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HONOLULU AUTHORITY for RAPID TRANSPORTATION

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EXECUTIVE DIRECTOR AND CEO

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April 19, 2012

The Honorable Tom Berg  
Honolulu City Council  
530 South King Street, Room 202  
Honolulu, Hawaii 96813

Dear Councilmember Berg:

As requested by your office staff, attached are excerpt pages from various rail project documents that included the official rail project cost estimates.

The first document, Alternatives Analysis (November 2006), was the significant report presented to the City Council prior to its selection of the Locally Preferred Alternative. I believe the Council was fully aware of the estimated cost for the 20-mile rail system to be between \$5 billion and \$5.15 billion, depending on the bond interest costs.

The project cost estimates during the Environmental Impact Statement phases (November 2009 through June 2010) increased to \$5.5 billion but it was later reduced because the actual bids came in lower, reflecting the market situation in the building industry and also lower interest cost.

The current estimated cost is \$5.17 billion in the latest Financial Plan (September 2011).

The Honolulu Authority for Rapid Transportation is in the process of updating the financial plan in preparation for applying for the Full Funding Grant Agreement. The updated plan will incorporate the latest information from the General Excise Tax revenue, construction industry, transit operating cost trends, and financial market. We plan to transmit the updated Financial Plan to the Council within a month.

Please do not hesitate to contact me should you have any further questions.

Sincerely,

Daniel A. Grabauskas  
Executive Director and CEO

cc: All Councilmembers  
HART Board of Directors

Attachments

Table 5-7 and Table 5-8 show sources and uses of funds for the financing of the Full-corridor Alignment and the 20-mile Alignment, assuming the different GET surcharge revenue scenarios, described previously. Table 5-7 shows that for all three scenarios GET surcharge revenues and \$1.2 Billion (YOE \$) in New Starts funds would be insufficient to fund the Full-corridor Alignment project. Other sources of revenue would be needed, in addition. Table 5-8 shows that for both Council on Revenues scenarios, GET surcharge revenues and New Starts funds of less than \$1.2 Billion would be sufficient to fund the 20-mile Alignment project. Additional revenue would be needed in the case of the Trend Forecast scenario.

**Table 5-7. Sources and Uses of Funds - Full-corridor Alignment**

	Trend Forecast		Council on Revenues 1		Council on Revenues 2	
	2006 \$M	YOE <sup>1</sup> \$M	2006 \$M	YOE \$M	2006 \$M	YOE \$M
Total Net GET Surcharge Revenues	2,626	3,520	3,018	4,056	3,185	4,310
New Starts Funds	933	1,200	934	1,200	934	1,200
Other Sources	1,234	1,586	860	1,106	717	922
Total Revenues	4,793	6,306	4,812	6,362	4,836	6,432
Fixed Guideway Capital Cost	4,621	5,943	4,621	5,943	4,621	5,943
Net Interest Costs	172	363	191	418	216	488
Total Cost	4,793	6,306	4,812	6,362	4,836	6,432

<sup>1</sup>YOE - year of expenditure  
Amounts may not add up due to rounding.

**Table 5-8. Sources and Uses of Funds - 20-mile Alignment**

	Trend Forecast		Council on Revenues 1		Council on Revenues 2	
	2006 \$M	YOE <sup>1</sup> \$M	2006 \$M	YOE \$M	2006 \$M	YOE \$M
Total Net GET Surcharge Revenues	2,626	3,520	3,018	4,056	3,185	4,310
New Starts Funds	948	1,200	802	1,015	662	837
Other Sources	223	282	0	0	0	0
Total Revenues	3,797	5,002	3,820	5,071	3,847	5,147
Fixed Guideway Capital Cost	3,605	4,559	3,605	4,559	3,605	4,559
Net Interest Costs	192	443	216	511	243	587
Total Cost	3,797	5,002	3,820	5,071	3,847	5,147

<sup>1</sup>YOE - year of expenditure  
Amounts may not add up due to rounding.

### Cash Flow Table

An example of financing using a generic limited-duration loan debt structure is presented in Table 5-9. A cash flow table through 2022 is presented for the 20-mile Alignment East Kapolei to Ala Moana Center, with the Council on Revenue 1 revenue scenario. As shown, in 2007 and 2008 funds from the GET surcharge and FTA New Starts are greater than are needed for project expenditures, so the balance is deposited into a savings account. The savings account balance is drawn down over the following three years, 2009 to 2011. The total Transfer from Savings amount, \$320 million, exceeds the

**Table 6-1** Capital Cost Estimates for the Build Alternatives by Cost Category (millions of 2008 and YOE dollars)

Cost Categories	Salt Lake Alternative		Airport Alternative		Airport & Salt Lake Alternative	
	2008 \$M	YOE \$M	2008 \$M	YOE \$M	2008 \$M	YOE \$M
Guideway construction	\$1,239	\$1,522	\$1,300	\$1,547	\$1,633	\$1,961
Station construction	255	328	297	359	325	396
Yard, shops, and support facilities	120	137	120	138	120	138
Site work and special conditions	668	781	664	763	732	849
Systems	239	307	272	341	329	417
Right-of-way	137	159	150	174	157	183
Vehicles	286	355	295	357	295	357
Professional services	756	937	795	972	941	1,129
Unallocated contingency (project reserve)	221	270	232	278	271	324
<b>Total Cost Excluding Finance Charges</b>	<b>\$3,921</b>	<b>\$4,797</b>	<b>\$4,125</b>	<b>\$4,927</b>	<b>\$4,803</b>	<b>\$5,753</b>
Finance charges	356	479	378	506	538	727
<b>Total Cost</b>	<b>\$4,277</b>	<b>\$5,276</b>	<b>\$4,503</b>	<b>\$5,433</b>	<b>\$5,341</b>	<b>\$6,480</b>
<hr/>						
Project cost (construction, vehicles, right-of-way, soft costs)	\$3,100	\$3,824	\$4,263	\$3,897	\$3,796	\$4,546
Contingency	821	973	862	1,030	1,007	1,206
<b>Total Cost Excluding Finance Charges</b>	<b>\$3,921</b>	<b>\$4,797</b>	<b>\$4,125</b>	<b>\$4,927</b>	<b>\$4,803</b>	<b>\$5,753</b>

Totals may not add due to rounding.

maintaining the bus and fixed guideway systems in a state of good repair.

### 6.2.1 Capital Costs

Capital costs for all Build Alternatives are presented in Table 6-2.

The estimates include ongoing costs for replacing, rehabilitating, and maintaining capital assets in a state of good repair throughout the forecast period (2007 to 2030). Rail rehabilitation and replacement costs are expected to begin 16 years after initial construction activities are completed.

Current bus service would be restructured and expanded to support general growth in service. To support this, the number of buses operating during peak periods is expected to grow from 435 in FY2007 to 469 in FY2030. Assuming that 20 percent of the bus fleet is held in reserve would

increase the total bus fleet from the current 540 buses to about 563 by FY2030. TheHandi-Van fleet is expected to grow from 146 vehicles in FY2007 to 185 in FY2030.

Figure 6-1 summarizes capital costs for all transit travel modes through the forecast period. It includes an expenditure of \$129 million (YOE \$) for bus facilities that are not part of the Project, as programmed in the O’ahu Metropolitan Planning Organization’s (O’ahuMPO) *FYs 2008–2011 Transportation Improvement Program* (O’ahuMPO 2008).

### 6.2.2 Proposed Capital Funding Sources for Build Alternatives

This section describes the various funding sources assumed for implementation of the Project and for the system’s ongoing capital needs. These sources include General Excise and Use Tax (GET)

revised to include the refinement of the alignment along Ualena Street as a result of conflicts with runway clearances at Honolulu International Airport. The costs do not, however, reflect favorable actual bids received for early phases of work.

## 6.2 Cost Estimate Methodology

### 6.2.1 Capital Cost Methodology

The capital cost estimate is the total cost of implementing the Project. It is based on standard cost categories the Federal Transit Administration (FTA) created in establishing a consistent format for reporting, estimating, and managing capital costs for New Starts projects. The cost categories are used to show project costs in Table 6-1. This method allows for the summary of costs to be tracked during the Project's follow-on phases (i.e., Preliminary Engineering (PE), Final Design, and Construction).

In this chapter, the cost estimates for specific items are based on typical construction practices and procedures on similar projects. Quantities are estimated based on anticipated operating service plans (i.e., size and frequency of trains) and engineering performed to date. Estimated costs for each standard cost category were increased in accordance with FTA guidance for estimates developed prior to PE, to account for unknown but expected additional expenses.

Inflation was applied to the cost estimate based on the Project's implementation schedule. The specific critical construction cost driver (e.g., cement, steel, labor) inflation rates were applied based on the local construction market conditions and recent global trends in the price of each key commodity. The derivation of the escalation rates is presented in the Cost Escalation Report prepared for the Project and included as an appendix to the Financial Plan (RTD 2009n).

**Table 6-1** Capital Cost Estimate for the Project by Cost Category

Cost Categories (2009–2030)	Airport Alignment	
	2009 \$M	YOE \$M
Guideway construction	1,409	1,678
Station construction	306	389
Yard, shops, and support facilities	122	138
Sitework and special conditions	757	895
Systems	254	311
Right-of-way	157	159
Vehicles	341	399
Professional services	810	996
Unallocated contingency (project reserve)	125	149
<b>Total Costs Excluding Finance Charges</b>	<b>4,281</b>	<b>5,115</b>
Finance charges	302	398
<b>Total Costs</b>	<b>4,583</b>	<b>5,513</b>
Project cost (construction, vehicles, right-of-way, soft costs)	3,283	3,791
Contingency (allocated and unallocated)	998	1,329

Employment in Honolulu is heavily influenced by the construction and contracting sector, and military and military-related jobs. With the recent downturn in the housing market, residential and non-residential construction has slowed; however, the private residential and non-residential construction is expected to resume after housing prices stabilize through FY2011 and FY2012. Furthermore, the infrastructure spending provisions of the federal economic stimulus bill have started to take effect and will continue through FY2012, increasing demand for construction related labor, which could potentially increase tax receipts.

Another important area of Honolulu's economy is the stability of military employment. Even though it has declined by more than 20 percent in the last 10 to 15 years, military employment has maintained a consistent presence with about 59,000 U.S. Department of Defense military and civilian personnel each year. Federal defense spending makes up approximately 11 percent of the total O'ahu economy due to military and supporting civilian employment. The stability of this employment contributes to the overall economy, although federal defense spending is not likely to contribute to growth in the coming years as much as expansion in private industry.

Together, all of these trends show that while Honolulu's economy was recently in a downturn along with the rest of the country, signs of recovery began in 2010. This recovery should continue through FY2011 and FY2012. Given the dependence of the Project's Financial Plan on GET Surcharge revenues, the local economic environment in Hawai'i is very important. Additional details regarding projections GET Surcharge revenues can be found later in this report.

New uncertainties have arisen regarding the potential impacts of the Japanese earthquake and tsunami which occurred in March 2011. Until the full scale of the disaster and reconstruction effort is known, it is too early to estimate the impacts on the regional economy and commodity prices. As described in Chapter 2, it is expected that there will be some short-term impacts to GET Surcharge collections. However it is important to note that the Financial Plan is based on a 20-year forecast horizon, where one-time, short-term disruptions are not as critical as long-term trends.

**SUMMARY OF THE FINANCIAL PLAN**

Table 1-2 summarizes the capital cost of the Project with and without finance charges. The total capital cost including finance charges through FY2019 will be the amount included in an FFGA as the "Baseline Project Cost", as is consistent with FTA guidelines for New Starts projects. The total capital cost with finance

charges through FY2030 includes all finance charges associated with the Project construction.

*Table 1-2, Project Capital Cost Summary, FY2010–2030, YOY \$millions*

Project Capital Cost*	Millions YOY \$
Excluding Finance Charges	\$4,983
Including Finance Charges through FY2019**	\$5,213
Including Finance Charges through FY2030	\$5,317

\* From the beginning of PE (October 16, 2009 through FY2019)  
 \*\* As will be defined as Baseline Project Cost In FFGA

Table 1-3 summarizes the capital and operating sources and uses of funds for the Project, as well as for the entire transit system. Sources and uses are based on the baseline assumptions as defined in the subsequent chapters of this report. The City is expected to balance sources and uses in aggregate over the FY2010–FY2030 period.

**CHANGES TO FINANCIAL PLAN SINCE REQUEST TO ENTER PRELIMINARY ENGINEERING**

The prior version of the Financial Plan was submitted to FTA in August 2009 as part of the City's request to enter the PE phase of project development. This version of the Financial Plan has been revised to reflect the most current project status, costs, and revenue forecasts, as well as the establishment of HART as the semi-autonomous agency that will manage the Project. The Financial Plan also reflects a more refined financing structure based on current market conditions, and input on interest rates and bond structures from the City's bond underwriters. Finally, the plan reflects changes to respond to comments from FTA, local officials and the public on the previous financial plan.

The following list summarizes the most significant changes to the Financial Plan since it was submitted in August 2009. Assumptions are described in more detail in Chapters 2 and 3.

**Capital Cost Changes:** The capital cost estimate reflects more advanced levels of design and cost estimation methodologies. The total capital cost before financing is \$4,983 million. Approximately \$1.9 billion, or 39 percent of the capital cost, is based on actual contracts awarded in 2010 and 2011, including the West O'ahu/Farrington Highway Guideway Design-Build Contract; the Kamehameha Highway Guideway Design-Build Contract; the Maintenance and Storage Facility Design-Build Contract; and the Core Systems Design-Build-Operate-Maintain (DBOM) Contract. The remainder of the capital cost not covered by these contracts reflects a bottom-up cost estimate.

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Table 1-2, Project Capital Cost Summary, FY2010–2030, YOY \$millions

Project Capital Cost*	Millions YOY \$
Excluding Finance Charges	\$4,879
Including Finance Charges through FY2020**	\$5,126
Including Finance Charges through FY2030	\$5,174

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 \*\* As will be defined as Baseline Project Cost in FFGA

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