



Gravina Access Project

Draft Supplemental Environmental Impact Statement

DOT&PF Project No: 67698
Federal Project No: ACHP-0922(5)



Prepared for:



Alaska Department of
Transportation & Public Facilities
6860 Glacier Drive
Juneau, Alaska 99811

Prepared by:
HDR Alaska, Inc.
2525 C Street, Suite 305
Anchorage, AK 99503

June 2013

This page intentionally left blank.

Gravina Access Project

Ketchikan, Alaska
Ketchikan Gateway Borough

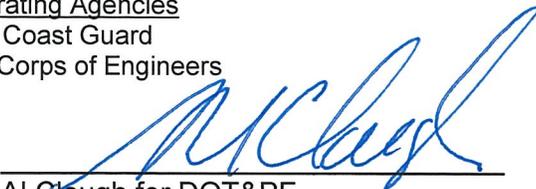
Draft Supplemental Environmental Impact Statement

Submitted Pursuant to 42 U.S. C. 4332 (2) (c)
by the
U.S. Department of Transportation
Federal Highway Administration
and
State of Alaska
Department of Transportation and Public Facilities

Cooperating Agencies
U.S. Coast Guard
U.S Army Corps of Engineers

6.10.2013
Date of Approval

6/10/2013
Date of Approval


Al Clough for DOT&PF


Kris Riesenber for FHWA

The following persons may be contacted for additional information concerning this document:

Kris Riesenber,
NEPA Project Manager
FHWA, Alaska Division
P.O. Box 21648
Juneau, AK 99802
(907) 586-7413

Jim Lowell, P.E., Project Manager
DOT&PF
Southeast Region
6860 Glacier Highway
Juneau, AK 99801-7999
(907) 465-8884

The Gravina Access Project would improve public access between Revillagigedo Island and Gravina Island. This draft Supplemental Environmental Impact Statement (SEIS) describes the purpose and need for improved access, alternatives evaluated in detail and alternatives eliminated from detailed consideration, the potential environmental and human effects of the project alternatives, and proposed measure to minimize and avoid impacts. Six action alternatives are evaluated, along with the No Action Alternative. The draft SEIS examines potential direct, indirect, and cumulative impacts associated with each alternative.

Comments on this draft SEIS are due by August 6, 2013, and should be sent to:

Deborah Holman, Project Administrative Coordinator
Gravina Access Project SEIS
DOT&PF Southeast Region
P.O. Box 112506
Juneau, Alaska 99811-2506

This page intentionally left blank.

Contents

Summary.....	SUM-1
Introduction	SUM-1
Purpose of the SEIS.....	SUM-1
Organization of the SEIS.....	SUM-3
Proposed Action.....	SUM-3
Summary of Gravina Access Project Alternatives Considered.....	SUM-5
No Action Alternative - Continued operation of existing airport ferry	SUM-5
Alternative C3-4 – Airport Bridge with 200 feet of vertical navigational clearance.....	SUM-5
Alternative F3 – Pennock Island bridges with 60 feet of vertical navigational clearance over the East Channel and 200 feet of vertical navigational clearance over the West Channel	SUM-5
Alternative G2 - New ferry between Peninsula Point and Lewis Point; continued operation of existing ferry	SUM-6
Alternative G3 - New ferry between Downtown and south of airport; continued operation of existing ferry.....	SUM-6
Alternative G4 - New ferry adjacent to existing ferry; continued operation of existing ferry	SUM-6
Alternative G4v - Continued operation of existing ferry with improved shoreside amenities	SUM-6
Summary of Beneficial and Adverse Impacts	SUM-8
Federal Actions Necessary.....	SUM-12
SEIS Availability	SUM-12
1.0 PURPOSE OF AND NEED FOR ACTION.....	1-1
1.1 Introduction.....	1-1
1.2 Description of the Project Area	1-2
1.3 Proposed Action	1-2
1.4 Purpose of and Need for the Proposed Action	1-3
1.4.1 Need for Improved Access to Developable Land.....	1-3
1.4.2 Need for Improved Access to Airport.....	1-5
1.4.3 Need for Economic Development.....	1-8
1.5 History and Background: Planning Studies	1-9
1.5.1 Waterfront Development Management Study (1982).....	1-10
1.5.2 Land Use Inventory and Projections (1984).....	1-10
1.5.3 Pennock and Gravina Island Neighborhood Plan (1985)	1-11
1.5.4 Ketchikan Gateway Borough Comprehensive Plan (1986, 1996, and 2009)	1-11
1.5.5 Coastal Management Program (1984, 1989, and 2007)	1-12
1.5.6 Land Use Inventory (1991).....	1-13
1.5.7 Ketchikan International Airport Industrial Development Plan (1993)	1-13
1.5.8 Overall Economic Development Plan (1994 and 1998)	1-14
1.5.9 Land Use Surveys (1995 and 1996)	1-14
1.5.10 Lewis Reef Development: Purpose, Needs, and Alternatives (1997).....	1-15
1.5.11 Gravina Island Plan (2005).....	1-15
1.6 History and Background: Engineering and Environmental Studies.....	1-15

1.6.1	Gravina Island Crossing Reconnaissance Report (1973)	1-16
1.6.2	Tongass Narrows Crossing Study (1981–1982)	1-17
1.6.3	Other Tongass Narrows Crossing Studies (1985-1992)	1-18
1.6.4	Preliminary Draft Environmental Impact Statement (1994)	1-19
1.6.5	Environmental Impact Statement (2004)	1-20
2.0	ALTERNATIVES	2-1
2.1	Alternatives Evaluated in this Draft SEIS	2-1
2.1.1	No Action Alternative	2-2
2.1.2	Bridge Alternatives	2-3
2.1.3	Ferry Alternatives	2-7
2.2	Alternatives Previously Considered but Eliminated From Further Consideration ...	2-12
2.2.1	Reasonable Alternatives Identified in the 2004 FEIS	2-12
2.2.2	Alternatives Identified During SEIS Scoping	2-14
2.2.3	Screening of Alternatives	2-16
3.0	AFFECTED ENVIRONMENT	3-1
3.1	Land Use	3-1
3.1.1	Current Land Use	3-1
3.1.2	Land Use Plans and Policies	3-6
3.2	Farmland	3-8
3.3	Social Environment	3-9
3.3.1	Population and Social Groups	3-9
3.3.2	Community Character	3-11
3.3.3	Community and Public Facilities	3-13
3.3.4	Recreation Resources	3-14
3.3.5	Accessibility	3-14
3.3.6	Environmental Justice	3-16
3.3.7	Subsistence	3-17
3.3.8	Utilities	3-18
3.4	Relocation	3-19
3.5	Economic Environment	3-19
3.5.1	Employment and Earnings	3-20
3.5.2	Major Employment Industries	3-20
3.6	Joint Development	3-22
3.7	Transportation	3-22
3.7.1	Aviation	3-22
3.7.2	Marine Navigation	3-27
3.7.3	Vehicular Travel	3-37
3.8	Pedestrians and Bicyclists	3-40
3.8.1	Pedestrians	3-40
3.8.2	Bicyclists	3-40
3.9	Geology, Topography, and Wind	3-40
3.9.1	Geology and Topography	3-40
3.9.2	Soils and Submerged Material	3-41
3.9.3	Wind	3-42
3.10	Air Quality	3-42
3.10.1	Project Area Status	3-42
3.10.2	Air Pollutants	3-42
3.10.3	Greenhouse Gases and Climate Change	3-43

3.11	Noise	3-44
3.11.1	Regulatory Overview	3-44
3.11.2	Existing Noise Sources	3-45
3.11.3	Noise Receptors.....	3-45
3.11.4	Existing Noise Levels	3-46
3.12	Water Quality.....	3-47
3.13	Permits and Laws Related to the Project	3-47
3.14	Wetlands and Vegetation.....	3-51
3.14.1	Wetlands	3-51
3.14.2	Vegetation.....	3-54
3.15	Waterbodies and Wildlife	3-54
3.15.1	Major Water Bodies.....	3-54
3.15.2	Ponds.....	3-55
3.15.3	Marine Habitats	3-55
3.15.4	Wildlife—Aquatic Species	3-56
3.15.5	Wildlife—Amphibians	3-60
3.15.6	Wildlife—Birds.....	3-60
3.15.7	Wildlife—Land Mammals.....	3-61
3.16	Floodplains	3-63
3.17	Wild and Scenic Rivers	3-63
3.18	Coastal Barriers.....	3-64
3.19	Coastal Zone	3-64
3.19.1	Coastal Development Enforceable Policies	3-64
3.19.2	Recreation and Coastal Access Enforceable Policies.....	3-65
3.20	Threatened or Endangered Species	3-66
3.20.1	Humpback Whale.....	3-66
3.20.2	Steller Sea Lion.....	3-68
3.21	Historic and Archeological Resources.....	3-69
3.21.1	Background and Identification of Historic Properties.....	3-69
3.21.2	Overview: Prehistory and History	3-69
3.21.3	Area of Potential Effect.....	3-71
3.21.4	Resource Inventory	3-71
3.21.5	Historic Properties within the APE	3-73
3.22	Hazardous Waste Sites	3-76
3.23	Visual Environment.....	3-79
3.23.1	Tongass Narrows Area.....	3-80
3.23.2	City of Ketchikan	3-80
3.23.3	Gravina and Pennock Islands.....	3-80
3.23.4	Key Views	3-80
3.24	Energy.....	3-82
4.0	ENVIRONMENTAL CONSEQUENCES	4-1
4.1	Land Use Impacts.....	4-2
4.1.1	Direct Impacts to Ownership, Land Use, and Zoning.....	4-2
4.1.2	Consistency with Land Use Plans and Policies	4-6
4.1.3	Section 4(f) Lands	4-8
4.2	Farmland Impacts.....	4-8
4.3	Social Impacts	4-8
4.3.1	Population and Social Groups	4-8
4.3.2	Community Character	4-9

4.3.3	Community and Public Facilities.....	4-10
4.3.4	Recreation.....	4-10
4.3.5	Accessibility	4-11
4.3.6	Environmental Justice	4-13
4.3.7	Subsistence	4-14
4.3.8	Utilities	4-15
4.4	Relocation Impacts	4-17
4.4.1	No Action Alternative.....	4-17
4.4.2	Bridge Alternative C3-4	4-17
4.4.3	Ferry Alternative G2	4-18
4.5	Economic Impacts	4-19
4.5.1	No Action Alternative.....	4-19
4.5.2	All Action Alternatives.....	4-19
4.6	Joint Development.....	4-19
4.7	Transportation	4-20
4.7.1	Aviation	4-20
4.7.2	Marine Transportation	4-24
4.7.3	Vehicles	4-31
4.8	Considerations Relating to Pedestrians and Bicyclists.....	4-34
4.8.1	No Action Alternative.....	4-35
4.8.2	Bridge Alternatives C3-4 and F3.....	4-35
4.8.3	Ferry Alternatives G2 and G3.....	4-37
4.8.4	Ferry Alternative G4	4-38
4.8.5	Ferry Alternative G4v	4-38
4.9	Geology, Topography, and Wind	4-38
4.9.1	Geology and Topography.....	4-38
4.9.2	Soils	4-40
4.9.3	Wind.....	4-40
4.10	Air Quality Impacts.....	4-41
4.10.1	Emissions.....	4-41
4.10.2	Greenhouse Gases and Climate Change	4-42
4.11	Noise Impacts.....	4-42
4.11.1	No Action Alternative.....	4-42
4.11.2	All Action Alternatives.....	4-42
4.12	Water Quality Impacts	4-43
4.12.1	No Action Alternative.....	4-43
4.12.2	Bridge Alternatives C3-4 and F3.....	4-43
4.12.3	Ferry Alternatives G2, G3, and G4	4-43
4.12.4	Ferry Alternative G4v	4-44
4.12.5	Mitigation of Water Quality Impacts	4-44
4.13	Permits	4-46
4.13.1	No Action Alternative.....	4-46
4.13.2	All Action Alternatives.....	4-46
4.14	Wetland and Vegetation Impacts	4-46
4.14.1	Wetlands	4-47
4.14.2	Vegetation.....	4-49
4.15	Water Body and Wildlife Impacts	4-49
4.15.1	Water Bodies.....	4-50
4.15.2	Ponds.....	4-52
4.15.3	Marine Habitat.....	4-52

4.15.4	Wildlife—Aquatic Species	4-54
4.15.5	Wildlife—Amphibians	4-60
4.15.6	Wildlife—Birds.....	4-61
4.15.7	Wildlife—Land Mammals.....	4-61
4.16	Floodplain Impacts.....	4-62
4.16.1	No Action Alternative.....	4-62
4.16.2	Bridge Alternatives C3-4 and F3.....	4-62
4.16.3	Ferry Alternatives G2, G3, G4, and G4v.....	4-63
4.17	Wild and Scenic Rivers.....	4-63
4.18	Coastal Barriers.....	4-63
4.19	Coastal Zone Management.....	4-63
4.19.1	No Action Alternative.....	4-63
4.19.2	All Action Alternatives.....	4-63
4.20	Threatened and Endangered Species.....	4-65
4.20.1	Humpback Whales	4-65
4.20.2	Steller Sea Lions	4-66
4.21	Historical and Archeological Preservation.....	4-66
4.21.1	No Action Alternative.....	4-66
4.21.2	Bridge Alternatives	4-67
4.21.3	Ferry Alternatives	4-68
4.21.4	Mitigation of Impacts to Historical and Archeological Resources	4-69
4.22	Hazardous Waste Sites	4-69
4.22.1	Known Sites	4-69
4.23	Visual Impacts	4-70
4.23.1	No Action	4-71
4.23.2	Bridge Alternatives	4-71
4.23.3	Ferry Alternatives	4-76
4.24	Energy.....	4-77
4.25	Construction Impacts.....	4-78
4.25.1	Land Use.....	4-79
4.25.2	Social Environment	4-81
4.25.3	Relocation Impacts.....	4-82
4.25.4	Economy and Economic Resources.....	4-82
4.25.5	Transportation.....	4-85
4.25.6	Pedestrians and Bicyclists.....	4-88
4.25.7	Geological Resources	4-88
4.25.8	Air Quality	4-89
4.25.9	Noise and Vibration.....	4-90
4.25.10	Water Quality	4-93
4.25.11	Wetlands.....	4-94
4.25.12	Water Body Modification and Wildlife	4-96
4.25.13	Floodplains.....	4-103
4.25.14	Coastal Zone Management	4-103
4.25.15	Threatened and Endangered Species	4-104
4.25.16	Historic and Archeological Preservation	4-105
4.25.17	Hazardous Waste Sites.....	4-105
4.25.18	Visual Environment	4-106
4.25.19	Energy.....	4-106
4.25.20	Utilities	4-107
4.26	Indirect Impacts	4-107

4.26.1	Land Use Impacts	4-110
4.26.2	Social Impacts.....	4-113
4.26.3	Economic Impacts.....	4-115
4.26.4	Transportation Impacts.....	4-122
4.26.5	Pedestrians and Bicyclists.....	4-129
4.26.6	Air Quality Impacts	4-130
4.26.7	Noise Impacts	4-130
4.26.8	Water Quality Impacts	4-136
4.26.9	Wetland and Vegetation Impacts.....	4-137
4.26.10	Water Body Modification and Wildlife Impacts.....	4-138
4.26.11	Floodplain Impacts	4-140
4.26.12	Coastal Zone Impacts	4-141
4.26.13	Threatened or Endangered Species Impacts	4-141
4.26.14	Historic and Archeological Preservation	4-141
4.26.15	Visual Impacts.....	4-142
4.26.16	Energy Impacts	4-143
4.26.17	Utility Impacts.....	4-143
4.27	Cumulative Impacts	4-144
4.27.1	Land Use Impacts	4-146
4.27.2	Social Impacts.....	4-147
4.27.3	Economic Impacts.....	4-148
4.27.4	Transportation Impacts.....	4-148
4.27.5	Pedestrian and Bicyclist Impacts	4-149
4.27.6	Air Quality Impacts: Climate Change.....	4-150
4.27.7	Water Quality Impacts	4-152
4.27.8	Wetland Impacts	4-153
4.27.9	Water Body Modification and Wildlife Impacts.....	4-154
4.27.10	Historic and Archaeological Resources	4-156
4.27.11	Visual Impacts.....	4-156
4.28	Short-Term Uses and Long-Term Productivity.....	4-157
4.28.1	No Action Alternative.....	4-157
4.28.2	All Action Alternatives.....	4-157
4.29	Irreversible and Irrecoverable Commitments of Resources.....	4-158
4.29.1	No Action Alternative.....	4-158
4.29.2	All Action Alternatives.....	4-158
4.30	Mitigation Compilation	4-159
4.30.1	Mitigation of Direct Impacts	4-159
4.30.2	Mitigation of Construction Impacts.....	4-163
4.31	Summary of Impacts.....	4-171
4.31.1	No Action Alternative.....	4-171
4.31.2	Bridge Alternatives	4-172
4.31.3	Ferry Alternatives	4-172
5.0	LIST OF PREPARERS.....	5-1
6.0	SEIS DISTRIBUTION LIST	6-1
7.0	COMMENTS AND COORDINATION	7-1
7.1	Agency Involvement	7-1
7.1.1	Cooperating Agencies.....	7-1

7.1.2	Participating Agencies.....	7-2
7.2	Public and Agency Scoping Process	7-3
7.2.1	Notice of Intent.....	7-3
7.2.2	Agency Consultation	7-4
7.2.3	Tribal Government Consultation.....	7-6
7.2.4	General Public Outreach	7-6
7.3	Draft SEIS Review Process	7-8
7.3.1	Commenting on the Draft SEIS	7-8
8.0	INDEX.....	8-1

List of Figures

Figure 1.1:	Project Area
Figure 2.1:	SEIS Alternatives
Figure 2.2:	No Action Alternative
Figure 2.3:	Typical Cross-Sectional Views of Proposed Roadways and Bridges
Figure 2.4:	Alternative C3-4
Figure 2.5:	Alternative C3-4: Bridge Profile
Figure 2.6:	Alternative F3
Figure 2.7:	Alternative F3: Bridge Profiles
Figure 2.8:	Alternative F3: West Channel Widening
Figure 2.9:	Alternative F3: West Channel Widening Cross-Sections
Figure 2.10:	Alternative G2
Figure 2.11:	Alternative G3
Figure 2.12:	Alternative G4/G4v
Figure 2.13:	New Airport Ferry Layup Berth and Heavy Freight Dock
Figure 3.1:	Land Ownership
Figure 3.2:	Land Use
Figure 3.3:	Zoning
Figure 3.4:	Gravina Island Ownership and Planning Units
Figure 3.5:	Population of the Ketchikan Gateway Borough, 1990–2011
Figure 3.6:	Diversity by Block and Block Group
Figure 3.7:	2009 Median Household Income
Figure 3.8:	Community and Recreation Facilities
Figure 3.9:	Major Employers in the Ketchikan Area (2010)
Figure 3.10:	Aviation Transportation Facilities
Figure 3.11:	Ketchikan International Airport: Existing Conditions
Figure 3.12:	Marine and Land Transportation Facilities
Figure 3.13:	Tongass Narrows Primary Waterway Uses
Figure 3.14:	Traffic Analysis Intersections
Figure 3.15:	Noise Receptors
Figure 3.16:	Water Resources
Figure 3.17:	Biological Resources (Wetlands and Uplands)
Figure 3.18:	Other Biological Resources
Figure 3.19:	Area of Potential Effect
Figure 3.20:	Hazardous Materials
Figure 3.21:	Key Viewpoints
Figure 4.1:	Alternative C3-4: Transportation Impacts at Airport
Figure 4.2:	Alternative C3-4: Proposed Pier Locations and Marine Resources

- Figure 4.3: Alternative F3: Proposed Dredging, Pier Locations, and Marine Resources
 Figure 4.4: Ferry Alternatives: Proposed Dredging and Marine Resources
 Figure 4.5: Gravina Island Plan Details

List of Tables

Table 1-1: Planning Studies Addressing Access to Gravina Island.....	1-10
Table 1-2: Engineering and Environmental Studies Addressing Access to Gravina Island ...	1-16
Table 2-1: Anticipated Bridge Revenue with Tolling Options	2-4
Table 2-2: Screening Criteria for Gravina Access Project SEIS Alternatives	2-17
Table 2-3: First Phase Screening Summary	2-18
Table 3-1: Land Ownership in the Project Area	3-2
Table 3-2: Land Uses in the Project Area	3-2
Table 3-3: Zoning in the Project Area	3-3
Table 3-4: 2010 U.S. Census Population and Minority Population in Alaska and the Ketchikan Gateway Borough	3-10
Table 3-5: 2009 U.S. Census Median Household Income and Percent Below Poverty Level	3-11
Table 3-6: Travel Times from Revillagigedo Island to Ketchikan International Airport Terminal on Gravina Island.....	3-15
Table 3-7: Employment and Earnings in the Ketchikan Gateway Borough, 2010	3-20
Table 3-8: Cruise Ship and Airline Passenger Arrivals in Ketchikan 2006–2011	3-21
Table 3-9: Operations at Ketchikan Seaplane Facilities	3-25
Table 3-10: Tongass Narrows Total Trips and Maximum Drafts by Vessel Type and Year	3-29
Table 3-11: Cruise Ship Arrival Dates for Ketchikan (1990–2011).....	3-30
Table 3-12: Large Cruise Ships Operating in Southeast Alaska During the 2011 Cruise Season	3-31
Table 3-13: Small Cruise Vessels Operating in Southeast Alaska in 2008	3-32
Table 3-14: Ketchikan Harbor Capacity.....	3-35
Table 3-15: 1998 Boat Use in Ketchikan	3-35
Table 3-16: 2002 Ketchikan Boat Launch Permits.....	3-36
Table 3-17: LOS Criteria for Intersections	3-38
Table 3-18: Existing LOS at Project Area Intersections	3-38
Table 3-19: Travel Distances and Estimated Vehicular Travel Times.....	3-40
Table 3-20: Ketchikan International Airport Wind Statistics ^a	3-42
Table 3-21: Noise Abatement Criteria	3-45
Table 3-22: Existing Noise Levels (L _{eq}) at Monitoring Sites	3-46
Table 3-23: Applicable Laws and Related Permits and Approvals for the Gravina Access Project	3-48
Table 3-24: Essential Fish Habitat Groundfish Species in Project Area.....	3-59
Table 3-25: Essential Fish Habitat Salmon Species in Project Area	3-59
Table 3-26: List of Identified Historic Properties in the APE.....	3-73
Table 3-27: Handlers Identified in the RCRIS Database.....	3-77
Table 3-28: Known Contaminated Sites from Statewide Contaminated Sites Database.....	3-78
Table 3-29: Known Contaminated Sites from Statewide LUST Program Database	3-79
Table 4-1: Land Ownership Impacts by Alternative	4-2
Table 4-2: Land Use Impacts by Alternative	4-3
Table 4-3: Zoning Impacts by Alternative	4-3
Table 4-4: Estimated Operations and Maintenance Jobs in the Borough By Alternative.....	4-19

Table 4-5: Analysis of Sailing Time between Juneau and Ketchikan for Alternative F3-Pennock Island Crossing	4-27
Table 4-6: Travel Distances and Estimated Vehicle Travel Times	4-32
Table 4-7: Travel Distances and Estimated Pedestrian and Bicycle Travel Times.....	4-35
Table 4-8: Alternative C3-4 Travel Time Benefit for Pedestrian and Bicycle Travel	4-36
Table 4-9: Alternative F3 Travel Time Benefit for Pedestrian and Bicycle Travel.....	4-37
Table 4-10: Alternative G2 Travel Time Benefit for Pedestrian and Bicycle Travel	4-37
Table 4-11: Alternatives G3 Travel Time Benefit for Pedestrian and Bicycle Travel	4-38
Table 4-12: Service Load Wind Speeds at Elevation.....	4-41
Table 4-13: Impacts to Wetlands, Ponds, and Uplands (acres)	4-47
Table 4-14: Quantities of Fill and Dredging in Tongass Narrows, and Numbers of Piers.....	4-50
Table 4-15: Potential Adverse Impacts to Essential Fish Habitat.....	4-58
Table 4-16: Estimated Annual Fuel Consumption by Alternative	4-78
Table 4-17: Estimated Construction Spending and Construction Jobs ^a	4-83
Table 4-18: Estimated Local Construction Spending and Construction Jobs in the Ketchikan Gateway Borough ^a	4-83
Table 4-19: Estimated Acquisition Costs	4-84
Table 4-20: Areas of Potential Temporary Soil Disturbance (acres)	4-89
Table 4-21: Typical Construction Noise Levels (dBA).....	4-91
Table 4-22: Estimated Temporary Construction Impacts on Fresh Water Wetlands	4-94
Table 4-23: Development by 2033 Assumed for Gravina and Pennock Islands in the Secondary Impact Analysis	4-109
Table 4-24: Development by 2033 for Gravina and Pennock Islands for Bridge Alternatives with Tolls.....	4-110
Table 4-25: User Economic Benefits of Bridge Alternatives Relative to the No Action Alternative 2012—2086 (2012 \$Million)	4-120
Table 4-26: User Economic Benefits of Ferry Alternatives Relative to the No Action Alternative 2012—2086 (2012 \$Million)	4-121
Table 4-27: Traffic Projections For Project Alternatives.....	4-124
Table 4-28: Level of Service at Project Area Intersections—No Action and Bridge Alternatives (Projections for 2025).....	4-125
Table 4-29: Level of Service at Project Area Intersections—Ferry Alternatives (Projections for 2025)	4-126
Table 4-30: Properties that Would Experience Noise Impacts under the No Action Alternative	4-131
Table 4-31: Properties that Would Experience Noise Impacts under Alternative C3-4.....	4-132
Table 4-32: Properties that Would Experience Noise Impacts under Alternative F3	4-132
Table 4-33: Properties that Would Experience Noise Impacts under Alternative G3.....	4-133
Table 4-34: Statewide and Project Emissions Potential, Relative to Global Trends.....	4-151
Table 4-35: Section 404 Permits Associated with Gravina Island Highway Development....	4-154
Table 4-36: Estimated Materials Required by Action Alternative	4-158
Table 7-1: Cooperating Agencies and their Areas of Jurisdiction/Expertise	7-2
Table 7-2: Participating Agencies and their Areas of Jurisdiction/Expertise.....	7-3
Table 7-3: Notice of Intent Publication List	7-4
Table 7-4: Agency and Stakeholder Consultation Activities.....	7-4
Table 7-5: Public Meeting Venue, Schedule, and Content	7-6

Appendices

- Appendix A: DOT&PF Commissioner Letter
- Appendix B: Conceptual Stage Relocation Study and Assessment of Right-of-Way
Acquisition Costs and Addendum
- Appendix C: FAA Determination of No Hazard to Air Navigation
- Appendix D: ADEC letter to FHWA on Air Quality Conformity Analysis
- Appendix E: Essential Fish Habitat and Endangered Species Act Consultation

Acronyms and Abbreviations

Acronym/ Abbreviation	Definition
A	
AAC	Alaska Administrative Code
AASHTO	American Association of State Highway Transportation Officials
ACMP	Alaska Coastal Management Program
ADA	Americans with Disabilities Act
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game
AHRS	Alaska Heritage Resources Survey
AMHS	Alaska Marine Highway System
Anchorage Center	FAA Anchorage Air Route Traffic Control Center
APDES	Alaska Pollutant Discharge Elimination System
APE	Area of Potential Effect
ARFF	Airport Rescue and Firefighting
AS	Alaska Statute
ASD	Alaska Ship and Drydock, Inc.
B	
BMP	best management practice
Borough	Ketchikan Gateway Borough
C	
CEG	Conditionally Exempt Generator
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
Cruise Ship Program	Commercial Passenger Vessel Environmental Compliance Program
D	
dB	decibels
dB(A)	decibels, A-weighted scale
DCED	(Alaska) Department of Community and Economic Development
DEIS	Draft Environmental Impact Statement
DNR	(Alaska) Department of Natural Resources
DOT&PF	(Alaska) Department of Transportation and Public Facilities
DPS	Distinct Population Segment
E	
EIS	Environmental Impact Statement
EFH	Essential Fish Habitat
EPA	(U.S.) Environmental Protection Agency
EO	Executive Order
F	
FAA	Federal Aviation Administration
FEIS	Final Environmental Impact Statement
FAR	Federal Aviation Regulation

Acronym/ Abbreviation	Definition
FEMA	Federal Emergency Management Agency
FHWA	(U.S. Department of Transportation) Federal Highway Administration
FR	Federal Register
FRC	Fast Response Cutter
FSS	Flight Service Station
G	
GHG	greenhouse gas
H	
HDR	HDR Alaska, Inc. (a subsidiary of HDR Engineering, Inc.)
HTL	High tide line
I	
IFA	Inter-Island Ferry Authority
IFR	instrument flight rules
ILMA	Interagency Land Management Assignment
I-O	input-output
K	
KCMP	Ketchikan Coastal Management Plan
KPC	Ketchikan Pulp Company
KPU	Ketchikan Public Utilities
kWh	kilowatt hour
L	
LEDPA	Least Environmentally Damaging Practicable Alternative
Leq(h)	average sound level over a 1-hour period
LOS	level of service
LUST	leaking underground storage tank
M	
MAP-21	Moving Ahead for Progress in the 21 st Century Act
medevac	medical evacuation
MHW	mean high water
MHHW	mean higher high water
MLLW	mean lower low water
MMBF	million board feet (of timber)
MMT	million metric tons
MOVES	Motor Vehicle Emissions Simulator
mph	miles per hour
MPO	metropolitan planning organization
MPRSA	Marine Protection, Research, and Sanctuaries Act
MSL	mean sea level
MV	motor vessel
N	
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria

Acronym/ Abbreviation	Definition
Native	Alaska Native
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
O	
O&M	operation and maintenance
OEDP 1994	1994 <i>Overall Economic Development Plan</i>
OEDP 1998	1998 <i>Overall Economic Development Plan</i>
OHA	(Alaska) Office of History and Archaeology
OHW	Ordinary High Water
OPAF	Only Practicable Alternatives Finding
P	
PA	Programmatic Agreement
PDT	project development team
PHV	peak hourly volume
PIANC	International Navigation Association (formerly: Permanent International Association of Navigation Congresses)
PM _{2.5}	particulate matter up to 2.5 microns in size
PM ₁₀	particulate matter up to 10 microns in size
R	
RSA	Runway Safety Area
RCRA	Resource Conservation and Recovery Act
S	
SATP	Southeast Alaska Transportation Plan
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SDZ	Surface Danger Zone
SEIS	Supplemental Environmental Impact Statement
SFHA	Special Flood Hazard Areas
SHPO	State Historic Preservation Officer—Change in chapter 3; should not be office
SO ₂	sulfur dioxide
SVFR	special visual flight rules
SWPPP	Storm Water Pollution Prevention Plan
T	
TAMS	Tippetts-Abbett-McCarthy-Stratton Engineers
TDF	Tailings Disposal Facility
TEA-21	Transportation Equity Act for the 21 st Century
TMP	Transportation Management Plan
U	
USACE	U.S. Army Corps of Engineers

Acronym/ Abbreviation	Definition
USC	U.S. Code
USCG	U.S. Coast Guard
USDOT	U.S. Department of Transportation
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
V	
VFR	visual flight rules
VMT	Vehicle miles traveled
VOC	Volatile organic compounds