

**UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL TRANSIT ADMINISTRATION  
WASHINGTON, D.C.**

**FULL FUNDING GRANT AGREEMENT**

**THE CITY AND COUNTY OF HONOLULU  
through its  
HONOLULU AUTHORITY FOR RAPID TRANSPORTATION**

**HONOLULU RAIL TRANSIT PROJECT**

**HI-03-0047-02**

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**UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL TRANSIT ADMINISTRATION**

**FULL FUNDING GRANT AGREEMENT  
(FTA FFGA-19, October 1, 2012)**

On the date the authorized U.S. Department of Transportation, Federal Transit Administration (FTA) official signs this Full Funding Grant Agreement, the Government (FTA) has awarded Federal assistance in support of the Project described below. Upon Execution of this Full Funding Grant Agreement by the Grantee named below, the Grantee affirms this Award by the Government (FTA Award), and enters into this Full Funding Grant Agreement with FTA. The following documents are incorporated by reference and made part of this Full Funding Grant Agreement:

- (1) "Federal Transit Administration Master Agreement," FTA MA(19), October 1, 2012, [<http://www.fta.dot.gov/documents/19-Master.pdf>];
- (2) The Certifications and Assurances applicable to the Project that the Grantee has selected and provided to FTA, and
- (3) Any Award notification containing special conditions or requirements, if issued.

**FTA AWARD**

The Government (FTA) hereby awards a Full Funding Grant as follows:

Project Number(s): HI-03-0047-02

Grantee: The City and County of Honolulu, through its Honolulu Authority for Rapid Transportation (HART)

Citation of Statutes Authorizing the Project: 49 U.S.C. §§ 5309(b), 5309(d)

Estimated Net Project Cost: \$5,121,693,163

Maximum FTA Amount Awarded [Including This Amendment]: \$323,990,000

Maximum FTA New Starts Funds Awarded [Including this Amendment]: \$319,990,000

Amount of This FTA Award: \$255,000,000

Maximum Federal New Starts Financial Contribution: \$1,550,000,000

Maximum Percentage of FTA Participation: 34 percent

Maximum Percentage of New Starts Participation: 30 percent

Dates of U.S. Department of Labor Certifications of Transit Employee Protective Arrangements:

Original Project or  
Amendment Numbers:

Certification Dates:

HI-96-X001

July 27, 2009

HI-03-0047

July 7, 2010

HI-03-0047-01

May 26, 2011

HI-03-0047-02

August 28, 2012

Revenue Service Date: January 31, 2020

Project Description: The Honolulu Rail Transit Project (the Project) consists of design and construction of a 20-mile, grade separated fixed rail system from East Kapolei to the Ala Moana Center in Honolulu, Hawaii. From East Kapolei the Project proceeds to the University of Hawai'i at West Oahu, then east to Pearl Harbor, the Honolulu International Airport, and ends at Kona Street adjacent to Ala Moana Center. The Project will operate in an exclusive right-of-way and will be grade separated except for a 0.6-mile, at grade section near Leeward Community College. The Project includes 21 stations, 80 rail vehicles and a Maintenance and Storage Facility.

For a more detailed description, see Attachments 1 and 2.

**UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL TRANSIT ADMINISTRATION**

**FULL FUNDING GRANT AGREEMENT TERMS AND CONDITIONS**

**THIS FEDERAL TRANSIT ADMINISTRATION FULL FUNDING GRANT AGREEMENT** (Agreement) is entered into by the City and County of Honolulu (Grantee), and the United States of America, acting through the United States Department of Transportation, Federal Transit Administration (FTA or Government).

**WHEREAS**, the Grantee has determined through the local planning process that construction of a 20-mile, elevated fixed guideway rail system from East Kapolei to the Ala Moana Center (Project), would effectively and efficiently serve the transportation needs of the City and County of Honolulu.

**WHEREAS**, the Honolulu Authority for Rapid Transportation (HART) will design, construct and implement the Project in accordance with the Revised Charter of the City and County of Honolulu, Article XVII, which established HART as a semi-autonomous public transit authority and unit of the City and County of Honolulu.

**WHEREAS**, the Grantee has developed a Financial Plan, as herein defined, using a combination of local, state, and Federal funds to finance the costs of the Project and, in accordance with its plan, has requested a Grant, as herein defined, of Federal financial assistance in the Project.

**WHEREAS**, the Government has previously provided to the Grantee \$4,000,000 in American Recovery and Reinvestment Act (ARRA) funds and \$64,990,000 in capital New Starts funds authorized under the Federal Transit Laws for development of the Project.

**WHEREAS**, the Government has determined to enter into this Agreement and to support final design and construction of the Project up to a Maximum Federal New Starts Financial Contribution of \$1,550,000,000 in capital New Starts funds subject to all the terms and conditions set forth in this Agreement.

**WHEREAS**, the Grantee has submitted its request for Federal assistance (the Application) and the Government has received and is relying upon the Grantee's assurances, certifications, and all other documents required as conditions precedent to a Grant of assistance by the Government for the Project; and, in its submissions, the Grantee has demonstrated justification for the Project, has demonstrated its financial, organizational, legal, and technical capacity as is necessary to Complete the Project within the maximum amount of Federal assistance set forth in this Agreement, and has demonstrated the capability to secure non-Federal funds as may be necessary for such completion.

**WHEREAS**, the Government has determined that the Project is justified based on a comprehensive review of its mobility improvements, environmental benefits, cost effectiveness, land use, economic development effects, and the congestion relief associated with the project; the Project is supported by policies and land use patterns that promote public transportation, including plans for future land use and rezoning, and economic development around public transportation stations; and the Project is supported by an acceptable degree of local financial commitment, including evidence of stable and dependable financing sources to construct, maintain, and operate the Project.

**WHEREAS**, the Government and the Grantee have agreed that their respective duties and responsibilities as related to the completion of the Project shall be determined by and under the terms and conditions of this Agreement and have agreed that this Agreement shall be recognized as the sole understanding between the Government and the Grantee in consideration of the mutual promises as set forth in this Agreement.

**THEREFORE**, in consideration of the above and the parties' mutual promises as set forth in this Federal Transit Administration Full Funding Grant Agreement, the Grantee and the Government agree to the specific terms, conditions and provisions set forth in this entire Agreement including, in particular, the specific terms of the following Sections and Attachments:

## **SECTION 1. DEFINITIONS**

**"Agreement"** means this Federal Transit Administration Full Funding Grant Agreement (FFGA) and consists of all parts and documents listed in Section 20 of this Agreement, "Contents of Agreement," and will include all future addenda, substitutions, modifications and amendments as and when legally executed and effective. (This definition supersedes the definition of "Grant Agreement" set forth in Section 1.j of the Federal Transit Administration Master Agreement (Master Agreement), incorporated by reference and made part of this Agreement.)

**"Application"** means those documents and written submissions filed by or on behalf of the Grantee pursuant to its request for Federal financial assistance for support of the Project and relied upon by the Government as satisfaction of the legal and policy requirements of Grant award. The Application includes all explanatory, supporting, or supplementary documents related to the Project that the Government relied upon in its determination to obligate and award Federal funds for the Project. (This definition is intended to supplement the definition "Application" set forth in Section 1.a of the Master Agreement, incorporated by reference and made part of this Agreement.)

**"Baseline Cost Estimate"** means the Application document described in Section 13 of this Agreement and set forth in the Tables that comprise Attachment 3. The requirements of the Baseline Cost Estimate are set forth in FTA Circular 5200.1A, "Full Funding Grant Agreements Guidance," as may be revised from time to time. The Baseline Cost Estimate reflects the total anticipated cost of the Project as of the Date of this Agreement.

**"Complete the Project"** means to accomplish all of the scope and activities of the Project as described in Attachment 1, "Scope of the Project," and Attachment 2, "Project Description."

**"Date of this Agreement"** means the date the Government awards this Full Funding Grant

Agreement.

**"Estimated Net Project Cost"** means the amount that is calculated by subtracting the cost that can reasonably be financed from the Grantee's revenue from the total anticipated cost of the Project as reflected in the "Baseline Cost Estimate," Attachment 3. The Estimated Net Project Cost is set forth in Section 7 of this Agreement.

**"Financial Plan"** means the plan accepted by the Government as part of the Application process describing the Grantee's financial condition and capability to Complete the Project and to maintain and operate the Project together with its existing transit system. It includes all explanatory, supporting and supplementary documents, commitments, and agreements accepted or approved by the Government.

**"Government"** means the United States of America, acting through the Federal Transit Administration of the United States Department of Transportation.

**"Grantee"** means the City and County of Honolulu, acting through its Honolulu Authority for Rapid Transportation (HART).

**"Grant(s)"** means, in singular and plural forms, the obligation and award of Federal financial assistance by the Government pursuant to the laws codified at 49 U.S.C. Chapter 53.

**"Levels of Service"** means the hours of service and the service headways set forth in Attachment 1, "Scope of the Project."

**"Local Share"** means that portion of the Grantee's local financial commitment that is the Grantee's legally required share of the Net Project Cost.

**"Master Agreement"** means the standard terms and conditions applicable to recipients of Federal financial assistance from the Government. It is updated and published annually. It is incorporated by reference and made part of this Agreement and identified in Federal Fiscal Year 2013 by FTA Form MA(19) (October 1, 2012).

**"Maximum Federal New Starts Financial Contribution"** means the limit of Federal capital New Starts financial participation in the Project. (The amount of the "Maximum Federal New Starts Financial Contribution" is set forth in Section 8 of this Agreement, "Limitations of the Federal Funding Commitment," and is only a portion of the total Federal financial contribution for the Project.)

**"Maximum FTA Amount Awarded"** means the total amount of Federal funds from all sources administered by FTA and awarded for the Project, regardless of source, and available to the Grantee. (This amount is set forth in the first page of this Agreement.)

**"Net Project Cost"** means the cost of the Project that cannot reasonably be financed from the Grantee's revenues.

**"Project"** means the transit/transportation improvements the Grantee has promised to implement as a condition of its Full Funding Grant. A description of the Project is set forth in Attachment 1, "Scope of the Project." Activities to carry out the project scope are set forth in Attachment 2, "Project Description."

**"Project Costs"** means all costs eligible for Federal financial participation under the terms of this Agreement and consistent with the cost principles set forth in Section 9 of the Master Agreement, "Payments."

**"Recovery Plan"** means a plan developed by the Grantee, and accepted by the Government, whereby the Grantee will take every reasonable measure to minimize any delay in achieving the baseline schedule set forth in Attachment 4 to this Agreement (the Baseline Schedule) and eliminate or otherwise mitigate [recover] any increase in the total project costs as currently estimated, as compared to the total project cost identified in Attachment 3 to this Agreement (the Baseline Cost Estimate).

**"Revenue Service Date"** means the date certain upon which the Grantee shall commence revenue operations of the Project as defined in Section 5 of this Agreement.

## **SECTION 2. PURPOSES OF AGREEMENT**

Pursuant to 49 U.S.C. § 5309, the purposes of this Agreement are to:

(a) provide Federal financial assistance to the Grantee in the form of this Full Funding Grant and possible future awards of financial assistance as contemplated under this Agreement, not to exceed the Maximum Federal New Starts Financial Contribution for the Project, as is and may be awarded under this Agreement and the laws codified at 49 U.S.C. Chapter 53 for purposes that are consistent with those statutes, implementing regulations, and other applicable laws and regulations;

(b) describe the Project and set forth the mutual understandings, terms, conditions, rights and obligations of the parties related to implementing the Project, the future management and operation of the Project, and the manner in which Project real property and equipment will be used;

(c) establish the Maximum Federal New Starts Financial Contribution for the Project, and the manner in which all future Federal funds for the Project, if any, will be awarded and released to the Grantee;

(d) establish the Grantee's financial commitment to the Project including its obligation to fund the Local Share, its obligation to Complete the Project with a specified amount of Federal assistance, its obligation to achieve revenue operation of the Project by a specified date, its obligation to pay all costs necessary to Complete the Project that are in excess of the Estimated Net Project Cost and its obligation to finance the future maintenance and operational costs of the Project; and

(e) facilitate timely and efficient management of the Project.

### **SECTION 3. PREVIOUS FEDERAL DOCUMENTS AND GRANTS**

(a) The Government's laws, policies and procedures require the completion of a project development process and environmental review prior to the Award and Execution of this Agreement. Prior Grants of Federal assistance awarded by the Government for this project development process are described in Attachment 5 to this Agreement. These Grants (and any other documents that are described in Attachment 5, including Letters of No Prejudice) are incorporated by reference and made part of this Agreement, except for the terms and conditions thereof specifically superseded by this Agreement. Further, in executing this Agreement, the Grantee assures that the certifications and assurances (made by the Grantee or on behalf of the Grantee or by a third party) upon which the Government relied in these prior actions were made to the Government in good faith and to the best of the Grantee's knowledge and belief, and that the Grantee has no present knowledge of facts or circumstances substantially affecting the continued validity of these certifications and assurances that the Grantee has not formally conveyed to the Government prior to the Government's Award of funding set forth in this Agreement.

(b) This Agreement does not discharge or rescind any of the terms, conditions, or obligations established under the documents set forth in Attachment 5 unless specifically stated otherwise herein. Further, the terms, conditions and obligations of this Agreement take precedence over the provisions of all prior agreements related to the Project between the Grantee and the Government and will be controlling for all actions related to the Project taken after the Date of this Agreement, unless specifically stated otherwise herein.

(c) No amendments will be sought or approved to increase the amount of funds in the prior Grants listed in Attachment 5 beyond the amounts described in this Agreement as available to the Project.

### **SECTION 4. OBLIGATION TO COMPLETE THE PROJECT**

(a) The Government has no obligation to provide any financial assistance for the Project beyond the Maximum Federal New Starts Financial Contribution. If the total Federal funding provided under Section 8 of this Agreement, "Limitations of the Federal Funding Commitment," is insufficient to undertake revenue operations of the Project and the subsequent activities necessary to Complete the Project, the Grantee agrees to Complete the Project and accepts sole responsibility for the payment of any additional costs (overruns).

(b) If at any time during its efforts to Complete the Project the Grantee determines that the total project cost will exceed the Baseline Cost Estimate, the Grantee must immediately notify the Government of the amount of the difference and the reasons for the difference. Further, the Grantee must provide the Government with a Recovery Plan that demonstrates the Grantee is taking and will take every reasonable measure to eliminate [recover] the difference between the total project cost and the Baseline Cost Estimate. Insofar as any difference between the total project cost and the Baseline Cost Estimate cannot be eliminated [recovered], the Grantee must secure and provide such additional resources as are necessary to meet the additional costs and expeditiously Complete the Project without further financial assistance from the Federal capital New Starts program. Further, in its Recovery Plan, the Grantee must identify the sources of funds it will draw upon to meet the additional costs and cover the difference between the total project cost and the Baseline Cost

Estimate.

## **SECTION 5. REVENUE SERVICE DATE AND LEVELS OF SERVICE**

(a) The Grantee agrees and promises to achieve revenue operations of the Project on or before January 31, 2020, the Revenue Service Date, in accordance with the terms and conditions of this Agreement.

(b) The Revenue Service Date is a significant term of this Agreement. The Grantee's failure to achieve the operational functions of the Project on or before the Revenue Service Date will constitute a breach of this Agreement. Upon the Grantee's request, the Government may determine, at its sole discretion, to waive a breach or an anticipatory breach of this Agreement and to extend the Revenue Service Date if there is an unavoidable delay in achieving the operational goals of the Project resulting from an event or circumstance beyond the control of the Grantee, or if the Government determines that allowing the delay is in the best interest of the Government and the success of the Project. Requests by the Grantee for waiver of a breach or anticipatory breach of this Agreement and extension of the Revenue Service Date for the reasons set forth herein shall be submitted promptly (with appropriate documentation) to the Government. In the exercise of its discretion to waive the breach and extend the Revenue Service Date, the Government will take into consideration the actions and measures taken by the Grantee to ensure adherence to its promise to achieve the operational goals of the Project on or before the scheduled Revenue Service Date.

(c) Delays in appropriations of funds from Congress shall not constitute a basis for extension of the Revenue Service Date.

(d) The Government's consent to extend the Revenue Service Date pursuant to Paragraph (b) of this Section 5 does not constitute a basis for additional Federal financial assistance beyond the Maximum Federal New Starts Financial Contribution.

(e) Set forth in Attachment 1 to this Agreement, "Scope of Project, " are the hours of service and headways the Grantee will maintain once the Project is opened to revenue service and for no less than five years thereafter. These specified Levels of Service are a significant term of this Agreement. The Grantee's failure to achieve and maintain these Levels of Service at the Revenue Service Date and for five years thereafter will constitute a breach of this Agreement. Upon the Grantee's request, the Government may determine in its sole discretion to waive a breach of the Grantee's obligation to maintain these specified Levels of Service for events or circumstances beyond the control of the Grantee, or if the Government determines that a waiver is in the interests of the United States. In the exercise of its discretion whether to waive a breach of the specified Levels of Service, the Government will take into consideration the actions and measures taken by the Grantee to achieve and maintain the operational goals of the Project and the Grantee's entire public transportation system for at least five years beyond the opening of the Project to revenue service.

## **SECTION 6. NET PROJECT COST**

(a) This Grant is to assist in the payment of actual eligible costs within the Scope of the Project under this Agreement, minus any amount that can reasonably be financed from revenues of the Grantee. If the funds awarded under this grant exceed the amount necessary to finance the Federal

share, those excess funds are not available to the Grantee for payment of costs beyond the Scope of this Project supported by this Grant.

(b) In accordance with 49 C.F.R. Part 18, the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, a refund or reduction of the Grantee's Local Share of the Net Project Cost requires a refund to the Government of a proportional amount of the Federal financial assistance provided under this Agreement.

(c) The portion of the Net Project Cost that may be financed by the Government with capital New Starts funds may not exceed the amount of the Maximum Federal New Starts Financial Contribution for this Project as stated in Section 8 of this Agreement, "Limitations of the Federal Funding Commitment."

(d) The Grantee acknowledges that Federal funds may be used only to reimburse eligible expenses for the Project. Should FTA determine that Federal funds have been used to reimburse any expenses that were ineligible for Federal reimbursement, FTA will direct the Grantee either to reimburse FTA with local funds not already committed to the Project or to reduce the total project costs by the amounts found to have been ineligible.

## **SECTION 7. ESTIMATED NET PROJECT COST**

(a) The Government's determination to provide financial assistance for the Project is based, in significant part, upon the Grantee's estimated costs as set forth in the "Baseline Cost Estimate," Attachment 3 to this Agreement. The Estimated Net Project Cost reported in Attachment 3 is \$5,121,693,163.

(b) The Estimated Net Project Cost financed with the Execution of this Agreement is limited by the amount of the Maximum FTA Amount Awarded. The amount of the Estimated Net Project Cost and the amount of the Maximum FTA Amount Awarded are stated in the first page of this Agreement. The amount reimbursable by the Government is limited to the lesser of either the amount of the Maximum FTA Amount Awarded or the maximum percentage of FTA participation permitted by Federal law and regulations. Additional funds will not be provided until a Grant amendment awarding additional funds and amending this Full Funding Grant Agreement is executed.

## **SECTION 8. LIMITATIONS OF THE FEDERAL FUNDING COMMITMENT**

(a) With its Award set forth in this Agreement, the Government obligates \$255,000,000 for a total award of \$319,990,000 in Federal capital New Starts financial assistance for the Project. The sources of this Federal financial assistance are set forth in the "Project Budget," Attachment 3A. These funds are in addition to all previous Federal financial commitments to the development of the Project, including \$4,000,000 in ARRA funds, as set forth in the schedule of "Prior Grants and Related Documents," Attachment 5 of this Agreement.

(b)(l) With its Award set forth in this Agreement, the Government also acknowledges its intent to provide Federal capital New Starts financial assistance for the Project in an amount that will not exceed \$1,230,010,000. The anticipated sources of Federal financial assistance in this amount are listed in Attachment 6 to this Agreement, "Schedule of Federal Funds for the Project." All Federal

capital New Starts funds obligated pursuant to this Paragraph will be subject to all the terms, conditions and obligations established by this Agreement. Accordingly, it is expected that the award of additional funds will be processed through amendments to this Agreement.

(b)(2) The award by the Government of additional Federal capital New Starts financial assistance to the Project under Paragraph (b)(1) of this Section 8 is subject to the following limitations:

(A) the availability of appropriated funds, and

(B) the Grantee's continued performance under the terms and conditions of this Agreement.

(c) The Maximum Federal New Starts Financial Contribution for this Project under the capital New Starts category of funds is limited to \$1,550,000,000 which is the sum of the amounts set forth in Paragraphs (a) and (b)(1) of this Section.

## **SECTION 9. FEDERAL FUNDING—OTHER SOURCES**

The Maximum Federal New Starts Financial Contribution specified in Section 8(c) of this Agreement does not include funds other than from the capital New Starts program under 49 U.S.C. Chapter 53. Should such other Federal funds be provided for the Project in addition to the Federal capital New Starts funds set forth in Attachment 6 of this Agreement, the limitation on the Federal funding commitment set forth in Section 8 of this Agreement shall not apply to those funds. Accordingly, such additional funds shall be excluded from the calculation of the Maximum Federal New Starts Financial Contribution. Funds awarded pursuant to this Section will be subject to all other terms, conditions and obligations set forth in the Agreement.

## **SECTION 10. LOCAL FINANCIAL COMMITMENT—CAPITAL COSTS**

(a) As a condition of the Government's Award of this Full Funding Grant, the Grantee has developed and adopted a Financial Plan for financing all Project Costs necessary to complete the Project. In addition to the amount of Federal funds requested, the Financial Plan includes a statement identifying the State, local and private sources of funding and the amount of funds available for and committed to the Project from each such source. This Financial Plan, as accepted by the Government, with the supporting documentation (including formal funding agreements and commitments) is hereby incorporated by reference and made part of this Agreement.

(b) The Grantee hereby commits and certifies that it will provide funds in an amount sufficient, together with the Federal contribution (acknowledging the limitations as set forth in this Agreement), to assure timely and full payment of the Project Costs as necessary to Complete the Project.

(c) Except as may be authorized by Federal statute or regulation, the Grantee hereby commits and certifies that the Local Share portion of its financial commitment will be provided from funding sources other than Federal funds, receipts from the use of Project facilities or equipment, or revenues of the public transportation system in which such facilities or equipment are used.

(d) Given the Estimated Net Project Cost, as set forth in Section 7 of this Agreement, the Grantee's

financial commitment to the Net Project Cost is estimated to total \$3,357,789,262. This amount constitutes the Local Share needed to match the Maximum Federal New Starts Financial Contribution for the Project and Other Federal Sources. In the event that the actual Federal financial contribution for the Project is reduced or is increased or the funding percentage as set forth in this Agreement is changed, the portion of the Grantee's financial contribution for the Project that is identified as Local Share shall be adjusted accordingly.

(e) The Grantee agrees to notify the Government of any change in circumstances or commitments that adversely affect the Grantee's plan to fund the Project Costs necessary to Complete the Project as set forth in the Financial Plan. In its notification, the Grantee shall advise the Government of what actions it has taken or plans to take to ensure adequate funding resources and shall reaffirm its commitment to the Government as set forth in Paragraph (b) of this Section 10.

#### **SECTION 11. AUTHORIZATION TO ADVANCE PROJECT WITHOUT PREJUDICE**

The Grantee may incur costs or expend local funds for all phases of the Project as is reasonably necessary to advance the Project prior to an award of Federal funding assistance without prejudice to possible future Federal participation in or reimbursement of the Project Costs to the extent that such costs are incurred in accordance with all applicable Federal requirements and this Agreement. It is understood that the authority conferred on the Grantee to advance the Project without prejudice does not constitute a legal commitment by the Government to obligate and award Federal funds.

#### **SECTION 12. LOCAL FINANCIAL COMMITMENT—OPERATING AND MAINTENANCE COSTS**

(a) As a condition of the Government's Award of funding set forth in this Agreement, the Grantee has developed and adopted a Financial Plan to finance the future operation and maintenance of the Project that also takes into consideration the Grantee's continuing financial responsibilities to operate, maintain and reinvest in its existing transit system. This Financial Plan, as accepted by the Government, and the supporting documentation (including specific funding commitments) evidencing stable and dependable funding sources is an essential part of the Grantee's Application and is made part of this Agreement by incorporation of the Application.

(b) With the Execution of this Agreement, the Grantee assures that it has stable and dependable funding sources, sufficient in amount and in degree of commitment, to operate and maintain its entire mass transportation system at an adequate and efficient level of service, including the future operation and maintenance of the Project without additional Federal assistance beyond the amounts set forth in the Financial Plan. The foregoing assurance does not preclude the Grantee from altering service through contracts with private providers of mass transportation services.

(c) The Grantee will notify the Government of any change in circumstances or commitments that adversely affects the Grantee's plan to fund the maintenance and operating costs of the Project as set forth in the Financial Plan. In its notification, the Grantee will advise the Government of actions it has taken or plans to take to ensure adequate funding resources and will reaffirm to the Government its assurance as set forth in Paragraph (b) of this Section.

### **SECTION 13. BASELINE COST ESTIMATE**

- (a) In its Application, the Grantee submitted to the Government a Baseline Cost Estimate for the activities constituting the Project. The Baseline Cost Estimate is accepted by the Government and is set forth in the Tables that comprise Attachment 3 of this Agreement. The Baseline Cost Estimate is derived from cost estimates of the individual third party contracts and force account work that, in sum, constitute the Project; it reflects appropriate escalation and Project schedule dates.
- (b) The Government intends to use the Baseline Cost Estimate to monitor the Grantee's compliance with certain terms and conditions of this Agreement. The Baseline Cost Estimate established in Attachment 3 serves as the measure of cost estimates as of the Date of this Agreement, and should not be amended or modified during the implementation of the Project.
- (c) The Grantee will submit cost reports on the implementation of the Project as required by this Agreement and in a format consistent with the units set forth in the Baseline Cost Estimate so that the Government can, with reasonable diligence, reconcile the Grantee's reports with the Baseline Cost Estimate.

### **SECTION 14. BASELINE SCHEDULE**

- (a) In its Application, as approved, the Grantee submitted a Baseline Schedule for the Project that demonstrates how the Grantee intends to implement the Project and meet the Revenue Service Date. This Baseline Schedule has been accepted by the Government and is Attachment 4 of this Agreement.
- (b) The schedule for the Project may be modified from time to time at the discretion of the Grantee. However, the Baseline Schedule is not to be modified because it is to be used as a basis for comparing planned to actual project implementation. The Grantee will notify the Government when a Project schedule modification has the potential to change the Revenue Service Date and describe the actions planned to recover the schedule. The Government's acquiescence in such notice will not be deemed approval by the Government of an extension of a Revenue Service Date unless the Government expressly grants an extension in writing.

### **SECTION 15. PROJECT MANAGEMENT OVERSIGHT**

The Project is a "Major Capital Project" as defined in FTA's Project Management Oversight regulations at 49 C.F.R. § 633.5. Accordingly, the Grantee agrees that all requirements and conditions set forth in the rule at 49 C.F.R. Part 633 apply to the Project activities. Noncompliance with any regulatory requirements shall constitute a breach of this Agreement, unless the Government formally waives the regulatory requirement.

### **SECTION 16. ENVIRONMENTAL PROTECTION**

- (a) As a condition precedent to this Agreement, the environmental impacts of the Project have been assessed as required by law. The results of that assessment and the adopted mitigation measures are described in the environmental documents identified in Attachment 7 of this Agreement. These

documents together with related agreements and supporting documentation are incorporated by reference and made part of this Agreement. To assist the Government in monitoring the implementation of the adopted mitigation measures, these measures are specifically referenced in Attachment 7 of this Agreement. It is understood and agreed that the description in Attachment 7 shall not supersede or in any way result in a circumvention of the requirements set forth in the Government's environmental record for the Project.

(b) Certain terms and conditions of this Agreement as related to the Grantee's responsibility to ensure protection of the environment are set forth in Section 25 of the Master Agreement, "Environmental Protections." Under Subsection 25.1, "Mitigation of Adverse Environmental Effects," the Grantee is required, among other actions, to undertake all environmental mitigation measures that are identified in environmental documents prepared for the Project. Accordingly, the Grantee understands that it shall not withdraw or substantially change any of the adopted mitigation measures as described in the Government's environmental record for the Project without the express written approval of the Government.

(c) This Section is intended only to supplement the provisions set forth in Section 25 of the Master Agreement, "Environmental Protections."

## **SECTION 17. LABOR PROTECTION**

The Grantee will carry out the Project in conformance with the terms and conditions determined by the Secretary of Labor to be fair and equitable to protect the interests of employees affected by the Project and meet the requirements of 49 U.S.C. § 5333(b) and U.S. Department of Labor (USDOL) Guidelines at 29 C.F.R. Part 215. These terms and conditions are identified in the letters of certification from USDOL on the dates set forth on the first page of this Agreement. The Grantee will carry out the Project in compliance with the conditions stated in the USDOL certification letters. Those letters and any documents cited therein are incorporated by reference and made part of this Agreement.

## **SECTION 18. GOVERNMENT ACTIONS**

(a) In all cases where the Government's review, approval or concurrence is required under the terms and conditions of this Agreement, the Government will provide its response within sixty (60) calendar days of receipt from the Grantee of all materials reasonably necessary for the formulation of the Government's response.

(b) If the Government determines that its position cannot be finalized within that sixty (60) day period, the Government will notify the Grantee, in writing, within thirty (30) days following receipt of the Grantee's submission that the Government's response will be delayed and advise the Grantee of the Government's anticipated time period for response.

(c) Whenever the Government's approval or concurrence is needed on any matter pertaining to or concerning this Agreement, the Government's approval or concurrence will not be unreasonably withheld.

## **SECTION 19. REMEDIES**

(a) Substantial failure of the Grantee to Complete the Project in accordance with the Application and this Agreement will be a default of this Agreement. In the event of default, the Government will have all remedies at law and equity, including the right to specific performance without further Federal financial assistance, and the rights to termination or suspension as provided by Section 11 of the Master Agreement, "Right of the Federal Government to Terminate." The Grantee recognizes that in the event of default, the Government may demand all Federal funds provided to the Grantee for the Project be returned to the Government. Furthermore, a default of this Agreement will be a factor considered before a decision is made with respect to the approval of future Grants requested by the Grantee.

(b) Under the provisions of Section 15 of this Agreement, "Project Management Oversight," and under the terms and conditions of the Master Agreement, the Government will review performance by the Grantee to determine whether satisfactory progress is being made to complete the Project. In the event that the Government determines that the Grantee is in breach of this Agreement, the Government may withhold its approvals of further funding and suspend drawdown of funds, under the provisions of Section 11 of the Master Agreement, "Right of the Federal Government to Terminate," until any necessary corrective action, which may be required by the Government, is accomplished. Any breach of this Agreement that is not corrected within a reasonable period of time will be a default of this Agreement. The Government in its discretion may permit the cost of such corrective action to be deemed a Project Cost, provided that such cost is an allowable cost under the requirements of Section 9.c of the Master Agreement, "Costs Reimbursed," and so long as it remains within the limits of the Maximum Federal New Starts Financial Contribution set forth in Section 8 of this Agreement, "Limitations of the Federal Funding Commitment."

(c) In the event of a breach of this Agreement by the Grantee and before the Government takes action contemplated by this Section, the Government will provide the Grantee with ninety (90) days written notice that the Government considers that such a breach has occurred and will provide the Grantee a reasonable period of time to respond and to take necessary corrective action.

## **SECTION 20. CONTENTS OF AGREEMENT**

This Full Funding Grant Agreement consists of the text of this Agreement, which includes the first pages setting forth significant characteristics of the Agreement (such as the maximum Federal funds obligated and awarded for expenditure on the Project and the funding ratio of Federal and local funds to be expended for the Project, and such other data), followed by the Terms and Conditions and the Attachments to the Agreement. The Agreement also includes the following documents incorporated by reference and made part of this Agreement: the "Federal Transit Administration Master Agreement," FTA Form MA (19) (October 1, 2012) as may be revised from time to time, the Application, the Government's environmental record for the Project, related agreements, and prior Grant Agreements for the Project referenced in Attachment 5 of this Agreement. Should the Federal assistance award letter include special conditions for the Project, that letter is incorporated by reference and made part of this Agreement. Any inconsistency between the Application and the terms and conditions of this Full Funding Grant Agreement will be resolved according to the clear meaning of the provisions of this Agreement and Attachments hereto.

## **SECTION 21. SIMULTANEOUS CREATION OF AGREEMENT IN ELECTRONIC FORMAT**

Simultaneous to the Award and Execution of this Agreement set forth in typewritten hard copy, the Agreement is being awarded and executed by electronic means through FTA's electronic award and management system. To the extent any discrepancy may arise between the typewritten version and the electronic version of this Agreement, the typewritten version will prevail. Should any special conditions or requirements for the Project be added separately in the electronic version, those conditions or requirements are incorporated by reference and made part of this Agreement.

## **SECTION 22. AMENDMENTS TO AGREEMENT**

Amendments to any of the documents referenced in Section 20, "Contents of Agreement," will be made in accordance with the requirements and procedures set forth in FTA Circular 5010.1D (November 1, 2008), "FTA Grant Management Requirements", as may be amended from time to time, and FTA Circular 5200.1A (December 5, 2002), "Full Funding Grant Agreements Guidance," as may be amended from time to time.

## **SECTION 23. ATTACHMENTS—INCORPORATION**

Each and every Attachment to this Agreement is incorporated by reference and made part of this Agreement.

## **SECTION 24. NOTICES**

Notices required by this Agreement will be addressed as follows:

As to the Government:

Mr. Leslie T. Rogers  
Regional Administrator  
Federal Transit Administration  
201 Mission Street, Suite 1650  
San Francisco, CA 94105

As to the Grantee:

Mr. Daniel A. Grabauskas  
Executive Director and CEO  
Honolulu Authority for Rapid Transportation  
1700 Alakea Street, Suite 1700  
Honolulu, HI 96813

**SECTION 25. APPLICABLE LAW**

If neither Federal statute nor Federal common law governs the interpretation of the provisions of this Agreement, the state law of the State of Hawai'i will apply. This provision is intended only to supplement Section 2.c of the Master Agreement, "Application of Federal, State, and Local Laws, Regulations, and Directives."

**SECTION 26. AWARD AND EXECUTION OF AGREEMENT**

There are several identical counterparts of this Agreement in typewritten hard copy; each counterpart is to be fully signed in writing by the parties and each counterpart is deemed to be an original having identical legal effect. When signed and dated by the authorized official of the Government, this instrument will constitute an Award that should be executed by the Grantee within ninety (90) days of the date of the Government's Award (FTA Award). The Government may withdraw its Award of financial assistance and obligation of funds if this Agreement is not executed within the ninety (90) day period. Upon full Execution of this Agreement by the Grantee, the effective date will be the date the Government awarded funding under this Agreement as set forth below.

**THE GOVERNMENT HEREBY AWARDS THIS FULL FUNDING GRANT THIS**

19<sup>th</sup> DAY OF December, 2012

Signature:   
Peter Rogoff  
Federal Transit Administrator  
FEDERAL TRANSIT ADMINISTRATION

**EXECUTION BY GRANTEE**

The Grantee, by executing this Agreement, affirms this FTA Award; adopts and ratifies all statements, representations, warranties, covenants, and materials it has submitted to FTA; consents to this Award; and agrees to all terms and conditions set forth in this Agreement.

**THE GRANTEE HEREBY EXECUTES THIS FULL FUNDING GRANT THIS**

19<sup>th</sup> DAY OF December, 2012

Signature: Peter B. Carlisle

Name: Peter B. Carlisle  
Title of Official: Mayor  
Name of Organization: City and County of Honolulu

ATTESTED BY:

Signature: Daniel A. Grabauskas

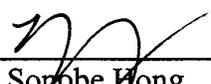
Name: Daniel A. Grabauskas  
Title of Attesting Official: Executive Director and CEO  
Name of Organization: Honolulu Authority for Rapid Transportation

### AFFIRMATION OF GRANTEE'S ATTORNEY

As the undersigned Attorney for the Grantee, I affirm to the Grantee that I have examined this Agreement and the proceedings taken by the Grantee relating to it. As a result of this examination I hereby affirm to the Grantee the Execution of the Agreement by the Grantee is duly authorized under state and local law. In addition, I find that in all respects the Execution of this Agreement is due and proper and in accordance with applicable state and local law. Further, in my opinion, this Agreement constitutes a legal and binding obligation of the Grantee in accordance with the terms of the Agreement. Finally, I affirm to the Grantee that, to the best of my knowledge, there is no legislation or litigation pending or imminent that might adversely affect the full implementation of the Project in accordance with the terms thereof, other than the following litigation: Kaleikini v. Yoshioka, et al., Civil No. 11-1-0206-01 GWBC (on appeal SCAP-11-0000611, Supreme Court of the State of Hawaii), filed on January 31, 2011, involving Plaintiff Paulette Ka'anohiokalani Kaleikini and Defendants Wayne Yoshioka, City and County of Honolulu, Honolulu City Council, Peter Carlisle, City and County of Honolulu Department of Transportation Services, City and County of Honolulu Department of Planning and Permitting and various State of Hawaii defendants; HonoluluTraffic.com, et al. v. Federal Transit Administration, et al., Civil No. 11-00307 AWT, United States District Court for the District of Hawaii, filed on May 12, 2011, involving Plaintiffs HonoluluTraffic.com, Cliff Slater, Benjamin J. Cayetano, Walter Heen, Hawaii's Thousand Friends, the Small Business Hawaii Entrepreneurial Education Foundation, Randall W. Roth and Dr. Michael Uechi, and Intervenor Plaintiff Outdoor Circle, and Defendants Federal Transit Administration, Leslie Rogers, Peter Rogoff, United States Department of Transportation, Ray LaHood, City and County of Honolulu and Wayne Yoshioka, and Intervenor Defendants Faith Action for Community Equity, Pacific Resource Partnership and Melvin Uesato; and Bombardier v. Director, Department of Budget and Fiscal Services, et al., Civil No. 11-1-1778-08 (on appeal CAAP-11-0000756, Hawaii Intermediate Court of Appeals), filed August 15, 2011, involving Petitioner-Appellant Bombardier Transportation (Holdings) USA Inc., and Appellees Director, Department of Budget and Fiscal Services, City and County of Honolulu, Ansaldo Honolulu JV, and Department of Commerce and Consumer Affairs, State of Hawaii.

DATED 19<sup>th</sup> DAY OF December, 2012.

AFFIRMED BY:

Signature:   
Name: Renee R. Sorobe Hong  
Title of Official: Acting Corporation Counsel  
Name of Organization: City and County of Honolulu

## **ATTACHMENT 1**

### **City and County of Honolulu Honolulu Rail Transit Project Honolulu, Hawaii**

#### **Scope of the Project**

The Honolulu Rail Transit Project (the Project) consists of design and construction of a 20-mile, grade-separated fixed rail system from East Kapolei to the Ala Moana Center in Honolulu, Hawaii. The Project begins in East Kapolei, proceeds to the University of Hawaii at West Oahu, then turns east to Pearl Harbor and the Honolulu International Airport, and ends at Kona Street adjacent to the Ala Moana Center. The Project will operate in an exclusive right-of-way and will be elevated except for a 0.6-mile, at-grade section near Leeward Community College. The Project will be powered with third rail electrification.

The Project scope includes 80 light metro fully automated (driverless) rail vehicles and a Maintenance and Storage Facility (MSF) on a 44-acre parcel near Leeward Community College. The MSF includes four buildings, maintenance facilities, a vehicle wash area, storage track, a system control center, and employee parking. The MSF buildings will be designed to meet Leadership in Energy and Environmental Design silver certification requirements.

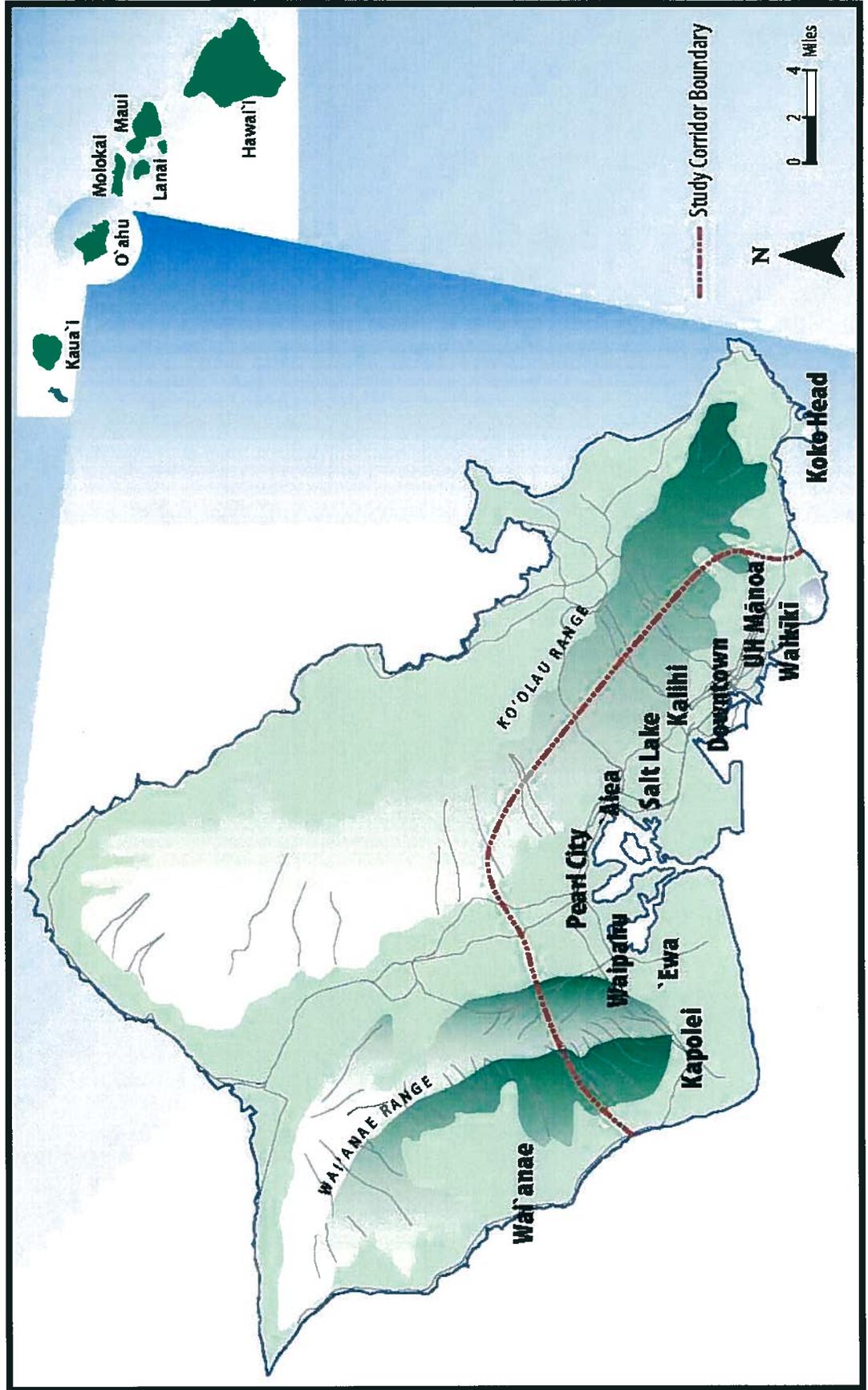
The Project includes 21 stations with passenger canopies, seating areas, and art work. All stations, except for the Leeward Community College Station, are elevated. There are four park-and-ride facilities with 4,100 total spaces. The park-and-ride facility at the Pearl Highlands station will be a parking structure, which includes construction of an access ramp from the H-2 freeway into the parking structure.

The Revenue Service Date for the Project is January 31, 2020. Hours of operation in the opening year will be from 4:00 a.m. to midnight on weekdays. On weekends and holidays, service will run from 6:00 a.m. to midnight. In the opening year, service will operate every three minutes during weekday peak periods, every six minutes during weekday off-peak periods, and every 10 minutes on weekday evenings. On weekends in the opening year, service will operate every six minutes during the day and every 10 minutes in the evenings. In the forecast year of 2030, service will operate every three minutes during weekday peak periods, every five minutes during weekday off-peak periods, and every eight minutes on weekday evenings. On weekends in the forecast year, service will operate every five minutes during the day and every eight minutes in the evenings. Average weekday boardings are projected to be 99,800 in the opening year, and 114,300 in 2030.

Attachment 1A

City and County of Honolulu  
Honolulu Rail Transit Project  
Honolulu, Hawaii

Project Vicinity Map



**Attachment 1B**

**City and County of Honolulu  
Honolulu Rail Transit Project  
Honolulu, Hawaii**

**Project Location Map**



## **ATTACHMENT 2**

### **City and County of Honolulu Honolulu Rail Transit Project Honolulu, Hawaii**

#### **Project Description**

##### **Narrative Description:**

The Honolulu Rail Transit Project (the Project) consists of design and construction of a grade - separated, 20-mile fixed rail system with 21 stations, a maintenance and storage facility, and 80 light metro automated rail vehicles. The Project extends from East Kapolei to the Ala Moana Center in Honolulu, Hawaii.

##### **Project Description by Standard Cost Category (SCC):**

The following provides a description of the Project by Standard Cost Category (SCC). These SCCs are the basis for the Baseline Cost Estimate and for the Baseline Schedule contained in Attachment 3 and Attachment 4, respectively.

##### **SCC Code 10 - Guideway and Track Elements**

This SCC includes all elements of trackwork including: procurement, installation, stray current protection, and all structural work. This SCC also includes all civil work for the alignment, including roadway work necessary to construct the guideway. Trackwork includes the furnishing of all rails, ties, fasteners, ballast, concrete, turnouts, switches, and other special trackwork, spare materials, and all construction materials, labor, tools, and supplies.

SCC 10 includes the following applicable subcategories:

- **SCC 10.04 – Guideway: Aerial structure.** The Project consists of about 19.45 miles of elevated guideway. This subcategory includes grading, substructure installation, superstructure erection, and all work elements required for aerial guideway construction.
- **SCC 10.08 – Guideway: Retained cut or fill.** The Project includes approximately 0.6 miles of guideway that is on retained cut or fill near the Leeward Community College.
- **SCC 10.09 – Track: Direct Fixation.** This includes all work associated with all of the rails necessary for the Project. The Project includes direct fixation track for all 19.45 miles on the aerial Guideway.
- **SCC 10.11 – Track: Ballasted.** This includes rails, ties and ballast. The Project includes tie and ballast track for the 0.6 miles of at-grade mainline guideway near Leeward Community College.

- SCC 10.12 – Track: Special (switches, turnouts). This includes switches, turnouts, track crossovers, bumping posts and spares.

### **SCC Code 20 - Stations, Stops, Terminals, Intermodal Traffic & Operations**

This SCC includes improvements associated with the construction of 21 new passenger stations and one park and ride structure. All stations will be ADA compliant. All stations will include platform screen gates for access from the platform to each vehicle door, which is a safety measure to prevent entry into the guideway.

- SCC 20.01 At-grade station, stop, shelter, mall, terminal, platform. This SCC subcategory provides for the construction, purchase, and installation for elements for the at-grade station at Leeward Community College. Also associated with this SCC subcategory for the station are platforms, conduit installation, platform finishes, station canopies, required ramps and/or railings, fencing, signage and pavement markings, benches, and all other elements for the construction and safe operation of the rail transit stations.
- SCC 20.02 Aerial station, stop, shelter, mall, terminal, platform. This SCC subcategory provides for the construction, purchase, and installation for elements for the aerial stations for the Project. Also associated with this SCC subcategory for stations are platforms, conduit installation, platform finishes, station canopies, required ramps and/or railings, fencing, signage and pavement markings, benches, and all other elements for the construction and safe operation of rail transit stations. The stations are as follows:
  - 1) East Kapolei station
  - 2) University of Hawaii West Oahu station
  - 3) Ho`opili station
  - 4) West Loch station
  - 5) Waipahu Transit Center station
  - 6) Pearl Highlands station
  - 7) Pearlridge station
  - 8) Aloha Stadium station
  - 9) Pearl Harbor Naval Base station
  - 10) Honolulu International Airport station
  - 11) Lagoon Drive station
  - 12) Middle Street Transit Center station
  - 13) Kalihi station
  - 14) Kapalama station
  - 15) Iwilei station
  - 16) Chinatown station
  - 17) Downtown station
  - 18) Civic Center station
  - 19) Kaka`ako station
  - 20) Ala Moana station

- SCC 20.06 Automobile parking multi-story structure. This category includes the construction of 1,600 structured park-and-ride spaces at the Pearl Highlands station.
- SCC 20.07 Elevators, escalators. This category includes the elevators and escalators needed for all stations and the park-and-ride structure.

### **SCC Code 30 – Support Facilities; Yards, Shops, Administration Buildings**

This SCC includes design and construction of a Maintenance and Storage Facility (MSF) for the system. The MSF is located on a 44-acre parcel at the former Navy Drum site east of Farrington Highway between Waipahu High School and Leeward Community College on the south side of the alignment.

SCC 30 includes the following subcategories:

- SCC 30.02 Light maintenance facility. This category includes construction of the required maintenance facility, which will also house the wheel truing machine.
- SCC 30.03 Heavy maintenance facility. This category includes construction of the required maintenance facility and procurement of machinery for MSF for heavy overhaul maintenance work. This includes staff offices and welfare facilities; Operation Control Center; vehicle heavy repair, service and inspection, and component change-out tracks; equipment maintenance support shops; and system central stores. This also includes the design and construction of the rail vehicle wash bay, which will be located in a separate building.
- SCC 30.04 Storage or Maintenance of Way Building. This category includes construction of the maintenance of way site as part of the MSF. This includes interior and exterior storage, and parking for maintenance of way vehicles.
- SCC 30.05 Yard and yard track. This category includes the installation of yard tracks, storage tracks and special trackwork at the MSF. This also includes crossings for rubber tired non-revenue vehicle circulation.

### **SCC Code 40 – Sitework and Special Conditions**

This SCC includes all construction materials and labor for:

- SCC 40.01 - Demolition, clearing, and earthwork. This category includes demolition, clearing, earthwork including concrete pavement and sidewalk removal, asphalt pavement removal, grubbing and stripping, ditch drainage improvement, embankment, foundation stabilization material, aggregate base course, and modification to existing sanitary sewer.
- SCC 40.02 - Site utilities and utility relocation. This category includes site utilities and utility relocation activities, including storm water drainage, sanitary sewer, culver placement and extensions, electrical, ductbank, fiber optics, communications, placement of water system service, and street lighting.

- SCC 40.03 Hazardous material, contaminated soil removal/mitigation, ground water treatments. This category includes hazardous material, contaminated soil removal, ground water treatment, and all other hazardous materials, contaminated media and treatments.
- SCC 40.04 Environmental mitigation measures including those measures for wetlands and noise. This category includes all required environmental mitigation work including noise, stormwater, historic and archeological.
- SCC 40.05 Site structures including retaining walls, sounds walls. This category includes retaining walls and parapet walls necessary for sound mitigation.
- SCC 40.06 Pedestrian/bike access and accommodation, landscaping. This category includes irrigation and landscaping at the stations, public art program, fencing, and bike facilities.
- SCC 40.07 Automobile, bus, van accessways including roads and parking lots. This category includes roadway improvements and construction of the park-and-ride facilities. The park-and-ride lots and their estimated capacities are as follows:

Station	Approximate Number of Stalls To Be Built
East Kapolei	900
UH West Oahu	1,000
Aloha Stadium	600

- SCC 40.08 Temporary Facilities and Other Direct Costs During Construction. This includes permits, field offices, mobilization, quality control and material testing, maintenance of traffic, security, all temporary facilities, storm water pollution prevention measures, temporary access to mitigate construction impacts, payment/performance Bond, warranty bond, Contractor's Insurance (not covered by Owner Controlled Insurance Program), construction management and supervision, Safety Plan and Program administration, obligations during warranty period, construction survey and layout, public information, contractor's fee, and System Testing & Certification.

### **SCC Code 50 – Systems**

This SCC provides for the purchase, installation, and construction of all train control, traction power, communications, and fare collection systems required for the Project.

SCC 50 includes the following subcategories:

- SCC 50.01 Train Control and signals. This category includes the purchase, installation and testing of the train control system including wiring, cabling, cases, and spare parts.

- SCC 50.02 Traffic signals, striping and pedestrian crossing controls. This category includes traffic signals at locations necessitated by roadway modifications for the guideway and by the changes in traffic patterns around stations or other fixed project facilities.
- SCC 50.03 Traction power supply: substations. This category includes all components for the traction power system. Included is the purchase, installation, and testing of the traction power distribution system, which is comprised of approximately 14 traction power substations and all necessary poles, mounting brackets, feeder cables, spare parts and power supply.
- SCC 50.04 Traction power distribution: catenary and third rail. This category includes the purchase, installation, and testing for the system-wide third rail power system.
- SCC 50.05 Communications. This category includes the purchase, installation, and testing for the entire communication system, which will include the fiber optic backbone, terminals, displays, computer control hardware and software, central control furnishings, variable message signs, spare parts, radios, public address system, telephone, alarms and provisions for closed circuit television system. It will also include required software, training, and operating manuals.
- SCC 50.06 Fare collection system and equipment. This category includes the purchase, installation and testing of the self-service fare collection equipment, including a minimum of 42 ticket vending machines (TVMs), spare parts, training and technical support. At least two TVMs will be located at each station entrance, and additional TVMs will be located at higher volume stations. Also included is the infrastructure for the addition of future fare gates.
- SCC 50.07 Central control. This category includes the purchase, installation and testing for all components needed for the new rail operations control center and backup operations control center. This includes all necessary components for the automatic train control system that will include automatic train protection, automatic train operation and automatic train supervision subsystems and their means of communication.

#### **SCC Code 60 - Right-of-way, Land, Existing Improvements**

This SCC provides for the real property costs for the Project, specifically the temporary or permanent acquisition of or access to all real property required. Real property includes donated, leased, or purchased land, permanent surface and subsurface leases required; associated professional appraisal, acquisition and legal services; demolition; and any costs related to the exercise of eminent domain.

SCC 60 includes the following subcategories:

- SCC 60. 01 - Purchase or lease of real estate. This category includes costs of donated, leased, or purchased lands and associated acquisition, legal, appraisal services, and demolition for approximately 40 full parcel acquisitions and approximately 135 partial acquisitions.

- SCC 60.02 – Relocation of existing households and businesses. This category includes relocation costs and services for approximately 83 existing residential and business relocations.

### **SCC Code 70 - Vehicles**

This SCC provides for the procurement of light metro automated rail vehicles.

- SCC 70.02 - Heavy rail. This category includes the design, manufacture, inspection, delivery, testing and commissioning of 80 new light metro rail vehicles. This category also includes training and associated equipment, as well as training for start-up and warranty provisions.
- SCC 70.06 - Non-revenue vehicles. This category includes procurement of all non-revenue vehicles needed for the project such as maintenance vehicles, high-rail vehicles, and other rail related equipment vehicles.
- SCC 70.07 – Spare parts. This category includes the spare parts, special tools, and manuals for the new light metro vehicles.

### **SCC Code 80 - Professional Services**

This SCC includes all of the professional, technical and management services, intergovernmental agreements and related costs during the preliminary engineering, final design, construction, and start-up phases of the Project.

SCC 80 includes the following subcategories:

- SCC 80.01 - Preliminary Engineering. This category includes the professional services and project administration required to complete preliminary design, engineering and architectural services.
- SCC 80.02 - Final Design. This category includes further design, engineering, and architectural services; compilation of as-built documents; environmental mitigation services; specialty services such as safety and security analyses; value engineering; risk assessment; cost estimating and scheduling; and surveying.
- SCC 80.03 - Project Management for Design and Construction. This category includes the agency staff and professional service consultants providing project management and oversight to the entire project. This includes work performed by agency staff, including assembling information, conducting analyses, and preparing the Before and After Study.
- SCC 80.04 - Construction Administration and Management. This category includes the agency staff and professional service consultants contracted for construction inspection; field engineering; design support coordination; project scheduling and construction coordination; safety certification; change order processing; preparation of independent cost estimates; field verification and testing; systems integration and testing, and; other activities required in support of the Project.

- SCC 80.05 – Insurance. This provides for Owner-provided insurance to provide insurance coverage for project related activities. The insurance will provide the owner, contractor/sub-contractor, and consultant/sub-consultant with Worker’s Compensation, Environmental Liability, Employers Liability, Commercial General Liability, Professional Liability, Builder’s Risk, Excess Liability Coverage, and Railroad Protective Insurance. Some of these coverages may be consolidated further into an Owner Controlled Insurance Program.
- SCC 80.06 - Legal, Permits, Review Fees. This category includes the cost of legal and negotiation services for the project, the cost of permits, and required reviews by government agencies.
- SCC 80.07 - Surveys, Testing, Investigation, Inspection. This category includes the cost of survey and geological investigation and testing, which includes hazardous material research and investigation, voluntary investigation and clean-up program support, contamination remediation oversight, construction testing, and vibration testing.
- SCC 80.08 - Start-up. This category includes the agency staff and professional service consultants providing support to begin revenue operations.

**SCC Code 90 - Unallocated Contingency**

This SCC represents the entire unallocated contingency for the Project. It provides a funding source to cover unknown but anticipated additional project execution costs and uncertainty due to risk factors such as unresolved design issues, market fluctuations, unanticipated site conditions and change orders. It also covers unforeseen expenses and variances between estimates and actual costs. Contingency will be managed over the life of the Project in accordance with the project Risk and Contingency Management Plan.

**SCC Code 100 - Finance Charges**

This SCC includes finance charges expected to be paid by the project sponsor/grantee prior to either the completion of the project or the fulfillment of the New Starts funding commitment, whichever occurs later in time. It also includes interim borrowing to Project cash flow and interest on bond issues for local match net of interest earnings.

**ATTACHMENT 3**

**City and County of Honolulu  
Honolulu Rail Transit Project  
Honolulu, Hawaii**

**Baseline Cost Estimate**

**Table 1 – BCE by Standard Cost Category**

<i>Applicable Line Items Only</i>		YOE Dollars Total
<b>10 GUIDEWAY &amp; TRACK ELEMENTS (20.05 route miles)</b>		<b>\$1,275,328,962</b>
10.04	Guideway: Aerial structure	\$1,175,328,184
10.08	Guideway: Retained cut or fill	\$8,077,393
10.09	Track: Direct fixation	\$86,332,027
10.11	Track: Ballasted	\$3,550,634
10.12	Track: Special (switches, turnouts)	\$2,040,724
<b>20 STATIONS, STOPS, TERMINALS, INTERMODAL (21 stations)</b>		<b>\$506,165,689</b>
20.01	At-grade station, stop, shelter, mall, terminal, platform	\$7,333,599
20.02	Aerial station, stop, shelter, mall, terminal, platform	\$353,476,148
20.06	Automobile parking multi-story structure	\$79,690,518
20.07	Elevators, escalators	\$65,665,424
<b>30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS</b>		<b>\$99,425,456</b>
30.02	Light Maintenance Facility	\$8,161,279
30.03	Heavy Maintenance Facility	\$40,906,889
30.04	Storage or Maintenance of Way Building	\$8,382,270
30.05	Yard and Yard Track	\$41,975,018
<b>40 SITEWORK &amp; SPECIAL CONDITIONS</b>		<b>\$1,103,867,264</b>
40.01	Demolition, Clearing, Earthwork	\$34,695,802
40.02	Site Utilities, Utility Relocation	\$350,694,801
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	\$7,228,935
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks	\$30,841,906
40.05	Site structures including retaining walls, sound walls	\$8,637,582
40.06	Pedestrian / bike access and accommodation, landscaping	\$48,262,816
40.07	Automobile, bus, van accessways including roads, parking lots	\$212,536,181
40.08	Temporary Facilities and other indirect costs during construction	\$410,969,241
<b>50 SYSTEMS</b>		<b>\$247,460,782</b>
50.01	Train control and signals	\$91,492,532
50.02	Traffic signals and crossing protection	\$12,524,011
50.03	Traction power supply: substations	\$32,873,934
50.04	Traction power distribution: catenary and third rail	\$36,426,287
50.05	Communications	\$59,889,234
50.06	Fare collection system and equipment	\$10,221,753
50.07	Central Control	\$4,033,031
<b>Construction Subtotal (10 - 50)</b>		<b>\$3,232,248,153</b>
<b>60 ROW, LAND, EXISTING IMPROVEMENTS</b>		<b>\$222,188,385</b>
60.01	Purchase or lease of real estate	\$201,658,907
60.02	Relocation of existing households and businesses	\$20,529,478
<b>70 VEHICLES (80)</b>		<b>\$208,501,186</b>
70.02	Heavy Rail	\$186,061,066
70.06	Non-revenue vehicles	\$16,011,166
70.07	Spare parts	\$6,428,954

**Table 1 – BCE by Standard Cost Category**

<i>Applicable Line Items Only</i>		YOE Dollars Total
<b>80 PROFESSIONAL SERVICES (applies to Cats. 10-50)</b>		<b>\$1,183,826,026</b>
80.01	Preliminary Engineering	\$95,120,484
80.02	Final Design	\$257,934,908
80.03	Project Management for Design and Construction	\$385,825,694
80.04	Construction Administration & Management	\$218,155,752
80.05	Professional Liability and other Non-Construction Insurance	\$52,138,030
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	\$76,135,125
80.07	Surveys, Testing, Investigation, Inspection	\$24,955,327
80.08	Start up	\$73,560,706
<b>Subtotal (10 - 80)</b>		<b>\$4,846,763,750</b>
<b>90 UNALLOCATED CONTINGENCY</b>		<b>\$101,871,170</b>
<b>Subtotal (10 - 90)</b>		<b>\$4,948,634,920</b>
<b>100 FINANCE CHARGES</b>		<b>\$173,058,243</b>
<b>Total Project Cost (10 - 100)</b>		<b>\$5,121,693,163</b>

**ATTACHMENT 3**

**City and County of Honolulu  
Honolulu Rail Transit Project  
Honolulu, Hawaii**

**Baseline Cost Estimate**

**Table 2 – Inflated Cost to Year of Expenditure**

<b>STANDARD COST CATEGORY DESCRIPTION</b>	<b>Base Year Dollars without Contingency</b>	<b>Base Year Dollars Allocated Contingency</b>	<b>Base Year Dollars TOTAL</b>	<b>Inflation Factor</b>	<b>YOE Dollars TOTAL</b>
10 GUIDEWAY & TRACK ELEMENTS (20.05)	\$955,496,569	\$136,579,877	\$1,092,076,446	1.1678	\$1,275,328,962
20 STATIONS, STOPS, TERMINALS, INTERMODAL (21 station)	\$351,187,519	\$70,237,503	\$421,425,022	1.2011	\$506,165,689
30 SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	\$85,010,215	\$6,326,082	\$91,336,297	1.0886	\$99,425,456
40 SITEWORK & SPECIAL CONDITIONS	\$891,846,429	\$108,839,062	\$1,000,685,491	1.1031	\$1,103,867,264
50 SYSTEMS	\$188,203,803	\$22,162,982	\$210,366,785	1.1763	\$247,460,782
60 ROW, LAND, EXISTING IMPROVEMENTS	\$180,326,879	\$22,430,533	\$202,757,412	1.0958	\$222,188,385
70 VEHICLES (80)	\$159,603,422	\$18,513,997	\$178,117,419	1.1706	\$208,501,186
80 PROFESSIONAL SERVICES (applies to Cats. 10-50)	\$1,024,626,813	\$85,752,595	\$1,110,379,408	1.0661	\$1,183,826,026
90 UNALLOCATED CONTINGENCY			\$88,666,000	1.1489	\$101,871,170
100 FINANCE CHARGES			\$140,596,098	1.2309	\$173,058,243
<b>Total Project Cost (10 - 100)</b>	<b>\$3,836,301,649</b>	<b>\$470,842,631</b>	<b>\$4,536,406,378</b>	<b>1.1290</b>	<b>\$5,121,693,163</b>

**ATTACHMENT 3**

**City and County of Honolulu  
Honolulu Rail Transit Project  
Honolulu, Hawaii**

**Baseline Cost Estimate**

**Table 3 – BCE by Source of Funding**

	Total Project Cost in YOE Dollars	Federal 5309 New Starts	Federal Other (Section 5307)	Federal Other (ARRA)	Local
10	GUIDEWAY & TRACK ELEMENTS (20.05 miles)	\$1,275,328,962	\$385,546,858	\$54,095,024	\$835,687,080
20	STATIONS, STOPS, TERMINALS, INTERMODAL (21 stations)	\$506,165,689	\$153,019,806	\$21,469,790	\$331,676,093
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	\$99,425,456	\$30,057,478	\$4,217,282	\$65,150,696
40	SITEWORK & SPECIAL CONDITIONS	\$1,103,867,264	\$333,711,982	\$46,822,214	\$723,333,068
50	SYSTEMS	\$247,460,782	\$74,810,288	\$10,496,428	\$162,154,066
60	ROW, LAND, EXISTING IMPROVEMENTS	\$222,188,385	\$67,170,147	\$9,424,459	\$145,593,779
70	VEHICLES (80)	\$208,501,186	\$63,032,347	\$8,843,896	\$136,624,943
80	PROFESSIONAL SERVICES (applies to Cats. 10-50)	\$1,183,826,026	\$356,607,499	\$50,213,787	\$773,004,740
90	UNALLOCATED CONTINGENCY	\$101,871,170	\$30,796,846	\$4,321,021	\$66,753,303
100	FINANCE CHARGES	\$173,058,243	\$55,246,749	\$0	\$117,811,494
	<b>Total Project Cost (10 - 100)</b>	<b>\$5,121,693,163</b>	<b>\$1,550,000,000</b>	<b>\$209,903,901</b>	<b>\$3,357,789,262</b>

Sources of Federal Funding and Matching Share Ratios	Costs Attributed to Source of Funds	All Federal Funds	Federal/Local Matching Ratio within Source	Local Funds
Federal 5309 New Starts	\$4,855,313,286	\$1,550,000,000	32/68	\$3,305,313,286
Federal Other (Section 5307)	\$262,379,877	\$209,903,901	80/20	\$52,475,976
Federal Other (ARRA)	\$4,000,000	\$4,000,000	100/0	0
Total	\$5,121,693,163	\$1,763,903,901		\$3,357,789,262
<b>Overall Federal Share of Project</b>		34%		
<b>New Starts Share of Project</b>		30%		

**ATTACHMENT 3A**

**City and County of Honolulu  
Honolulu Rail Transit Project  
Honolulu, Hawaii**

**Project Budget**

Scope Code	Scope and Activity Line Item Descriptions	Qty	Total Federal %	Federal 5309 New Starts			Federal Other (Section 5307)		
				Federal	Local	Total	Federal	Local	Total
10	GUIDEWAY & TRACK ELEMENTS	20.05	34%	\$385,546,858	\$822,163,324	\$1,207,710,182	\$54,095,024	\$13,523,756	\$67,618,780
20	STATIONS, STOPS, TERMINALS, INTERMODAL	21	34%	\$153,019,806	\$326,308,645	\$479,328,451	\$21,469,790	\$5,367,448	\$26,837,238
30	SUPPORT FACILITIES, YARDS, SHOPS, ADMIN. BLDGS.		34%	\$30,057,478	\$64,096,375	\$94,153,853	\$4,217,282	\$1,054,321	\$5,271,603
40	SITEWORK & SPECIAL CONDITIONS		34%	\$333,711,982	\$711,627,514	\$1,045,339,496	\$46,822,214	\$11,705,554	\$58,527,768
50	SYSTEMS		34%	\$74,810,288	\$159,529,960	\$234,340,248	\$10,496,428	\$2,624,106	\$13,120,534
60	ROW, LAND, EXISTING IMPROVEMENTS		34%	\$67,170,147	\$143,237,664	\$210,407,811	\$9,424,459	\$2,356,115	\$11,780,574
70	VEHICLES	80	34%	\$63,032,347	\$134,413,969	\$197,446,316	\$8,843,896	\$2,210,974	\$11,054,870
80	PROFESSIONAL SERVICES		35%	\$356,607,499	\$760,451,293	\$1,117,058,792	\$50,213,787	\$12,553,447	\$62,767,234
90	UNALLOCATED CONTINGENCY		34%	\$30,796,846	\$65,673,048	\$96,469,894	\$4,321,021	\$1,080,255	\$5,401,276
100	FINANCE CHARGES		32%	\$55,246,749	\$117,811,494	\$173,058,243	\$0	\$0	\$0
<b>Total Project Cost (10 - 100)</b>				\$1,550,000,000	\$3,305,313,286	\$4,855,313,286	\$209,903,901	\$52,475,976	\$262,379,877

**ATTACHMENT 3A**

**City and County of Honolulu  
Honolulu Rail Transit Project  
Honolulu, Hawaii**

**Project Budget (Continued)**

Scope Code	Scope and Activity Line Item Descriptions	Qty	Total Federal %	Federal Other (ARRA)			Total Project Cost in YOE Dollars		
				Federal	Local	Total	Federal	Local	Total
10	GUIDEWAY & TRACK ELEMENTS	20.05	34%	\$0	\$0	\$0	\$439,641,882	\$835,687,080	\$1,275,328,962
20	STATIONS, STOPS, TERMINALS, INTERMODAL	21	34%	\$0	\$0	\$0	\$174,489,596	\$331,676,093	\$506,165,689
30	SUPPORT FACILITIES, YARDS, SHOPS, ADMIN. BLDGS.		34%	\$0	\$0	\$0	\$34,274,760	\$65,150,696	\$99,425,456
40	SITework & SPECIAL CONDITIONS		34%	\$0	\$0	\$0	\$380,534,196	\$723,333,068	\$1,103,867,264
50	SYSTEMS		34%	\$0	\$0	\$0	\$85,306,716	\$162,154,066	\$247,460,782
60	ROW, LAND, EXISTING IMPROVEMENTS		34%	\$0	\$0	\$0	\$76,594,606	\$145,593,779	\$222,188,385
70	VEHICLES	80	34%	\$0	\$0	\$0	\$71,876,243	\$136,624,943	\$208,501,186
80	PROFESSIONAL SERVICES		35%	\$4,000,000	\$0	\$4,000,000	\$410,821,286	\$773,004,740	\$1,183,826,026
90	UNALLOCATED CONTINGENCY		34%	\$0	\$0	\$0	\$35,117,867	\$66,753,303	\$101,871,170
100	FINANCE CHARGES		32%	\$0	\$0	\$0	\$55,246,749	\$117,811,494	\$173,058,243
<b>Total Project Cost (10 - 100)</b>			34%	\$4,000,000	\$0	\$4,000,000	\$1,763,903,901	\$3,357,789,262	\$5,121,693,163



**ATTACHMENT 5**

**City and County of Honolulu  
Honolulu Rail Transit Project  
Honolulu, Hawaii**

**Prior Grants and Related Documents**

**Section I. Prior Grants (not included in the FFGA)**

<u>Grant Number</u>	<u>Obligation Date</u>	<u>Federal Amount</u>	<u>Funding Source</u>	<u>Purpose</u>
None				

**Section II. Related Documents**

<u>Milestone</u>	<u>Date</u>
1. City ordinance adopting the Locally Preferred Alternative	January 6, 2007
2. Locally Preferred Alternative adopted in the Oahu Metropolitan Planning Organization's 2030 Long Range Transportation Plan	May 4, 2007
3. Draft Environmental Impact Statement (EIS)	October 29, 2008
4. Entry into Preliminary Engineering	October 16, 2009
5. Final EIS	June 14, 2010
6. Record of Decision	January 18, 2011
7. Letter of No Prejudice (LONP) for Final Design activities	May 24, 2011
8. Entry into Final Design	December 29, 2011
9. LONP for early construction activities	February 6, 2012
10. LONP for pre-cast yard activities	May 17, 2012

**Section III. FFGA Grant History (Grants Under the FFGA)**

<u>Grant Number</u>	<u>Obligation Date</u>	<u>Federal Amount</u>	<u>Funding Source</u>	<u>Purpose</u>
HI96X001	08/14/09	\$ 4,000,000	ARRA	PE/ FEIS
HI-03-0047-00	09/23/10	\$34,990,000	5309 New Starts	PE/ FEIS
HI-03-0047-01	07/01/11	\$30,000,000	5309 New Starts	PE/ FEIS

Total FFGA Grants \$68,990,000

**ATTACHMENT 6**

**City and County of Honolulu  
Honolulu Rail Transit Project  
Honolulu, Hawaii**

Section 20008 of the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (Pub. L. 112-141: July 6, 2012) (“MAP-21”) authorizes FTA to award Federal major capital investment (New Starts) funds for final design and construction of the Honolulu Rail Transit Project (the Project). In accordance with Federal transit law at 49 U.S.C. Chapter 53 and FTA Circular 5200.1A, Full Funding Grant Agreements Guidance (December 5, 2002), by the execution of this Agreement the Government is limiting its commitment to provide New Starts funding for the Project to those funds that have been or may be appropriated during the term of MAP-21 and subsequent authorizations. The Government and the Grantee recognize, however, that the period of time necessary to complete the Project will extend beyond MAP-21, as evidenced by Attachment 4 of this Agreement (Baseline Schedule).

Moreover, the Government has previously awarded American Recovery and Reinvestment Act (ARRA) funds for the Project.

Currently, the Government and the Grantee anticipate that the New Starts funds and Section 5307 funds will be provided for the Project as follows:

Proposed Schedule of Federal Funds  
(Based on Year of Appropriation)

Fiscal Year	Federal			Local (1)	Total
	ARRA Funds	Section 5309 New Starts Funds	Section 5307 Formula Funds		
2012 and Prior	\$4,000,000	\$319,990,000	-	\$616,751,367	\$940,741,367
2013	-	\$250,000,000	\$32,941,432	\$538,610,806	\$821,552,238
2014	-	\$250,000,000	\$33,733,543	\$540,118,678	\$823,852,221
2015	-	\$250,000,000	\$34,543,557	\$541,660,631	\$826,204,188
2016	-	\$250,000,000	\$35,373,020	\$543,239,607	\$828,612,627
2017	-	\$230,010,000	\$36,221,856	\$506,802,251	\$773,034,107
2018	-	-	\$37,090,493	\$70,605,921	\$107,696,414
Total	\$4,000,000	\$1,550,000,000	\$209,903,901	\$3,357,789,262	\$5,121,693,163

(1) Source of local funding is: local General Excise and Use Tax Surcharge revenues dedicated to the Project.

## **ATTACHMENT 7**

### **City and County of Honolulu Honolulu Rail Transit Project Honolulu, Hawaii**

#### **Measures to Mitigate Environmental Impacts**

The environmental record for the Project includes the following documents:

1. *Honolulu High-Capacity Transit Corridor Project(HHCTCP) Final Environmental Impact Statement/Section 4(f) Evaluation* signed by Federal Transit Administration (FTA) on June 14, 2010
2. *Section 106 Programmatic Agreement Among the US Department of Transportation FTA, the Hawaii State Historic Preservation Officer, the United States Navy, and the Advisory Council on Historic Preservation regarding the HHCTCP in the City and County of Honolulu, Hawaii* signed by FTA on January 11, 2011 and State Historic Preservation Officer on January 13, 2011
3. *Record of Decision on the HHCTCP in Metropolitan Honolulu, Hawaii by the Federal Transit Administration (ROD)* signed by FTA on January 18, 2011

The mitigation measures and other project features that reduce adverse impacts, to which FTA and City and County of Honolulu committed in the environmental record, may not be eliminated from the Project, except by FTA's written consent in accordance with applicable laws and regulations. City and County of Honolulu's Honolulu Authority for Rapid Transportation, transmitted to FTA the *Mitigation Monitoring Program (MMP) for Project Management Oversight of Environmental and Related Commitments in the Final Environmental Impact Statement (Final EIS), Record of Decision (ROD), and Section 106 Programmatic Agreement (PA)*, March 15, 2012. The MMP includes a table of 211 mitigation measures and a compliance monitoring manual. The purpose of the MMP is to facilitate monitoring the implementation of the mitigation measures during final design and construction. The MMP, and periodic revisions to update the implementation status of the mitigation measures, is incorporated herein by reference.

## **ATTACHMENT 8**

### **City and County of Honolulu Honolulu Rail Transit Project Honolulu, Hawaii**

#### **Implementation of a “Before and After Study”**

The City and County of Honolulu’s Honolulu Authority for Rapid Transportation (HART) will assemble information and conduct analyses of pre- and post- project performance related to the Honolulu Rail Transit Project (the Project) in terms of its cost and impacts, evaluate the reliability of technical methods used during the planning and development of the Project, and identify potential useful improvements to those methods. Specifically, the study addresses the following requirements:

#### **I. Required Information**

HART will collect data and assemble information on six key characteristics of the Project and its associated transit services:

- a. Physical Project Scope: the physical components of the Project, including environmental mitigation;
- b. Service Levels: the operating characteristics of the rail system and bus service in the corridor, and in the overall system;
- c. Capital Costs: total costs of construction, vehicles, engineering, management, testing, land acquisition, and other capital expenses;
- d. Operation and Maintenance Costs: incremental operating/maintenance costs of the Project and the transit system; and
- e. Ridership and Ridership Patterns: incremental ridership, origin/destination patterns of transit riders on the Project, wait and trip time for passengers, passenger surveys and incremental farebox revenues for the transit system, descriptions of surrounding conditions, assumptions made about those conditions and how they affect forecasts. For examples, conditions may include housing prices, traffic volumes, Transit Oriented Development, population, employment and inter-local agreements.
- f. Revenues: farebox revenue forecasts and actual revenues.

#### **II. Milestones**

HART will assemble those data items that are available at a series of four key milestones in the development and operation of the Project:

- a. Milestone 1 Planning and Project Development Predictions (November 2009): the predictions developed for the six characteristics of the Project that coincided with the Preliminary Engineering phase with data from the *Honolulu High-Capacity Transit Corridor Project Environmental Impact Statement/Section 4(f) Evaluation* and associated technical documents.
- b. Milestone II Planning and Project Development Predictions Update (September 2011): included the update of predictions documented in Milestone I based on changes at the conclusion of Preliminary Engineering and information in the Record of Decision.

- c. Milestone III Before Conditions: will be submitted after the updated on-board survey is completed and during construction of Phase 1.
- d. Milestone IV: The After/Actual Conditions: the actual outcomes for the six characteristics of the Project two years after the opening of the Project to revenue service and associated adjustments to other transit services in the corridor.

III. Plan for Data Assembly and Analysis

HART has prepared a detailed work plan that describes the technical activities and steps that will be taken to assemble the required information described above and conduct assessments of the actual results of the Project and the accuracy of predictions of those results. Milestone I and Milestone II reports have also been prepared. FTA has reviewed and approved the work plan and the milestone reports, which is incorporated by reference.