

PMOC REPORT

OP 27 – Before-and-After Study Review

Honolulu High-Capacity Transit Corridor Project
City and County of Honolulu
Honolulu, HI

October 2011 (FINAL)

PMOC Contract Number: DTFT60-09-D-00012
Task Order No. 2: Honolulu High-Capacity Corridor Project
Project No: DC-27-5140
Work Order No. 3
OPs Referenced: OP 1 and 27

Jacobs Engineering Group, Inc., 501 North Broadway, St. Louis, MO 63102
Tim Mantych, P.E., (314) 335-4454, tim.mantych@jacobs.com
Length of Time Assigned: Five Years (November 18, 2009 through November 17, 2014)

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1.0 EXECUTIVE SUMMARY

The City and County of Honolulu (“grantee”) will be requesting approval to enter into Final Design for the Honolulu High-Capacity Transit Corridor Project (“Project”) in accordance with the Federal Transit Administration (FTA) New Starts requirements. The Project is intended to provide improved mobility in the highly-congested east-west corridor along Oahu’s south shore. The Project would provide faster, more reliable public transportation services than those currently operating in mixed-flow traffic. The purpose of this report is to provide the Project Management Oversight Contractor (PMOC) assessment of the grantee’s revised Before-and-After Study Plan (BASP), dated June 2011.

The PMOC followed FTA Oversight Procedure (OP) 27 to perform a review of the grantee’s BASP. Specifically, the PMOC is required to assess the adequacy of the grantee’s:

- Preservation, analysis, and documentation of forecasts at different project development phases
- Development of the Before-and-After Study work plan
- Preparation of the Before-and-After Study report

The PMOC recommends that the grantee's BASP dated June 2011 be accepted as a deliverable for entering Final Design.

2.0 INTRODUCTION

The City and County of Honolulu (“grantee”) will be requesting approval to enter into Final Design for the Honolulu High-Capacity Transit Corridor Project (“Project”) in accordance with the Federal Transit Administration (FTA) New Starts requirements. The purpose of this report is to provide the Project Management Oversight Contractor (PMOC) assessment of the grantee’s revised Before-and-After Study Plan (BASP), dated June 2011.

2.1 Objectives

The PMOC followed FTA Oversight Procedure (OP) 27 to perform a review of the grantee’s BASP. The objectives of the OP 27 review include the following:

- Preserving the project scope and capital cost forecasts (predictions) at each stage of project development to a level sufficient for use in the predicted-versus-actual analysis for the Before-and-After Study
- Documenting and analyzing changes in the project scope and capital cost forecasts since the previous phase of project development to a level sufficient for use in the predicted-versus-actual analysis for the Before-and-After Study
- Developing the Before-and-After Study Plan for project scope and capital costs that identifies the appropriate work to be performed for their Before-and-After Study, including a sufficient allocation of cost to perform this work
- Developing interim reports as appropriate
- Developing the Before-and-After Study Report that adequately achieves the project scope and capital cost analysis objectives of FTA’s Before-and-After Study requirements

2.2 Project Description

The proposed Project is a 20.5-mile light metro rail line in an exclusive right-of-way, which will provide high-capacity transit service on the island of Oahu from East Kapolei in the west to the Ala Moana Center in the east. The alignment is elevated, with the exception of a 0.6-mile at-grade portion adjacent to the Leeward Community College station. In addition to the guideway superstructure and trackwork, major physical elements of the Project include 21 stations, one maintenance and storage facility, right-of-way parcel acquisitions, and 80 “light metro” vehicles and associated core systems.

The Project is planned to be delivered in four design and construction segments:

- Segment I (West Oahu/Farrington Highway) – East Kapolei to Pearl Highlands (6 miles/7 stations)
- Segment II (Kamehameha Highway) – Pearl Highlands to Aloha Stadium (4 miles/2 stations)
- Segment III (Airport) – Aloha Stadium to Middle Street (5 miles/4 stations)
- Segment IV (City Center) – Middle Street to Ala Moana Center (4 miles/8 stations)

East Kapolei is the western terminus of the Project. The alignment begins at North-South Road north of Kapolei Parkway. The alignment follows North-South Road in a northerly direction to Farrington Highway where it turns east following Farrington Highway and crosses Fort Weaver

Road. The alignment is elevated along North-South Road and along Farrington Highway. The alignment continues in a north-easterly direction following Farrington Highway in an elevated structure. South of the H-1 Freeway, the alignment descends to grade as it enters the Maintenance & Storage Facility, the former Navy Drum Site. The alignment continues at grade to Leeward Community College and then returns to an elevated configuration to cross over the H-1 Freeway. North of the Freeway, the alignment turns eastward along Kamehameha Highway. Section 1 includes seven stations: East Kapolei, University of Hawaii West Oahu, Ho'opili, West Loch, Waipahu Transit Center, Leeward Community College and Pearl Highlands.

Segment II carries the alignment from Pearl Highlands to Aloha Stadium, running mostly above the median of Kamehameha Highway. At the highway interchange 'Ewa of the stadium, the alignment crosses over to the mauka side of Kamehameha Highway, in land adjacent to the roadway that is currently used for stadium parking. Segment II includes two stations: Pearl Ridge and Aloha Stadium. East of Aloha Stadium Station, the segment features a third track for temporary train layovers or storage.

The Airport Segment, or Segment III, takes the alignment from Aloha Stadium to Middle Street. This entirely elevated section of the route starts on the mauka side of Kamehameha Highway, then transitions to the median of that street. As the route proceeds in the Koko Head direction, it leaves Kamehameha Highway to run on the makai side of the elevated H-1 Freeway. At Honolulu International Airport, the alignment swings out over the median of the H-1, then down Aolele Street to a station site adjacent to the main airport terminal. The route then continues Koko Head on Aolele and, eventually, the parallel Ualena Street to Lagoon Drive. At that point, the alignment crosses a corner of Ke'ehi Lagoon Park and threads through another highway interchange to Kamehameha Highway again at Middle Street, Segment III includes four stations: Pearl Harbor, Airport, Lagoon Drive, and Middle Street.

The City Center Segment, Segment IV, is also entirely-elevated as it carries the alignment from Middle Street to the Ala Moana Center. Segment IV features guideway structures above Dillingham Boulevard, Nimitz Highway, Halekauwila Street, Queen Street, and Kona Street. Above Kona Street at the Ala Moana Center Station, the segment includes a third track to serve that station, which serves as the eastern terminus of the initial system. The segment includes eight stations: Kalihi, Kapalama, Iwilei, Chinatown, Downtown, Civic Center, Kaka'ako, and Ala Moana.

The Project also includes one Maintenance & Storage Facility, two park and ride lots, one park and ride structure, and two bus transit centers. The rail vehicles will be fully-automated and driverless.

The grantee's current cost estimate for the Project is approximately \$5.213 billion in Year-of-Expenditure (YOE) dollars. The grantee's target Revenue Service Date (RSD) is March 2019.

2.3 FTA References

The following are the principal references to Federal legislation, regulation and guidance with which the PMOC should review and develop a solid understanding as related to the grantee's BASP being reviewed under this OP:

City and County of Honolulu
PMOC Report – OP 27 BASP Review
October 2011 (FINAL)

- The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Pub.L. 109-59
- FTA Statues, 49 U.S.C. Chapter 53
- Final Rule on Major Capital Investment Projects, 49 CFR Part 611
- C5200.1A, Full Funding Grant Agreements Guidance
- FTA Guidance on New Starts Policies and Procedures, issued May 16, 2006
- Guidance on Before-and-After Studies, Revised October 2006
- Preparing for Before-and-After Studies, Revised 2009

3.0 PMOC'S FINDINGS, OBSERVATIONS AND COMMENTS

3.1 Review of Project Documentation (Preservation and Analysis)

The PMOC has assessed whether the grantee has preserved the project scope and capital cost information needed for use in the predicted-versus-actual analysis for the BASP during each of the project development phases.

The PMOC also assessed whether the grantee has adequately analyzed and explained the causes of changes in project scope and capital cost. Explanations are required if project scope or cost has changed from the last milestone. The grantee should provide a detailed explanation of the reasons for changes in the project's capital cost (constant year dollars (constant\$) and actual cost (YOES)), broken down into the following categories, including but not limited to:

- Scope
- Schedule (i.e., variances in cost due to change in the revenue operations date)
- Unit pricing/inflation
- Project reviews (constructability, coordination, risk assessment, etc.)
- Institutional factors (FTA process, local politics or funding, Agency process, third party agreements, selection of project delivery method, etc.)
- Other changes

3.2 Review of Before-and-After Study Plan

The purpose of the BASP is to ensure that data collection and analysis are done in ways to ensure that all comparisons made are complete and accurate. The PMOC has determined the following during a review of the BASP:

- ***Did the grantee properly identify the work to be done for its Before-and-After Study?***

PMOC Assessment

The grantee's BASP Update identifies the work involved in the Before-and-After Study in Section 4, *Before and After Study Scope*. This section identifies the appropriate milestones for the BASP and includes a description of the particular details to be included in the report at each of those milestones, along with the sources of data to be used.

The descriptions of the scope of work to be accomplished in this section are acceptable and conform to FTA guidelines.

- ***Does the Study Plan provide for capturing what has happened to date?***

PMOC Assessment

The BASP cites the particular information included in the Milestone I Report, submitted in January 2010. This report utilized a tabular format to facilitate comparisons with future Milestone reports. The PMOC recommends that the descriptions of Milestone Reports II, III, and IV contained in the BASP Update specifically state that the tabular data from each of the prior milestone reports will be re-presented to allow these direct comparisons.

- ***Does the Study Plan reflect the project characteristics?***

PMOC Assessment

Section 2 of the BASP adequately addresses the project characteristics by providing a summary of the project background, project description, project delivery (use of Design-Build and Design-Bid-Build), and project schedule. In addition the BASP references the grantee's organizational change to the Honolulu Authority for Rapid Transportation (HART), which went into effect on July 1, 2011, and addresses the proposed fixed guideway system's relationship to the other existing transit services provided by the grantee.

- ***Does the Study Plan capture all known issues that have influenced the project scope and costs?***

PMOC Assessment

The BASP Update adequately addresses the determination of factors that influence the scope, cost estimate, scope, transit service levels, capital costs, operating and maintenance (O&M) costs, ridership patterns, and revenues.

The PMOC has also confirmed the following with regard to the BASP:

- ***Introduction (includes purpose and responsibilities of various organizations involved in project)***

PMOC Assessment

The Introduction section of the BASP Update adequately addresses the purpose of the Before-and-After Study Plan, but does not discuss the responsibilities of the various organizations involved in the project. This information is provided, however, in Section 3 of the report, *Responsibilities*, which details the roles of the involved public agencies, contractors and consultants. The descriptions of the responsibilities of the various entities are adequate for the purposes of the BASP.

- ***Scope of work***
 - ***Organization (identifies procedures that outline how the grantee will assemble, organize, maintain and preserve all applicable data for the Before-and-After Study, as well as which parties have responsibility for these activities)***

PMOC Assessment

Section 4 of the BASP Update, *Before and After Study Scope*, identifies the data that will be captured at each of the several project reporting milestones. This section also provides details on the parties that will be collecting the applicable data. In commenting on an earlier draft of the BASP, the PMOC recommended that the tables in this section be consistent in their presentation of the source of data to be obtained at each milestone. The June 2011 BASP Update incorporated these changes and is considered to adequately present this information.

- *Documentation of forecasts, conditions before project implementation, conditions after project opening, and completion and documentation of analyses*

PMOC Assessment

Section 4.2, *Reporting Milestones*, of the BASP Update identifies the several milestones that will be utilized for reporting and which will allow for capturing project information at each of these stages, and Section 4.3, *Report Data for Milestones*, presents the data that will be captured at each of these points in the project development.

- *Work products and their schedule for completion*

PMOC Assessment

The BASP Update adequately identifies the work products to be prepared at each project milestone and clearly ties those milestones to specific calendar periods.

- *Budget and staffing plan for the grantee's efforts to perform activities associated with the Before-and-After Study*

PMOC Assessment

The BASP Update identifies the position of Before and After Study Coordinator as a HART staff position responsible for implementing the BASP. The earlier draft of the BASP did not identify the level of staff effort anticipated to be required to carry out those activities, nor did the earlier draft of the Plan present a fiscal budget for that work. The current June 2011 BASP Update has been revised in response to PMOC comments and now includes a detailed staffing plan and budget in revised Figure 2.

4.0 CONCLUSION/RECOMMENDATIONS

The PMOC recommends that the grantee's BASP dated June 2011 be accepted as a deliverable for entering Final Design.

5.0 ATTACHMENTS

Attachment A: Acronyms

BAS	▪ Before-and-After Study
BASC	▪ Before-and-After Study Coordinator
BASP	▪ Before-and-After Study Plan
CFR	▪ Code of Federal Regulations
DB	▪ Design-Build
DBB	▪ Design-Bid-Build
FD	▪ Final Design
FFGA	▪ Full Funding Grant Agreement
FTA	▪ Federal Transit Administration
HART	▪ Honolulu Authority for Rapid Transport
O&M	▪ Operating and Maintenance
OP	▪ Oversight Procedure
PE	▪ Preliminary Engineering
PMC	▪ Program Management Consultant
PMP	▪ Project Management Plan
PMOC	▪ Project Management Oversight Contractor
RSD	▪ Revenue Service Date
SAFETEA-LU	▪ The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, Pub.L. 109-59
YOE	▪ Year-of-Expenditure