06
CHAPTER

Cost and Financial Analysis

This chapter presents estimates for capital and operating and maintenance (O&M) costs for the Project. These cost estimates are based on engineering and operations analysis performed since the Draft EIS. This chapter, although not specifically required by the National Environmental Policy Act (NEPA) or Hawai'i Chapter 343, presents a financing plan for the Project, as required for all New Starts projects.

Year-of-expenditure dollar (YOE $) cost estimates include assumed inflation between today and the expected date of the expenditure.

2009 dollar cost estimates reflect prices in fiscal year (FY) 2009.

This financial analysis only considers costs, resources, and funding strategies associated with public transit services provided by the City and County of Honolulu (City). Unless otherwise stated, costs and revenues in this chapter are presented in fiscal year (FY) 2009 dollars and year-of-expenditure dollars (YOE $). The forecast period referred to is between 2009 and 2030. For the City, the fiscal year begins on July 1 and ends on June 30 (e.g., FY2009 is from July 1, 2008, to June 30, 2009). In this chapter, all year references are to fiscal years.

6.1 Changes to this Chapter since the Draft Environmental Impact Statement

The financial information in the Final EIS has been updated to reflect comments received during the Draft EIS review period, a 2009 base year, and the latest data available, including changes in economic conditions and project revenues and costs. In the case of project revenues, the general excise and use tax (GET) surcharge amounts applied to the Project reflect a worsening of economic conditions since the Draft EIS was released. Federal formula funds have been reallocated to take advantage of increased amounts projected to be apportioned to the City as a result of the Project. Costs have been adjusted to reflect more refined levels of engineering, changing costs of materials, and escalation rates that have been differentially applied to the key cost drivers of the Project, such as cement, steel, and labor. Costs have also been

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
Total Costs Excluding Finance Charges	4,281	5,115
Finance charges	302	398
Total Costs	4,583	5,513
Project cost (construction, vehicles, right-of-way, soft costs)	3,283	3,791
Contingency (allocated and unallocated)	998	1,329

6.2.2 Operating and Maintenance Cost Methodology

Fixed Guideway Operating and Maintenance

O&M costs for the Project were estimated using the rail transit system in Washington, D.C., and making adjustments to reflect the Project's proposed operating system characteristics. A sensitivity analysis was conducted using similar transit operations to confirm the results. Among the systems used in the sensitivity comparison were Miami and Los Angeles. All costs were adjusted to reflect O'ahu's higher costs of goods and services, where appropriate.

TheBus and TheHandi-Van Operating and Maintenance

TheBus O&M costs were developed using existing bus operations as the baseline, as well as the anticipated service levels once the Project becomes fully operational. TheBus O&M costing methodology is also consistent with Section 4 of the FTA's *Procedures and Technical Methods for Transit Project Planning* (FTA 2008).

6.3 Capital Plan

The capital plan presents project capital revenues and costs for the Project and the ongoing public transportation system.

6.3.1 Capital Costs

The capital cost estimate of implementing the Project is presented in Table 6-1. The capital cost estimate, excluding finance charges, is $4.3 billion in FY2009 dollars and $5.1 billion in YOE $. These cost estimates exclude amounts already incurred during FY2007 and FY2008, which are not included in the New Starts cost estimate.

The estimates for system-wide, ongoing capital expenditures, shown in Table 6-2, include ongoing costs for replacing, rehabilitating, and maintaining capital assets (e.g., buses, rail vehicles, and TheHandi-Van) in a state of good repair throughout the forecast period (2009 to 2030). Rail rehabilitation and replacement costs are expected to begin in 2028, 16 years after initial construction activities are completed.

Table 6-2 Overview of Transit Capital Expenditures through 2030 (excluding finance charges)

	2009 $M	YOE $M
Project implementation	4,281	5,115
Rail rehabilitation, replacement, and purchase of railcars	121	124
TheBus and TheHandi-Van expansion and replacement	1,014	1,258
Total	5,416	6,497

Current bus service will 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 439 in FY2009 to 465 in FY2030. To comply with FTA's 20-percent spare ratio policy, the total bus fleet will increase from the current 531 buses to about 558 by FY2030. TheHandi-Van fleet is expected to grow from 166 vehicles in FY2009 to 185 in FY2030.

Figure 6-1 summarizes capital costs for all transit travel modes through the forecast period. It includes an expenditure 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) and *O'ahu Regional Transportation Plan 2030* (O'ahuMPO 2007).

6.3.2 Proposed Capital Funding Sources for the Project

This section describes the various funding sources assumed for implementation of the Project and for the system's ongoing capital needs. These sources include GET surcharge funds, FTA New Starts revenues, and other Federal-assistance programs for capital needs, complemented by local assistance.

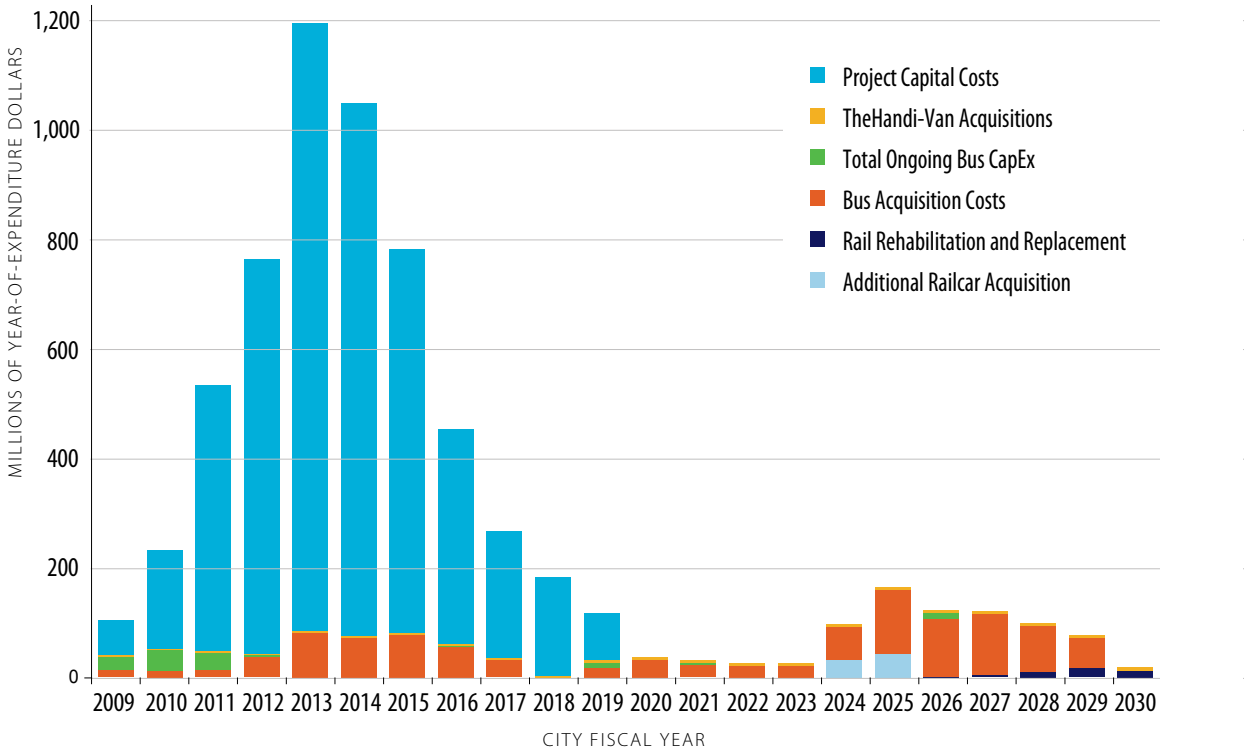

Figure 6-1 Total Agency-wide Capital Costs

General Excise and Use Tax Surcharge

The local funding source for the Project is a dedicated 0.5-percent surcharge on the State of Hawai'i's GET. In 2005, the Hawai'i State Legislature authorized counties to adopt this surcharge for public transportation projects. Following this authorization, the City enacted Ordinance 05-027 establishing a 0.5-percent County surcharge on the GET for business transactions on O'ahu to be levied through December 31, 2022. This revenue is to be exclusively used for the Project's capital and/or operating expenditures and could be used to back General Obligation (GO) Bonds as needed for the Project. GET surcharge revenues are estimated to be $3,524 million (YOE $) through FY2023.

FTA Section 5309 New Starts Program (49 USC 5309)

The City is seeking capital funds from FTA's New Starts program, which provides funding for fixed guideway transit projects and extensions. Under current authorizing legislation, an annual appropriation is available nationwide on a discretionary basis for projects that have completed the program's procedural requirements and that meet certain criteria specified in law and regulation. The program is highly competitive. At this point, the City is in the process of addressing FTA requirements, and indications are that the Project will meet FTA criteria. However, FTA cannot make a final commitment to fund the Project until a Full Funding Grant Agreement has been approved after NEPA requirements have been met, the Project is approved for Final Design, and the New Starts Program is reauthorized by Congress as part of the Federal Surface Transportation Funding Program. Current authorizing legislation expired but has been extended in anticipation of a new authorization in 2010, following which there could be changes in statute, regulations, policy, and funding availability.

The City's financial analysis assumes that the Project will receive $1.55 billion from this program between 2010 and 2019. To date, $35 million has

been appropriated by Congress for the Project. An additional $55 million appropriation has been proposed in the Federal budget for 2011.

FTA Section 5307 Urbanized Area Formula Program (49 USC 5307)

These funds are distributed to the Honolulu and Kailua-Kāneʻohe urbanized areas using a formula set by law. The total amount of Section 5307 funds received by the City through FY2030, including funds from the American Recovery and Reinvestment Act (ARRA), will amount to approximately $900 million (YOE $) of which approximately $305 million is proposed to be used for the Project if other project funding sources or cost savings do not cover the full capital cost. A portion of the $900 million is attributable to the increased Section 5307 amount that will be distributed to the Honolulu urbanized area as a result of the Project's fixed guideway route miles and other operating data. The statutory basis for Section 5307, as for New Starts, expired at the end of the previous Federal fiscal year (September 30, 2009) but has been extended in anticipation of a new authorization in 2010; the formula and eligibility requirements could change depending on this future reauthorization.

City General Obligation Bonds

The financial analysis assumes that GO Bonds will be the main financial instrument used by the City to provide financial support for the Project. This funding source will be required to bridge funding gaps in any given year and will be repaid by the revenue sources described in previous sections. GO Bonds are direct obligations of the City, for which its full faith and credit are pledged. City GO debt will be issued from 2013 through 2019 and repaid by 2023. Section 6.5, Cash Flow Analysis, provides further details on financing assumptions for the Project.

No private source of capital revenue was assumed to fund the Project. Opportunities for joint development or other forms of public-private partnerships could reduce City contributions or could help fund construction of future extensions of the Project.

6.3.3 Funding Sources for Ongoing Capital Expenditures

Federal Assistance

The City receives Federal assistance for ongoing transit capital investments through various funding programs from the FTA. One of the conditions for receiving most of these funds is that at least 20 percent of eligible expenses be paid with local funds. The three main sources of Federal funds for ongoing capital expenses are as follows:

- **FTA Urbanized Area Formula Program (49 USC 5307)**— of the $900 million available from Section 5307 funds, another approximately $325 million, including $20 million in ARRA funds, will continue to be used for ongoing capital needs. Activities eligible for Section 5307 funds include capital investments in rail and rail related areas, bus and bus-related activities (e.g., the replacement of rail vehicles and buses, overhaul of rail vehicles and buses, rebuilding of rail vehicles and buses, crime prevention and security equipment, and construction of maintenance and passenger facilities).
- **FTA Capital Investment Grants (49 USC 5309): Fixed Guideway Modernization Program**—these funds are distributed using a formula specified by law. Implementation of the Project will increase Fixed Guideway Modernization funds for Honolulu because the formula is largely based on the number of fixed guideway miles. Total Section 5309 Fixed Guideway Modernization funding is expected to be approximately $102 million (YOE $) through FY2030.

- **FTA Capital Investment Grants (49 USC 5309): Bus and Bus-related Equipment and Facilities Capital Program**—these funds are distributed on a discretionary 80/20 (Federal/Local) matching basis. All bus-related elements of the Project are eligible for bus capital funds. It is assumed that Honolulu's bus capital local allocations between 2009 and 2030 will equal 35 percent of annual bus and bus-related capital needs, well over the local match required to qualify for the funds. Total Section 5309 bus funding is expected to be $419 million (YOE $) through FY2030.

City General Obligation Bonds

The City currently issues GO Bonds to finance ongoing transit capital expenses. This includes TheBus and TheHandi-Van purchases, construction of facilities and transit centers, and other public transportation capital improvements. The financial analysis assumes that the City will continue to use GO Bond proceeds to match Federal contributions and fund ongoing system-wide capital expenditures. This will correspond to approximately $571 million (YOE $) in GO Bond proceeds through FY2030.

Other Potential Capital Sources

Based on the forecast GET surcharge revenues and the assumed Federal funding level, the Project is not expected to require any other source of funds; however, at this stage in the Project's development, numerous risks and uncertainties exist that can affect the Project's funding. These risks are discussed in Section 6.6, Risks and Uncertainties. Accordingly, the City recognizes the need to identify potential additional capital funding sources to enhance the strength and robustness of this financial analysis.

The City has identified three potential sources of added capital funding to actively pursue as the Project moves forward:

1. **Private Funds**—the City will look to the private sector to supplement project funds. A variety of mechanisms are potentially available. This might include donations of right-of-way, contributions toward the cost of building stations and other project components that directly benefit private entities through transit-oriented development, or the creation of benefit assessment districts or other value capture mechanisms around one or more stations.
2. **Airport Funds**—the decision to route the Project to directly serve Honolulu International Airport will benefit both airport passengers and employees, but adds more than $200 million to the Project's capital cost. In similar situations elsewhere in the U.S. (e.g., San Francisco, Portland, Minneapolis, and Northern Virginia), the responsible airport authorities have contributed sizable amounts toward the construction of rail projects. Funds have come from Passenger Facility Charges, Airport Improvement Program (AIP) Funds, and general airport revenues. In addition, the Federal Aviation Administration reauthorization bill now being considered by Congress could expand opportunities to use Passenger Facility Charges for transit projects serving airports.
3. **Reduction in State Retention of GET Surcharge**—the State has retained 10 percent of the GET Surcharge collected on Oʻahu since 2007. This amount is substantially more than required for administration of the program. If the retained portion can be reduced, additional funds will flow to the rail program. A reduction of the retention percentage to 5 percent would generate about $187 million in additional revenue over the time the surcharge is in effect. This change would be subject to action by the State Legislature.

6.4 Operating and Maintenance Plan

This section discusses the data and unit costs used to calculate O&M needs and the sources and uses of operating funds through FY2030.

6.4.1 Operating and Maintenance Costs

Figure 6-2 presents the projected O&M costs for the City's transit system, including the Project, from FY2009 to FY2030. In the year FY2030 YOE $, total O&M costs are projected to be approximately $117 million or 31 percent higher with the Project than with the No Build Alternative, as shown in Table 6-3.

The fixed guideway system's operating costs are anticipated to be about 26 percent of total O&M costs for the public transportation system in FY2030. O&M costs will increase in a step-like manner as operable segments are opened for revenue service, until the entire alignment is completed in FY2019.

6.4.2 Operating and Maintenance Funding Sources

This section describes the range of O&M funding sources anticipated. These sources include FTA Section 5307 funds for preventive maintenance, fare revenues, and contributions from the City's General and Highway Funds.

Fare Revenues

Systemwide ridership is forecast to be approximately 282,500 linked trips per day in 2030. The fare structure for the fixed guideway is assumed to follow the current bus fare structure, with free transfers between modes. This will yield farebox revenues ranging from $45 million in FY2009 to $151 million (YOE $) in FY2030.

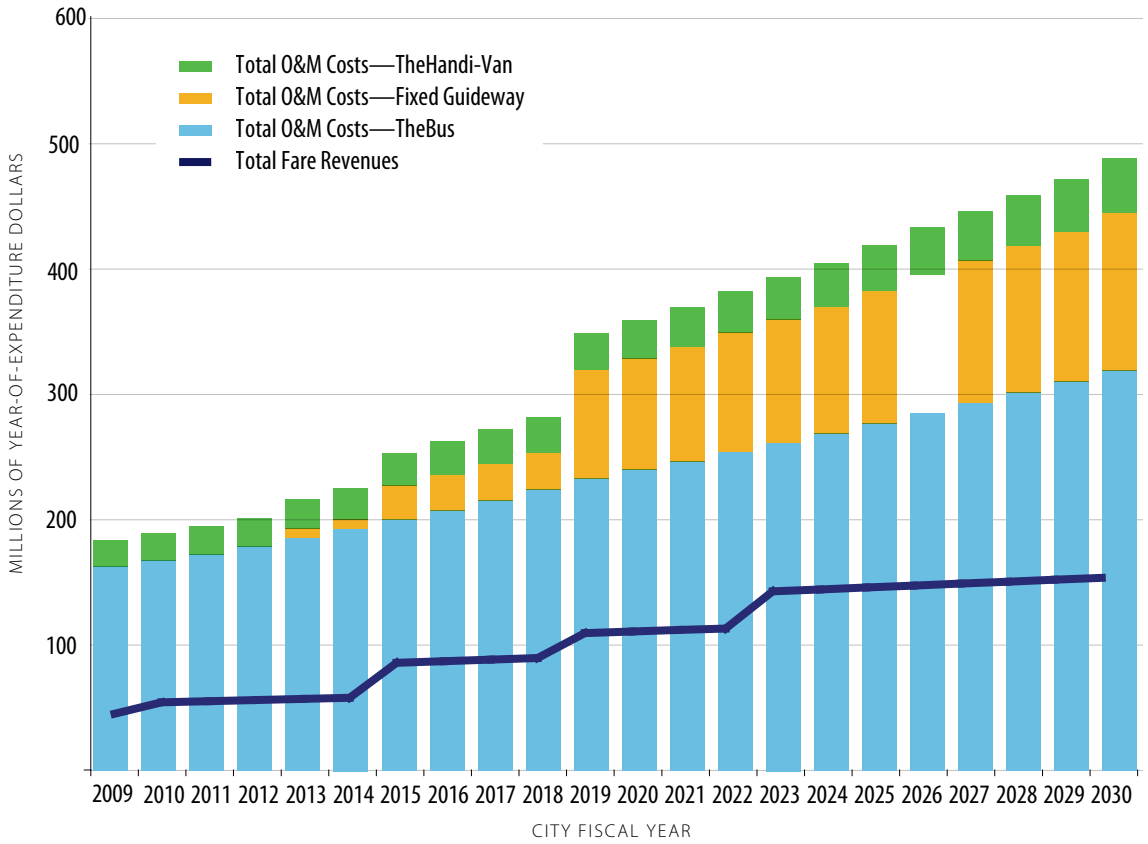

Figure 6-2 Systemwide Operating and Maintenance Costs

Table 6-3 2030 Operating and Maintenance Costs by Alternative

O&M Costs (FY2030)	TheBus		TheHandi-Van		Fixed Guideway		Total		Difference from No Build	
	2009 $M	YOE $M	2009 $M	YOE $M	2009 $M	YOE $M	2009 $M	YOE $M	2009 $M	YOE $M
No Build Alternative	200	328	27	44	–	–	227	372	–	–
Project	195	320	27	44	77	126	298	489	72	117

The average fare incorporated into the financial analysis starts at $0.95, which includes the proposed fare increase for FY2010. The growth in average fare from this point is shown as a "step function" with increases of approximately $0.33 in FY2015 and FY2023, which are based on the City's historical fare increases. Figure 6-2 shows the projected annual fare revenues (in YOE $). In 2001, the City Council adopted a resolution to adjust fare levels so that the farebox recovery ratio (the ratio of annual fare revenues to annual O&M costs) for TheBus will be maintained between 27 and 33 percent in any given year. The assumed average fare discussed previously will result in a farebox recovery ratio for the combined bus and fixed guideway systems that follows the City's resolution in most years, including 2030 when the ratio is expected to equal about 30 percent.

Federal Funding

Section 5307 funds were first applied to capital needs, with the remainder used for preventive maintenance. Based on historical trends, it is assumed that a maximum of 20 percent of annual O&M expenditures will be associated with preventive maintenance, and thus could be covered by Section 5307 funds.

In FY2009, the Honolulu and Kailua-Kāneʻohe urbanized areas were apportioned a combined $31 million in Section 5307 formula funds by FTA. As noted earlier, over the longer term, the City's financial analysis assumes that it will receive approximately $900 million (YOE $) through FY2030 from this funding program and ARRA funds, $630 million (including ARRA) of which is assumed to be used for capital needs (for rail capital and ongoing capital needs for both bus and rail) and about $270 million of that going to preventive maintenance.

City Contribution

The City's contribution to transit O&M is currently funded using revenues from the General and Highway Funds. The General Fund mainly comprises real property tax revenues, but also includes revenues from a transient accommodations tax (transferred from the State), motor vehicle annual registration fees, and a public service company tax. The Highway Fund consists of revenues from the City fuel tax, the vehicle weight tax, and a public utility franchise tax. General and Highway Fund revenues were assumed to increase at an average rate of 2.7 percent per year by the State's Department of Business, Economic Development and Tourism's inflation forecast between 2009 and 2012. Inflation in subsequent years is assumed to be constant at 2.5 percent. In addition, a real growth component is assumed based on historical experience. Based on these assumptions, the total amount of General and Highway Funds is forecast to total approximately $33 billion between 2009 and 2030.

Between FY1994 and FY2008, the transit subsidy has averaged 11 percent of the total Highway and General Fund revenues. Immediately after 2003, City revenues increased as a result of large increases in real estate values on Oʻahu, more quickly than O&M costs for TheBus. This had resulted in a transit subsidy below 10 percent for 2004 and 2005. Figure 6-3 shows that given

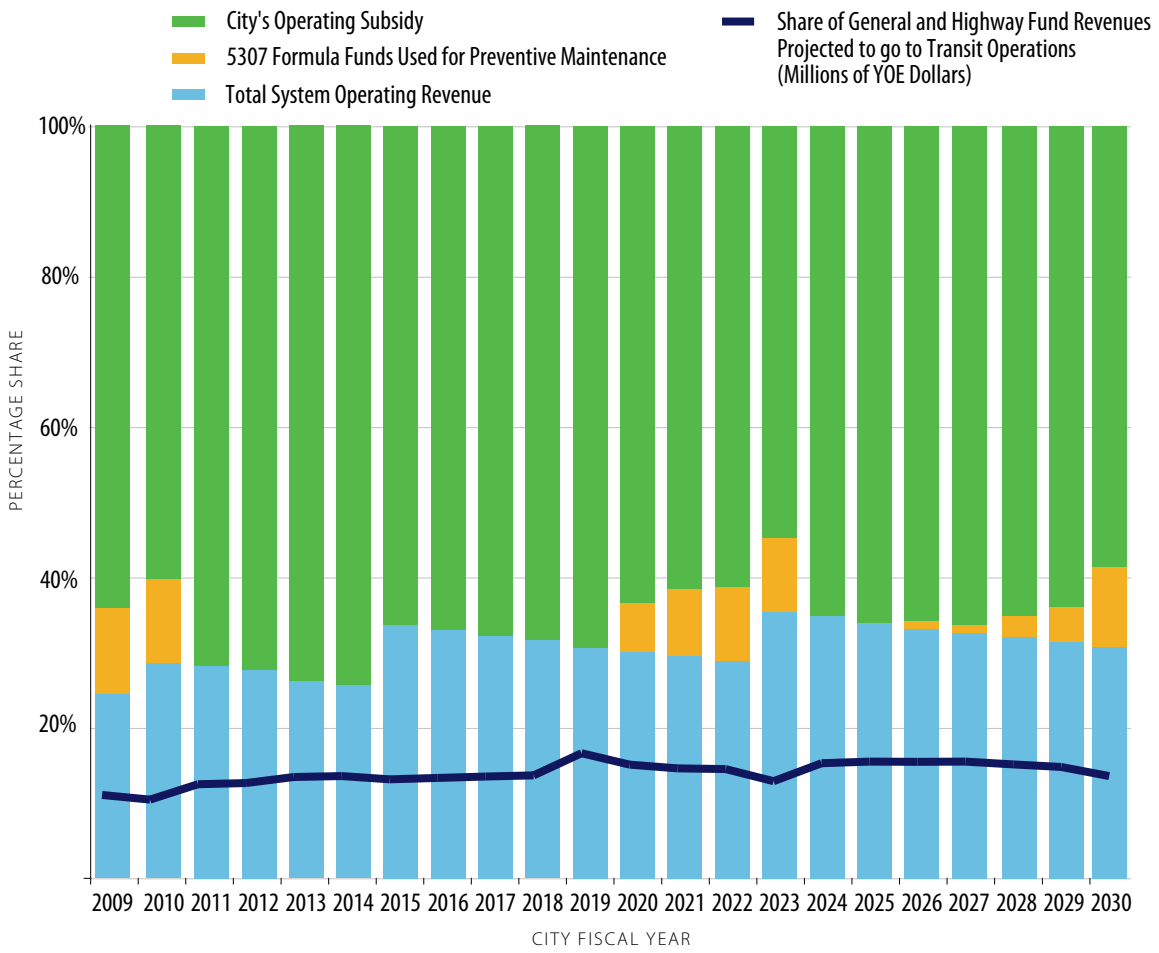

Figure 6-3 Transit System Operating Revenues and City Subsidy

present economic conditions, this percentage is likely to increase through FY2030, averaging 13.9 percent over the entire forecast period with the Project. While higher than the historical average, this increase is not unprecedented. In 2001, the City spent approximately 15 percent of its General and Highway Fund revenues on transit (although property taxes were not increased to pay for the higher percentage), and the Project affords substantially more overall service than what was provided at that time.

6.5 Cash Flow Analysis

The cash flow analysis compares costs with revenues on a year-by-year basis, factoring in financing as necessary. Table 6-4 summarizes funding sources and the use of funds for the Project over the forecast period. The *Honolulu High-Capacity Transit Corridor Project Summary Cash Flow Tables* (RTD 2009g) presents the year-by-year cash flow for the Project.

6.5.1 Financing Assumptions for the Project

This financial analysis assumes that GET surcharge revenues will be the only source of funding through FY2010 adding Federal Section 5307 formula funds and Section 5309 New Starts funds beginning in 2010.

In years when GET surcharge revenues and/or Federal funding are not sufficient to meet the cash flow requirement to cover capital expenditures, a mix of City GO Bonds and short-term construction

Table 6-4 Project Sources and Uses of Capital Funds (millions of YOE $)

Sources of Funds	FY2009–2030
Project beginning cash balance (FY2009)	154
Net GET surcharge revenues	3,524
FTA Section 5309 New Starts	1,550
FTA Section 5307 Formula Funds (including $4m ARRA)	305
Interest income on cash balance	11
Total Sources Funds	**5,544**
Uses of Funds	**FY2009–2030**
Capital cost	5,115
Interest payment on long-term debt	359
Finance charges on short-term construction financing	20
Other finance charges	19
Project ending cash balance	31
Total Uses Funds	**5,544**

Source: Honolulu High-Capacity Transit Corridor Project Financial Plan

borrowing will be used to bridge the funding gap. The weighted average interest rate on long-term debt is assumed to be 3.27 percent, which is consistent with the City's current Standard & Poor's AA financial rating and based on rates as of April 8, 2009. All GO debt is assumed to mature in FY2023, corresponding to the last fiscal year of receipt of GET revenues.

The total finance charges incurred for the Project will be $398 million. Most of these finance charges will correspond to interest payments on GO Bonds. The remainder will include finance charges related to the cost of issuance of GO Bonds and short-term borrowing and the interest expense on short-term borrowing.

Interest will be earned on any positive year-end cash balances, which has been calculated at a conservative 1 percent per year. Interest income is expected to generate $11 million for the Project (YOE $).

6.5.2 Ongoing Capital Expenditure Cash Flow

Systemwide ongoing capital expenditures include all necessary replacement, rehabilitation, and improvements to the existing system (TheBus and TheHandi-Van) as well as the Project. Funding sources used to pay for these capital expenses consist of discretionary and formula-based Federal funding programs (see Section 6.3.3 for descriptions of these programs). Any resulting funding gap is assumed to be bridged on an annual basis with City GO Bonds, as is currently the case with transit-related budgets. Therefore, the resulting ongoing capital sources and uses will balance in any given year.

6.5.3 Operating and Maintenance Expenditure Cash Flow

O&M funds will be used for TheBus and TheHandi-Van as well as for the Project. Sources of O&M funds include farebox revenues and Federal assistance for preventive maintenance; any remaining funding requirements are assumed to be funded through City contributions from its General and Highway Funds. The resulting operating sources and use of funds will balance in any given year. The Summary Cash Flow Tables (RTD 2009g) includes year-by-year ongoing operating expenditure cash flows.

6.6 Risks and Uncertainties

The financial analysis described in this chapter and the sources and uses of funds are subject to a number of risks and uncertainties. Some risks are project-specific and others are related to macro-level uncertainties affected by the local and global economies. Although this analysis has defined a set of most likely scenarios based on the cost, revenue, funding, and financing assumptions described, several operating and capital risks could materially affect the final financial results. Uncertainties can be organized into the following major categories.

6.6.1 Project Cost Risks

Changes in Project Scope

Most projects, especially large infrastructure projects such as this one, have uncertainties associated with the definition of the project. At this stage of project planning, there are often numerous decisions and project refinements that will be made as the project design progresses. Assumptions may be revisited and confirmed or modified during New Starts Preliminary Engineering and Final Design. Scope changes may also result from the following:

- Physical barriers, such as unexpected utility locations or groundwater
- Community involvement
- Changes in political leadership
- Budget constraints that lead to scope reductions

Changes in Project Schedule

Scheduling delays, the availability of skilled labor, vehicle delivery, and unforeseen construction challenges can all lead to cost increases that may affect the financial plan for a project. Schedule changes might result from project changes, local decision-making processes, equipment malfunctions, and construction delays. As a project becomes more complex, tasks become larger and they often have more dependencies. Every task's duration is dependent on factors that can be outside of an agency's control.

The choice between different procurement mechanisms may affect phasing of the Project, as well as the timing of capital outlays. Some efficiencies may be gained from using an innovative procurement approach, such as design-build or design-build-operate-maintain. Depending on the general approach that the City pursues, this procurement method could change at various milestones throughout the Project.

6.6.2 Economic and Financial Risks

Inflation

Inflation is applied to both costs and revenues. Project construction costs have been escalated using individual cost component rates that vary according to demand and supply at a global, regional, and local level, as well as the overall local economic environment. Commodity components (cement, steel, and other critical construction materials) may be subject to similar fluctuations in prices that could affect project costs. Right-of-way costs are closely related to property values, and labor rates will depend on the results of periodic contract negotiations.

Interest Rates and Municipal Market Uncertainties

As in any capital project requiring the issuance of debt, the Project is subject to uncertainty around fluctuations in interest rates. Variations in interest rates could affect the interest earnings rate on cash balances and the interest paid on any outstanding debt, as well as the size of the debt requirements to finance the Project. Fluctuations in interest rates are influenced by a number of factors, including the credit rating of the bond issuer (the City) and market risks associated with local or global financial conditions. Variations in interest rates could also influence the level of working capital and the ability to both operate existing service and undertake new initiatives.

Credit Rating

This financial analysis assumes that the City's credit quality will remain at its current Standard & Poor's AA rating. Adverse economic conditions or shifts in the City's debt policies could affect its credit rating and increase the cost of borrowing accordingly. Most importantly, the credit quality of the City is likely to be influenced by the size of the City's capital program and its ability to remain below the current affordability guidelines set by the City Council.

Market Uncertainty

As with any interest rate, the yield curves on debt assumed in the financial analysis are subject to global market conditions. Recent turmoil in the credit markets is a case in point and has prompted the Federal Reserve to react with a series of interest rate cuts that influence the market in general and the finance cost for the Project in particular. This uncertainty is further enhanced by the fact that, given baseline assumptions, the first debt issuance for the Project capital expenditures is not expected to occur before 2012. Because it is assumed that the City will continue to be able to issue bonds in the tax-exempt municipal marketplace, uncertainties about market factors must be evaluated.

Based on the assumptions and analysis presented in this Financial Plan, a 1.0 percent increase in interest rates is estimated to correspond to an increase in interest costs of approximately $130 million over the forecast period.

6.6.3 Capital Revenues

GET—Scenario Based on Council on Revenues Growth Rates (Downside Risk)

In the short term, GET surcharge revenues are subject to uncertainties related to the magnitude and timing of the economic recovery on O'ahu. Over the longer term, GET surcharge revenues on O'ahu depend on a variety of underlying economic factors outside of the City's control that may result in a higher or lower projection than the one used in this Final EIS.

Federal Funding: New Starts, 5307, 5309 Fixed Guideway Modernization—Reauthorization and Appropriation Risk

The Project assumes Federal funding participation through the Section 5307 Urbanized Area Program and the Section 5309 New Starts Program. Federal legislation that authorizes these programs (SAFETEA-LU) expired at the end of September 2009 but has been extended in anticipation of a new authorization in 2010. While these programs have been in place for many years, through several authorization cycles, there is a possibility that Congress will change direction in the next authorization cycle. They could increase or decrease the amount of funds available, impose new rules on project eligibility, or revise the criteria that are used to evaluate potential projects. The timing of new authorization legislation is also uncertain.

The amount of the FTA contribution will be spelled out in a Full Funding Grant Agreement (FFGA) between FTA and the City. The FFGA will also identify the amount to be made available each year. Although history has shown that Congress ultimately honors and appropriates the full amount identified in an FFGA, Congress could delay funding for the Project by reducing or delaying the annual appropriations. Any delay could necessitate additional borrowing or schedule delays, potentially delaying funding authority or increasing the Project's capital cost.

Other Federal Funding Opportunities

A number of proposals for increased funding for transit are being considered, either as part of the reauthorization of SAFETEA-LU or other legislation. For example:

- The National Surface Transportation Policy and Revenue Study Commission recommended a significant increase in funding and a restructuring of the FTA and FHWA programs. Its recommendations included creation of a new Metropolitan Mobility Program, which would place increased emphasis on public transportation.
- The ARRA of 2009 created new funding opportunities for transit, including $100 million in funding for Transit Investments for Greenhouse Gas and Energy Reduction Grants, as well as a new $1.5 billion multimodal discretionary program. These new programs may be precursors to the next reauthorization of the surface transportation programs. Grants under the multimodal discretionary

program will go to projects with a significant impact on the nation, a metropolitan area, or a region and may range up to $300 million. Priority will be given to projects that can be completed within three years, and funds must be obligated by September 30, 2011.

- Congress is considering comprehensive climate and energy legislation that would fund the expansion of environmentally friendly modes of transportation, including transit. Funding could be provided through new cap-and-trade legislation designed to reduce greenhouse gas emissions.

Lower Amount of GET Surcharge Revenues Retained by the State

The enabling legislation for the County GET surcharge specifies that 10 percent of GET surcharge revenues be retained by the State for administrative and collection purposes. A decrease of this percentage from 10 to 5 percent would increase GET revenues by $183 million from FY2009 to FY2023.

6.6.4 Operating Revenues

Fare Policy and Ridership

Growth in transit ridership is subject to uncertainties because the availability of alternate modes and riders' price sensitivity could affect ridership, at least in the short-term. For purposes of this Final EIS, the assumption is made that there will be free transfers to and from the fixed guideway service. Upside risks also exist and demand could be higher than expected. Although this would affect fare revenues positively, it could also increase the system's level-of-service requirements.

Other Potential Operating Sources

- **Advertising and Other Nonfare Operating Revenues**—expanding the advertising program could generate significantly more than the approximately $400,000 received by the City for bus advertisements. With the introduction of rail service, not only will there be an ability to advertise within each railcar, but the stations could present viable advertising locations. Based on FTA's 2007 *National Transit Database* data, Honolulu receives approximately $0.006 per boarding, while some larger transit systems in the U.S. receive 10 to 40 times that amount.
- **Parking Revenues**—demand for park-and-ride stations is forecast to be strong with the Project. Charging even a nominal amount for daily parking could generate a significant amount of revenue. Collected parking funds could be used for capital and operating costs as parking fees could be bonded to offset the construction costs of the parking lots and structure or revenues could be used to offset operating costs of the parking facilities, such as those incurred to pay for garage attendants and security personnel.
- **Reduced Service Redundancies between Bus and Rail Operations**—the addition of the Project to existing bus service will likely result in some overlap of service between bus and rail. While some bus service and route modifications are planned as the Project is implemented, there is a possibility to further modify existing bus service as rail ridership increases. This would affect ongoing bus fleet replacement cycles since fewer buses may need to be replaced as more are removed from service, thus affecting O&M costs for the bus fleet.
- **Adjust City Highway Fund Revenues (Vehicle Registration Fees, City Gas Tax)**—the financial analysis assumes revenues from the City's General and Highway Funds will grow at historical real growth rates plus general inflation. As a general purpose local government, the City has the authority to raise other local tax revenues over and beyond the baseline growth rate assumed for the General and Highway Fund revenues in this financial analysis. Both funds consist of a variety of tax revenues, including property taxes, but also include fuel tax and motor

vehicle weight tax, which are the two largest sources of revenues for the Highway Fund.

- **FTA Formula Funds**—Section 5307 funds could become available following reauthorization or if GET revenues are higher than expected (which would allow for a reduction in the use of 5307 funds for the Project's capital needs). While Section 5307 funds are used for capital purposes in priority, any remaining amount is allocated to operations for preventive maintenance purposes. Uncertainties in the Capital Plan could also affect the amount of Section 5307 funds used for operations and decrease the local amount of operating subsidy required.

6.6.5 Operating Costs

Operating Cost Escalation—Labor Cost, Energy Prices

The financial analysis assumes that operating expenditures will increase following general inflation. However, certain operating cost components may increase at a faster or slower rate depending on local conditions. Increases in labor costs are subject to local union bargaining agreements. This includes transit employee health care costs and fringe and other benefits. Energy costs in Honolulu are highly driven by oil prices and, therefore, subject to the same volatility. The operating cost estimate in the financial analysis assumes a 3 percent upward adjustment to electricity prices as compared to the Washington Metropolitan Area Transit Authority (WMATA), but this may be a conservative assumption if oil prices remain at their current relatively low levels.

System Operations—Drivers, Station and Train Attendants

The O&M cost methodology used the WMATA as a base for forecasting operating costs per station since this agency had the most relevant and available data set. However, once the system is built and operational, there may be a number of uncertainties in station operations that could affect operating costs, both negative and positive. These include station managers, labor productivity, fare collection systems, security, and salaries. These costs are all accounted for in the operating cost estimates, but are elements of the system that could result in uncertainties over time.

A change in the bus vehicle fleet allocation may also reduce operating costs as well as affect bus replacements costs. The City is reconsidering a policy to move toward a fleet in which all articulated buses are hybrids in favor of more economical, yet still environmentally friendly, clean diesel vehicles. Changes to that policy may significantly affect system operating costs as well as ongoing capital costs. A hybrid bus costs approximately $1 million to replace, while a diesel bus costs approximately $650,000. However, hybrid buses are less expensive to operate and have operating cost savings of approximately $5,000 per peak vehicle over similar diesel buses.