Honolulu High-Capacity Transit Corridor Project

FINAL ENVIRONMENTAL IMPACT STATEMENT/SECTION 4(f) EVALUATION

East Kapolei

UH West O'ahu

Ho'opili

West Loch

Waipahu Transit Center

Leeward Community College

Pearl Highlands

Pearlridge

Aloha Stadium

Pearl Harbor Naval Base

Honolulu International Airport

Lagoon Drive

Middle Street Transit Center

Kalihi

Kapālama

Iwilei

Chinatown

Downtown

Civic Center

Kaka'ako

Ala Moana

U.S. Department of Transportation
Federal Transit Administration

JUNE 2010

Honolulu High-Capacity Transit Corridor Project

City and County of Honolulu, O`ahu, Hawai`i

Final Environmental Impact Statement/Section 4(f) Evaluation

Submitted pursuant to 49 USC 1601 et seq., 16 USC 470(f), 49 USC 303, 42 USC 4332(2)(c) 42 USC 4371 et seq and 23 CFR 771

by the

U.S. Department of Transportation Federal Transit Administration
City and County of Honolulu Department of Transportation Services

in cooperation with the

U.S. Department of Defense (U.S. Army Garrison—Hawai'i)
U.S. Department of Defense (U.S. Naval Base Pearl Harbor)
U.S. Department of Transportation Federal Aviation Administration
U.S. Department of Transportation Federal Highway Administration
State of Hawai'i Department of Transportation

6/14/10

Date of Approval

Regional Administrator
U.S. Department of Transportation
Federal Transit Administration

6/12/10

Date of Approval

Director, Department of Transportation Services
City and County of Honolulu

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Honolulu High-Capacity Transit Corridor Project

City and County of Honolulu, O`ahu, Hawai`i

Final Environmental Impact Statement/Section 4(f) Evaluation

Submitted pursuant to Hawai'i Revised Statutes Chapter 343

by the

City and County of Honolulu Department of Transportation Services

6/12/10

Date of Approval

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City and County of Honolulu

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Abstract

This Final Environmental Impact Statement/Section 4(f) Evaluation is a joint *National Environmental Policy Act* (NEPA) and Hawai‘i Revised Statutes Chapter 343 document. It is intended to provide decision makers and the public with information on the Project's environmental impacts and benefits. It also serves as a summary documentation of the consultation conducted in compliance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and the Section 4(f) evaluation prepared pursuant to Section 4(f) of the *U.S. Department of Transportation Act of 1966*. This document identifies the current and future need to address mobility and travel reliability issues, to support transportation and land use planning policies, and to improve transportation equity in the study corridor on the Island of O‘ahu in the State of Hawai‘i. In compliance with NEPA, this document considers a No Build and a Build Alternative that will provide high-capacity transit service in the corridor between East Kapolei and Ala Moana Center and serving Honolulu International Airport. This Final EIS identifies the Preferred Alternative, which consists of a 20-mile elevated guideway that includes transit stations, park-and-ride facilities, a maintenance and storage facility, and other ancillary facilities to support the transit system. This Final EIS addresses agency and public comments on the Draft EIS and documents the transportation effects and potential consequences on the natural and human environment, including effects on land use and economic activity; communities and neighborhoods; visual and aesthetic conditions; air quality and energy; noise and vibration; hazardous materials; natural resources; water quality; and archaeological, cultural, and historic resources. It also includes documentation of measures to avoid and minimize effects to the natural and built environments and includes mitigation and other commitments. Financial implications of construction and operation of the transit system are also evaluated.

Comments concerning refinement of the design of the Airport Alternative subsequent to the Draft EIS may be addressed to Mr. Matley and Mr. Yoshioka at the addresses above during the 30 days following the *Federal Register* Notice of Availability. Substantive new comments received during the 30-day period will be addressed in the Record of Decision. A DVD of the Final EIS is available at no cost. The document is available on the project website at honolulutransit.org and may be reviewed at the following locations:

- City Municipal Library
- All State public libraries
- City and County of Honolulu Department of Transportation Services, 650 South King Street, 3rd floor

Printed copies of the document are available for purchase.

State of Hawai`i Chapter 343 Final EIS Summary Sheet

Description of Project	As discussed in Section 2.5, the Project, the National Environmental Policy Act Preferred Alternative, is a portion of the Locally Preferred Alternative that begins at the University of Hawai'i-West O'ahu (near the future Kroc Center), and proceeds via Farrington Highway and Kamehameha Highway (adjacent to Pearl Harbor), to Aolele Street serving the Airport, to Dillingham Boulevard, to Nimitz Highway, to Halekauwila Street, and ending at Ala Moana Center
Significant Beneficial and Adverse Effects	**Beneficial Effects** • Improve transit access, speed, and reliability • Improve access to planned development • Increase travel options for transit dependent, limited income, and aging populations • Moderate future traffic congestion • Reduce air-pollutant emissions • Reduce transportation energy use **Adverse Effects** • Eliminate parking and turn lanes in some locations • Acquire rights-of-way and displace residents and businesses in some locations • Block views in several areas, including protected mauka-makai views • Introduce new linear visual element; changes to view will be low to significant • Moderate noise impacts in eight areas • Prune, remove, and transplant street trees • Create adverse effects to historic and cultural resources • Create temporary effects during construction for access, noise, visual, and traffic
Mitigation Measures	• Incorporate new traffic management into design • Conduct spillover parking surveys in station areas • Provide relocation assistance for displaced residents and businesses • Minimize visual impacts with architecture and landscaping • Include wheel skirts in vehicle specifications and use sound-absorptive materials in areas with noise impacts • Transplant or replant street trees • Implement measures to avoid, minimize, and mitigate harm to archaeological, cultural, and historic resources (See Appendix I for a summary of mitigation and commitments.)
Alternatives Considered	**Final EIS** • No Build Alternative • Airport Alternative **Draft EIS** • No Build Alternative • Salt Lake Alternative • Airport Alternative • Airport & Salt Lake Alternative
Unresolved Issues	• Receipt of permits, approvals, and agreements • Receipt of Federal funds from Section 5309 New Starts program
Compatibility with Plans and Policies	The Project is compatible with applicable State and Local government transportation and land use plans and policies (see Appendix J)
Permits and Approvals	• Archaeological Inventory Survey Plan • Certificate of Inclusion HDLNR (Division of Forestry and Wildlife) • Clean Water Act Sections 401, 402, and 404 • Coastal Zone Management • DPP Special District and Building Permits • Drainage Injection Control • FAA unconditional approval of the Airport Layout Plan • FAA Form 7460.1 Notice of Proposed Construction or Alteration • Farmland Conversion Impact Rating • Interstate Access Modification and Airspace Approvals • Flood Hazard District Compliance • National Pollutant Discharge Elimination System (General and Dewatering) • Noise Permit and Variance • Road Closure • Section 9 of Rivers and Harbors Act • Section 10 of Rivers and Harbors Act • Sole Source Aquifer • Special Management Area • Stream Channel Alteration • Stormwater Connection (MS4) (See Section 4.21, Anticipated Permits, Approvals, and Agreements)

Wayne Y. Yoshioka

Director, Department of Transportation Services
City and County of Honolulu

6/12/10

Date

This document was prepared under my direction or supervision. The information, to the best of my knowledge, fully addresses document content requirements of HAR Section 11-200-17 and Section 11-200-18, as applicable.

Preface

Purpose of the Final Environmental Impact Statement

The purpose of this Final Environmental Impact Statement (EIS) is to provide the City and County of Honolulu Department of Transportation Services (DTS), the Federal Transit Administration (FTA), and the public and interested parties with the information necessary to make an informed decision about the Project based on a full and open analysis of costs, benefits, and environmental impacts of alternatives considered. Approval of this EIS is not an Administrative Action (as defined by 23 CFR 771.107) and does not commit FTA to approve any future grant request to fund the Project.

The **Honolulu High-Capacity Transit Corridor Project** is the project name used for FTA planning and project development for New Starts projects.

The **Locally Preferred Alternative** as identified by the City Council at the conclusion of the Alternatives Analysis process is a step required for FTA's discretionary New Starts Program. It represents the City's long-range plan for the rail system, including the **Project** (as defined below) and the potential extensions.

The **NEPA Preferred Alternative**, referred to in this Final EIS as the **Project**, is evaluated in more detail and is a 20-mile portion of the Locally Preferred Alternative (LPA) for which FTA may provide Federal funding. FTA and the City identified this alternative as preferred for meeting the Purpose and Need over other alternatives, including the No Build Alternative. The Project includes the construction and operation of a fixed guideway rail system. It is a portion of the LPA that begins at the University of Hawai‘i at West O‘ahu (near the future Kroc Center), and proceeds via Farrington Highway and Kamehameha Highway (adjacent to Pearl Harbor), to Aolele Street serving the Airport, to Dillingham Boulevard, to Nimitz Highway, to Halekauwila Street, and ending at Ala Moana Center. If FTA publishes a Record of Decision on this Preferred Alternative, then the City would continue pursuing funding for the Project by submitting an application to enter the Final Design stage of the New Starts Program.

Purpose of the Final Environmental Impact Statement for the Federal Aviation Administration

The Federal Aviation Administration (FAA) is a cooperating agency on this EIS, in accordance with 40 CFR Part 1501.6(a)(1), since it has special expertise and jurisdiction by law to approve proposed development at Honolulu International Airport. The FAA is assigned responsibilities pursuant to 49 USC 40101 et seq., for civil aviation and regulation of air commerce in the interests of aviation safety and efficiency. As a cooperating agency on this EIS, FAA will use the EIS documentation to comply with its own requirements under the National Environmental Policy Act (NEPA) for Federal actions. The FAA will also use the EIS to support subsequent decisions and Federal actions, including unconditional approval of the portion of the Airport Layout Plan that depicts the Project, determination of eligibility for Federal assistance under the Federal grant in-aid program, approval of an application to use Passenger Facility Charges, and approval to grant right-of-way at the airport to carry out the Project.

Overview of the Final Environmental Impact Statement

This document builds on the findings of the *Alternatives Analysis Report* (DTS 2006b) and the *Honolulu High-Capacity Transit Corridor Project Draft Environmental Impact Statement/ Section 4(f) Evaluation* (RTD 2008u), follows FTA planning and guidance, provides information on the preferred Fixed Guideway Transit Alternative via the Airport (Airport Alternative) and the No Build Alternative, and addresses agency and public comments on the Draft EIS.

This document is a joint NEPA and Hawai‘i Revised Statutes (HRS) Chapter 343 Final EIS. It has been compiled in good faith and sets forth sufficient information to enable the decision-maker to consider fully the environmental factors involved, to make a reasoned decision after balancing the risks of harm to the environment against the benefits to be derived from the Project, and to make a reasoned choice between alternatives. It also serves as documentation of the coordination conducted in compliance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and the Section 4(f) evaluation prepared pursuant to Section 4(f) of the *U.S. Department of Transportation Act of 1966*.

The HRS Chapter 343 EIS preparation notice was issued for this Project on December 8, 2005. The Notice of Intent to prepare an EIS was published in the *Federal Register* on March 15, 2007, which began the NEPA scoping period. The March 15, 2007, notice superseded the December 7, 2005, Notice of Intent to prepare an Alternatives Analysis and Draft EIS. The Draft EIS was distributed for public and agency review beginning in November 2008 with the Notice of Availability published in the *Federal Register* on November 21, 2008, and in the State of Hawai‘i *Environmental Notice* on November 23, 2008. Public hearings were held to receive comments from the public and agencies, and comments were accepted until February 6, 2009. The Notice of Availability of this Final EIS will be published in the *Federal Register*.

HRS Section 343-5(f) and Hawai‘i Administrative Rules (HAR) Section 11-200-25(b) both require State and Local agencies to cooperate with Federal agencies to the fullest extent possible to reduce duplication between Federal and State requirements. This includes preparing joint environmental impact statements with concurrent public review and processing. The governor has final authority to accept the EIS. At the time of submission to the governor, Hawai‘i’s EIS rules also require that the Final EIS be distributed to persons and agencies with jurisdiction or expertise in certain areas relevant to various actions and to Draft EIS commenters that request the Final EIS. The Final EIS will be submitted to the governor and distributed to the FTA. The FTA

will issue a Notice of Availability of the Final EIS pursuant to its NEPA regulations.

No sooner than 30 days after publication of this Final EIS, the FTA will sign a Record of Decision. The Record of Decision will summarize the alternatives considered, factors that support selection of the recommended alternative, and commitments to measures that mitigate substantial environmental impacts.

The LPA includes the majority of housing and employment on Oʻahu. The east-west length of the corridor is approximately 23 miles. The north-south width is at most 4 miles because much of the corridor is constrained by the Koʻolau and Waiʻanae Mountain Ranges to the north and the Pacific Ocean to the south. This document provides environmental analysis and documentation for the 20-mile Project as described in Section 2.5 between East Kapolei and Ala Moana Center.

Future planned extensions from East Kapolei to West Kapolei, following Salt Lake Boulevard, and from Ala Moana Center to UH Mānoa and to Waikīkī are included in the LPA and are addressed as cumulative effects in Sections 3.6.2 and 4.19.3 of this Final EIS. These planned extensions would be evaluated through a separate NEPA and HRS Chapter 343 process and designed and constructed once additional funding is secured.

Organization of the Final Environmental Impact Statement

This document is divided into two volumes. This volume contains the Final EIS for the Project, which includes a summary of changes between the Draft and Final EIS, explanation and analysis of design refinements to the Airport Alternative since the Draft EIS, and responses to comments on the Draft EIS. It consists of the following eight chapters:

Chapter 1 discusses the background, describes the study corridor from Kapolei to UH Mānoa and Waikīkī, and explains the Purpose and Need for the fixed guideway transit system.

Chapter 2 details the alternatives and technologies considered during the screening and selection process and summarizes the alternatives considered during the Alternatives Analysis and environmental impact analysis processes. It includes the basis for selection of the Preferred Alternative and a description of the project design elements and operating parameters.

Chapter 3 describes existing and future transportation conditions in the study corridor, presents consequences of the Project and compares them to the No Build Alternative, and discusses mitigation for potential transportation impacts.

Chapter 4 describes existing and future environmental conditions, presents consequences of the Project and compares them to the No Build Alternative, and discusses mitigation for potential environmental impacts.

Chapter 5 discusses the Project's effects on public parks, recreational areas, and historic properties to support determinations required to comply with the provisions of the *U.S. Department of Transportation Act of 1966* [commonly referred to as Section 4(f)].

Chapter 6 presents the various funding sources and estimated capital and operating costs.

Chapter 7 summarizes the evaluation of the Project based on the information in Chapters 3 through 6.

Chapter 8 discusses the overall public outreach and agency coordination components and sum-

marizes comments received on the Draft EIS and the responses to those comments.

Volume II consists of electronic files for the appendices referenced in the Final EIS, including comments received regarding the Draft EIS and the responses to those comments. The CD is located at the end of Volume I. Technical reports supporting the analysis presented in this Final EIS are available for review at the offices of the City and County of Honolulu Department of Transportation Services Rapid Transit Division and on the project website at www.honolulutransit.org.

Table of Contents

Acronyms and Abbreviations xxiii

Executive Summary S-1

Chapter 01 Background, Purpose and Need 1-1

1.1 History of the Honolulu High-Capacity Transit Corridor Project 1-1
- 1.1.1 Conditions Leading to the Project 1-1
- 1.1.2 Progress of the Honolulu High-Capacity Transit Corridor Project 1-4
- 1.1.3 Developments since the Draft Environmental Impact Statement 1-5

1.2 Description of the Corridor 1-5

1.3 Existing Travel Patterns in the Corridor 1-12
- 1.3.1 Person-trip Patterns 1-12
- 1.3.2 Transit Travel Patterns 1-13

1.4 Existing Transportation Facilities and Services in the Corridor 1-15
- 1.4.1 Street and Highway System 1-15
- 1.4.2 Public Transit System 1-16
- 1.4.3 Parking 1-16
- 1.4.4 Pedestrian and Bicycle Systems 1-16

1.5 Performance of the Existing Transportation System 1-16
- 1.5.1 Highway Traffic Volumes 1-16
- 1.5.2 Highway Traffic Operating Conditions 1-17
- 1.5.3 Transit Operating Conditions 1-19

1.6 Potential Transit Markets 1-20
1.7 Purpose of the Project 1-21
1.8 Need for Transit Improvements 1-21
1.8.1 Improve Corridor Mobility 1-21
1.8.2 Improve Corridor Travel Reliability 1-22
1.8.3 Improve Access to Planned Development to Support City Policy to Develop a Second Urban Center 1-22
1.8.4 Improve Transportation Equity 1-22
1.9 Goals of the Project 1-23

Chapter 02 Alternatives Considered 2-1

2.1 Changes to this Chapter since the Draft Environmental Impact Statement 2-2
2.2 Alternatives Screening and Selection Process 2-4
2.2.1 Screening of a Broad Range of Alternatives 2-5
2.2.2 Alternatives Considered in the Alternatives Analysis 2-7
2.2.3 Alternatives Consideration Process after the Alternatives Analysis 2-14
2.3 Alternatives Considered in the Draft Environmental Impact Statement 2-16
2.3.1 No Build Alternative 2-16
2.3.2 Salt Lake Alternative 2-18
2.3.3 Airport Alternative 2-18
2.3.4 Airport & Salt Lake Alternative 2-18
2.4 Preferred Alternative Identification Process 2-22
2.4.1 Refinement of Preferred Alternative 2-23
2.5 The Project: Fixed Guideway Alternative from East Kapolei to Ala Moana Center via the Airport 2-23
2.5.1 Operating Parameters 2-29
2.5.2 Transit Technology 2-30
2.5.3 Station Characteristics 2-31
2.5.4 Safety and Security Measures 2-31
2.5.5 Pedestrian and Bicycle Access 2-43
2.5.6 Bus System 2-43
2.5.7 Park-and-Ride Facilities 2-44
2.5.8 Vehicle Maintenance and Storage Facility 2-44
2.5.9 Traction Power Substations 2-45
2.5.10 Project Phasing 2-46

Chapter 03 Transportation 3-1

3.1 Changes to this Chapter since the Draft Environmental Impact Statement 3-3

3.2 Methodology 3-5
- 3.2.1 Analytical Tools and Data Sources 3-5
- 3.2.2 Approach to Estimating Transportation Effects 3-6

3.3 Existing Conditions and Performance 3-8
- 3.3.1 Existing Travel Patterns 3-8
- 3.3.2 Existing Transit Conditions and Performance 3-10
- 3.3.3 Existing Streets and Highways Conditions and Performance 3-17
- 3.3.4 Existing Parking Conditions and Performance 3-25
- 3.3.5 Existing Bicycle and Pedestrian Network Conditions and Performance 3-26
- 3.3.6 Existing Airport Facilities 3-26

3.4 Transportation Consequences and Mitigation 3-27
- 3.4.1 Future Travel Patterns 3-28
- 3.4.2 Effects on Transit 3-31
- 3.4.3 Effects on Streets and Highways 3-47
- 3.4.4 Effects on Parking 3-54
- 3.4.5 Effects on Bicycle and Pedestrian Facilities 3-59
- 3.4.6 Effects to Airport Facilities 3-60
- 3.4.7 Mitigation of Long-term Transportation Effects 3-61

3.5 Construction-related Effects on Transportation 3-64
- 3.5.1 Construction Staging Plans 3-64
- 3.5.2 Construction-related Effects on Transit Service 3-64
- 3.5.3 Construction-related Effects on Traffic 3-67
- 3.5.4 Construction-related Effects on Parking 3-69
- 3.5.5 Construction-related Effects on Bicycle and Pedestrian Facilities 3-70
- 3.5.6 Construction-related Effects on Airport Facilities 3-70
- 3.5.7 Mitigation of Construction-related Effects 3-71

3.6 Indirect and Cumulative Transportation System Effects 3-74
- 3.6.1 Indirect Effects 3-74
- 3.6.2 Cumulative Effects 3-74

Chapter 04 Environmental Analysis, Consequences, and Mitigation 4-1

4.1 Changes to this Chapter since the Draft Environmental Impact Statement 4-3

4.2 Land Use 4-11
- 4.2.1 Background and Methodology 4-11
- 4.2.2 Affected Environment 4-11
- 4.2.3 Environmental Consequences and Mitigation 4-21

4.3 Economic Activity 4-24
4.3.1 Background and Methodology 4-25
4.3.2 Affected Environment 4-25
4.3.3 Environmental Consequences and Mitigation 4-26
4.4 Acquisitions, Displacements, and Relocations 4-26
4.4.1 Background and Methodology 4-26
4.4.2 Affected Environment 4-27
4.4.3 Environmental Consequences and Mitigation 4-27
4.5 Community Services and Facilities 4-28
4.5.1 Background and Methodology 4-29
4.5.2 Affected Environment 4-29
4.5.3 Environmental Consequences and Mitigation 4-38
4.6 Neighborhoods 4-42
4.6.1 Background and Methodology 4-42
4.6.2 Affected Environment 4-42
4.6.3 Environmental Consequences and Mitigation 4-45
4.7 Environmental Justice 4-49
4.7.1 Background and Methodology 4-49
4.7.2 Affected Environment 4-51
4.7.3 Environmental Consequences 4-54
4.7.4 Environmental Justice Determination 4-58
4.8 Visual and Aesthetic Conditions 4-60
4.8.1 Background and Methodology 4-60
4.8.2 Affected Environment 4-62
4.8.3 Environmental Consequences and Mitigation 4-67
4.9 Air Quality 4-110
4.9.1 Background and Methodology 4-110
4.9.2 Affected Environment 4-111
4.9.3 Environmental Consequences and Mitigation 4-112
4.10 Noise and Vibration 4-113
4.10.1 Background and Methodology 4-113
4.10.2 Affected Environment 4-116
4.10.3 Environmental Consequences and Mitigation 4-116
4.11 Energy and Electric and Magnetic Fields 4-123
4.11.1 Background and Methodology 4-124
4.11.2 Affected Environment 4-124
4.11.3 Environmental Consequences and Mitigation 4-124
4.12 Hazardous Waste and Materials 4-125
4.12.1 Background and Methodology 4-126
4.12.2 Affected Environment 4-126

4.12.3 Environmental Consequences and Mitigation 4-130

4.13 Ecosystems 4-132
4.13.1 Background and Methodology 4-132
4.13.2 Affected Environment 4-135
4.13.3 Environmental Consequences and Mitigation 4-140

4.14 Water 4-141
4.14.1 Background and Methodology 4-142
4.14.2 Affected Environment 4-146
4.14.3 Environmental Consequences and Mitigation 4-157
4.14.4 404(b)(1) Analysis 4-171

4.15 Street Trees 4-172
4.15.1 Background and Methodology 4-172
4.15.2 Affected Environment 4-174
4.15.3 Environmental Consequences and Mitigation 4-174

4.16 Archaeological, Cultural, and Historic Resources 4-176
4.16.1 Background and Methodology 4-176
4.16.2 Affected Environment 4-183
4.16.3 Environmental Consequences and Mitigation 4-185

4.17 Maintenance and Storage Facility 4-196
4.17.1 No Build Alternative 4-197
4.17.2 The Project 4-197

4.18 Construction Phase Effects 4-199
4.18.1 Land Use and Economic Activity 4-201
4.18.2 Communities and Neighborhoods 4-202
4.18.3 Visual and Aesthetic Conditions 4-203
4.18.4 Air Quality 4-204
4.18.5 Noise and Vibration 4-204
4.18.6 Construction Energy Consumption 4-206
4.18.7 Contaminated Media and Solid Waste 4-206
4.18.8 Natural Resources 4-208
4.18.9 Invasive Species 4-209
4.18.10 Water Resources 4-209
4.18.11 Archaeological, Cultural, and Historic Resources 4-212
4.18.12 Relationship between Short-term Uses of the Environment and Long-term Productivity 4-213

4.19 Indirect and Cumulative Effects 4-214
4.19.1 Background and Methodology 4-214
4.19.2 Indirect Effects 4-215
4.19.3 Cumulative Effects 4-219
4.19.4 Effects of No Build Alternative on Growth 4-232

4.20 Irreversible and Irretrievable Commitments of Resources 4-233
4.21 Anticipated Permits, Approvals, and Agreements 4-233

Chapter 05 Section 4(f) Evaluation 5-1

5.1 Changes to this Chapter since the Draft Environmental Impact Statement 5-1
5.2 Introduction 5-3
5.2.1 Section 4(f) Determinations 5-3
5.2.2 *De minimis* Impact Determinations 5-4
5.2.3 Section 4(f) "Use" Definitions 5-4
5.3 Alternatives Evaluation and Description of the Project 5-5
5.3.1 Alternatives Evaluation 5-5
5.3.2 Description of the Project 5-6
5.4 Description of Section 4(f) Properties 5-6
5.5 Direct Use of Section 4(f) Properties 5-14
5.5.1 Park and Recreational Properties 5-14
5.5.2 Historic Sites 5-23
5.6 Evaluation of Constructive Use of Section 4(f) Properties 5-49
5.6.1 Parks and Recreational Properties 5-50
5.6.2 Historic Section 4(f) Properties 5-54
5.6.3 Summary of Evaluation of Constructive Use of Section 4(f) Properties 5-68
5.7 Temporary Occupancy of Section 4(f) Properties 5-69
5.8 Least Overall Harm 5-70
5.8.1 Least Overall Harm Evaluation of the Airport and Salt Lake Alternative Alignments 5-70
5.8.2 Differences in Environmental Impacts between Airport and Salt Lake Alternatives 5-72
5.8.3 Purpose and Need 5-72
5.9 Determination of Section 4(f) Use 5-73

Chapter 06 Cost and Financial Analysis 6-1

6.1 Changes to this Chapter since the Draft Environmental Impact Statement 6-1
6.2 Cost Estimate Methodology 6-2
6.2.1 Capital Cost Methodology 6-2
6.2.2 Operating and Maintenance Cost Methodology 6-3
6.3 Capital Plan 6-3
6.3.1 Capital Costs 6-3
6.3.2 Proposed Capital Funding Sources for the Project 6-3
6.3.3 Funding Sources for Ongoing Capital Expenditures 6-5

6.4 Operating and Maintenance Plan 6-7
6.4.1 Operating and Maintenance Costs 6-7
6.4.2 Operating and Maintenance Funding Sources 6-7
6.5 Cash Flow Analysis 6-9
6.5.1 Financing Assumptions for the Project 6-9
6.5.2 Ongoing Capital Expenditure Cash Flow 6-10
6.5.3 Operating and Maintenance Expenditure Cash Flow 6-10
6.6 Risks and Uncertainties 6-10
6.6.1 Project Cost Risks 6-11
6.6.2 Economic and Financial Risks 6-11
6.6.3 Capital Revenues 6-12
6.6.4 Operating Revenues 6-13
6.6.5 Operating Costs 6-14

Chapter 07 Evaluation of the Project 7-1

7.1 Changes to this Chapter since the Draft Environmental Impact Statement 7-1
7.2 Effectiveness in Meeting Project Purpose and Need 7-2
7.2.1 Improve Corridor Mobility 7-2
7.2.2 Improve Corridor Travel Reliability 7-3
7.2.3 Improve Access to Planned Development to Support City Policy to Develop a Second Urban Center 7-4
7.2.4 Improve Transportation Equity 7-4
7.3 Transportation and Environmental Consequences 7-6
7.3.1 Transportation 7-6
7.3.2 Environmental Consequences 7-6
7.4 Cost-effectiveness 7-7
7.5 Financial Feasibility 7-7
7.5.1 Measure of Capital Financial Feasibility 7-7
7.5.2 Measure of City Financial Contribution for Operating and Maintenance 7-8
7.5.3 Comparison of Alternatives 7-8
7.6 New Starts Program 7-8
7.6.1 Background 7-8
7.6.2 Ratings for the Project 7-9
7.7 Important Trade-offs 7-10
7.8 Unresolved Issues 7-10

Chapter 08 Comments and Coordination 8-1

8.1 Changes to this Chapter since the Draft Environmental Impact Statement 8-2

8.2 Public and Community Outreach 8-2
8.2.1 Public Outreach Techniques 8-2
8.2.2 Government and Other Agency Coordination 8-2
8.2.3 Section 106 and Consulting Party Coordination 8-4
8.2.4 HRS Chapter 343 Coordination 8-6
8.2.5 NEPA Coordination 8-6

8.3 Community Outreach during the Alternatives Analysis Phase 8-6

8.4 Community Outreach during the Project's Preliminary Engineering/EIS Phase 8-7
8.4.1 Community Station Design Workshops 8-8
8.4.2 Agency Coordination 8-8

8.5 Public Hearings 8-9

8.6 Draft EIS Comments 8-10
8.6.1 Alternatives Considered 8-10
8.6.2 Planned Extensions 8-12
8.6.3 Ridership/Travel Forecasting 8-12
8.6.4 Parking 8-13
8.6.5 Traffic Analysis 8-14
8.6.6 Visual 8-15
8.6.7 Noise 8-17
8.6.8 Project Cost and Financing 8-17
8.6.9 Construction Phasing 8-18
8.6.10 Construction 8-18
8.6.11 Acquisitions and Relocations 8-19
8.6.12 Managed Lane Alternative 8-19
8.6.13 At-grade Alternatives 8-23

8.7 Continuing Public Involvement through Construction 8-25

8.8 Accommodations for Minority, Low-income, and Persons with Disabilities 8-25

References

List of Preparers

List of EIS Recipients

Index

List of Appendices (on enclosed compact disk)

Appendix A Comments Received on the Draft Environmental Impact Statement and Responses

Appendix B Preliminary Alignment Plans and Profiles

Appendix C Preliminary Right-of-Way Plans
Appendix D Bus Transit Routes
Appendix E Construction Approach
Appendix F Record of Agency Correspondence and Coordination
Appendix G Record of Public and Stakeholder Correspondence and Coordination
Appendix H Section 106 of the National Historic Preservation Act Draft Programmatic Agreement
Appendix I Mitigation and Commitments
Appendix J Relationship to Land Use Plans, Policies, and Controls
Appendix K Airport Layout Plan and Drawings

Figures

Figure 1-1 Honolulu High-Capacity Transit Corridor Project Vicinity 1-2
Figure 1-2 Population, Vehicle Ownership, and Vehicle Miles Traveled Trends for O`ahu 1-2
Figure 1-3 Areas and Districts in the Study Corridor 1-7
Figure 1-4 Major Activity Centers in the Study Corridor 1-8
Figure 1-5 Population Distribution for O`ahu 1-10
Figure 1-6 Employment Distribution for O`ahu 1-11
Figure 1-7 Current (2007) Daily Person-trip Patterns on O`ahu 1-12
Figure 1-8 Daily 2007 Transit Trips between Transportation Analysis Areas 1-14
Figure 1-9 Concentrations of Transit-dependent Households (2000) 1-15
Figure 1-10 Existing A.M. Peak-Period Wai`anae to Downtown Travel Time Distribution (Highway Drive Time Only) 1-18
Figure 1-11 Selected Bus Trip Times for Selected Routes 1-19
Figure 1-12 Route Maps for Sampled Routes 1-20
Figure 2-1 Planning and Project Development Process 2-3
Figure 2-2 Alternatives Screening Process 2-5
Figure 2-3 Managed Lane Alternative Evaluated in the Alternatives Analysis 2-11
Figure 2-4 Fixed Guideway Alternative Evaluated in the Alternatives Analysis 2-13
Figure 2-5 Salt Lake Alternative 2-19
Figure 2-6 Airport Alternative 2-20
Figure 2-7 Airport & Salt Lake Alternative 2-21
Figure 2-8 Fixed Guideway Transit Alternative Features (East Kapolei to Fort Weaver Road) 2-25
Figure 2-9 Fixed Guideway Transit Alternative Features (Fort Weaver Road to Aloha Stadium) 2-26
Figure 2-10 Fixed Guideway Transit Alternative Features (Aloha Stadium to Kalihi) 2-27
Figure 2-11 Fixed Guideway Transit Alternative Features (Kalihi to Ala Moana Center) 2-28
Figure 2-12 Example Vehicle on Elevated Guideway (Cross-section) 2-30
Figure 2-13 Typical Side-platform Station Configuration without a Concourse 2-32
Figure 2-14 Typical Side-platform Station Configuration with a Concourse 2-33
Figure 2-15 Typical Center-platform Station Configuration with a Concourse 2-34
Figure 2-16 Legend for Figures 2-17 to 2-39 2-35

Figure 2-17 East Kapolei Station 2-35
Figure 2-18 UH West O`ahu Station 2-36
Figure 2-19 Ho`opili Station 2-36
Figure 2-20 West Loch Station 2-36
Figure 2-21 Waipahu Transit Center Station 2-37
Figure 2-22 Leeward Community College Station 2-37
Figure 2-23 Pearl Highlands Station 2-37
Figure 2-24 Pearlridge Station 2-38
Figure 2-25 Aloha Stadium Station 2-38
Figure 2-26 Pearl Harbor Naval Base Station 2-39
Figure 2-27 Honolulu International Airport Station 2-39
Figure 2-28 Lagoon Drive Station 2-39
Figure 2-29 Middle Street Transit Center Station 2-39
Figure 2-30 Kalihi Station 2-40
Figure 2-31 Kapālama Station 2-40
Figure 2-32 Iwilei Station 2-40
Figure 2-33 Chinatown Station 2-40
Figure 2-34 Downtown Station 2-41
Figure 2-35 Civic Center Station 2-41
Figure 2-36 Kaka`ako Station 2-41
Figure 2-37 Ala Moana Center Station 2-42
Figure 2-38 Leeward Community College Maintenance and Storage Facility Location and Conceptual Layout 2-44
Figure 2-39 Maintenance and Storage Facility in Ho`opili Location and Conceptual Layout 2-45
Figure 2-40 Example of a Traction Power Substation 2-45
Figure 2-41 Project Construction Phases 2-46
Figure 2-42 Project Schedule 2-48
Figure 2-43 Planned Extensions 2-48
Figure 3-1 TheBus Annual Average Operating Speed in Miles per Hour—1984–2009 3-13
Figure 3-2 TheBus Systemwide Schedule Adherence (Percent of Weekday Systemwide Arrivals more than Five Minutes Late) 3-16
Figure 3-3 TheBus Systemwide Annual Service Incidents Involving Turnbacks 3-16
Figure 3-4 Selected Screenline Facilities Locations 3-19
Figure 3-5 Transit-dependent Households and Transit-user Benefits—2030 Project 3-32
Figure 3-6 Transit Average Operating Speeds in Miles per Hour—No Build Alternative and the Project 3-35
Figure 3-7 A.M. Peak-Period Transit Travel Times by Travel Market—Existing Conditions, No Build Alternative, and Project 3-35
Figure 3-8 Positive User Benefits of the Project Compared to No Build Alternative—2030 3-39
Figure 3-9 2030 A.M. Two-hour Peak Period Boardings, Alightings, and Link Volumes 3-41

Figure 3-10 2030 Daily Boardings, Alightings, and Link Volumes 3-42
Figure 3-11 Transit Shares of Home-based Work Trips in A.M. Two-Hour Peak Period—Existing Conditions, No Build Alternative, and Project 3-44
Figure 3-12 Pearl Highlands Station Area—2030 A.M. Peak-Hour Volumes 3-53
Figure 3-13 Pearl Highlands Station Area—2030 P.M. Peak-Hour Volumes 3-53
Figure 3-14 Airport Runway Protection Zone 3-62
Figure 4-1 Project Overview 4-4
Figure 4-2 Planning Regions and Planned Land Use 4-13
Figure 4-3 Existing Land Use (East Kapolei to Fort Weaver Road) 4-15
Figure 4-4 Existing Land Use (Fort Weaver Road to Aloha Stadium) 4-16
Figure 4-5 Existing Land Use (Aloha Stadium to Kalihi) 4-17
Figure 4-6 Existing Land Use (Kalihi to Ala Moana Center) 4-18
Figure 4-7 Designated Agricultural Lands (East Kapolei to Fort Weaver Road) 4-19
Figure 4-8 Designated Agricultural Lands (Fort Weaver Road to Aloha Stadium) 4-20
Figure 4-9 Community Resources and Facilities within One-half Mile (East Kapolei to Fort Weaver Road) 4-31
Figure 4-10 Community Resources and Facilities within One-half Mile (Fort Weaver Road to Aloha Stadium) 4-32
Figure 4-11 Community Resources and Facilities within One-half Mile (Aloha Stadium to Kalihi) 4-33
Figure 4-12 Community Resources and Facilities within One-half Mile (Kalihi to Ala Moana Center) 4-34
Figure 4-13 Corridor Neighborhoods 4-43
Figure 4-14 Environmental Justice Populations within the Study Corridor 4-52
Figure 4-15 Communities of Concern within the Study Corridor 4-53
Figure 4-16 Visually Sensitive Resources and Representative Viewpoints within the Project Corridor 4-61
Figure 4-17 Protected Views and Vistas (East Kapolei to Fort Weaver Road) 4-64
Figure 4-18 Protected Views and Vistas (Fort Weaver Road to Aloha Stadium) 4-65
Figure 4-19 Protected Views and Vistas (Kalihi to Ala Moana Center) 4-66
Figure 4-20 Viewpoint 1—Farrington Highway near Waikele Road, looking `Ewa 4-72
Figure 4-21 Viewpoint 2—Kamehameha Highway near Acacia Road, looking `Ewa 4-73
Figure 4-22 Viewpoint 3—Kamehameha Highway at Ka`ahumanu Street, looking Makai 4-74
Figure 4-23 Viewpoint 4—Kamehameha Highway at Kaonohi Street, looking Makai 4-75
Figure 4-24 Viewpoint 5—Aloha Stadium, looking `Ewa 4-76
Figure 4-25 Viewpoint 6—Kamehameha Highway near Radford Drive and the Pearl Harbor Naval Base Station Area, looking Mauka 4-77
Figure 4-26 Viewpoint 7—Ke`ehi Lagoon Beach Park, looking Mauka and `Ewa 4-78
Figure 4-27 Viewpoint 8—Ke`ehi Lagoon Beach Park, looking Mauka 4-79
Figure 4-28 Viewpoint 9— Dillingham Boulevard at Kalihi, looking Makai 4-80
Figure 4-29 Viewpoint 10—Dillingham Boulevard near Honolulu Community College and Kapālama Station Area, looking `Ewa 4-81

Figure 4-30 Viewpoint 11—Nimitz Highway Bridge and Chinatown Station Area, looking Makai 4-82
Figure 4-31 Viewpoint 12—Nimitz Highway, makai of Nimitz Highway/Maunakea Street Intersection, looking `Ewa and Mauka 4-83
Figure 4-32 Viewpoint 13—Maunakea Street, looking Makai 4-84
Figure 4-33 Viewpoint 14—O`ahu Market at King Street, looking Makai 4-85
Figure 4-34 Viewpoint 15—Nimitz Highway/Fort Street Intersection Mauka of Irwin Park and Aloha Tower Marketplace, looking Koko Head 4-86
Figure 4-35 Viewpoint 16—Fort Street Mall at Merchant Street, looking Makai 4-87
Figure 4-36 Viewpoint 17—Aloha Tower Drive at Irwin Park and Aloha Tower Marketplace, looking Mauka 4-88
Figure 4-37 Viewpoint 18—Halekauwila Street/Cooke Street Intersection, looking Mauka past Mother Waldron Neighborhood Park 4-89
Figure 4-38 Viewpoint 19—Mother Waldron Neighborhood Park near Halekauwila Street/Cooke Street Intersection, looking `Ewa 4-90
Figure 4-39 Visual Simulation from Waimano Home Road at Fourth Street, looking Mauka 4-95
Figure 4-40 Visual Simulation from Waimano Home Road near Pearl City Elementary School, looking Makai 4-96
Figure 4-41 Visual Simulation from Honomanu Street near Nalopaka Place, looking Makai 4-96
Figure 4-42 Visual Simulation from Arizona Memorial, looking Mauka 4-97
Figure 4-43 Visual Simulation from World War II Valor in the Pacific National Monument Visitor Center Parking Lot, looking Mauka 4-97
Figure 4-44 Visual Simulation from Bishop Street at Aloha Tower Drive, looking Mauka 4-102
Figure 4-45 Visual Simulation from Bishop Street at Queen Street, looking Makai 4-102
Figure 4-46 Visual Simulation from Cooke Street at Ilaniwai Street, looking Makai 4-104
Figure 4-47 Visual Simulation from Ward Avenue near Auahi Street, looking Mauka 4-104
Figure 4-48 Visual Simulation from Ward Avenue at Queen Street, looking Makai 4-105
Figure 4-49 Visual Simulation from Pi`ikoi Street at Ala Moana Center Entrance, looking Mauka 4-105
Figure 4-50 Visual Simulation from Pi`ikoi Street at Kapi`olani Boulevard, looking Makai 4-106
Figure 4-51 Typical Sound Levels 4-113
Figure 4-52 FTA Transit Project Noise Exposure Impact Criteria 4-115
Figure 4-53 Noise Measurement Locations and Results (East Kapolei to Fort Weaver Road) 4-117
Figure 4-54 Noise Measurement Locations and Results (Fort Weaver Road to Aloha Stadium) 4-118
Figure 4-55 Noise Measurement Locations and Results (Aloha Stadium to Kalihi) 4-119
Figure 4-56 Noise Measurement Locations and Results (Kalihi to Ala Moana Center) 4-120
Figure 4-57 Natural Resources (East Kapolei to Aloha Stadium) 4-137
Figure 4-58 Natural Resources (Aloha Stadium to Ala Moana Center) 4-138
Figure 4-59 Ko`oloa`ula 4-136
Figure 4-60 White Tern 4-140
Figure 4-61 Wetland and Waters of the U.S. Study Sites 4-148
Figure 4-62 Waiawa Stream and Springs 4-151

Figure 4-63 Maintenance and Storage Facility Stormwater Outfall near Leeward Community College 4-153
Figure 4-64 Waiau Springs and Wetland 4-154
Figure 4-65 Sumida Watercress Farm Wetland 4-155
Figure 4-66 `Aiea Bay State Recreation Area Wetland 4-156
Figure 4-67 Watershed and Flood Zones 4-158
Figure 4-68 Moanalua Stream 4-163
Figure 4-69 Kapālama Canal Stream 4-164
Figure 4-70 Nu`uanu Stream 4-165
Figure 4-71 Identified Street Trees 4-173
Figure 4-72 True Kamani Trees on Dillingham Boulevard 4-174
Figure 4-73 Potential to Affect Archaeological Resources 4-184
Figure 4-74 Historic Properties in Area of Potential Effects (East Kapolei to Fort Weaver Road) 4-187
Figure 4-75 Historic Properties in Area of Potential Effects (Fort Weaver Road to Aloha Stadium) 4-188
Figure 4-76 Historic Properties in Area of Potential Effects (Aloha Stadium to Kalihi) 4-189
Figure 4-77 Historic Properties in Area of Potential Effects (Kalihi to Ala Moana Center) 4-190
Figure 4-78 Typical Construction Equipment Noise Levels 4-205
Figure 4-79 Visual Simulation of UH Mānoa Planned Extension at Convention Center, looking Mauka 4-230
Figure 4-80 Visual Simulation of Waikīkī Planned Extension at Kālaimoku, looking Mauka 4-230
Figure 4-81 Special Management Area
Figure 5-1 Historic, Park and Recreational Properties (East Kapolei to Fort Weaver Road) 5-7
Figure 5-2 Historic, Park and Recreational Properties (Fort Weaver Road to Aloha Stadium) 5-8
Figure 5-3 Historic, Park and Recreational Properties (Aloha Stadium to Kalihi) 5-9
Figure 5-4 Historic, Park and Recreational Properties (Kalihi to Ala Moana Center) 5-10
Figure 5-5 Aloha Stadium 5-14
Figure 5-6 Aloha Stadium—Project and Features 5-15
Figure 5-7 Ke`ehi Lagoon Beach Park 5-17
Figure 5-8 Ke`ehi Lagoon Beach Park 5-18
Figure 5-9 Pacific War Memorial Site (DAV Ke`ehi Lagoon Memorial) 5-21
Figure 5-10 Higa Four-plex (left) and Afuso House (right) 5-24
Figure 5-11 Teixeira House 5-25
Figure 5-12 Dillingham Boulevard Historic Properties Alternative 5-27
Figure 5-13 Lava Rock Curbs on Halekauwila Street Alternative 5-29
Figure 5-14 Boulevard Saimin 5-31
Figure 5-15 Kapālama Canal Bridge 5-32
Figure 5-16 Six Quonset Huts 5-33
Figure 5-17 True Kamani Trees on Dillingham Boulevard 5-34
Figure 5-18 O`ahu Railway & Land Company Terminal Building 5-35
Figure 5-19 O`ahu Railway & Land Company Alternative 5-36

Figure 5-20 O`ahu Railway & Land Company Former Filling Station 5-38
Figure 5-21 O`ahu Railway & Land Company Basalt Paving Blocks 5-38
Figure 5-22 Chinatown Historic District 5-39
Figure 5-23 Chinatown/Downtown Area Alternatives 5-40
Figure 5-24 Downtown Area Tunnel Alternatives 5-41
Figure 5-25 Dillingham Transportation Building, looking Mauka from Nimitz Highway 5-42
Figure 5-26 Plaza at Planned Downtown Station Entrance; Dillingham Transportation Building on right 5-43
Figure 5-27 Dillingham Transportation Building, HECO Power Plant, and Leslie A. Hicks Building and Alternatives—Alakea Street Alternative Alignment 5-44
Figure 5-28 Alakea Street/Dillingham Boulevard Alternative 5-45
Figure 5-29 Entrance to Pacific Guardian Center 5-45
Figure 5-30 Parking Entrance at Harbor Square Building 5-45
Figure 5-31 Dillingham Transportation Building, HECO Power Plant, and Leslie A. Hicks Building Alternatives—Fort Street Alternative Alignment 5-47
Figure 5-32 HECO Downtown Plant and Leslie A. Hicks Building 5-48
Figure 5-33 West Loch Golf Course 5-51
Figure 5-34 Neal S. Blaisdell Park 5-51
Figure 5-35 `Aiea Bay State Recreation Area 5-52
Figure 5-36 Walker Park 5-52
Figure 5-37 Irwin Memorial Park 5-52
Figure 5-38 Nimitz Highway/Fort Street Intersection `Ewa of Irwin Memorial Park and Aloha Tower Marketplace, looking Koko Head 5-53
Figure 5-39 Halekauwila Street/Cooke Street Intersection, looking Mauka past Mother Waldron Neighborhood Park 5-53
Figure 5-40 Future Queen Street Park Site 5-54
Figure 5-41 Honouliuli Stream Bridge 5-54
Figure 5-42 Waikele Stream Bridge, Koko Head Span 5-55
Figure 5-43 Waiawa Stream Bridge 5-56
Figure 5-44 Waimalu Stream Bridge 5-56
Figure 5-45 Kalauao Springs Bridge 5-57
Figure 5-46 Kalauao Stream Bridge 5-57
Figure 5-47 U.S. Naval Base Pearl Harbor National Historic Landmark 5-58
Figure 5-48 U.S. Naval Base Pearl Harbor National Historic Landmark—Project and Features 5-59
Figure 5-49 Potential Makalapa Navy Housing Historic District 5-60
Figure 5-50 Ossipoff's Aloha Chapel 5-61
Figure 5-51 Hawai`i Employers Council 5-62
Figure 5-52 Institute for Human Services/Tamura Building 5-63

Figure 5-53 Wood Tenement Buildings behind Tong Fat Co. 5-63
Figure 5-54 Nu`uanu Stream Bridge 5-64
Figure 5-55 Nimitz Highway at Maunakea Street, looking `Ewa and Makai toward Chinatown 5-64
Figure 5-56 Merchant Street Historic District 5-65
Figure 5-57 DOT Harbors Division Building 5-66
Figure 5-58 Pier 10/11 5-66
Figure 5-59 Aloha Tower 5-67
Figure 6-1 Total Agency-wide Capital Costs 6-4
Figure 6-2 Systemwide Operating and Maintenance Costs 6-7
Figure 6-3 Transit System Operating Revenues and City Subsidy 6-9
Figure 7-1 Communities of Concern and User Benefits for the Project Compared to the No Build Alternative 7-5

Tables

Table 1-1 Existing (2007) A.M. Peak-Period Travel Times (in Minutes) 1-9
Table 1- 2 Major Trip Generators and Attractors for Existing Bus Trips (2007) 1-15
Table 1-3 2007 A.M. Peak-Period Speeds and Level-of-Service on H-1 Freeway 1-18
Table 1-4 Project Goals and Objectives 1-23
Table 2-1 Alternatives and Technologies Considered but Rejected 2-6
Table 2-2 Summary of Alternatives Analysis Findings 2-8
Table 2-3 Summary of Alternatives Analysis Environmental Review 2-10
Table 2-4 Committed Congestion-relief Projects in the O`ahu Regional Transportation Plan 2030 2-17
Table 2-5 Transit Vehicle Requirements 2-18
Table 2-6 Summary of Data for Alternatives Considered in Draft Environmental Impact Statement 2-22
Table 2-7 Fixed Guideway Weekday Operating Assumptions 2-30
Table 2-8 Locations and Capacity of Park-and-Ride Facilities 2-44
Table 3-1 Summary of Transportation Effects and Mitigation 3-2
Table 3-2 Islandwide Daily Person Trips by Trip Purpose—Existing Conditions 3-8
Table 3-3 Islandwide Daily Trips by Mode—Existing Conditions 3-9
Table 3-4 Islandwide Daily Transit Trips by Trip Purpose—Existing Conditions 3-9
Table 3-5 Islandwide Vehicle Miles Traveled, Vehicle Hours Traveled, and Vehicle Hours of Delay—Existing Conditions 3-10
Table 3-6 TheBus Fare Structure—Existing Conditions 3-12
Table 3-7 Average Weekday Boardings on Selected Routes in the Study Corridor—2008 3-14
Table 3-8 Bus Passenger Vehicle Trips per Revenue Hour for Major U.S. Bus Operations—2005 3-17
Table 3-9 A.M. Peak-Hour Screenline Impacts Analysis—Existing Conditions, 2030 No Build Alternative, and 2030 Project 3-21
Table 3-10 P.M. Peak-Hour Screenline Impacts Analysis—Existing Conditions, 2030 No Build Alternative, and 2030 Project 3-23
Table 3-11 Islandwide Person Trips by Trip Purpose—2007 and 2030 3-28

Table 3-12 Islandwide Daily Trips by Mode—Existing Conditions, No Build Alternative, and Project 3-29
Table 3-13 Islandwide Daily Transit Trips by Trip Purpose—Existing Conditions, No Build Alternative, and Project 3-30
Table 3-14 Islandwide Daily Vehicle Miles Traveled, Vehicle Hours Traveled, and Vehicle Hours of Delay—Existing Conditions, No Build Alternative, and Project 3-31
Table 3-15 Average Transit Vehicle Speeds in Miles Per Hour—Existing Conditions, No Build Alternative, and Project 3-34
Table 3-16 Fixed Guideway Station-to-Station Travel Times—2030 3-36
Table 3-17 Estimated Transit User Benefits Resulting from the Project—2030 3-37
Table 3-18 Islandwide Daily Transit Boardings and Trips for Existing Conditions, No Build Alternative, and Project 3-40
Table 3-19 Shares of Total Daily Boardings by Transit Service Type (Residents plus Visitors)—Existing Conditions, No Build Alternative, and Project 3-43
Table 3-20 Daily Mode of Access to Project Stations—2030 3-46
Table 3-21 Fixed Guideway Column Placement Effects on Streets and Highways—2030 3-49
Table 3-22 Daily Parking and Kiss-and-Ride Demand at Project Stations—2030 3-50
Table 3-23 Effects on Traffic near Park-and-Ride Facilities and Bus Transit Centers—Existing Conditions, No Build Alternative, and Project (without and with mitigation) 3-51
Table 3-24 Effects on Parking and Loading Zones due to Fixed Guideway Column and Station Placement—2030 3-55
Table 3-25 Summary of Effects on Bicycle and Pedestrian Systems due to Fixed Guideway Column Placement—2030 3-59
Table 3-26 Bus Routes Affected by Construction 3-65
Table 3-27 Potential Peak Period Temporary Lane Closures During Construction 3-69
Table 3-28 Potential Effect on On-Street Parking During Construction 3-70
Table 3-29 Daily Transit Ridership—2030 Planned Extensions 3-75
Table 3-30 Vehicle Miles Traveled, Vehicle Hours Traveled, and Vehicle Hours of Delay—2030 Planned Extensions 3-75
Table 4-1 Summary of Direct Environmental Effects and Mitigation Measures to Avoid, Minimize, or Reduce Impacts 4-5
Table 4-2 Existing Land Use Overview by Planning Area 4-12
Table 4-3 Forecast Employment for the Project Region and Study Corridor 4-25
Table 4-4 Acquisitions and Displacements Summary 4-28
Table 4-5 Religious Institutions Adjacent to Project Alignment 4-35
Table 4-6 Affected Community, Government, and Military Facilities 4-38
Table 4-7 Year 2000 Demographic Characteristics of Neighborhoods 4-46
Table 4-8 Demographic Characteristics of O`ahuMPO Environmental Justice Areas 4-54
Table 4-9 Visual Effects of the Project 4-70
Table 4-10 Visual Effects on Protected Views and Vistas—East Kapolei to Fort Weaver Road 4-92

Table 4-11 Potential Visual Effects on Protected Views and Vistas—Fort Weaver Road to Aloha Stadium 4-95
Table 4-12 Potential Visual Effects on Protected Views and Vistas—Aloha Stadium to Kalihi 4-99
Table 4-13 Potential Visual Effects on Protected Views and Vistas—Kalihi to Ala Moana Center 4-101
Table 4-14 National and State Ambient Air Quality Standards 4-111
Table 4-15 2030 Mobile Source Regional Transportation Pollutant Burdens (kg/day) 4-112
Table 4-16 FTA Transit Project Noise Impact Criteria—Land Use Categories 4-114
Table 4-17 FTA Ground-borne Vibration Impact Criteria 4-116
Table 4-18 Noise Impacts 4-121
Table 4-19 Mitigated Noise Levels 4-123
Table 4-20 Location of Potential EMF Receptors within 200 Feet of the Project 4-125
Table 4-21 2030 Summary of Average Daily Transportation Energy Demand 4-125
Table 4-22 Sites of Concern near the Project that Could Be Contaminated 4-129
Table 4-23 Sites Where Hazardous Materials Are Used or Stored that Will Be Acquired 4-131
Table 4-24 Threatened, Endangered, and Protected Species Evaluated along the Study Corridor 4-134
Table 4-25 Summary of the Project's Effects on Threatened, Endangered, and Protected Species 4-141
Table 4-26 Streams Crossed by the Project 4-147
Table 4-27 Attributes of Streams Crossed by the Project 4-149
Table 4-28 Marine Waters 4-156
Table 4-29 Streams Having FEMA Mapped Flood Zones 4-159
Table 4-30 Permanent Impacts to Waters of the U.S. (Linear Transportation Features) 4-159
Table 4-31 Permanent Impacts to Waters of the U.S. (Other Project Features) 4-159
Table 4-32 Summary of Street Tree Effects/Transplanting Mitigation 4-175
Table 4-33 Adverse Effects on Cultural Resources Related to Act 50 4-191
Table 4-34 Historic Properties within Project's Area of Potential Effects 4-192
Table 4-35 Employment Effects during Construction 4-202
Table 4-36 Total Construction Energy Required 4-206
Table 4-37 Construction Impacts to Waters of the U.S. (Linear Transportation Features) 4-209
Table 4-38 Rail System Benefits on Real Estate Values 4-219
Table 4-39 Planned and Foreseeable Actions in the Study Corridor 4-221
Table 4-40 List of Anticipated Permits, Approvals and Agreements 4-234
Table 5-1 Publicly Owned Park and Recreational Properties Adjacent to the Project 5-11
Table 5-2 Historic Properties Evaluated for Section 4(f) Use 5-13
Table 6-1 Capital Cost Estimate for the Project by Cost Category 6-2
Table 6-2 Overview of Transit Capital Expenditures through 2030 (excluding finance charges) 6-3
Table 6-3 2030 Operating and Maintenance Costs by Alternative 6-8
Table 6-4 Project Sources and Uses of Capital Funds (millions of YOE $) 6-10
Table 7-1 Project Goals and Objectives 7-2
Table 7-2 Effectiveness of Alternatives in Improving Corridor Mobility 7-3
Table 7-3 Effectiveness of Alternatives in Improving Corridor Travel Reliability 7-4

Table 7-4 Equity Comparison of 2030 Transit Travel-time Savings for the Project Compared to the No Build Alternative 7-6
Table 7-5 2030 Cost-effectiveness of the Project 7-7
Table 7-6 2030 Financial Feasibility 7-8
Table 7-7 Mobility Improvements (2030) 7-9
Table 7-8 Cost-effectiveness (2030) 7-9
Table 7-9 Operating Efficiencies (2030) 7-10
Table 7-10 Land Use and Economic Development (2030) 7-10
Table 7-11 Trade-offs 7-11
Table 8-1 Summary of Agency Roles and Responsibilities 8-5
Table 8-2 Common Comment Topics on the Draft EIS 8-10

Acronyms and Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ACHP	Federal Advisory Council on Historic Preservation
ADA	*Americans with Disabilities Act of 1990*
AIS	archaeological inventory survey
ALP	*Honolulu International Airport Layout Plan*
APE	Area of Potential Effect (applicable to archaeological, cultural, and historic resources)
ARRA	*American Recovery and Reinvestment Act* (U.S. Public Law 111-5)
AST	aboveground storage tank
AVO	average vehicle occupancy
BA	biological assessment
BMP	best management practice(s)
BRT	bus rapid transit
BTU	British thermal unit
CEQ	Council on Environmental Quality
CERCLA	*Comprehensive Environmental Response, Compensation and Liability Act of 1980* (42 USC 103)
CFR	Code of Federal Regulations
CIA	cultural impact assessments
CINCPACFLT	Commander-in-Chief Pacific Fleet
City	City and County of Honolulu
CLR	Cultural Landscape Report
CO	carbon monoxide
CPI-U	Consumer Price Index for all Urban Consumers
CWA	*Clean Water Act* (33 USC 1251-1387)
CWB	State of Hawai‘i Department of Health, Clean Water Branch
CZM	Coastal Zone Management
CZMA	*Coastal Zone Management Act* (16 USC 1451 et seq.)
DA	U.S. Department of the Army
DAGS	State of Hawai‘i Department of Accounting and General Services
DAV	Disabled American Veterans
dB	decibels
dBA	A-weighted decibels

DBEDT	State of Hawai‘i Department of Business, Economic Development and Tourism
DBFS	City and County of Honolulu Department of Budget and Fiscal Services
DES	City and County of Honolulu Department of Environmental Services
DFM	City and County of Honolulu Department of Facility Maintenance
DHHL	State of Hawai‘i Department of Hawaiian Home Lands
DLNR	State of Hawai‘i Department of Land and Natural Resources
DLNR-DFW	State of Hawai‘i Department of Land and Natural Resources, Division of Forestry and Wildlife
DLNR-Parks	State of Hawai‘i Department of Land and Natural Resources, Division of State Parks
DPP	City and County of Honolulu Department of Planning and Permitting
DPP-LUPD	City and County of Honolulu Department of Planning and Permitting, Land Use Permits Division
DPR	City and County of Honolulu Department of Parks and Recreation
DTS	City and County of Honolulu Department of Transportation Services
EA	environmental assessment
EIS	environmental impact statement
EJ	environmental justice
EMF	electric and magnetic field
EPA	U.S. Environmental Protection Agency
ESA	environmental site assessment
‘Ewa (direction)	toward the west (see also Wai‘anae)
FAA	Federal Aviation Administration
FFGA	Full Funding Grant Agreement
FHWA	Federal Highway Administration
ft	feet
FTA	Federal Transit Administration
FY	fiscal year
GEO	Governor’s Executive Order
GET	general excise and use tax
GIS	Geographic Information System
GO	General Obligation (Bond)
GSP	gross state product
H-1	Interstate Route H-1 (H-1 Freeway)
H-2	Interstate Route H-2 (H-2 Freeway)
H-3	Interstate Route H-3 (H-3 Freeway)

HABS	Historic American Building Survey
HALS	Historic American Landscape Survey
HAR	Hawai‘i Administrative Rules
HARC	Hawai‘i Agriculture Research Center
HART	Honolulu Area Rail Rapid Transit
HBMP	Hawai‘i Biodiversity and Mapping Program
HCDA	Hawai‘i Community Development Authority
HCM	*Highway Capacity Manual*
HCP	Habitat Conservation Plan
HDOA	State of Hawai‘i Department of Agriculture
HDOH	State of Hawai‘i Department of Health
HDOT	State of Hawai‘i Department of Transportation
HEC	State of Hawai‘i Environmental Council
HECO	Hawaiian Electric Company
HHCTCP	Honolulu High-Capacity Transit Corridor Project
HNL	Honolulu International Airport
HOV	high-occupancy vehicle
HRS	Hawai‘i Revised Statutes
HRT	Honolulu Rapid-Transit Development
HRT&L	Honolulu Rapid Transit & Land Company
HSC	The Supreme Court of the State of Hawai‘i
HSVAP	Hawai‘i Stream Visual Assessment Protocol
HUD	U.S. Department of Housing and Urban Development
IVT	in-vehicle time
JD	jurisdictional determination
kg	kilogram
Koko Head (direction)	toward the east
kV	kilovolts
Ldn	day/night noise level (descriptor of daily noise environment; incorporates a penalty for high noise levels at night)
LEDPA	least environmentally damaging practicable alternative
LEED	Leadership in Energy and Environmental Design
Leq	equivalent sound level (common environmental noise descriptor)
Leq(h)	hourly equivalent sound level
Lmax	maximum noise level during an event
LONP	Letter of No Prejudice

LOS	level-of-service
LOTMA	Leeward Oʻahu Transportation Management Association
LPA	Locally Preferred Alternative
LWCF	Land and Water Conservation Fund
makai (direction)	toward the sea
mauka (direction)	toward the mountains
MBTA	*Migratory Bird Treaty Act* (16 USC 703-711)
MBTU	million British thermal units
$\mu g/m^3$	micrograms per cubic meter
MMPA	*Marine Mammal Protection Act* (16 USC 1361-1407)
MOA	memorandum of agreement
MOT	Maintenance of Traffic (Plan)
mph	miles per hour
MPS	multiple property submissions
MSAT	mobile source air toxics
NAAQS	National Ambient Air Quality Standards
NAGPRA	*Native American Graves Protection and Repatriation Act* (25 USC 3001 et seq.)
NEPA	*National Environmental Policy Act* (42 USC 4321-4347)
NHL	national historic landmark
NHPA	*National Historic Preservation Act* (16 USC 470)
NO_2	nitrogen dioxide
NOAA/NMFS	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NOI	notice of intent
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O&M	operating and maintenance
O_3	ozone
OʻahuMPO	Oʻahu Metropolitan Planning Organization
OEQC	State of Hawaiʻi Office of Environmental Quality Control
OHWM	ordinary high-water mark
OP	State of Hawaiʻi Department of Business, Economic Development and Tourism, Office of Planning

OR&L	Oʻahu Railway and Land Company
ORTP	*Oʻahu Regional Transportation Plan 2030*
OTS	Oʻahu Transit Services, Inc.
PA	Programmatic Agreement
Pb	lead
PE	preliminary engineering
PEEP	Preliminary Engineering Evaluation Program
PHNS	Pearl Harbor Naval Station
PIP	Public Involvement Plan
PM_{10}	particulate matter smaller than or equal to 10 microns in size
$PM_{2.5}$	particulate matter smaller than or equal to 2.5 microns in size
ppm	parts per million
Project	Honolulu High-Capacity Transit Corridor Project Fixed Guideway Transit Alternative via the Airport (Airport Alternative)
PUC	Primary Urban Center
ROD	Record of Decision
ROH	Revised Ordinances of Honolulu
RPW	relatively permanent non-navigable tributaries of traditional navigable waters
RTD	City and County of Honolulu Department of Transportation Services Rapid Transit Division
SAFETEA-LU	*Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (U.S. Public Law 109-59)
SCAP	Stream Channel Alteration Permit
Section 106	Section 106 of the *National Historic Preservation Act of 1966,* as amended (16 USC 470)
Section 4(f)	Section 4(f) of the *U.S. Department of Transportation Act of 1966* [49 USC 1653(f)]
SHPD	State Historic Preservation Division
SHPO	State Historic Preservation Officer
SMA	special management area
SO_2	sulfur dioxide
SSMP	Safety and Security Management Plan
SWMP	Storm Water Management Plan
TAA	Transportation Analysis Area
TCP	traditional cultural properties
TDM	transportation demand management

TMDL	total maximum daily loads
TMK	Tax Map Key
TMP	Transit Mitigation Program
TNW	traditional navigable waters
TOB	top of bank
TOD	transit-oriented development
TPSS	traction power substation
TSD	transit-supportive development
TSM	Transportation System Management
UCB	urban community boundary
UH	University of Hawai‘i
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USDOE	U.S. Department of Energy
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
USHHS	U.S. Department of Health and Human Services
UST	underground storage tank
V/C	volume-to-capacity
VdB	vibration decibels (measure of vibration velocity)
VHD	vehicle hours of delay
VHT	vehicle hours traveled
VMT	vehicle miles traveled
VOC	volatile organic compounds
vph	vehicles per hour
Wai‘anae (direction)	toward the west (see also ‘Ewa)
WMATA	Washington Metropolitan Area Transit Authority
WQC	water quality certification
YOE	year of expenditure
YOE $	year of expenditure dollars