Yard to San Bernardino, 2066.	4-104
Table 4-37.	BNSF Cajon Subdivision, from San Bernardino to Barstow, 2066.	4-107
Table 5-1.	Respondents to the 2009 Request for Concepts and Solutions.....	5-16
Table 5-2.	Traffic at the Project Site Under the No Project Alternative.	5-21
Table 5-3.	Average Daily Operational Emissions – No Project Alternative.	5-23
Table 5-4.	Peak Daily Operational Emissions – No Project Alternative.....	5-25
Table 5-5.	Average Daily Operational Emissions Without Mitigation (Project minus No Project).....	5-27
Table 5-6.	Peak Daily Operational Emissions Without Mitigation (Project minus No Project).	5-29
Table 5-7.	Maximum Offsite NO ₂ , CO, and SO ₂ Concentrations Associated with Operation of the No Project Alternative.	5-32
Table 5-8.	Maximum Offsite PM ₁₀ and PM _{2.5} Concentrations Associated with Operation of the No Project Alternative.	5-32
Table 5-9.	Maximum Predicted CO Concentrations at the Anaheim St./E. I St/W. 9th St. Intersection – No Project Alternative.	5-33
Table 5-10.	Maximum Health Impacts Associated with the No Project Alternative.	5-35

Table 5-11.	Comparison of Maximum Health Impacts from the Mitigated Project and the No Project Alternative.....	5-37
Table 5-12.	Annual Operational GHG Emissions – No Project Alternative.....	5-39
Table 5-13.	No Project Alternative Roadway Traffic Noise Level Changes.	5-45
Table 5-14.	No Project Peak-Hour Trip Generation and Net Change Compared to CEQA Baseline Conditions (in Passenger Car Equivalents).....	5-47
Table 5-15.	Intersection Level of Service Analysis – No Project Alternative.	5-49
Table 5-16.	No Project Alternative Freeway Contribution.	5-50
Table 5-17.	No Project Alternative Freeway Level of Service Analysis.....	5-50
Table 5-18.	Operations at the Project Site under the Reduced Project Alternative.	5-54
Table 5-19.	Average Daily Operational Emissions – Reduced Project Alternative.	5-57
Table 5-20.	Peak Daily Operational Emissions – Reduced Project Alternative.	5-60
Table 5-21.	Maximum Offsite NO ₂ , CO, and SO ₂ Concentrations Associated with Operation of the Reduced Project Alternative.	5-64
Table 5-22.	Maximum Offsite PM ₁₀ and PM _{2.5} Concentrations Associated with Operation of the Reduced Project Alternative.	5-64
Table 5-23.	Maximum Offsite NO ₂ , CO, and SO ₂ Concentrations Associated with Operation of the Reduced Project Alternative – with Mitigation.....	5-65
Table 5-24.	Maximum Offsite PM ₁₀ and PM _{2.5} Concentrations Associated with Operation of the Reduced Project Alternative – with Mitigation.....	5-66
Table 5-25.	Maximum Health Impacts Associated with the Unmitigated Reduced Project Alternative.....	5-67
Table 5-26.	Maximum Health Impacts Associated with the Mitigated Reduced Project Alternative.....	5-70
Table 5-27.	Annual Operational Emissions – Reduced Project Alternative.....	5-75
Table 5-28.	Reduced Project Alternative Roadway Traffic Noise Level Changes.....	5-81
Table 5-29.	Summary of Predicted Reduced Project Alternative Operational Noise Levels.	5-83
Table 5-30.	Reduced Project Alternative Peak-Hour Trip Generation and Net Change Compared to CEQA Baseline Conditions (in Passenger Car Equivalents).....	5-85
Table 5-31.	Intersection Level of Service Analysis – Alternative 2 - Reduced Project Alternative.....	5-87

Table 5-32.	Reduced Project Alternative Freeway Analysis.	5-88
Table 5-33.	Alternative 1 – No Project Site Peak Hour Trip Generation and Net Change Compared to Baseline Conditions (in Passenger Car Equivalents).	5-95
Table 5-34.	Intersection Level of Service Analysis – Year 2016 Alternative 1 – No Project Alternative.....	5-98
Table 5-35.	Intersection Level of Service Analysis – Year 2023 Alternative 1 – No Project Alternative.....	5-99
Table 5-36.	Intersection Level of Service Analysis – Year 2035 Alternative 1 – No Project Alternative.....	5-100
Table 5-37.	Intersection Level of Service Analysis –Year 2046 Alternative 1 – No Project Alternative.....	5-101
Table 5-38.	Intersection Level of Service Analysis –Year 2066 Alternative 1 – No Project Alternative.....	5-102
Table 5-39.	Intersection Level of Service Analysis – Year 2016 – No Project Alternative.	5-103
Table 5-40.	Intersection Level of Service Analysis – Year 2023 – No Project Alternative.	5-104
Table 5-41.	Intersection Level of Service Analysis – Year 2035 – No Project Alternative.	5-105
Table 5-42.	Intersection Level of Service Analysis –Year 2046 – No Project Alternative.	5-106
Table 5-43.	Intersection Level of Service Analysis –Year 2066 – No Project Alternative.	5-107
Table 5-44.	Year 2016 No Project Cumulative Freeway Analysis.	5-110
Table 5-45.	Year 2023 No Project Cumulative Freeway Analysis.	5-111
Table 5-46.	Year 2035 No Project Cumulative Freeway Analysis.	5-112
Table 5-47.	Year 2046 No Project Cumulative Freeway Analysis.	5-113
Table 5-48.	Year 2066 No Project Cumulative Freeway Analysis.	5-114
Table 5-49.	Alternative 2 – Reduced Project Alternative Pacific Coast Highway Entrance Peak Hour Trip Generation (in Passenger Car Equivalents).	5-118
Table 5-50.	Alternative 2 – Reduced Capacity Alternative Net Change in Peak Hour Trips Proposed Project Pacific Coast Highway Entrance (in Passenger Car Equivalents).	5-119
Table 5-51.	Intersection Level of Service Analysis – Year 2016 Alternative 2 – Reduced Project Alternative.	5-121
Table 5-52.	Intersection Level of Service Analysis – Year 2023 Alternative 2 – Reduced Project Alternative.	5-122
Table 5-53.	Intersection Level of Service Analysis – Year 2035 Alternative 2 – Reduced Project Alternative.	5-123
Table 5-54.	Intersection Level of Service Analysis –Year 2046 Alternative 2 – Reduced Project Alternative.	5-124

Table 5-55.	Intersection Level of Service Analysis –Year 2066 Alternative 2 – Reduced Project Alternative.	5-125
Table 5-56.	Intersection Level of Service Comparison– Year 2016.	5-126
Table 5-57.	Intersection Level of Service Comparison– Year 2023.	5-127
Table 5-58.	Intersection Level of Service Comparison– Year 2035.	5-128
Table 5-59.	Intersection Level of Service Comparison–Year 2046 and 2066.	5-129
Table 5-60.	Intersection Level of Service Comparison–Years 2046 and 2066 Reduced Project Alternative with Mitigation.	5-132
Table 5-61.	Year 2016 Reduced Project Freeway Analysis.	5-133
Table 5-62.	Year 2023 Reduced Project Freeway Analysis.	5-134
Table 5-63.	Year 2035 Reduced Project Freeway Analysis.	5-134
Table 5-64.	Year 2046 and 2066 Reduced Project Freeway Analysis.	5-134
Table 5-65.	Year 2016 Reduced Project Cumulative Freeway Analysis.....	5-136
Table 5-66.	Year 2023 Reduced Project Cumulative Freeway Analysis.....	5-137
Table 5-67.	Year 2035 Reduced Project Cumulative Freeway Analysis.....	5-138
Table 5-68.	Years 2046 and 2066 Reduced Project Cumulative Freeway Analysis.	5-139
Table 5-69.	Year 2016 Reduced Project Cumulatively Considerable Freeway Analysis.....	5-140
Table 5-70.	Year 2023 Reduced Project Cumulatively Considerable Freeway Analysis.....	5-141
Table 5-71.	Year 2035 Reduced Project Cumulatively Considerable Freeway Analysis.....	5-142
Table 5-72.	Years 2046 and 2066 Reduced Project Cumulatively Considerable Freeway Analysis.....	5-143
Table 5-73.	Impacts of the Proposed Project and Alternatives.....	5-146
Table 5-74.	Comparison of the Proposed Project and Alternatives Showing Significant and Unavoidable Impacts After Mitigation.....	5-206
Table 6-1.	Minority and Low-Income Populations.	6-2
Table 6-2.	Minority and Low-Income Characteristics in the Vicinity of the Proposed Project Site by Block Group.....	6-6
Table 7-1.	Total Civilian Employment by County (1990-2010).	7-5
Table 7-2.	Employment Projections (2008-2035).	7-7
Table 7-3.	Unemployment Rate (%) By County (1990-2010).	7-8
Table 7-4.	Total Farm and Nonfarm Employment for Los Angeles County (1990-2010).....	7-9
Table 7-5.	Occupational Breakdown by Place of Residence 2010.....	7-12
Table 7-6.	Household and Family Income by Source of Income.	7-13

Table 7-7.	Household, Family, and Per Capita Income by Representative Cities adjacent to the Proposed Project.	7-13
Table 7-8.	Population by Region, County, and Place.	7-15
Table 7-9.	Population Projections for Region, County, and Place (2005- 2035).	7-16
Table 7-10.	Housing Characteristics in 2010.	7-19
Table 7-11.	Home Price by County.	7-20
Table 7-12.	Home Prices by Community.	7-22
Table 7-13.	Port Industry Activities.	7-29
Table 7-14.	Project Expenditures and Output.	7-30