

# **Honolulu High-Capacity Transit Corridor Project**

## **DRAFT Financial Plan for Entry into Final Design**

**September 2011**

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## List of Supporting Documents\*

- GET SURCHARGE HISTORICAL REVENUE DOCUMENTATION
- BEGINNING PROJECT CASH BALANCE DOCUMENTATION
- COUNCIL ON REVENUES REPORT – MARCH 15, 2011
- THREE YEARS OF HISTORICAL OPERATING AND CAPITAL IMPROVEMENT PROGRAM (CIP) AND BUDGET
- THREE YEARS OF HISTORICAL AUDITED FINANCIAL STATEMENTS/COMPREHENSIVE ANNUAL FINANCIAL REPORTS (CAFRS)
- FY2011 TO FY2014 TRANSPORTATION IMPROVEMENT PROGRAM (TIP)
- FY2011 TO FY2014 STATE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)
- BUS AND RAIL FLEET MANAGEMENT PLANS
- CAPITAL COST ESCALATION RATES REPORTS
- HONOLULU AUTHORITY FOR RAPID TRANSPORTATION (HART) LEGISLATION
- LATEST BOND PROSPECTUS
- O'AHU REGIONAL TRANSPORTATION PLAN
- FINAL ENVIRONMENTAL IMPACT STATEMENT AND RECORD OF DECISION

\*Provided to FTA in April 2011.

## List of Acronyms

AD	Articulated Diesel	HRS	Hawaii Revised Statutes
AH	Articulated Hybrid	HTAX	State of Hawai'i Department of Taxation
ARRA	American Recovery and Reinvestment Act of 2009	JARC	Job Access Reverse Commute
Artic	Articulated	LONP	Letter of No Prejudice
BANs	Bond Anticipation Notes	M	Millions
BLS	U.S. Bureau of Labor Statistics	MSF	Maintenance Storage Facility and Yard
CapEx	Capital Expenditures	NEPA	National Environmental Policy Act
CAGR	Compound Annual Growth Rate	NTD	National Transit Database
CARP	Capital Asset Replacement Program	NTP	Notice to Proceed
COR	Council on Revenues	O&M	Operations and Maintenance
CPI	Consumer Price Index	ORTP	(2030) O'ahu Regional Transportation Plan
CY	Calendar Year	PB	Parsons Brinckerhoff
DBEDT	State of Hawai'i Department of Business, Economic Development and Tourism	PE	Preliminary Engineering
DBOM	Design-Build-Operate-Maintain	PV	Peak Vehicles
DEIS	Draft Environmental Impact Statement	RCH	Revised Charter of Honolulu
DRM	Directional Route Miles	ROD	Record of Decision
DTS	Department of Transportation Services	RTD	Rapid Transit Division
FD	Final Design	S	Stations
FEIS	Final Environmental Impact Statement	SAFETEA-LU	Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users
FFGA	Full Funding Grant Agreement	SB	Standard Bus
FGM	Fixed Guideway Modernization	SCC	Standard Cost Category
FRR	Farebox Recovery Ratio	TECP	Tax Exempt Commercial Paper
FTA	Federal Transit Administration	TIF	Tax Increment Financing
FY	Fiscal Year	TOD	Transit Oriented Development
GANs	Grant Anticipation Notes	YOE	Year of Expenditure
GDP	Gross Domestic Product		
GET	General Excise and Use Tax		
H-1	Interstate H-1, which runs through the Project corridor		
H-2	Interstate H-2, which feeds into Interstate H-1		
H-3	Interstate H-3, which feeds into Interstate H-1		
HART	Honolulu Authority for Rapid Transportation		

## SUMMARY OF KEY FINDINGS

This report provides a revised Financial Plan for implementing and operating the high-capacity transit corridor project in Honolulu from East Kapolei to Ala Moana Center via the Honolulu International Airport (the Project), as well as operating and maintaining the existing public transportation system. This version of the Financial Plan is a revision to the Financial Plan submitted in August 2009 for approval to advance the Project to the Preliminary Engineering phase. It supports the City and County of Honolulu's (the City's) submittal to the Federal Transit Administration (FTA) for approval to advance the Project to the Final Design phase. The Financial Plan provides a summary of the funding sources that will be used to fund the construction of the Project, as well as any additional vehicles and rehabilitation and replacement needs through FY2030. The plan demonstrates that the City has adequate financial resources to fund the Project capital cost, as well as the ongoing capital and operating expenditures for the existing transit system, comprised of TheBus and TheHandi-Van, through FY2030.

The Financial Plan describes how the City has fully committed its share of local funding for the Project. The following sections describe key findings within the Financial Plan.

**With 70 percent of capital funding provided from non-New Starts sources, the City's financial commitment to the Project merits a high rating by FTA.** The City is requesting only 30 percent federal participation from the FTA New Starts program.

**All of the local capital funding for the Project is fully committed.** With local funding committed and budgeted, design accelerated, and contractor selection initiated, the Project will be shovel-ready upon receipt of the Full Funding Grant Agreement (FFGA). The dedicated local funding source for the Project is an established one-half percent (0.5 percent) surcharge on the State of Hawai'i's General Excise and Use Tax (GET Surcharge). The GET Surcharge is projected to generate approximately \$3.2 billion from FY2010 to FY2023, with funds to be used exclusively for capital or operating expenditures of the Project. The GET Surcharge commenced on January 1, 2007, and will be levied through December 31, 2022.

**While it has a diversified and growing revenue base, the GET Surcharge is sensitive to the continued recovery of the local, national, and global economy.** Unlike a sales tax, which is typically levied on retail activities only, the 0.5 percent GET Surcharge is levied on all business activities that take place on O'ahu including retail, services, contracting,

theater, amusement parks, interest, commissions, hotels, real property, tangible personal property, all other rentals and other uses. Honolulu's local economic situation is therefore an important factor in assessing the financial capacity of the Project.

**Approximately \$244 million in FTA Section 5307 revenues would be used for Project capital costs between FY2013 and FY2019. This amount will be substantially offset by additional FTA formula funds that will be apportioned to Honolulu as a result of the implementation of the Project.** The City is expected to receive approximately \$149 million in additional Section 5307 funds and \$88 million in additional Section 5309 Fixed Guideway Modernization funds between FY2018 and FY2030, for a total of \$237 million in additional funds that can be used to support system-wide needs.

**The debt financing plan for the Project has been developed with the goals of preserving the City's financial condition, minimizing debt service costs through use of general obligation bonding and short-term revenue anticipation instruments, and providing for repayment solely from GET Surcharge revenues.** While available GET Surcharge revenues will be used first to pay Project costs, the use of debt financing instruments will be required and will enable the Project to be completed as currently scheduled.

**The capital cost estimate for the Project reflects more advanced levels of design and cost estimation methodologies to reduce cost risk.** Supplementing the use of refined bottom-up cost estimation, extensive risk assessment, and incorporation of ongoing involvement with FTA's Program Management Oversight Contractors, approximately 39 percent of the Project's costs are known as the City has awarded contracts for several major project components: design and construction of the West O'ahu/Farrington Highway guideway; design and construction of the Kamehameha Highway guideway; design and construction of the maintenance and storage facility; and design and construction of core systems (including railcars). Additionally, even with a significant level of Project costs defined through these awards, capital cost estimates include a 20 percent contingency, in the event unforeseen issues arise as the Project moves toward implementation.

**The capital plan includes ongoing costs to replace, rehabilitate and maintain capital assets in a state of good repair as well as necessary expansion of the existing system to accommodate forecasted 2030 demand levels.** In addition to implementing the Project, the Core Systems Contract specifies annual expenditures to provide for periodic

overhaul, rehabilitation, and replacement of major components, equipment, and facilities through the Project's Capital Asset Replacement Program (CARP). The City is also committed to maintaining the existing transit system in a state of good repair. This includes a fleet replacement schedule, which will result in an average bus age of 4.1 years by FY2020, the first full year of operations of the Project. This is nearly half the age of TheBus' current average bus age of 8.1 years.

**Rail provides the most cost-effective option for handling future transit demand.** In part due to labor costs accounting for a smaller percentage of the Rail project's cost structure than bus, the Rail project will handle larger volumes of passengers at higher levels of productivity. In 2030, the Rail project will move each passenger at a cost of \$0.34 per mile, whereas bus will move each passenger at a cost of \$0.72 per mile. Similarly, in 2030 rail will have a farebox recovery ratio of approximately 40 percent while bus will have a farebox recovery ratio of approximately 27 percent. This illustrates the fact that, once fully implemented, the Project is expected to carry a larger load relative to its operating and maintenance cost than bus. The combined farebox recovery ratio for bus and rail will be consistent with City policy.

**Operating costs for the Project and the existing transit system have been refined.** The O&M cost estimates for the Project have been refined to reflect the terms of the Core Systems Contract and current economic conditions. Project costs that fall outside of the Core Systems Contract (and thus covered by the City) were calculated separately using FTA's resource build-up approach. Bus O&M costs have been revised to reflect the City's latest operating budget. Refined inflation assumptions were also applied to non-core systems Project O&M costs, TheBus O&M costs, and TheHandi-Van O&M costs for each object class, including wages & salaries, health care, other benefits, materials and supplies, fuel, and other.

**Operating revenues are supported by the City's farebox recovery policy.** Historically, the City has achieved a balanced budget for transit operations. During the economic crisis of the last few years, TheBus has taken steps to ensure it is providing the most cost-effective and efficient services. This has resulted in the restructuring of services that did not meet performance standards. Additionally, the City recently increased fares to ensure that farebox recovery rates remain between 27 percent and 33 percent and keep pace with inflation. The Financial Plan assumes that fare recovery policy will be maintained through FY2030 and assumes periodic fare increases, which is consistent with historic trends.

**Strategies to assure adequacy of capital revenues and to reduce revenue risk are being studied.**

Based on input from bond underwriters on interest rates and bond structures, a series of sensitivity scenarios were produced to develop strategies to overcome the following: 10 percent cost overrun; lower than anticipated GET Surcharge growth; elimination of the use of FTA Section 5307 formula funds for the Project; and lower annual amounts of FTA Section 5309 New Starts funds. Potential strategies for consideration include short-term extension of the GET Surcharge as well as incorporation of additional sources of funding. Additionally, the City has access to \$100 million short-term financing to help address potential shortfalls that may occur during Project implementation.

**The Project will enhance mobility for O'ahu residents, workers and visitors across the island.** The Project will provide enhanced mobility for over 77 percent of O'ahu's residents and over 88 percent of its workforce who live and work in the areas within and connecting to the corridor, and for its many visitors. In addition to the initiation of rail service, TheBus and TheHandi-Van services will be enhanced and the bus network will be modified to efficiently coordinate with the rail system. Some existing bus routes, including peak-period express buses, will be altered or eliminated to reduce duplication of services provided by the rail system. Buses removed from service in the study corridor will be shifted to service in other parts of O'ahu, resulting in improved transit service island-wide.

The new rail and expanded TheBus and TheHandi-Van services will provide additional travel options, increase service frequencies, expand the hours of operation, minimize wait times, reduce total travel time, improve service reliability, and enhance comfort and convenience for riders, resulting in over 20 million hours of user benefits annually.

**The City is continuing its historical commitment to public transportation.** The City has been a strong supporter of transit, with 11 percent of City funds that are available for public transportation currently used to support the operation of TheBus and TheHandi-Van. With the addition of rail service beginning in FY2016, the share of these funds used to support transit is expected to average 15 percent through FY2030. The majority of these funds are to support the increased levels of TheBus and TheHandi-Van services, with funds for rail support accounting for only 2 percent of City funds that are available for public transportation.

## Chapter 1: INTRODUCTION

This report provides a revised Financial Plan for implementing and operating the approximately 20-mile high-capacity transit corridor project in Honolulu from East Kapolei to Ala Moana Center via the Honolulu International Airport (the Project), as well as operating and maintaining the existing public transportation system. This version of the Financial Plan is a revision to the Financial Plan submitted in August 2009 for approval to advance the Project to the Preliminary Engineering phase. It supports the City and County of Honolulu's (the City's) submittal to the Federal Transit Administration (FTA) for approval to advance the Project to the Final Design (FD) phase. The Financial Plan will continue to be updated during subsequent phases of Project development as changes occur to estimated costs, funding, or external factors that affect the City's finances.

Unless otherwise noted, all amounts in this Financial Plan are presented on a City Fiscal Year (FY) basis, from July 1 to June 30. For example, FY2013 refers to the City's fiscal year starting on July 1, 2012 and ending on June 30, 2013. All dollar amounts shown, unless otherwise noted, are in millions of Year of Expenditure (YOE) dollars.

This Financial Plan consists of three main components that are presented in the following chapters. The first component is the capital plan, which outlines capital costs and presents revenues available for the Project, as well as for the rest of the public transportation system. The purpose of the capital plan is to demonstrate the City has the financial capacity to implement the Project, while keeping its entire public transportation system in a state of good repair by replacing aging vehicles and addressing other ongoing capital expenditure needs.

The second component is the operating plan, which demonstrates the capacity of the City to operate and maintain the integrated transit system including the Project. The final component presents an analysis of risks and uncertainties, which is critical in assessing the potential risks inherent to some of the assumptions made in the Financial Plan. The final section also includes a comprehensive analysis of mitigating strategies to address those risks, as well as sensitivity analyses to evaluate funding and financing options to overcome potential shortfalls.

## DESCRIPTION OF THE PROJECT SPONSOR AND FUNDING PARTNERS

### PROJECT SPONSOR – CITY AND COUNTY OF HONOLULU

The City is the Project sponsor and FTA grantee. The City is a body politic and corporate, as provided in Section 1-101 of the Revised Charter of the City and County of Honolulu 1973, as amended. The City's governmental structure consists of the Legislative Branch and the Executive Branch.

The legislative power of the City is vested in and exercised by an elected nine-member City Council whose terms are staggered and limited to no more than two consecutive four-year terms. The executive power of the City is vested in and exercised by an elected Mayor, whose term is limited to no more than two consecutive full four-year terms.

The City is authorized under Chapter 51 of the Hawai'i Revised Statutes to "acquire, condemn, purchase, lease, construct, extend, own, maintain, and operate mass transit systems, including, without being limited to, motor buses, street railroads, fixed rail facilities such as monorails or subways, whether surface, subsurface, or elevated, taxis, and other forms of transportation for hire for passengers and their personal baggage." This authority may be carried out either directly, jointly, or under contract with private parties. The City is the designated recipient of FTA Urbanized Area Formula Funds apportioned to the Honolulu and Kailua-Kāne'ohe urbanized areas. Transit services are currently provided through the City's Department of Transportation Services' Public Transit Division.

### Honolulu Authority for Rapid Transportation

On November 2, 2010, Honolulu voters approved an amendment to the Charter of the City and County of Honolulu to create a semi-autonomous public transit authority responsible for the planning, construction, operation, maintenance, and expansion of the City's fixed guideway mass transit system. The Honolulu Authority for Rapid Transportation (HART) consists of a Board of Directors, interim Executive Director, and necessary staff.

HART began operating on July 1, 2011 and assumed the duties and responsibilities of the Rapid Transit Division (RTD) of the City's Department of Transportation Services (DTS) for the Project. Accordingly, FY2012 will be the first year of business activities for HART.

HART functions as a semi-autonomous unit of the City's government. During FY2012 HART will continue to use various City business systems and administrative

practices in the conduct of the new authority's business activities (e.g., City Department of Budget and Fiscal Services accounting and payroll systems). In addition, HART will continue to receive services provided by other City departments. Memorandums of Understanding with the City departments are being created to set forth the scope and terms of the services to be provided. This support from the City will enable HART to begin functioning relatively quickly and assume its responsibilities for undertaking the Project without any negative impact on its implementation. During FY2012 and beyond, HART will evaluate the extent to which it should develop its own business systems.

HART will need to complete a number of steps during its first year of operations in order to develop the organizational capability and capacity to fulfill its mission as described in the preceding section. A preliminary listing of the tasks that will be undertaken in FY2012 includes the following:

- Adopt Board of Directors operating procedures and practices including a committee structure and meeting schedule.
- Recruit an Executive Director and other key management, technical and support staff.
- Adopt Board policies guiding agency business activities (e.g., financial policy and procurement policy).
- Develop administrative procedures and practices that are specific to a transit agency in areas such as procurement and contract administration; safety and security; employee relations; and management reporting.
- Develop a management reporting system on key performance metrics.
- Create an organizational structure that will enable fulfillment of the agency's Mission and Vision.

During FY2012 the HART Board of Directors will consider and adopt a procurement policy and staff will develop procurement procedures for the agency consistent with federal, State and City requirements. The procurement procedures will be incorporated in a Procurement Manual for use by the staff and consultants in carrying out procurement and contract administration activities. In addition, HART will conduct procurements for needed services, equipment and supplies related to the creation of the agency.

HART staff will provide the Board of Directors with periodic reports on the status of existing contracts including the progress of the work being performed; change orders executed; and contract budget and contingency status.

### **Department of Transportation Services – Public Transit Division**

The DTS Public Transit Division will continue to be responsible for managing the City's fixed route bus and paratransit services operated under contract by O'ahu Transit Services, Inc. The City's fixed route bus system is referred to as "TheBus," and is currently the 20th most utilized transit system in the U.S. Annual transit passenger miles per-capita are higher in Honolulu than in all other major U.S. cities without a fixed guideway transit system. TheBus serves the entire island of O'ahu, including the estimated 900,000 residents and 100,000 visitors on the island on an average day. TheBus currently has 100 routes and provides more than 70 million unlinked passenger trips each year. In 1997, O'ahu Transit Services was assigned operating responsibility for the City's paratransit services, referred to as the "TheHandi-Van." With more than 13,000 eligible customers, TheHandi-Van currently provides over 800,000 unlinked passenger trips per year.

### **FUNDING PARTNERS**

The financial analysis applies and assumes capital funding projections from two major funding partners: the City and FTA. The financial analysis applies several sources of operating funds, mainly consisting of passenger revenues and federal formula grants for preventive maintenance activities, while additional funding for operations is provided by transfers from the City's General and Highway funds. Capital and operating funding sources are further described both below and in subsequent chapters of this report.

### **City and County of Honolulu**

The dedicated local funding source for the implementation of the Project is an established one-half percent (0.5 percent) surcharge on the State of Hawai'i's General Excise and Use Tax (GET Surcharge). In 2005, the Hawai'i State Legislature authorized the counties to adopt a maximum 0.5 percent GET Surcharge for public transportation projects. Following this authorization, the City enacted Ordinance No. 05-027 establishing the 0.5 percent GET Surcharge. The GET Surcharge commenced on January 1, 2007, and will be levied through December 31, 2022. Business activities that take place on O'ahu that are subject to the 4 percent GET rate (including retailing of goods and services, contracting, renting real property or tangible personal property, and interest income), are also subject to the GET Surcharge.

This source of revenue is to be exclusively used for operating or capital expenditures of a fixed guideway system. The Hawai'i Department of Taxation is responsible for collecting the GET Surcharge and

remitting to the City the net amount after retaining 10 percent of the gross proceeds. The Financial Plan projects that revenues from the GET Surcharge will be approximately \$3.5 billion (FY2007–FY2023).

### Federal Transit Administration

Federal funding assistance from FTA is assumed in the Financial Plan for Project capital expenditures. The City is requesting a total of \$1.55 billion in FTA New Starts funding to implement the Project. FTA Urbanized Area Formula funds and non-New Starts discretionary capital investment funds will also fund portions of the Project, as well as continue to provide assistance for preventive maintenance and ongoing capital expenditures for the entire transit system. In FY2010, the City also received \$29 million in funds from the American Reinvestment and Recovery Act (ARRA), \$4 million of which were applied to preliminary engineering costs for the Project, the remainder being used in FY2010 and FY2011 for other capital needs.

## DESCRIPTION OF THE PROJECT

The Project's east-west corridor stretches across southern O'ahu. The corridor is, at most, 4 miles wide because much of it is bounded by the Ko'olau and Waianae Mountain Ranges in the north and the Pacific Ocean in the south. Between Pearl City and Aiea the corridor's width is less than 1 mile.

Between Kapolei and the University of Hawai'i at Manoa, the corridor is highly congested with more than 60 percent of O'ahu's population residing there. The City and County of Honolulu General Plan (Honolulu General Plan, DPP 1997a) directs future population growth to the Ewa and Primary Urban Center Development Plan and the Central O'ahu Sustainable Communities Plan area. The largest increases in population and employment growth are expected to occur in the Ewa, Waipahu, Downtown and Kaka'ako Districts, which are all located in the corridor.

According to the 2000 census, Honolulu ranks as the fifth densest city among U.S. cities with a population greater than 500,000. Among those, Honolulu is the only one without a fixed guideway transit system.

Increasing traffic congestion has impacted the accessibility of the corridor, reduced mobility for people and goods, degraded transit performance, and increased travel costs. The longer travel times reduce the attractiveness of new developments emerging in Ewa/Kapolei. Average weekday peak-period speeds on Interstate Route H-1 (H-1 Freeway), which runs through the corridor with the H-2 and H-3 Freeways feeding into it, are currently less than 20 miles per hour in many

places and will degrade further by 2030. Travelers on O'ahu's roadways currently experience 51,000 vehicle hours of delay, a measure of how much time is lost daily by travelers in traffic, on a typical weekday. This is expected to increase to 71,000 hours by 2030, assuming all planned improvements in the O'ahu Regional Transportation Plan (ORTP) are implemented (excluding a fixed guideway system). Without the improvements, the vehicle hours of delay could reach as high as 326,000 vehicle hours.

### OBJECTIVES OF THE PROJECT SPONSOR

The City's goal for the Project is to provide high-capacity, high-speed transit service in the congested east-west transportation corridor mentioned above, as specified in the ORTP. The Project is intended to provide faster, more reliable transportation in the corridor and to provide basic mobility in areas with diverse populations.

The following objectives were used to select the Project:

- Improve corridor mobility
- Encourage patterns of smart growth and support City land use policies for growth
- Improve transit service reliability
- Provide equitable transportation solutions for all people in the corridor

Implementation of the Project, in conjunction with other improvements in the ORTP, will moderate the growth of anticipated traffic congestion in the corridor, provide an alternative to private automobile use, and improve transit linkages to and within the corridor. The Project also supports the goals of the O'ahu's General Plan and the ORTP by serving areas designated for urban growth.

### PROJECT DETAIL

The Project, on which this Financial Plan is based, is a 20.2-mile rail transit system extending from East Kapolei in the west to the Ala Moana Center in the east and is shown in Figure 1-1. The alignment will include 21 stations and will be a dual guideway with 19.5 miles elevated and 0.7 miles constructed at-grade.

The Project is expected to be constructed in three phases. The first phase will be the portion between East Kapolei and Aloha Stadium, and will also include construction of the vehicle maintenance and storage facility. The second phase will be constructed from Aloha Stadium to Middle Street and the final phase will continue to the Ala Moana Center.

Figure 1-1, Project Location Map



Engineering for the Project continues and work on the first construction section is expected to begin in late 2011. Construction of the rest of the Project would be completed in phases. Commencement of revenue service on the initial segment is proposed in FY2016, with the entire Project operating in FY2019.

Cost estimates for the Project presented in this Financial Plan reflect a steel wheel on steel rail automated technology, operating primarily on elevated guideway using high floor vehicles and a barrier-free fare collection system.

**INTEGRATION WITH THE EXISTING SYSTEM**

The Project will be fully integrated with TheBus operations, which will be reconfigured to add feeder bus service to provide increased frequency and more transfer opportunities between bus and rail.

The Financial Plan assumes fares will be the same for TheBus and the Project, with free transfers and passes allowed on both modes. Fare machines will be available at all rail stations, and standard fareboxes will continue to be used on all buses. More information regarding the fare structure and fare revenues can be found in Chapter 3.

**PROJECT TIMING**

The City initiated technical and engineering work in support of the National Environmental Policy Act (NEPA) in late 2007 and received FTA approval to proceed into Preliminary Engineering (PE) on October 16, 2009. On January 18, 2011, FTA issued a Record of Decision (ROD) for the Project and provided pre-award authority for right-of-way acquisition, utility relocation, and acquisition of rail vehicles. A summary of the major Project development milestones is provided in Table 1-1. The Project schedule is subject to change as procurement and phasing decisions are finalized.

*Table 1-1, Summary of Major Project Development Milestones*

Milestone	Date
FTA Approves Entry into PE	October 16, 2009
FTA Issues Record of Decision	January 18, 2011
City Submits LONP Request for Limited Final Design Activities	April 2011
FTA Approves LONP for Limited Final Design	May 2011
City Requests Entry into Final Design	October 2011
City Submits LONP for Limited Construction Activities	October 2011
FTA Provides Final Design Approval	October 2011
FTA Approves Limited Construction LONP	November 2011
City Requests FFGA	February 2012
City and FTA Execute FFGA	September 2012
Open East Kapolei to Aloha Stadium	December 2015
Open East Kapolei to Middle Street	October 2017
Open East Kapolei to Ala Moana	March 2019

LONP = Letter of No Prejudice      FFGA = Full Funding Grant Agreement

**PROCUREMENT AND PROJECT DELIVERY**

The Project will be constructed under multiple design-build agreements, where contractors will share in the risks of the Project, resulting in expected cost savings to the City.

The Core Systems Contract (systems and vehicles) was awarded in 2011 as a design-build-operate-maintain (DBOM) agreement, with the expectation that the operations and maintenance (O&M) component could be extended to 10 years beyond the completion of the full Project in FY2019. Consistent with the project development milestones, the following summarizes the O&M periods for the Core Systems Contract:

- Intermediate O&M Period #1 – East Kapolei to Aloha Stadium – December 2015 to October 2017
- Intermediate O&M Period #2 – East Kapolei to Middle Street – October 2017 to March 2019
- Full O&M Period – East Kapolei to Ala Moana – March 2019 to March 2024
- Optional O&M Period – East Kapolei to Ala Moana – March 2024 to March 2029

The cost estimates presented in this report were developed based on contract bid prices for the Core Systems Contract and construction contracts for the first phase of the Project. Additional information about the procurement and delivery strategy is provided in Chapter 2.

**REGIONAL ECONOMIC CONDITIONS**

Unlike a sales tax which is typically levied on retail activities only, the 0.5 percent GET Surcharge is levied on retail, services, contracting, theater, amusement parks, interest, commissions, hotels, all other rentals and other uses.

The local economy has generally followed the trends of the nation as a whole in the recent months. Overall, the State of Hawai'i Department of Business Economic Development and Tourism (DBEDT) estimates that the economic recovery began in 2010, as real gross state product increased 1.4 percent.

Tourism plays an important role in Hawai'i's economy, and historical data show there has been a strong correlation between GET collections and the number of visitors. The State of Hawai'i Tourism Authority estimates that tourism accounts for 15 percent of the state's economy and more than 133,000 jobs. The decline in tourism activity and spending has affected Hawai'i. Nonetheless, DBEDT estimates visitor expenditures increased 11.7 percent in 2010, and forecasts a 12.0 percent increase in 2011. This recovery is expected to continue in the long-term and would lead to increases in GET Surcharge revenues.

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 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 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.

**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 FY2020 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, YOE \$millions*

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

\* From the beginning of PE (October 16, 2009 through FY2020)  
 \*\* 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 \$4,879 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.

Table 1-3, Project and System-wide Sources and Uses of Funds, FY2010–FY2030, YOY \$millions

SOURCES OF FUNDS		YOY \$M	USES OF FUNDS		YOY \$M
<b>Project Capital Sources of Funds</b>			<b>Project Capital Uses of Funds</b>		
Project Beginning Cash Balance		298	Project Capital Cost		4,879
Net GET Surcharge Revenues	3,154		<b>Subtotal Project Capital Uses of Funds</b>		<b>\$4,879</b>
FTA Section 5309 New Starts Revenues	1,550		<b>Finance Charges</b>		
FTA Section 5307 Formula Funds Used for the Project 1/	248		Total Interest Payment on Long-term Debt		204
Interest Income on Cash Balance	7		Total Finance Charges on Medium-term Debt		61
Transfer of Excess GET Surcharge Funds to Ongoing Capital	(83)		Total Finance Charges on Short-term Debt		15
			Debt Issuance Cost		15
<b>Subtotal Project Capital Sources of Funds</b>		<b>\$5,174</b>	<b>Subtotal Finance Charges</b>		<b>\$295</b>
			<b>Subtotal Project Uses of Funds</b>		<b>\$5,174</b>
<b>Ongoing Capital Sources of Funds</b>			<b>Ongoing Capital Uses of Funds</b>		
FTA Section 5309 Fixed Guideway Modernization Revenues	147		Additional Railcars		35
FTA Section 5309 Bus Discretionary	117		Rail Capital Asset Replacement Program (CARP)		155
FTA Section 5307 Formula Funds Used for Ongoing CapEx	418		Total Bus Acquisitions		786
American Recovery & Reinvestment Act	26		Other Ongoing Bus CapEx		246
Transfers to the State's Vanpool Program	(57)		Handi-Van Acquisitions		135
Transfer of Excess GET Surcharge Funds from Project Capital Plan	83				
City General Obligation Bond Proceeds	624		<b>Subtotal Ongoing Capital Uses of Funds</b>		<b>\$1,357</b>
<b>Subtotal Ongoing Capital Sources of Funds</b>		<b>\$1,357</b>			
<b>TOTAL CAPITAL SOURCES OF FUNDS</b>			<b>TOTAL CAPITAL USES OF FUNDS</b>		
		<b>\$6,531</b>			<b>\$6,531</b>
<b>Operating Sources of Funds</b>			<b>Operating Uses of Funds</b>		
Fare Revenues (TheBus and Rail)	1,933		Total O&M Costs - TheBus		5,138
Fare Revenues (TheHandi-Van)	60		Total O&M Costs - Rail		1,331
<b>Total Fare Revenues</b>	<b>\$1,994</b>		Total O&M Costs - TheHandi-Van		1,147
FTA Section 5307 Formula Funds Used for Preventative Maintenance	335		Total O&M Costs - Other		23
FTA Section 5316 (JARC) and 5317 (New Freedom)	20				
City's Operating Subsidy	5,289		<b>TOTAL OPERATING USES OF FUNDS</b>		<b>\$7,638</b>
<b>TOTAL OPERATING SOURCES OF FUNDS</b>		<b>\$7,638</b>			

1/ FTA Section 5307 funds includes \$4M from American Recovery & Reinvestment Act of 2009  
 Note: Totals may not add due to rounding

**Capital Revenues:** The forecast for GET Surcharge revenues, which is the main source of non-federal revenue for the Project, has been revised to reflect actual receipts through the fourth quarter of FY2011 and updated GET Surcharge growth rates for FY2012 to FY2023. GET Surcharge is expected to grow at a constant rate of roughly 5 percent per year, which is in line with long-term historical growth of statewide GET revenues.

The Financial Plan also includes a revised forecast for FTA Section 5307 revenues. The amount of Section 5307 funding being used for the Project has been reduced from \$300 million to \$244 million, and does not include any Section 5307 revenues going to the Project from FY2010 through FY2012. The Section 5307 amounts have also been revised based on the latest unit values published by the FTA.

The forecast for Section 5309 Bus and Bus Facilities Funds, which is used to support bus capital expenditures, has been revised downward to reflect the year-to-year variations in this discretionary program. The forecast now based on City average historical receipts of 5309 bus discretionary funding.

**Operating Plan:** O&M cost estimates for the rail system have been refined to reflect the terms of the Core Systems Contract. Project costs that fall outside the

Core Systems Contract (and thus delivered directly by the City) were calculated separately using FTA's resource build-up approach, which applies unit cost elements to key level of service variables. TheBus O&M costs have been revised to reflect the City's latest operating budget. Refined inflation assumptions were also applied to non-core systems rail O&M costs, TheBus O&M costs, and TheHandi-Van O&M costs for each object class object class, including wages & salaries, health care, other benefits, materials and supplies, fuel, and other costs.

**Cash Flow/Financing:** The financing structure includes a revised mix of proposed debt instruments that have been identified with input from the City's bond underwriters. This version of the Financial Plan assumes a lower amount of short-term commercial paper (reduced from \$500 million to \$100 million) that would be rolled over on an annual basis. This change would annually preserve up to \$100 million of capacity in the existing commercial paper program, which could be used to help bridge short-term financing needs if required.

Additionally, this version of the Financial Plan also includes Grant Anticipation Notes that will be backed by FTA Section 5309 New Starts revenues committed through the Project's FFGA. The plan also includes mid-term Bond Anticipation Notes that will be issued each

year prior to the issuance of long-term general obligation bonds.

Interest rate assumptions were updated to reflect the latest municipal market conditions.

**Risks and Uncertainties:** This section addresses a more thorough knowledge of the Project's capital cost risks that has been gained as the Project's design and procurements progress, and input from the FTA risk assessment process. The revenue risks have also been revised to reflect more recent economic conditions that affect the City's revenue forecasts. The Financial Plan includes a discussion of four scenarios that reflect the financial risks identified at this stage of project development: an increase in capital costs; a decrease in GET Surcharge growth rates; reduction in the annual allocation of Section 5309 New Starts funds; and a reduction of Section 5307 funds used for the Project. The Financial Plan presents several potential mitigation strategies that may be employed by the City to address these Project risks.

## Chapter 2: CAPITAL PLAN

This chapter describes the capital costs and funding sources associated with both the Project and the City's existing public transportation system. The purpose of the chapter is to demonstrate that there is an adequate level of funding for the capital costs associated with both the Project and the system-wide needs through FY2030 (see Figure 2-1).

### PROJECT CAPITAL COSTS

Table 2-1 presents the Project's annual capital costs excluding finance charges. The total capital cost for the Project is \$4,259 million in 2011 dollars and \$4,879 million in YOE dollars. These costs are inclusive of construction services, professional services (such as engineering, design, and construction management), and contingency, but exclude finance charges that are detailed later in this chapter. Consistent with FTA guidelines for New Starts projects, the capital cost estimate does not include costs incurred for planning, environmental analysis and conceptual engineering incurred prior to entry into Preliminary Engineering.

Table 2-1, Annual Project Capital Costs, Excluding Finance Charges, FY2010–FY2020

City Fiscal Year	Base Year 2011 \$M	YOE \$M
2010*	\$80	\$80
2011*	117	117
2012	712	734
2013	783	846
2014	748	840
2015	559	655
2016	470	580
2017	471	603
2018	235	310
2019	70	95
2020	14	21
<b>Total</b>	<b>\$4,259</b>	<b>\$4,879</b>

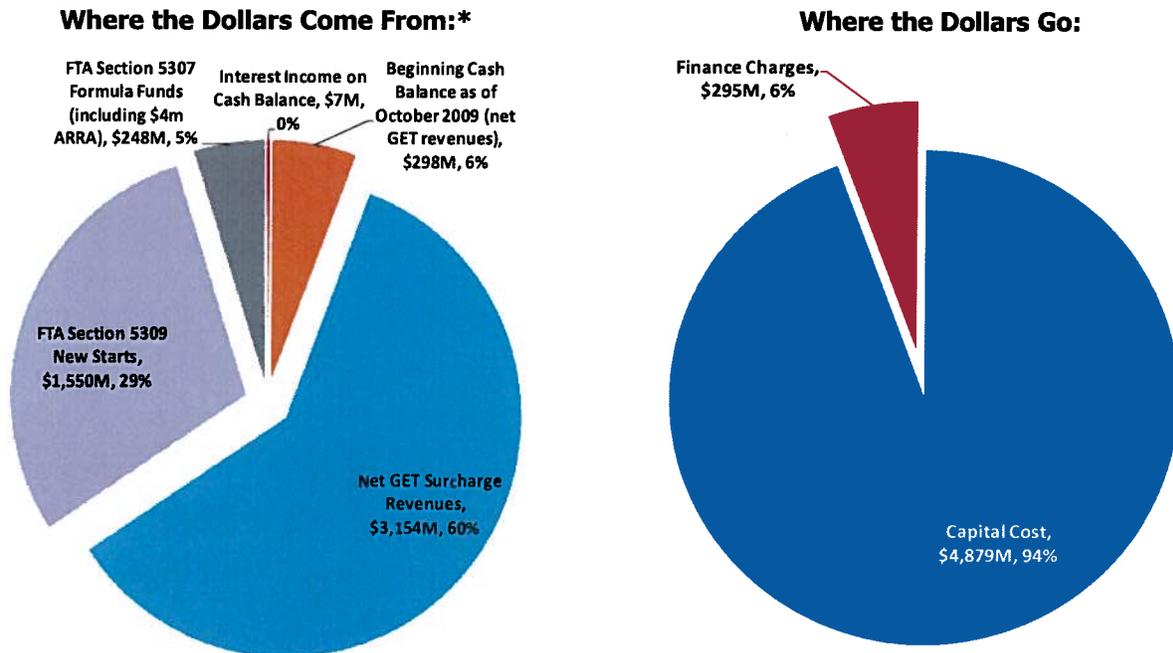
Note: Totals may not add due to rounding  
\* Actuals

### CAPITAL COST ESTIMATING METHODOLOGY

The Preliminary Engineering design level capital cost estimate is organized in the FTA Standard Cost Category (SCC) format, which includes the following components: guideway and track elements, stations, support facilities, sitework and special conditions, systems, right-of-way (ROW), land improvements, vehicles, and professional services.

The Project incorporates multiple project delivery approaches, including design-bid-build, design-build, and DBOM contracts. The capital cost estimate takes into account the cost of design-build, DBOM, and station design contracts that have been executed or are in the award process. The cost estimates for remaining project

Figure 2-1, Project Sources and Uses of Funds, YOE \$millions



\* Includes \$83M ending cash balance from excess GET Surcharge revenues transferred to ongoing capital uses.

elements are based on Preliminary Engineering. The capital costs associated with these projects were estimated using a "bottom up" approach. A summary of the major Project contracts is shown in Table 2-2.

Table 2-2, List of Major Project Contracts

Major Contract Breakdown	Contracting Method	Method of Estimating
West O'ahu /Farrington Highway Guideway Design-Build Contract	Sealed Proposals (Best Value)	Used price in executed contract
Maintenance & Storage Facility Design-Build Contract	Sealed Proposals (Best Value)	Used awarded contractor's proposal
Kamehameha Highway Guideway Design-Build Contract	Sealed Proposals (Best Value)	Used selected offeror's proposal
Airport Segment Guideway and Utilities	Design-Bid-Build	PE estimate
City Center Guideway & Utilities	Design-Bid-Build	PE estimate
Core Systems DBOM Contract (including vehicles)	Sealed Proposals (Best Value)	Used selected offeror's proposal
Stations, parking garage, intermodal contracts	Design-Bid-Build	PE estimate
Elevators/Escalators design, manufacture, install, test, & maintain	Sealed Proposals	PE estimate
Professional Services	Qualifications	PE estimate

Two design-build contracts (the West O'ahu/Farrington Highway and the Maintenance Storage Facility and Yard (MSF)) are included with the awarded costs. For the Kamehameha Highway Guideway contract and the Core Systems (including vehicles) DBOM contract the successful offeror's costs were used in the capital cost estimate.

Prices were de-escalated from YOE to first quarter (Q1) 2011 dollars and entered into the estimate. These contract values were then input as multiple lump-sum line item values over appropriate SCC categories. As a

final step, the base estimates for the remaining contracts were also escalated to Q1 2011 dollars by adjusting for inflation on a commodity basis.

Labor rate tables were developed using the 2010 Hawai'i prevailing wage determination rates for various labor crafts. Material costs used were in 2010 second quarter dollars. Equipment costs were based on vendor quotations and industry standard publications. The estimate was developed according to a work breakdown structure based on the FTA's SCC format for New Starts projects.

The total costs in 2011 and YOE dollars, by category, are detailed in Table 2-3. Note that this table excludes finance charges and also excludes costs incurred prior to entry into Preliminary Engineering.

**CONTINGENCIES**

The cost estimates include a variety of contingencies to allow for potential additional expenses related to each cost category. The FTA typically requires a total contingency of 30 percent at entry into Preliminary Engineering, 20 percent at entry into Final Design, and 15 percent at award of an FFGA.

The total contingency included in the Project cost estimate is currently 20 percent of the total base year cost without contingencies, or approximately \$708 million in 2011\$ or \$815 million in YOE\$. This contingency is made up of allocated and unallocated contingency. The allocated contingency included in the Project's capital cost estimate is 15.4 percent (approximately \$546 million in 2011\$ or \$623 million in YOE\$), based on the base year project cost without contingencies. The unallocated contingency was established at 4.6 percent of the Project's capital cost in 2011\$ (approximately \$162 million in 2011\$ or \$192 million in YOE\$).

Allocated contingency includes contingency that has been spread among the various cost categories to reflect relative levels of risk. Unallocated contingency is designed to hold a reserve of capital to carry the potential cost changes. Programs with a high degree of

Table 2-3, Project Capital Costs by Standard Cost Category, Excluding Finance Charges, FY2010–FY2020

FTA Standard Cost Category	Base Year 2011 \$M	YOE \$M	Share of Total YOE Capital Cost
10 Guideway Construction/Track Work	\$1,118	\$1,321	27%
20 Stations	\$446	\$511	11%
30 Yard, Shops and Support Facilities	\$96	\$104	2%
40 Sitework and Special Conditions	\$905	\$1,021	21%
50 Systems	\$220	\$267	6%
60 Right of Way	\$214	\$219	5%
70 Vehicles	\$176	\$212	4%
80 Professional Services	\$922	\$1,031	21%
90 Unallocated Contingency (Project Reserve)	\$162	\$192	4%
<b>Total Project Cost (Excluding Finance Charges)</b>	<b>\$4,259</b>	<b>\$4,879</b>	<b>100%</b>

Note: Totals may not add due to rounding

uncertainty, such as tunneling and other underground programs, command a higher contingency than those programs where more certainty can be ascertained and lower contingencies can be used. It was determined that the nature of the construction process for constructing an elevated guideway with precast construction techniques lowers the level of uncertainty. The allocation of contingency across cost categories also reflects where contracts that have been awarded and have thus shifted risk from the City to the contractor.

**PROJECT CAPITAL COSTS IN YOE DOLLARS**

**COST ESCALATION**

The escalation rates used for the capital cost estimate are documented in *Honolulu High-Capacity Transit Corridor Project Cost Escalation Forecast, FY2011-2019 (2010)*. The forecasting methodology identifies key cost drivers and makes assumptions as to how these drivers affect costs over the forecast horizon. Some of these key drivers include: international and national market dynamics, local market dynamics, supply chain/transportation factors, and onetime events that temporally change the market structure.

Based on these categorizations, an escalation model calculated an escalation rate reflecting major underlying factor inputs. Projected rates of growth for each of the major cost inputs are weighted based on each of the input's estimated contribution to overall Project costs. The weighted sum of all the growth rates yields the component-weighted average escalation rate. In addition to the economic drivers that are inherent in each component, forecasts for transportation costs of each component and variations in contractor margins (which are a result of the level of contractor availability

and competition) are factored into the analysis.

The individual weights are derived from a detailed local market analysis and an extensive research database that analyzes data from the past five years. The database includes research on highway and transit projects in New York, New Jersey, Florida, Hawai'i, Louisiana, Ohio, and Washington.

**PROJECT CAPITAL COST SCHEDULE (YOE DOLLARS)**

Table 2-4 provides a breakdown of total capital expenditures by year. The largest cost item is for the guideway and track elements, which accounts for approximately 27 percent of total capital expenditures. Professional services and Sitework and special conditions both account for 21 percent. All other cost items have a share of total capital cost of 10 percent or less. Capital expenditures are expected to peak in FY2013 with a total cost during that year of \$846 million.

**SYSTEM-WIDE AND ONGOING CAPITAL COST**

The capital plan includes ongoing costs to replace, rehabilitate and maintain capital assets in a state of good repair throughout the forecast period. It also includes necessary expansion of the existing system in order to accommodate forecasted 2030 demand levels.

**Project Capital Asset Replacement Program:** A Capital Asset Replacement Program (CARP) consisting of periodic overhaul, rehabilitation, refurbishment or replacement of major components, equipment and facilities will be carried out for the Project elements included in the Core Systems Contract. The Core Systems Contract sets out a maximum level of CARP spending in FY2011 dollars for each year of the contract and includes a formula based on indices of labor costs and producer prices to escalate the maximum cost

*Table 2-4, Project Capital Expenditure Schedule by SCC, FY2010 – FY2020, YOE \$millions*

City Fiscal Year	2010*	2011*	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Guideway & Track Elements	-	-	\$146	\$329	\$260	\$214	\$228	\$144	\$1	-	-	<b>\$1,321</b>
Stations	-	-	7	57	66	46	124	145	46	-	21	<b>\$511</b>
Yard, Shops, Support Facilities	-	-	42	53	9	-	-	-	-	-	-	<b>\$104</b>
Sitework & Special Conditions	36	42	217	166	165	120	79	116	67	15	-	<b>\$1,021</b>
Systems	-	-	3	13	73	72	31	26	32	17	-	<b>\$267</b>
Right of Way	3	2	74	62	62	16	-	-	-	-	-	<b>\$219</b>
Vehicles	-	-	0	0	39	38	0	56	69	10	-	<b>\$212</b>
Professional Services	41	73	216	140	124	123	92	89	83	49	-	<b>\$1,031</b>
Unallocated Contingency	-	-	29	27	40	26	25	28	12	4	-	<b>\$192</b>
<b>Total Capital Cost</b>	<b>\$80</b>	<b>\$117</b>	<b>\$734</b>	<b>\$846</b>	<b>\$840</b>	<b>\$655</b>	<b>\$580</b>	<b>\$603</b>	<b>\$310</b>	<b>\$95</b>	<b>\$21</b>	<b>\$4,879</b>

Notes: Totals may not add due to rounding  
 \* Actuals

budget to year of expenditure dollars. Ten years of historical data from the U.S. Bureau of Labor Statistics were used to escalate CARP costs for the Financial Plan. It is assumed that the costs in the last year of the Optional O&M Period will continue through the end of the forecast period. Total FY2019 to FY2030 CARP spending is anticipated to be \$155 million.

**Additional railcars:** The purchase of ten additional railcars is expected to be needed to accommodate forecasted ridership in FY2024. The Financial Plan assumes that this delivery will be made over two years, with five railcars in FY2024 and the remaining five in FY2025. The total capital cost is estimated at \$35 million (YOE\$).

**TheBus and TheHandi-Van Vehicle Acquisition:** Most changes in the transit network will result from adjustments to existing bus routes in order to complement the Project. Some lines will be re-routed to become feeder routes while others would be shortened where the Project provides improved service. The bus capital costs reflects a gradual phase-out of the articulated hybrid bus fleet based on a new City policy dated November 24, 2010, which states that the City will conduct an analysis of the cost effectiveness of bus technology as part of the procurement process. For more details on the bus acquisition schedule, refer to TheBus Fleet Management Plan.

**Bus Facilities:** Various facilities to accommodate ongoing operations are expected to be built and/or expanded simultaneously with aspects of the Project. The capital plan reflects expenditures for bus facilities

programmed in the FY2011-FY2014 Transportation Improvement Program, approved by the O'ahu MPO Policy Committee on July 2, 2010. The TIP includes projects such as the design and construction of the Middle Street intermodal center, a maintenance facility for TheBus and TheHandi-Van operations in West O'ahu, and transit security projects. The Financial Plan uses cost estimates from the TIP through FY2016, and then assumes that \$5 million will be spent annually on bus and TheHandi-Van facilities, including transit security projects, small transit centers, and transit preferential treatments.

Figure 2-2 presents the annual ongoing system-wide capital expenditure broken down by the components outlined above. Bus acquisition constitutes by far the single biggest ongoing capital expense. The following section will describe the sources of funds assumed in this Financial Plan to be used to pay for these needs.

Figure 2-3 combines total capital costs for construction of the Project as well as additional capital expenditures required for ongoing bus acquisitions, Project CARP, TheHandi-Van acquisitions and bus facilities necessary to keep the system in a state of good repair.

### CAPITAL FUNDING FOR THE PROJECT

The Project is expected to be entirely funded through two main sources: revenues from the dedicated GET Surcharge and federal funds. As discussed in the section below, 100 percent of non-New Starts funding for the Project is committed.

Figure 2-2, Ongoing Capital Expenditures, FY2010 – FY2030, YOE \$millions

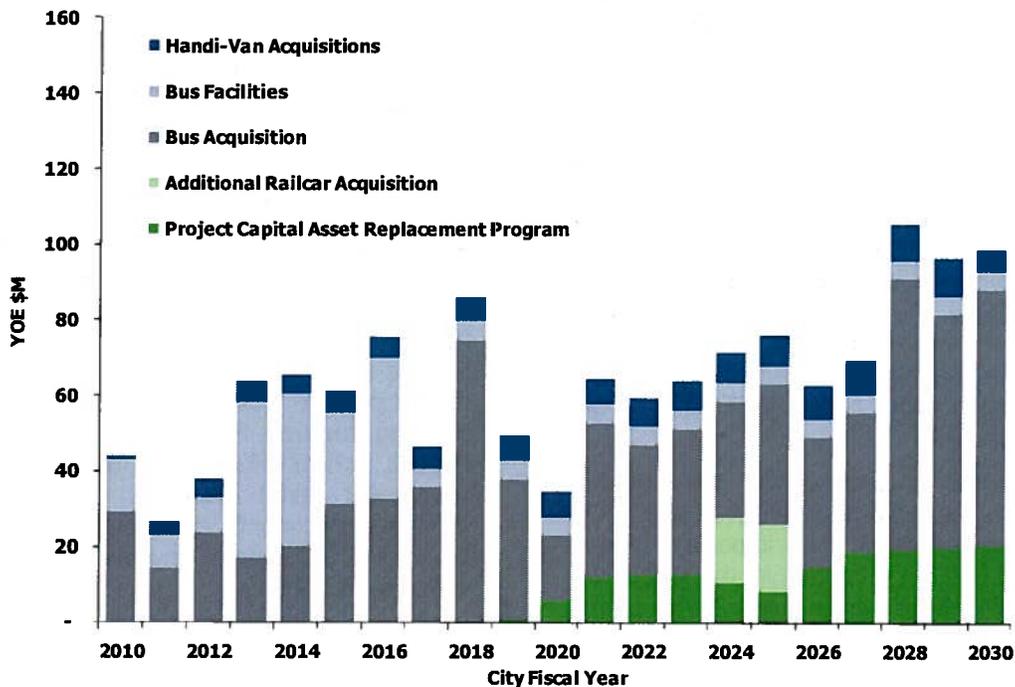
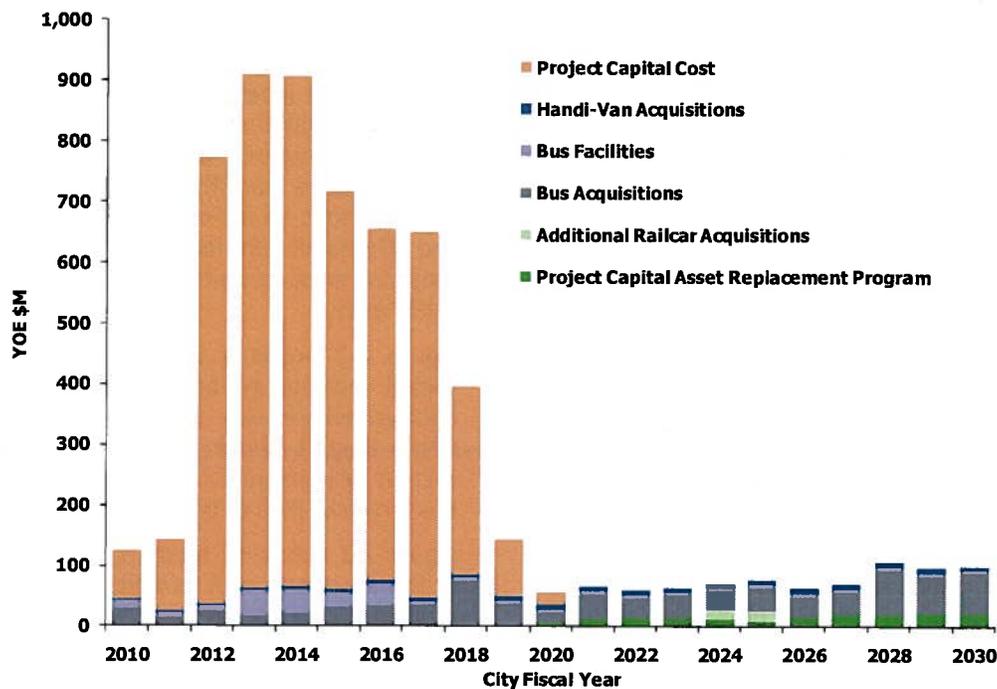


Figure 2-3, Total System-wide Capital Expenditures, FY2010 – FY2030, YOE \$millions



**LOCAL GET SURCHARGE**

The local funding source for the Project is a dedicated one half (0.5) percent surcharge on the State of Hawai'i's General Excise and Use Tax. In 2005, the Hawai'i State Legislature authorized counties to adopt a surcharge on the GET of 0.5-percent for public transportation projects. Following this authorization, the City and County of Honolulu enacted Ordinance No. 05-027 establishing a 0.5-percent GET county surcharge. This revenue is to be used exclusively for capital and/or operating expenditures of the Project. The surcharge is set to sunset on December 31, 2022 (FY2023).

The GET Surcharge revenues are projected to total \$3,154 million from FY2010–FY2023. The total amount from inception of the GET Surcharge on January 1, 2007 through FY2023 is expected to equal \$3,528 million. Amounts for FY2007 through FY2010 are actual amounts. This forecast is net of the 10 percent amount retained by the State. Figure 2-4 presents the actual GET Surcharge collections to date and expected net GET Surcharge revenues expected to be received by the City. Additional information about historic GET collections is included in Attachment C.

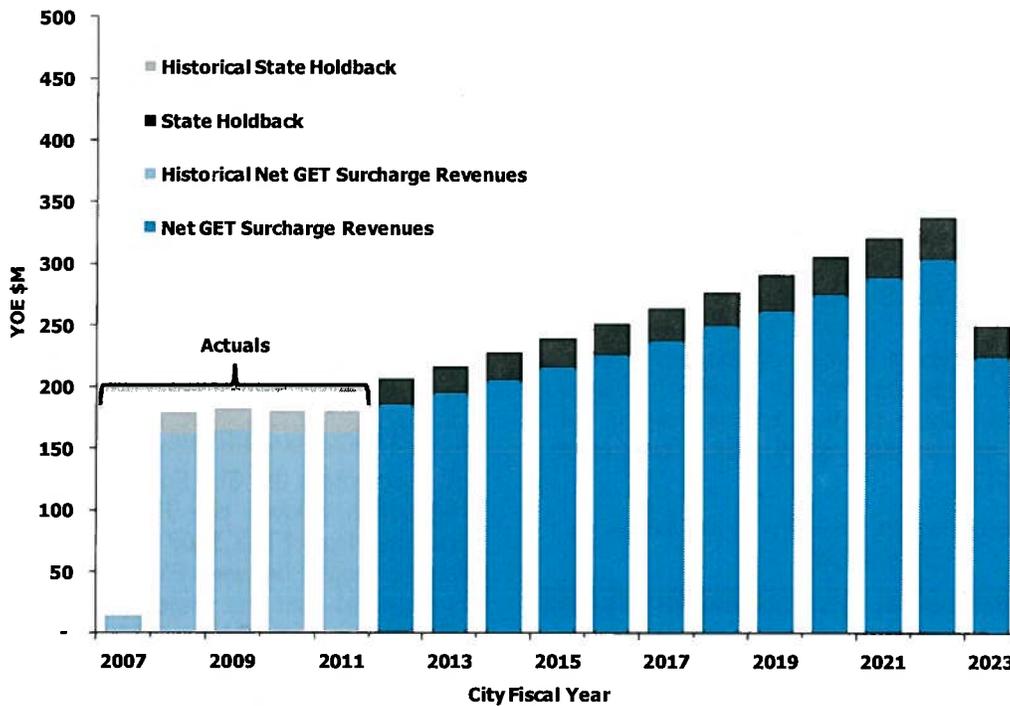
This section provides a summary of the net GET Surcharge revenues expected to be received by the City between FY2012 and FY2023. It is important to note that given the current uncertainties in the global and U.S. economies, this projection is likely to be refined over time, as more actual tax collection data are

received and as the local, national, and global economic outlook changes.

Timing of GET Surcharge Collections: The Financial Plan presents the annual GET Surcharge amounts on a cash basis. This method accounts for the fact that the City does not receive its share of GET Surcharge revenues until the month after the end of each quarter. For example, revenue for April 1 through June 30 of 2010 was paid to the City in July 2010. This delay should be noted when comparing GET Surcharge revenue as reported by the State to data presented in the Financial Plan. Additionally, the State of Hawai'i Department of Taxation (HTAX) sometimes experiences delays in processing GET tax forms, which can make quarterly year-over-year comparisons of historical GET Surcharge collections less meaningful.

Actual Receipts to Date: The first full fiscal year of GET Surcharge revenues was FY2008, with a total of \$161 million in receipts. Despite the economic recession, FY2009 receipts were slightly higher than FY2008, totaling \$164 million. This increase can be explained by the 23 percent growth in the first quarter of receipts counting towards FY2009 from the same quarter in FY2008, which offsets the negative growth of the subsequent three quarters. In FY2010, continued unfavorable economic conditions caused revenue to fall slightly to \$162 million. Revenue then increased to \$166 million in FY2011.

Figure 2-4, Annual GET Surcharge Revenues, FY2007-FY2023, YOE \$million\*



\* FY2012 includes one quarter of actuals

As discussed below, net GET Surcharge revenues are projected to grow annually through FY 2023.

GET Surcharge Forecast Methodology: The Financial Plan assumes that GET Surcharge revenues will grow in line with the long-term historical growth experienced by statewide GET revenues. The long-term compound annual growth rate in statewide GET revenues (FY1981 to FY2010) of 5.04 percent has been used to forecast GET Surcharge revenues for FY2012 to FY 2023. Historical annual statewide GET revenue for FY1981 to FY2010 is presented in Attachment C.

In FY2023, with receipt of the surcharge ending in March 2023, net GET Surcharge cash revenues are expected to total three quarters worth of tax collection, thus accounting for the lower total cash revenues in that fiscal year compared to FY2022.

As a point of comparison, HTAX, which develops a forecast of State GET revenue that is published as part of the State of Hawai'i Council on Revenues forecast of State general fund tax revenue, projected statewide GET revenue to grow at a compound annual rate of 5.52 percent from FY2011 to FY2018 in early September 2011. The Council on Revenues prepares government revenue estimates for the Governor and State legislators.

As mentioned earlier, the growth rates assumed are subject to numerous risks and uncertainties, including the magnitude and timing of the economic recovery,

future inflationary pressures, the strength of the U.S. dollar (especially relative to the East Asian currencies) and U.S. monetary policy. Since the tourism market makes up roughly 30 percent of GET Surcharge revenues and Japanese tourists are 18 percent of the tourism market, the Japanese tourism market accounts for approximately 6 percent of the GET Surcharge revenues. Tourism is still increasing from other westbound travel markets. Chapter 4 presents a sensitivity analysis that examines the potential risk associated with decreased GET Surcharge growth rates.

**Federal Funding Sources**

FTA Section 5309 New Starts (49 U.S.C. Section 5309)

As shown in Table 2-5, New Starts funding is assumed to provide a total of \$1,550 million to the Project over a ten year period, with annual amounts of up to \$250 million per year. The \$21 million amount shown as available for the Project in FY2011 corresponds to the \$15 million earmark appropriated in FY2008 and \$6 million from the earmark appropriated in FY2009. The amount shown in FY2012 includes the remaining \$14 million from the FY2009 appropriation, a \$30 million earmark appropriated in FY2010 and an assumed \$55 million appropriation in FY2011. It should be noted that the USDOT proposed FY2012 budget includes \$250 million in New Starts funding for the Project, but for the purpose of this plan, \$125 million has been assumed for FY2012.

*Table 2-5, Assumed Section 5309 New Starts Revenues, YOE \$millions*

City Fiscal Year	New Starts Revenues (YOE \$M)
2009	—
2010	—
2011	\$21
2012	\$224
2013	\$250
2014	\$250
2015	\$250
2016	\$228
2017	\$192
2018	\$98
2019	\$30
2020	\$7
<b>TOTAL</b>	<b>\$1,550</b>

**Note:** Totals may not add due to rounding

The amount of New Starts funding being requested for the Project is on par with several other projects that have received FFGAs in recent years, including the East Side Access project (\$2.6 billion, or 36 percent New Starts share), Second Avenue Subway project (\$1.3 billion, or 27 percent New Starts share) and Dulles Corridor Metrorail Project (\$900 million, or 28 percent New Starts share). The annual amount of New Starts funding assumed in the Financial Plan is also not unprecedented, as both the East Side Access and Second Avenue Subway projects received over \$200 million in New Starts funds in FY2010.

It is worth noting that, after adjusting for construction cost inflation, the assumed \$1.55 billion YOE is very close to the \$618 million YOE amount that the Intermodal Surface Transportation Efficiency Act authorized for the Honolulu Rapid Transit Program in 1991, and that was the basis for FTA approvals that advanced the Project in subsequent years.

The availability of New Starts funding between FY2012 and FY2018 will depend on future actions by Congress to authorize and make annual appropriations for the program, as well as the nationwide competitive landscape for funding major transit capital investments. For these reasons, the assumptions on New Starts funding are discussed more extensively in Chapter 4 on Risks and Uncertainties.

American Recovery and Reinvestment Act of 2009 (ARRA) Funding

The Project includes a minimal level of funding provided through stimulus monies received by the City. Specifically, the City received \$4 million in ARRA funding in FY2010 which was used to support PE activities.

FTA Section 5307 Formula Funds (49 USC Section 5307)

To supplement the GET Surcharge and New Starts funds mentioned above, the Financial Plan assumes that revenues from FTA's 5307 formula program will be used for the Project between FY2013 and FY2019. In total, it is expected that the Project will receive approximately \$244 million from Section 5307 during the construction period, representing approximately 5 percent of total Project capital funding.

Section 5307 funds are apportioned by FTA on the basis of a formula specified in law. The statutory basis for Section 5307, as for New Starts, is currently in force through continuing resolution through September 30, 2011 as the current transportation authorization has expired.

Activities eligible for Section 5307 funds include planning, engineering, design; capital investments in bus and bus-related activities, such as bus replacement and overhaul; crime prevention and security equipment, construction of maintenance and passenger facilities; capital investments in new and existing fixed guideway systems; and preventive maintenance. As such, Project-related expenses are eligible for Section 5307 funds.

The forecast of Section 5307 funds in the Financial Plan assumes that Honolulu will maintain a constant share of the total amount of the national Section 5307 program. Since the apportionment of Section 5307 funds are based in part on level of service variables, the implementation of the Project will cause the revenues to increase in FY2018, two years after the beginning of the Intermediate O&M Period #1. Similarly, an increase in Section 5307 revenues is expected to occur in FY2020 related to the start of Intermediate O&M Period #2, and in FY2021, which is two years after the beginning of the Full O&M Period. Several zipper and HOV lane projects will increase Section 5307 funding when buses operate on these facilities, as these are considered as fixed

guideways by FTA. The schedule for these projects is assumed as follows, consistent with the ORTP:

- FY2022 – PM zipper lane on H-1 between Ke‘ehi Interchange to the Kunia Interchange
- FY2025 – H-1 HOV lanes between the Wahiawā Interchange and the Makakilo Interchange (one lane in each direction)
- FY2025 – HOV lanes on the Nimitz Flyover between the Ke‘ehi Interchange and Pacific Street (two lanes, reversible, operating inbound in the AM and outbound in the PM)

In other years, the Financial Plan assumes no significant change, but modest growth of funding of 2.50 percent per year. This represents a more conservative rate than the 4.91 percent annual growth rate experienced between FY1996 and FY2010. Information about historical Section 5307 funds is presented in Table 2-6, along with FTA Section 5309 FGM funds (described in subsequent sections of this report). More information on the forecast of federal funds and the impact of the Project on those revenues is presented in the section on systemwide capital funding sources.

Table 2-7 summarizes the federal and non-federal funding sources, as well as the level of commitment for each source based on FTA New Starts guidelines.

### FINANCING OF THE PROJECT

Figure 2-5 shows the aggregate Project sources and uses of funds for capital including financing. In the years in which capital expenditures are greater than the funding available on a pay as you go basis, debt financing is needed. GET Surcharge revenue will continue to be generated after construction is completed, which provides the funding source for debt financing. Details on the proposed financing approach are provided in the following sections.

Table 2-6, Historical FTA Section 5307 and Section 5309 FGM Apportionments, 1996 – 2010, YOY \$millions

	FTA Sec. 5307 Apportionments*	Annual Growth Rate	FTA Sec. 5309 FGM Apportionments	Annual Growth Rate
1996	\$16.02		\$0.20	
1997	\$16.47	2.80%	\$0.27	34.58%
1998	\$17.91	8.75%	\$0.30	11.34%
1999	\$20.08	12.10%	\$0.53	77.56%
2000	\$23.89	18.98%	\$0.63	18.68%
2001	\$22.80	-4.55%	\$0.93	47.83%
2002	\$24.58	7.80%	\$1.05	13.19%
2003	\$27.80	13.08%	\$1.15	9.44%
2004	\$26.39	-5.07%	\$1.12	-2.59%
2005	\$27.03	2.43%	\$1.06	-5.05%
2006	\$24.13	-10.70%	\$1.25	17.51%
2007	\$26.39	9.33%	\$1.47	17.77%
2008	\$29.00	9.90%	\$2.00	35.92%
2009	\$31.06	7.11%	\$2.12	6.31%
2010	\$31.33	0.87%	\$2.01	-5.19%
<b>1996-2010 Average Annual Growth Rate</b>		<b>4.91%</b>		<b>17.99%</b>

\* Includes apportionments to the Kailua-Kaneohe urbanized area

Table 2-7, Summary of Federal and Non-Federal Funding Sources

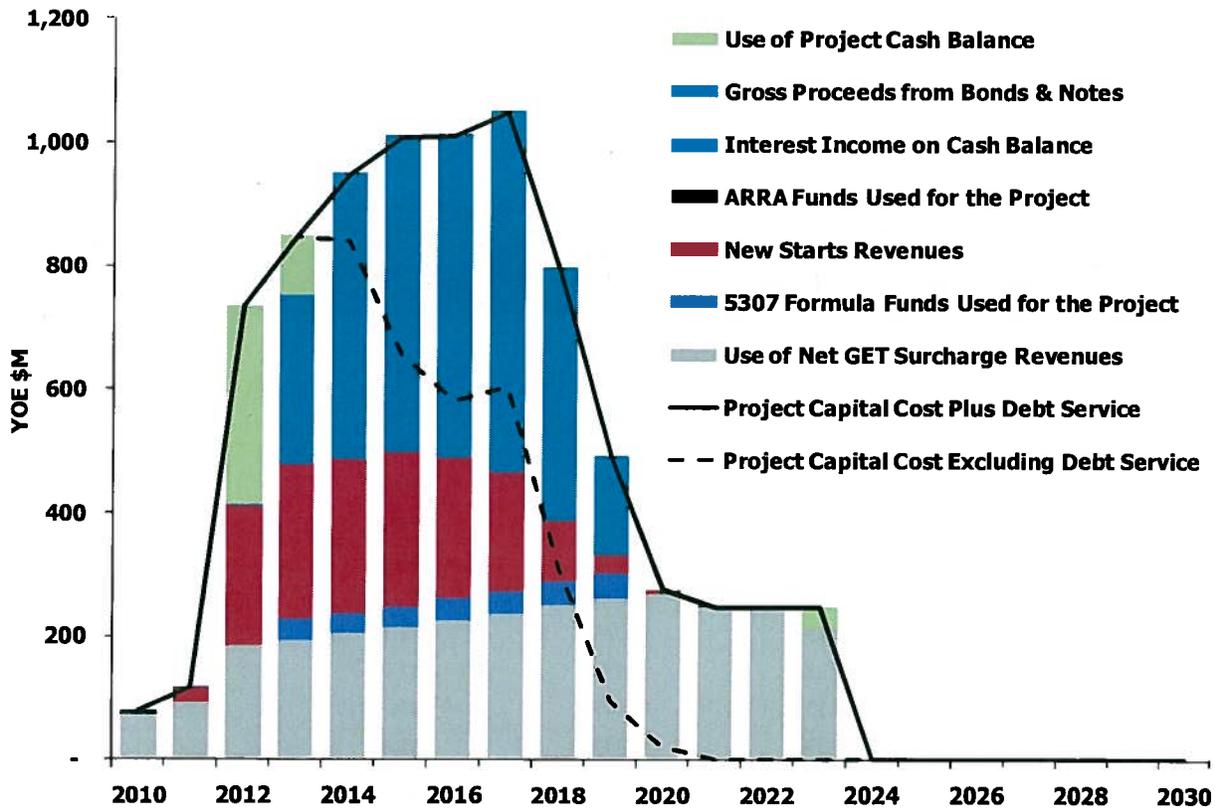
Sources of Funds	Funding Level (Base Case) YOE \$millions	Funding Share	Level of Commitment	Evidence of Commitment
<b>Federal:</b>				
FTA 5309 New Starts	\$1,550	30.0%*	N/A	N/A
FTA 5307 Formula Funds	\$244	4.7%	Committed	Statewide FY2011-2014 Transportation Improvement Plan (TIP)
ARRA Funds	\$4	0.1%	Committed	N/A
<b>Non Federal:</b>				
General Excise and Use Tax 0.5% surcharge	\$3,369**	65.1%	Committed and dedicated to the fixed guideway project	Enabling legislation: <ul style="list-style-type: none"> <li>• State Act 247</li> <li>• City and County of Honolulu Ordinance 05-027 Selection of a fixed guideway system as the Project</li> </ul>
Interest Earnings	\$7	0.1%	Committed	City & County of Honolulu Ordinance 06-37
<b>Total Project Budget</b>	<b>\$5,174</b>	<b>100%</b>		

Note: Totals may not add due to rounding

\* Percentage used in FFGA is 30.2%, based on Project capital cost with finance charges through FY2020 of \$5,126 million

\*\* Includes \$298 million in beginning cash balance and subtracts \$83 million in ending cash balance transferred to ongoing capital needs

Figure 2-5, Proposed Project Sources and Uses of Funds, FY2010 – FY2030, YOE \$millions



**FINANCING AND PROJECT CASH BALANCE**

The cash balance as of entry into Preliminary Engineering in October 2009 was approximately \$298 million. With the GET Surcharge projections and federal revenues assumptions described above, the Project exhibits a positive cash balance through FY2012 without the need for debt financing, as GET Surcharge and other revenues will be used on a pay as you go basis. Starting in FY2013, the amount of financing in each year is sized to meet Project funding needs. Once construction ends in FY2019, GET Surcharge revenues continue to increase gradually through FY2023 while debt service remains constant, thereby increasing the cash balance in those years to a total of approximately \$83 million by the end of FY2023. The Financial Plan assumes that any excess GET Surcharge revenues will be available after FY2020 and will not be required for debt service on Project bonds. These funds will be applied to CARP and railcar expenditures, thereby freeing up Section 5307 revenues for preventive maintenance and ongoing capital expenditures after FY2020.

**GENERAL DEBT STRUCTURE AND DEBT INSTRUMENTS**

In years where GET Surcharge revenues and Federal funding are not by themselves sufficient to meet the cash flow requirement to cover Project capital expenditures, a mix of long-term general obligation bonds (implicitly backed by GET Surcharge revenues), medium-term, and short-term borrowing would be used to bridge the funding gap. Table 2-8 shows the annual mix of short and long-term bond proceeds issued to fund the construction of the Project.

Consistent with the requirements of Chapter 47, Hawai'i Revised Statutes (HRS) and the State Constitution, a conventional mortgage-type amortization schedule with a level debt service repayment is assumed for each long-term bond issue (as shown in Figure 2-6). Each year the long-term bonds are issued the final maturity decreases

since the GET Surcharge sunsets in FY2023. The types of debt included in the Financial Plan are summarized below:

**General Obligation Bonds (Long Term):** Although the Project's debt requirements will be solely repaid from GET Surcharge revenues, the State Constitution requires that these bonds be classified as general obligation bonds. Given that these long-term bonds will be supported by the full faith and credit of the City, no additional coverage has been included, as is consistent with the terms of the City's other general obligation bond issuances.

**Bond Anticipation Notes (BANs, Medium Term):** The use of medium-term and short-term debt during construction is necessary and advantageous because debt instruments of shorter maturity generally bear lower interest rates than longer term debt. BANs are assumed to be issued between FY2015 and FY2018, and will be repaid in each subsequent year when long-term debt is issued. BANs are a type of short-term municipal bond issue whose proceeds are generally used to pay the startup costs associated with a future, long-term bond-financed project.

**Grant Anticipation Notes (GANs, Medium Term):** Another form of medium-term financing, GANs, will be issued between FY2013 and FY2015 and repaid between FY2015 and FY2020. The GANs will be repaid upon receipt of appropriated FTA New Starts funding.

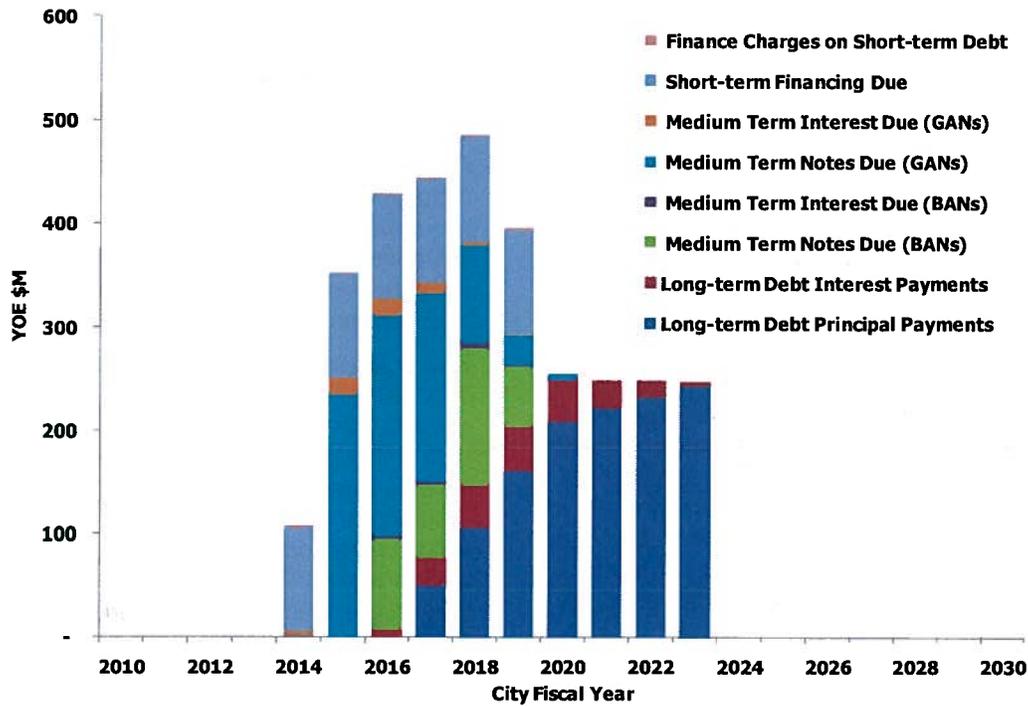
**Tax Exempt Commercial Paper (TECP, Short Term):** The Project will also utilize the City's existing TECP program. Short-term construction finance provides a particularly low-interest form of borrowing in which interest-only payments are made and the principal balance is simply either rolled over or repaid with available cash annually during construction. Currently the City has access to \$200 million in TECP, of which the Project is expected to utilize \$100 million between FY2013 and FY2018. Depending on the cash flow requirements of other projects in the City's CIP, the

*Table 2-8, Debt Proceeds, FY2010 – FY2030, YOY \$millions*

City Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Net Proceeds from Long-term Debt	—	—	—	—	—	\$100	\$350	\$350	\$250	\$158	<b>\$1,208</b>
Net Proceeds from Medium-term Notes (BANs)	—	—	—	—	—	\$88	\$71	\$133	\$58	—	<b>\$350</b>
Net Proceeds from Medium-term Notes (GANs)	—	—	—	\$174	\$360	\$221	—	—	—	—	<b>\$755</b>
Net Proceeds from Short-term Construction Financing (rolled over)	—	—	—	\$100	\$100	\$100	\$100	\$100	\$100	—	<b>\$600</b>
<b>Total Net Bond Proceeds</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>\$274</b>	<b>\$460</b>	<b>\$509</b>	<b>\$521</b>	<b>\$583</b>	<b>\$408</b>	<b>\$158</b>	<b>\$2,913</b>

**Note:** Totals may not add due to rounding

Figure 2-6. Total Annual Debt Service, FY2010 – FY2030, YOE \$millions



Project could make use of additional TECP if needed to meet short-term cash flow needs.

**Financing Costs and Maturity**

**Interest rate:** The Financial Plan assumes an interest rate on long-term debt of 4.50 percent, consistent with the City’s current AA+ rating. Interest rates on medium-term BANs and GANs are assumed to be 3.00 percent, while rates on short-term construction financing are assumed to equal 2.50 percent. The interest rates are consistent with current interest rates for debt instruments with similar maturities, and increased by 25 to 50 basis points to reflect potential increases in the future. Risks and uncertainties related to interest rates are discussed in Chapter 4.

**Issuance cost:** Upfront costs associated with the issuance of long-term bonds and medium-term notes are assumed to equal 0.75 percent and 0.50 percent of the par amount, respectively. Issuance costs for short-term financing are assumed to be embedded in the TECP interest rate.

**Maturity:** All long-term bonds have a final maturity in FY2023, corresponding to the last fiscal year of receipt of net GET Surcharge revenues. Medium-term and short-term construction financing issues are assumed to be either refinanced annually or repaid through a combination of available cash or refinanced into long-term debt.

**Debt Capacity**

The City’s ability to issue debt and maintain its credit rating is defined by legal limits included in the State’s Constitution. Furthermore, the City has implemented policy guidelines that define appropriate levels of debt in relation to its funding base.

**Legal Debt Limit:** The State of Hawai’i Constitution (Act VII, Section 12 and 13) requires any one county to have a total outstanding funded debt equal to no more than 15 percent of that county’s total assessed value of real property for tax purposes. This test represents the primary legal restriction on the amount of debt that the City could issue for the Project. Based on current estimates there is significant debt capacity under the limit. As of August 2010, the City had \$153.1 billion in assessed value of real property, which represents \$23.0 billion in total legal debt capacity. Of the total capacity, \$18.2 billion was available for future use.

**City “Affordability Guidelines”:** The City has established affordability guidelines, as last amended by Resolution No. 06-222 in June 2010. These policies include the following:

- Debt service for general obligation bonds, including self-supported bonds and enterprise and special revenue funds, should not exceed 20 percent of the City’s total operating budget.

- Debt service on direct debt, excluding self-supported bonds, should not exceed 20 percent of the General Fund revenues.
- Other guidelines include a limitation on the City's variable debt rate and debt refunding policy.

Assuming the City's current credit rating is maintained and the affordability guidelines are applicable in future years, the limitations on General Obligation (GO) debt can be calculated for future years based on growth assumptions in assessed property values, General Fund revenues, and the City's operating budget.

The City will need to balance the Project's debt requirements with other City projects requiring debt financing. The policies above are applicable to any projects being financed by the City, given that the Project debt is not self-supported or in the form of revenue bonds.

**Finance Charges**

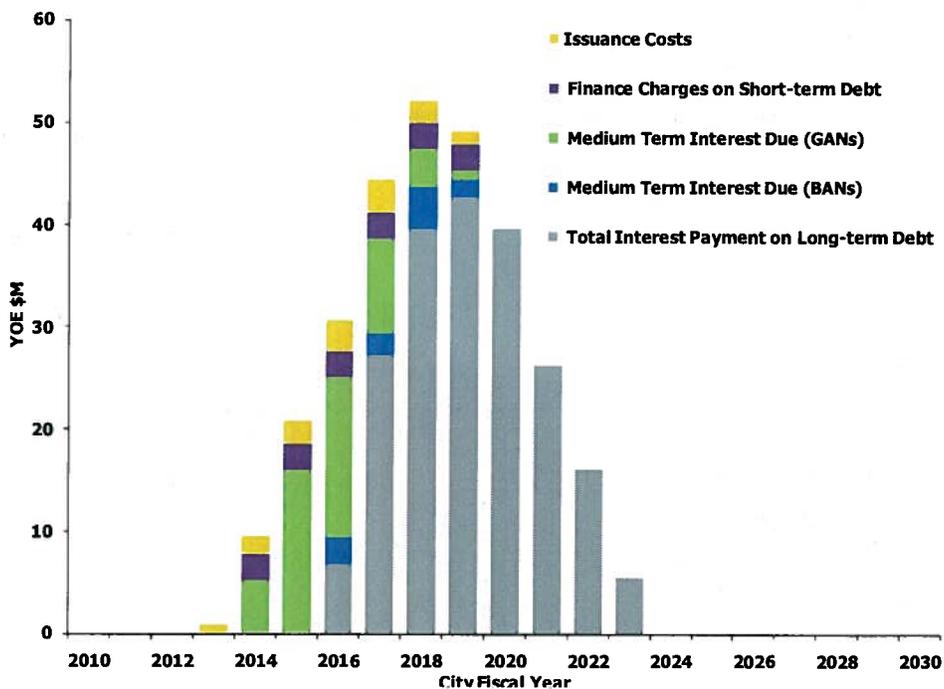
Based on the above assumptions, finance charges incurred for the Project are projected to total \$295 million. As shown in Figure 2-7, the majority of finance charges correspond to interest payments on long-term general obligation bonds. The remainder is composed of interest expense on medium-term and short-term debt.

For detailed annual cash flows for the Project, refer to Attachment A.

**SYSTEM-WIDE CAPITAL FUNDING SOURCES**

While the assumed New Starts funding, GET Surcharge revenues, and a portion of the FTA Section 5307 formula funds will be adequate to fund the Project capital costs, other sources of funds will continue to be relied upon to fund capital costs for the existing TheBus and TheHandi-Van systems. The following section discusses these federal and local funding sources.

*Figure 2-7, Total Annual Finance Charges, FY2010 – FY2030, YOY \$millions*



**FEDERAL FUNDS**

The three main sources of federal funds for system-wide capital costs are as follows:

- FTA Urbanized Area Formula Program (49 U.S.C. Section 5307)
- FTA Capital Investment Grants (49 U.S.C. Section 5309) – Fixed Guideway Modernization Program
- FTA Capital Investment Grants – Bus and Bus-Related Equipment and Facilities Program

The City should expect to see increases in the levels of funding from the first two of these funding sources once the Project is implemented. The following sections detail the expected revenue from each source before and after the Project is in operation. As a general rule, the Financial Plan assumes that Congress will pass a new authorization and appropriate the authorized apportionment each year.

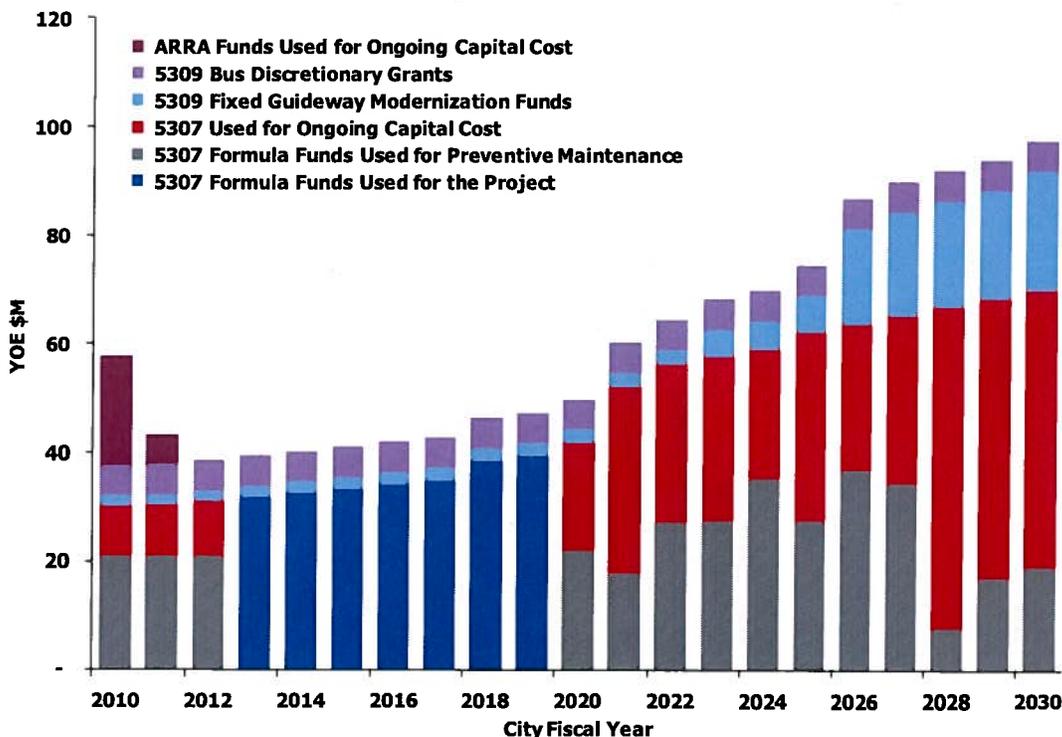
**FTA Urbanized Area Formula Program (Sec. 5307)**

Year-by-year Section 5307 revenues are presented in the summary of federal non-New Starts capital funding sources in Figure 2-8. Under federal law, Section 5307 funds may be used for preventive maintenance, which is part of a transit system's operating budget. Section 5307 apportioned funds are used for the Project between FY2013 and FY2019, but will again be available for other transit uses starting in FY2020. As a general rule for the Financial Plan, Section 5307 funds are first applied to

ongoing capital needs, with any surplus being transferred to preventive maintenance. Estimated apportionments have been made by FTA for FY2010. For all subsequent years, the methodology used to forecast Section 5307 funds is as follows:

- First the total national funding available for the Section 5307 program was projected using a modest growth factor, in line with the growth in revenues currently expected to flow to the Highway Trust Fund in FY2011. Honolulu's share of the total nationwide Section 5307 amount was then assumed to remain equal to the FY2010 share of 0.69 percent. This share was applied to the forecasted national amount, and an adjustment was then made by deducting a funding transfer to the State for its vanpool program.
- In addition to the base growth rate mentioned above, Section 5307 revenues are further increased two years after the opening of the main segments of the Project in FY2016, FY2018, and FY2019. Similar increases occur in FY2022 and FY2025 following the implementation of other projects in the region, consistent with the O'ahu long-range transportation plan. The implementation of the Project is expected to generate an additional \$149 million Section 5307 funding through FY2030. Table 2-9 presents the annual forecast of 5307 revenues, and breaks out the funds expected to be received as a result of the Project implementation.

*Figure 2-8, Use of Non-New Starts Federal Revenues, FY2010 – FY2030, YOY \$millions*



**Section 5309 Capital Investment Grants – Fixed Guideway Modernization Program (FGM)**

Similar to Section 5307 funds, Section 5309 FGM funds are apportioned using the federal formula specified by law. Honolulu’s apportionment is based on the amount of fixed guideway directional and revenue vehicle miles on facilities in operation at least seven years. Forecast fixed guideway directional route miles play an important role in the formula for calculating Section 5309 FGM apportionments. In addition to the increase due to the Project, the zipper lane and HOV projects assumed to be introduced between FY2022 and FY2025 would increase the directional route miles. As with the Section 5307 funds, the Project will lead to an increase in the formula apportionment amount due to the increased amount of service on fixed guideway facilities. Of the total \$147 million expected to be received by the City from FY2011 to FY2030, \$88 million is expected to be generated from the implementation of the Project.

centers; intermodal terminals; park-and-ride stations; acquisition of replacement vehicles; bus rebuilds; bus preventive maintenance; passenger amenities, such as passenger shelters and bus stop signs; accessory and miscellaneous equipment, such as mobile radio units; supervisory vehicles; fareboxes; and computers, shop, and garage equipment.

The discretionary nature of this program makes the level of funding difficult to predict. Based on Honolulu’s success at receiving earmarks in the past, this analysis assumes that Honolulu’s Bus Capital allocations between FY2010 and FY2030 will be equal to the average of Honolulu’s Bus Capital funding revenues from 1996 to 2009, which is about \$6 million per year.

**FTA Section 5309 Bus and Bus-Related Facilities Program (Bus Capital)**

Bus Capital funds can be allocated at the discretion of the Secretary of the U.S. Department of Transportation, although Congress has been fully earmarking all available funding. Eligible purposes for this funding source include: acquisition of buses for fleet and service expansion; bus maintenance and administrative facilities; transfer facilities; bus malls; transportation

Table 2-9, FTA Sec. 5307 and 5309 FGM Apportionments and Impact of the Project, FY2010 – FY2030, YOY \$millions

	FTA Sec. 5307 Apportionments	Impact of the Project	Total FTA Sec. 5307 Apportionments <sup>1</sup>	Annual Growth Rate	FTA Sec. 5309 FGM Apportionments	Impact of the Project	Total FTA Sec. 5309 FGM Apportionments	Annual Growth Rate
<b>2010*</b>	\$30.03	—	\$30.03		\$2.01	—	\$2.01	
<b>2011</b>	\$30.24	—	\$30.24	0.71%	\$2.06	—	\$2.06	2.50%
<b>2012</b>	\$30.97	—	\$30.97	2.41%	\$2.12	—	\$2.12	2.50%
<b>2013</b>	\$31.71	—	\$31.71	2.41%	\$2.17	—	\$2.17	2.50%
<b>2014</b>	\$32.48	—	\$32.48	2.41%	\$2.22	—	\$2.22	2.50%
<b>2015</b>	\$33.26	—	\$33.26	2.40%	\$2.28	—	\$2.28	2.50%
<b>2016</b>	\$34.06	—	\$34.06	2.40%	\$2.34	—	\$2.34	2.50%
<b>2017</b>	\$34.87	—	\$34.87	2.40%	\$2.39	—	\$2.39	2.50%
<b>2018</b>	\$35.95	\$2.40	\$38.35	9.96%	\$2.45	—	\$2.45	2.50%
<b>2019</b>	\$36.81	\$2.46	\$39.27	2.40%	\$2.51	—	\$2.51	2.50%
<b>2020</b>	\$37.84	\$3.87	\$41.71	6.21%	\$2.58	—	\$2.58	2.50%
<b>2021</b>	\$39.85	\$12.15	\$51.99	24.67%	\$2.64	—	\$2.64	2.50%
<b>2022</b>	\$43.46	\$12.71	\$56.18	8.04%	\$2.71	—	\$2.71	2.50%
<b>2023</b>	\$44.51	\$13.03	\$57.54	2.42%	\$2.78	\$2.45	\$5.23	93.09%
<b>2024</b>	\$45.57	\$13.36	\$58.93	2.42%	\$2.85	\$2.51	\$5.36	2.50%
<b>2025</b>	\$48.09	\$13.93	\$62.02	5.24%	\$2.92	\$3.96	\$6.88	28.29%
<b>2026</b>	\$49.24	\$14.28	\$63.52	2.42%	\$2.99	\$14.69	\$17.68	157.09%
<b>2027</b>	\$50.42	\$14.64	\$65.06	2.42%	\$3.78	\$15.40	\$19.18	8.51%
<b>2028</b>	\$51.63	\$15.00	\$66.63	2.42%	\$3.87	\$15.79	\$19.66	2.50%
<b>2029</b>	\$52.87	\$15.38	\$68.25	2.42%	\$3.97	\$16.18	\$20.15	2.50%
<b>2030</b>	\$54.13	\$15.76	\$69.89	2.42%	\$5.14	\$16.89	\$22.02	9.28%
<b>Total</b>	<b>\$847.99</b>	<b>\$148.97</b>	<b>\$996.96</b>		<b>\$58.78</b>	<b>\$87.87</b>	<b>\$146.65</b>	

Note: Totals may not add due to rounding

1/ Section 5307 funds are net of transfers to the State’s Vanpool program

\* Actuals

## **LOCAL CAPITAL ASSISTANCE FOR THE SYSTEM-WIDE AND ONGOING PROJECT CAPITAL NEEDS**

For ongoing system-wide capital needs, the City intends to apply GET Surcharge revenues on a pay-as-you-go basis for CARP expenditures and additional rail cars needed between FY2024 and FY2030. The excess GET Surcharge revenues, totaling approximately \$83 million, will be available after FY2020 and will not be required for debt service on Project bonds. These funds will be applied to CARP and railcar expenditures, thereby freeing up Section 5307 revenues for preventive maintenance and system-wide capital expenditures after FY2020.

The City is expected to continue to issue debt for construction of bus facilities and to purchase rail and bus equipment and rolling stock as it has done in the past. The City is required to match all FTA funding programs with at least 20 percent in local funds. This Financial Plan, therefore, assumes that at least 20 percent of each year's ongoing capital needs are matched at that level. With the federal revenues described above, the City is sometimes required to contribute more funds to ensure that projected capital needs are met.

## Chapter 3: O&M PLAN

This chapter describes the City's plan to fund the operating and maintenance costs associated with the Project and the overall transit system. This discussion begins with a summary of the O&M cost estimate and methodology and then presents the planned funding sources for O&M.

### OPERATING COSTS

O&M cost estimates were developed for the Project, TheBus, and TheHandi-Van, and include all costs associated with operating and maintaining these services, including labor, materials, fuel, and electricity. The following section describes the methodology and estimates used in this analysis.

#### PROJECT O&M COSTS

The O&M costs for the Project were developed using data from the Core Systems Contract awarded in FY2011. Escalated O&M costs are provided for the Intermediate O&M Period #1 and Intermediate O&M Period #2. For the Full O&M Period and the Optional O&M Period, the Core Systems Contract provides O&M costs by year in FY2011 dollars. The contract includes a formula based on indices published by the U.S. Bureau of Labor and Statistics (BLS) for labor costs, electricity prices, consumer prices, and producer prices to escalate the costs to YOY dollars.

For the Financial Plan, 10 years of historical data from BLS was used to escalate the O&M costs that are included in the Core Systems Contract. More details on the data used for inflating core systems costs and its application can be found in Table D-3 of Attachment D. It is assumed that the costs in the last year of the Optional O&M Period will continue through the end of the forecast period.

The remainder of Project O&M will be delivered directly by HART. These costs will account for approximately 10 percent of total Project O&M and include costs for guideway structure inspections and maintenance, security patrols (not including the Maintenance and Storage Facility, which is covered by the Core Systems Contract), fare revenue collection and equipment servicing, fare inspection and enforcement, station maintenance (including escalators and elevators), and costs associated with staffing and overhead for the HART organization.

A resource build-up approach was used to determine Project O&M costs that will be directly delivered by HART. This approach fully allocates O&M costs based on level of service variables. Table 3-1 summarizes the

corresponding level of service variables and unit costs used for this purpose.

Table 3-1, Level of Service Variables and Unit Costs for the O&M Delivered Directly by HART

Cost Item	Resource Variable	Unit Costs (2010\$)
Guideway structure inspections/maintenance	DRM	\$21,650
Security patrols, not including MSF	DRM	\$15,552
Fare revenue collection/equipment servicing	S	\$111,697
Fare inspection/enforcement	S	\$82,941
Station maintenance, including escalator/elevator	S	\$95,134
HART costs	PV	\$2,935

DRM= directional route miles // S = Stations // PV = Peak Vehicles

Figure 3-1 shows the total O&M costs for the Project including the Core Systems Contract and HART.

#### THEBUS O&M COSTS

TheBus O&M costs were developed using existing bus operations as the baseline, as well as the anticipated service levels through 2030. TheBus O&M costing methodology uses a resource build-up approach that fully allocates O&M costs based on level of service variables. Each unit cost is broken down by object class, including wages and salaries, health care, other benefits, materials and supplies, fuel and lubes, and other, which allows for applying different inflation rates to each object class. This approach is consistent with Section 4 of the FTA's Procedures and Technical Methods for Transit Project Planning, Draft Version 3 dated August 28, 2008. More details on TheBus O&M cost model can be found in the Memorandum on O&M Cost Models, dated May 2009.

#### LEVEL OF SERVICE

The City currently operates standard buses and a mixture of articulated 60-foot diesel and hybrid buses. As described in Chapter 2, the City plans to phase out its articulated hybrid buses, to be replaced with articulated clean diesel buses, which are found to be more cost effective. The peak vehicle requirements and revenue vehicle miles for TheBus system are shown in Figure 3-2 and Figure 3-3, respectively. The Financial Plan assumes straight-line growth in bus level of service between FY2019 and FY2030.

Figure 3-1, Project O&M Costs, FY2010 – FY2030, YOE \$millions

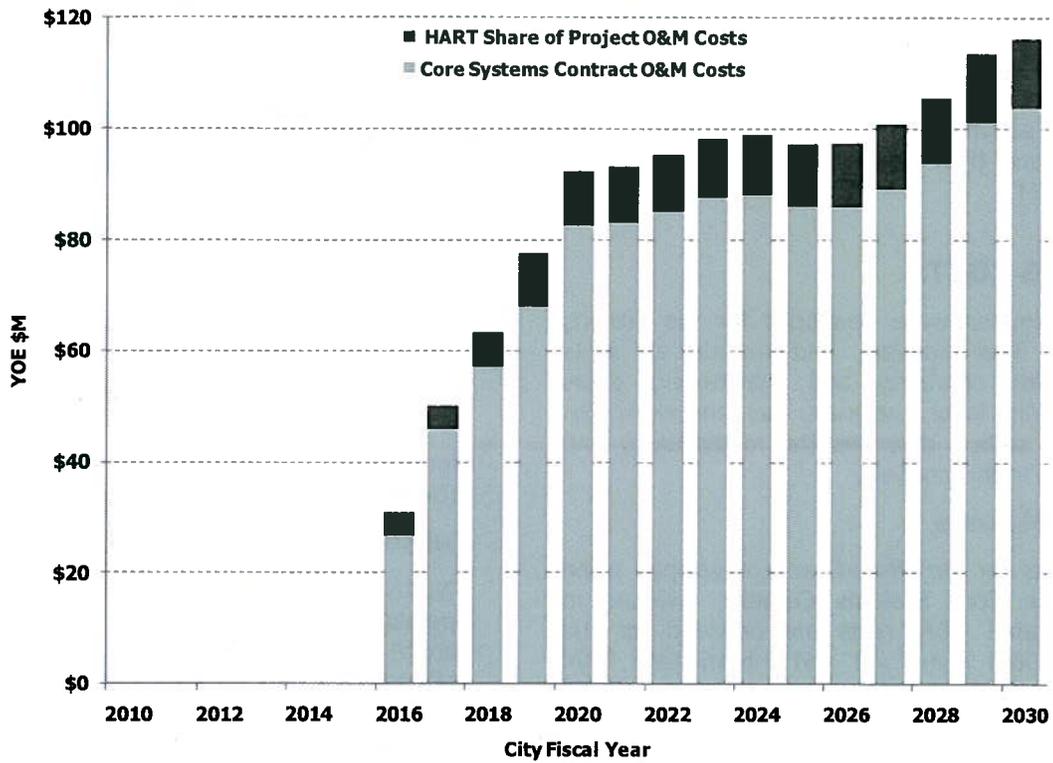


Figure 3-2, TheBus Peak Vehicles by Bus Type, FY2010 – FY2030

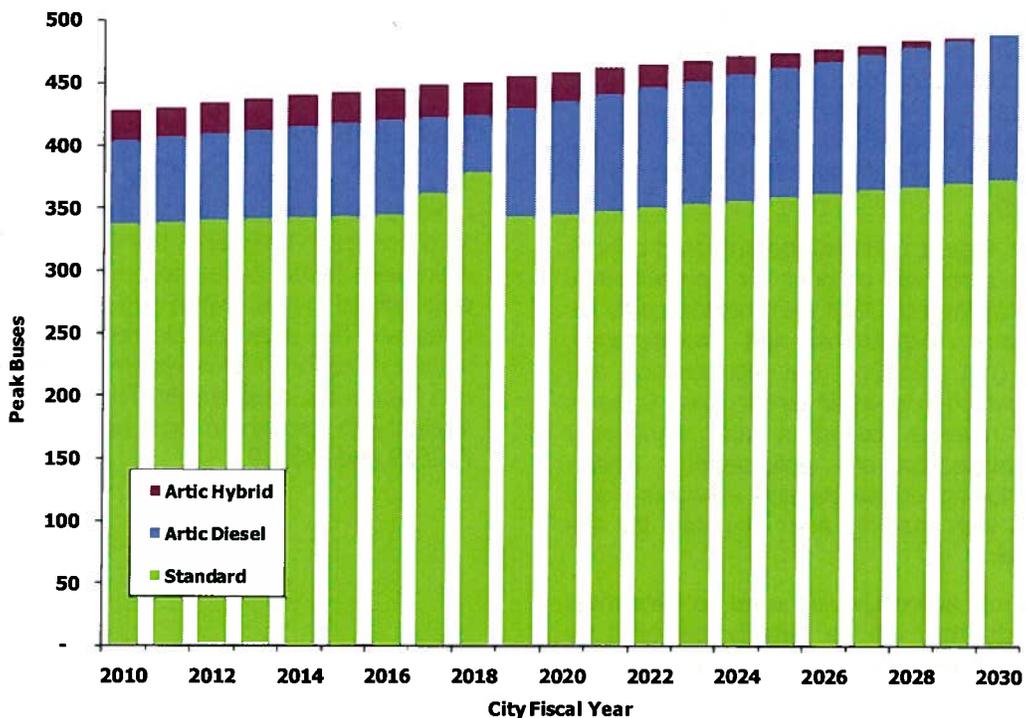
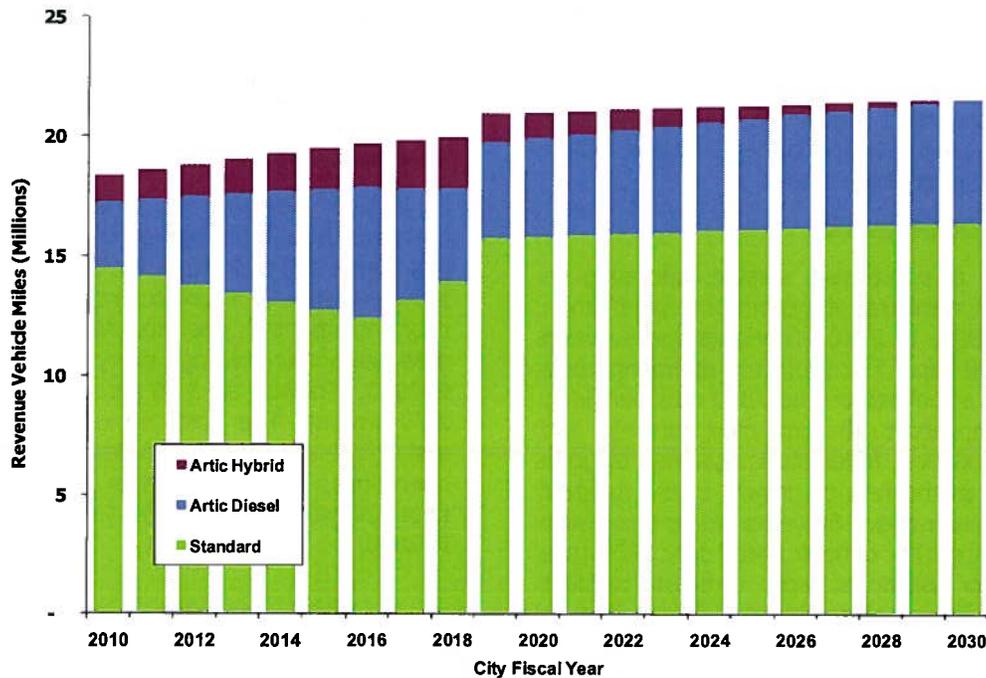


Figure 3-3, TheBus Revenue Vehicle Miles, FY2010 – FY2030



**Unit Costs**

An O&M cost allocation model was used to estimate O&M costs for each bus system component, where each O&M cost item was assigned to one of several variables, based on its sensitivity to given O&M cost drivers. Costs assigned to each variable were summed and divided by each variable's annual total. Unit costs broken down by object class were applied to data taken from the transit service plan and forecast model output for the Project. Table 3-2 summarizes the unit costs and the associated level of service in FY2019 and FY2030.

Table 3-2, TheBus Level of Service Variables & Unit Costs

Level of Service Variable	FY2019	FY2030	Unit Costs (\$2010)
Revenue Vehicle Miles SB	15,738,141	16,405,491	\$3.04
Revenue Vehicle Miles AD	4,037,774	5,145,958	\$4.23
Revenue Vehicle Miles AH	1,147,095		\$3.59
Revenue Vehicle Hours	1,587,661	1,669,932	\$60.90
Peak Vehicles SB	343	373	\$28,573
Peak Vehicles AD	88	117	\$34,002
Peak Vehicles AH	25		\$28,902
Maintenance Facilities	3	3	\$911,539
Unlinked Passenger Trips	98,016,332	109,831,653	\$0.058

SB = Standard Bus  
 AD = Articulated Diesel  
 AH = Articulated Hybrid

**INFLATION**

Inflation assumptions for TheBus were developed as follows:

- Salaries, wages, benefits (excluding healthcare), materials and supplies, and other bus O&M costs were assumed to increase at the rate of general inflation, as measured by the Honolulu Consumer Price Index (CPI). From FY2011 through FY2014, this forecast is based on the quarterly outlook of key economic indicators from the DBEDT as of February 17, 2011. The Financial Plan adjusts the projected growth from calendar year to fiscal year. The resulting growth rate in FY2014, equal to 2.30 percent, is then assumed to remain constant through FY2030.
- Health care costs were assumed to grow at a faster rate, equal to 4.87 percent per year from FY2011 to FY2030. This corresponds to the average annual growth in health care cost per hour reported in the U.S. Bureau of Labor Statistics' (BLS) national compensation survey dated March 9, 2011 for civilian workers in the production, transportation, and material moving occupations. Historical data on general inflation and healthcare costs is presented in Attachment D.
- Bus fuel costs were increased based on the Energy Information Administration forecast for diesel fuel used in the transportation sector through 2030, as

published in its 2011 Annual Energy Outlook dated December 2010.

Figure 3-4 shows the composition of total operating costs for TheBus system through FY2030, with the contribution to total cost of each LOS variable. Revenue vehicle miles is the most significant cost variable for operating costs, particularly for standard buses, which make up the majority of TheBus fleet.

**THEHANDI-VAN O&M COSTS**

TheHandi-Van is a paratransit service operating in tandem with the current transit system and has been in operation since 1999. In 2010, TheHandi-Van serviced more than 880,000 trips. The projected operating costs for TheHandi-Van are based on the 2010 cost per rider, equal to \$36.47, applied to the projected ridership, and adjusted for CPI inflation. Ridership is assumed to grow at the same rate as the rate of growth in the resident population in Honolulu above 65 years old as forecasted by the DBEDT in its 2035 outlook dated July 2009 (see Attachment D for historical and forecast resident population data). The resulting ridership is expected to grow at an average annual rate of 2.57 percent from FY2010 to FY2030. Adjusted for inflation, this yields an average annual growth rate for TheHandi-Van operating costs of 4.92 percent per year.

**OTHER O&M COSTS**

Other minor O&M costs are expected throughout the planning horizon. These costs account for only up to \$2 million per year and correspond to operating costs

associated with establishing selected human service agencies as transportation providers who serve clients currently riding TheHandi-Van, and maintaining a shuttle service for low-income persons working in Kapolei and Makakilo areas. Both of these efforts are included in the FY2011 – FY2014 Transportation Implementation Plan.

**SYSTEM-WIDE O&M COSTS**

Figure 3-5 illustrates the forecasted total annual O&M costs for the system broken down by mode. As seen in this figure, the O&M costs for TheBus and TheHandi-Van are increasing at a greater rate than the Project once fully implemented. TheHandi-Van is expected to grow at 4.84 percent on average per year between FY2020 and FY2030, TheBus at 3.70 percent, and the Project at 2.70 percent. The costs to operate the City's transit system are still expected to be attributable mostly to bus operations, as the Project is expected to account for about 20 percent of total O&M cost between FY2016 and FY2030.

**OPERATING REVENUES**

The following section describes the operating sources of funds that the City intends to use to fund the O&M costs for the Project and the transit system as a whole. Operating revenues include passenger fares, while other revenues for operations are expected to include transfers from the City's General and Highway Funds and from FTA Section 5307 formula funds.

Figure 3-4, TheBus Total O&M Costs, FY2010 – 2030, YOY \$millions

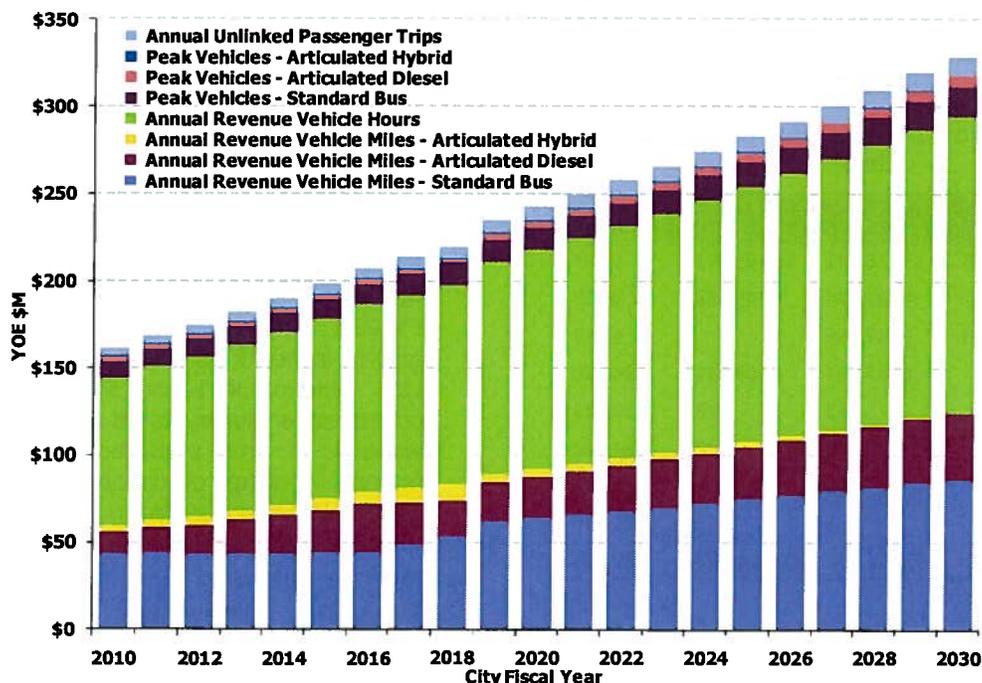
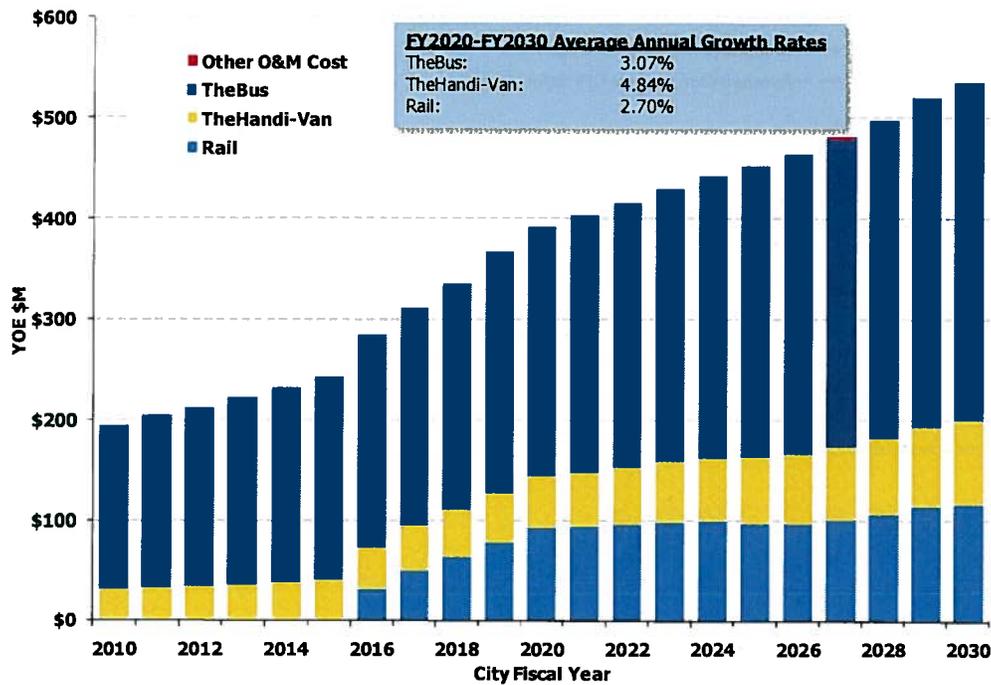


Figure 3-5, Total System-wide O&M Costs, FY2010 – FY2030, YOY \$millions\*



\* Project Core Systems O&M cost in FY2030 was extrapolated

**PASSENGER FARES**

In FY2010, TheBus reported 73 million boardings, corresponding to about 55 million linked trips (taking transfers into account). The corresponding average fare per linked trip was \$0.83. On July 1, 2010 (beginning of FY2011), the City increased fares by approximately 14 percent on average, to \$0.95 per trip. This is just \$0.02 lower than the average fare assumed in the base year of the travel demand model adjusted for CPI inflation. As such, it is assumed to be used as the starting point for forecasting fare revenues.

A City resolution (00-29 CD1) stipulates that the farebox recovery ratio for TheBus be maintained between 27 percent and 33 percent, which demonstrates a commitment of the City to keep operating costs and revenues growing at a comparable rate on average.

This Financial Plan assumes that the same fare structure will be maintained for both TheBus and the Project, with free transfers assumed between modes.

Figure 3-6 illustrates the assumed future fare increases that are used as the basis for the fare revenue forecast, as compared to a constantly increasing average fare, which is assumed implicitly in the travel demand analysis.

The growth in average fare is assumed as a “step function” with increases of approximately \$0.16 in FY2015, \$0.11 in FY2019, \$0.12 in FY2023, and \$0.16 in FY2028. Figure 3-7 shows the farebox recovery ratio

(FRR) for bus and rail combined, as well as for bus alone and rail alone. Consistent with City policy, the combined FRR for bus and rail remains between 27 percent and 33 percent through FY2030. This figure also illustrates the fact that, once fully implemented, the Project is expected to carry a larger load relative to its operating and maintenance cost than bus, as illustrated by the higher FRR for rail alone than for bus alone. In part, this reflects the fact that riders are expected to use rail for longer trips on average than for bus, and is also consistent with general industry benchmarks. The FRR by mode was obtained by calculating fare revenues for each mode, which were proportioned between bus and rail 50 percent by boardings by mode and 50 percent by passenger miles by mode. The breakdown of fare revenues by mode is presented in the operating plan cash flow in Appendix A.

The timing and amount of these fare increases are consistent with the City’s past history. The average fare assumptions are consistent with the fare assumptions in the travel demand analysis, which assumes that fares increase at the same rate as inflation.

Table 3-3 presents a simplified bus fare structure along with the City’s fare increase history, and shows that the City has increased fares five times over the past 10 years.

Figure 3-6, Average Fare growing at CPI vs. Periodic Increases, FY2011 – FY2030, YOE \$

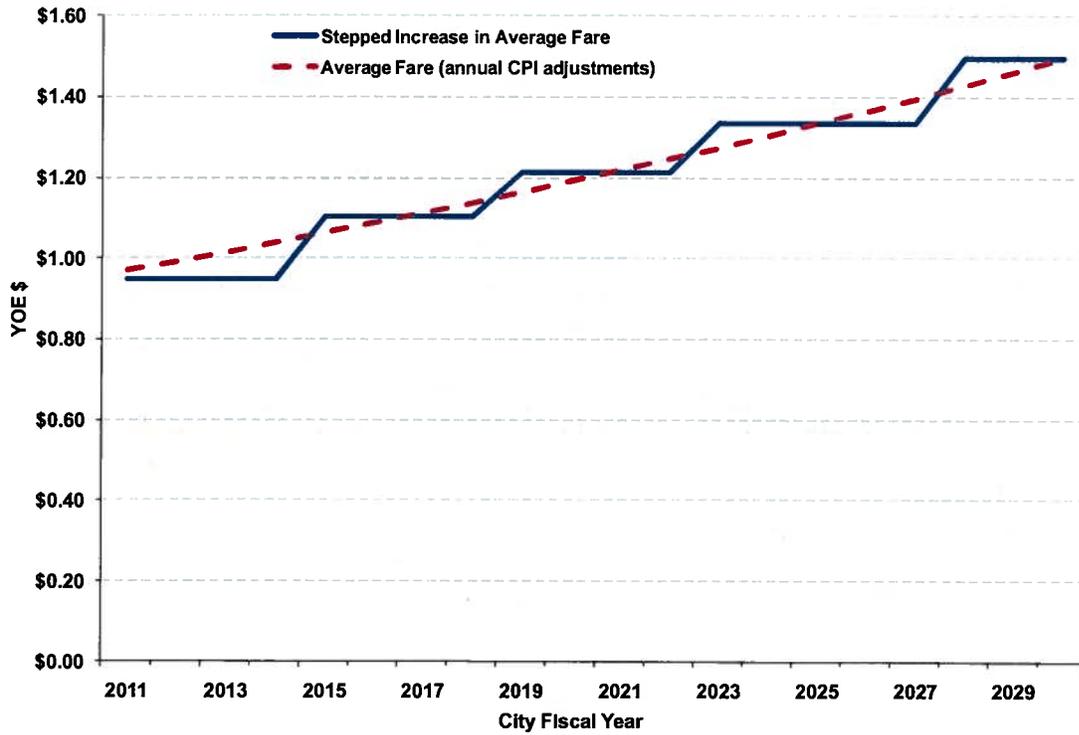
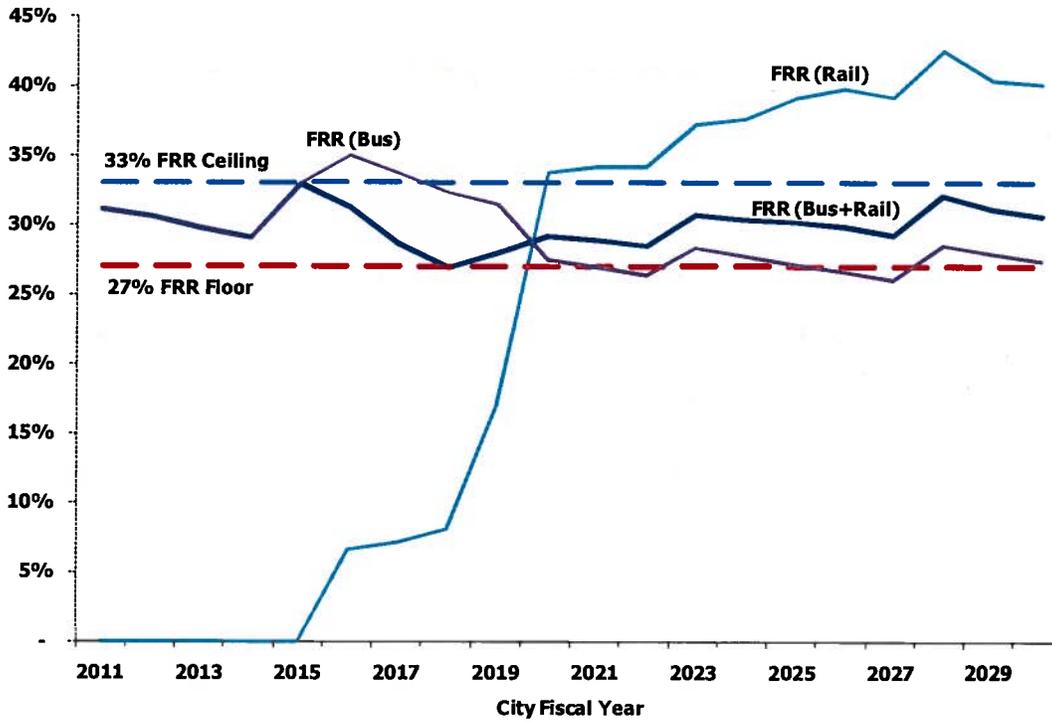


Figure 3-7, Rail and Bus Farebox Recovery Ratio (FRR), FY2011 – FY2030\*



\* TheBus and Project forecasted fare revenues as percentage of TheBus and Project O&M cost

Table 3-3, TheBus Fare Structure and History

Effective Date	One-way Cash Fare		Monthly Pass	
	Adult	Youth	Adult	Youth
March 1, 1971	0.25	0.15	X	X
March 2, 1971	0.25	0.10	X	X
June 9, 1972	0.25, 0.50	0.10, 0.25	X	X
March 15, 1974	0.25	0.10	X	X
November 1, 1979	0.50	0.25	15.00	7.50
June 18, 1984	0.60	0.25	15.00	7.50
October 1, 1993	0.85	0.25	20.00	7.50
July 1, 1995	1.00	0.50	25.00	12.50
July 1, 2001	1.50	0.75	27.00	13.50
July 1, 2003	1.75	0.75	30.00	13.50
October 1, 2003	2.00	1.00	40.00	20.00
July 1, 2009	2.25	1.00	50.00	25.00
July 1, 2010	2.50	1.25	60.00	30.00

X Not Applicable

Ridership estimates used in the Financial Plan were taken from the travel demand model. Approximately 283,000 linked trips per day are forecasted in 2030 for the bus and rail system combined. The ridership increases observed in FY2016 and FY2019 correspond to the opening of the Intermediate Operating Period #1 and the Full Operating Period, respectively. The start of Intermediate Operating Period #2 will occur in FY2018, but is not expected to lead to as sharp of an increase. Once the Project is operational, transfers between TheBus and the Project would also be free and seamless. These assumptions yield projected fare revenues of \$138 million in FY2030. The assumed

growth in the interim years is based on a linear interpolation between opening and forecast year. Growth prior to the first opening date is commensurate with projected growth in population and employment.

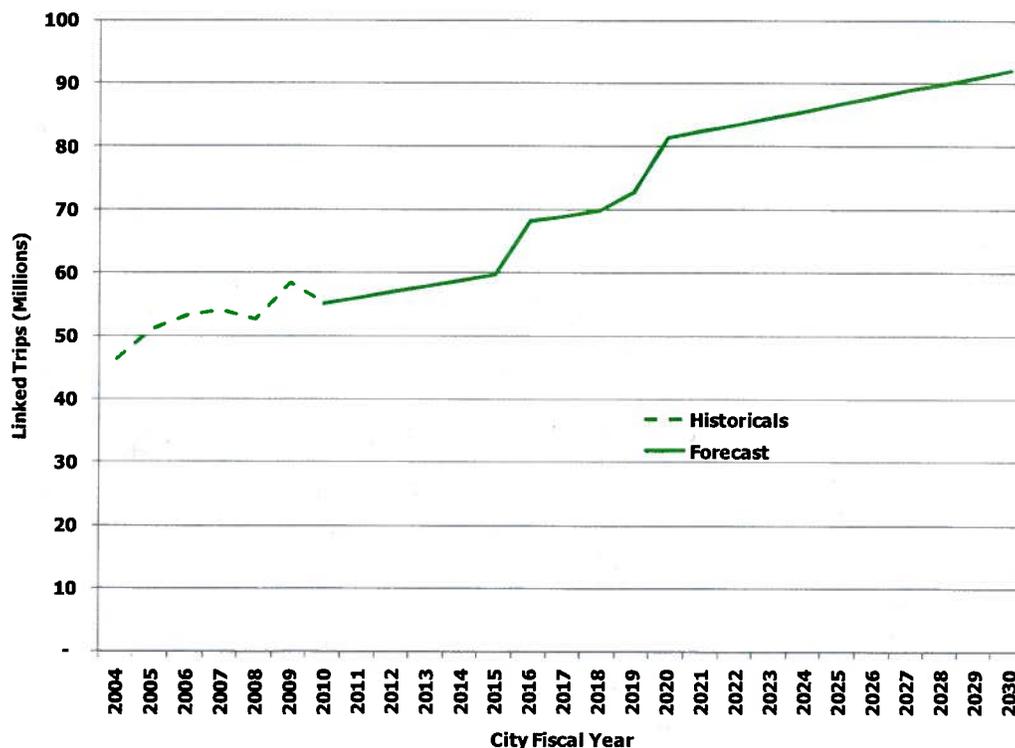
Figure 3-8 illustrates the City's forecasted linked trips, and shows an increase of 14 percent in FY2016 when the first phase opens. In FY2019, linked trips are expected to increase by 4 percent, corresponding to the Project being opened for the last three months of the fiscal year. FY2020 will be the first full operating year with linked trips expected to grow by 11 percent in that year.

**FEDERAL FUNDS**

The City currently receives federal funds through FTA's Section 5307 Urbanized Area Formula Program. As mentioned in the system-wide capital plan chapter of this Financial Plan, the majority of Section 5307 funds are used for capital purposes; however, when these funds are not needed for capital assistance they can also be used for preventive maintenance.

Once the Project is operational, Honolulu will receive additional Section 5307 funds based on the higher level of bus service, ridership, and the addition of rail service. Beyond the Project construction period, the Financial Plan assumes that Honolulu will distribute Section 5307 funds first to fund CARP and ongoing system-wide capital expenditures; any remainder will then be used to

Figure 3-8, Historical and Forecasted Linked Trips for TheBus and the Project, FY2004 – FY2030, millions of Trips



fund preventive maintenance. Increased Section 5307 funding attributable to the full Project opening for revenue service does not become available until FY2021 because of the 2-year lag between the start of service and the reporting of that increased service to the National Transit Database.

Over the long term, the City is expected to receive a cumulative amount of approximately \$967 million from FY2011 through FY2030 from Section 5307 funds, including \$149 million generated from the implementation of the Project. Of this, \$335 million is assumed to be used for preventive maintenance and the remainder (\$418 million) going to ongoing transit capital needs and the Project.

The City is also expected to continue receiving funds from the FTA Section 5316 (Job Access Reverse Commute) and Section 5317 (New Freedom) programs to fund operations for projects serving low-income persons. The corresponding amount is projected to range from \$1 to \$2 million annually.

**SYSTEM-WIDE OPERATING PLAN**

Given the assumptions in this Financial Plan, the federal and local revenues are assumed to be adequate to operate and maintain the Project while continuing and maintaining the existing bus and paratransit systems. This further assumes that the City will continue to support transit operations through transfers from its

General and Highway Funds, as it has done in the past. Before the Project opens, between FY2010 and FY2015, the City is expected to contribute on average 69 percent of TheBus and TheHandi-Van operating costs. The average subsidy is expected to increase slightly, averaging 70 percent of total O&M costs between FY2016 and FY2030 once the Project opens. Figure 3-9 shows the breakdown of operating revenues compared to total operating costs.

**CITY CONTRIBUTION**

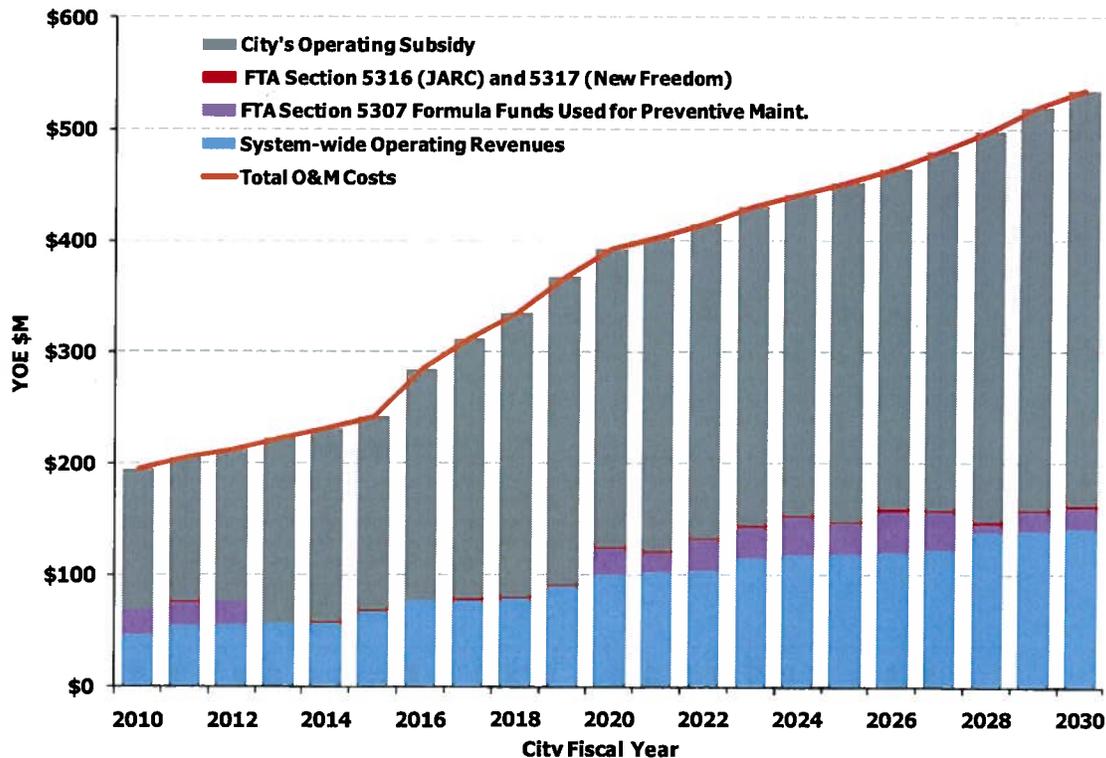
The City's contribution to transit operating and maintenance expenses is funded using local revenues from the General and Highway Funds. The General Fund comprises revenues from the following taxes:

- Real Property Tax – tax on real property based on assessed value; rates vary with property class.
- State Transient Accommodations Tax – 7.25 percent tax on a dwelling that is occupied for less than 180 consecutive days. The City has historically received a portion of these revenues.
- Public Service Company Tax – City receives 1.885 percent of all public service companies' gross income.

The Highway Fund comprises revenues from the following taxes:

- Fuel Tax – a 16.5 cent per gallon tax on all fuel sold

Figure 3-9, Operating Costs and Revenues, FY2010 – FY2030, YOE \$millions



or used within the City's jurisdiction.

- Vehicle Weight Tax – a tax on the net weight of all passenger and non-commercial vehicles (3 cents per pound) and motor vehicles and non-passenger-carrying vehicles (3.5 cents per pound).
- Public Utility Franchise Tax – a 2.5 percent tax on all electric power and gas companies' gross sales receipts.

During the period from FY1994 to FY2010, revenues from these sources totaled \$13.7 billion, of which approximately \$1.5 billion (11 percent) went to transit.

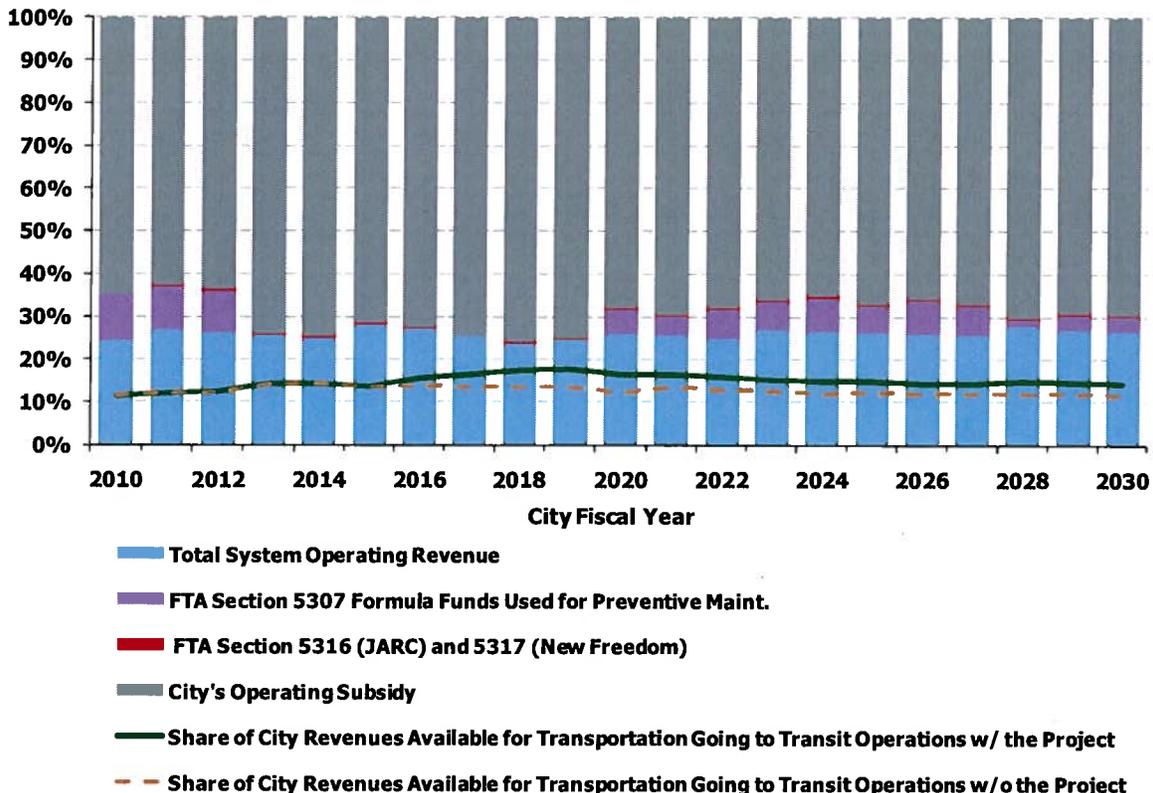
The Financial Plan forecasts the growth in these City Funds at an aggregate level and the resulting share that will be needed for transit operations. This forecast applies the aforementioned CPI inflation forecast in Honolulu as well as a real rate of growth equal to 2.50 percent, which is below the real growth of 2.69 percent experienced between FY2001 and FY2010.

Between FY2010 and FY2015, TheBus and TheHandi-Van services are expected to receive 13 percent of these funds' revenues. To meet the O&M funding requirements for the Project and planned bus system after FY2016, the City contribution is expected to average 15 percent through FY2030.

Increases in other transit revenue sources, such as advertising, or increases to the overall Section 5307 program could reduce the amounts required to be transferred from the City's General and Highway Funds. In addition, it should be noted that the implementation of the Project is expected to result in an additional \$88 million and \$149 million from Section 5309 FGM and Section 5307 funds respectively through FY2030, thereby increasing the amount of Section 5307 funds that can be used for preventive maintenance.

Figure 3-10 shows the breakdown of operating revenues and the City contribution as a percentage of City revenues available for public transportation, including the fund sources described above.

Figure 3-10, Operating Revenues and City Contribution, FY2010 – FY2030



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## Chapter 4: RISKS AND UNCERTAINTIES

The preceding chapters presented the Financial Plan with baseline assumptions for revenues and costs. This chapter discusses the risks and uncertainties around many of the key assumptions.

### CAPITAL PLAN

#### CAPITAL COST RISKS

Risks and uncertainties around the Project capital cost estimate are mostly related to inflationary and schedule risks as further described below. The City has the benefit of having already awarded contracts that make up 39 percent of the total capital cost estimate for the Project. This includes the design-build contracts awarded for the West O'ahu/Farrington Highway guideway, Farrington Highway guideway, the Maintenance & Storage Facility, and the design-build portion of the Core Systems DBOM Contract. The City will also continue to identify potential value engineering opportunities to reduce project costs without impacting the Project's scope or performance.

#### Inflation

As described in Chapter 2, Project construction costs have been escalated using individual cost component rates which vary according to demand and supply at a global, regional, and local level. In general, commodity prices tend to be more sensitive to global economic pressures with some construction cost components being more volatile than others. Steel prices increased in 2010 as compared to 2009, fueled mainly by global demand in developing countries and increases in production capacity utilization. Similarly, other commodity components (concrete and other materials) may be subject to similar fluctuations in prices and could have similar impact on Project cost.

Right-of-way costs are closely related to property values, which have recently experienced a downturn. The capital cost estimate reflects increasing escalation rates for right-of-way costs through FY2011 and FY2012 to account for expectations that property values will begin to increase; however higher than expected growth could result in increased Project costs.

The majority of labor contracts are due to be renegotiated in FY2013 and FY2018, at which point labor prices could increase or decrease based on the availability of labor or the level of construction activity. Furthermore, the escalation rates for labor may be somewhat different if a labor agreement is signed for the Project, which would lock in labor contracts throughout the construction period.

The capital cost estimate includes approximately \$708 million in allocated and unallocated contingency, or approximately 20 percent of the capital cost (in 2011 dollars.) The level of contingency reflects some cushion for potential cost escalation, within a reasonable level of probability.

#### Project Schedule

As part of the Project's ongoing risk management program and FTA's risk assessment process, the City has identified several Project activities that pose potential risks to the critical path of the Project. As with many projects of similar scope and size, the most significant schedule risks involve the duration of FTA reviews and approvals; timing of design and construction NTPs; permitting delays; delays in acquisition of right-of-way; and late delivery or acceptance of design submittals.

The Project's master schedule has been developed in close coordination with FTA, and reflects input on dates for a potential Letter of No Prejudice (LONP) for limited final design activities in May 2011; an LONP for limited construction activities in November 2011; and a FFGA in July 2012. The LONP dates are critical to maintaining the early construction schedule of the Project. Any potential shift in these dates could impact the construction start date, although it is likely that the City would be able to implement schedule mitigation measures to reduce any impact on the construction schedule. The probability of risks associated with potential schedule delays have been included in the Project's risk register, and therefore are also reflected in the amount of contingency included in the Project budget.

#### Interest Rates & 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. Variations in interest rates could also influence the level of working capital and the ability to both operate existing service and undertake new initiatives.

Fluctuations in interest rates are influenced by a number of factors, including the credit rating of the bond issuer (the City) and also by external factors that are not directly under the control of the City, such as market risks. On the general market side, the global financial crisis has severely impacted the municipal finance markets most notably by greatly restricting the availability of credit enhancements such as bond insurance, and by pushing borrowing costs higher for nearly all issuers of municipal debt.

The Financial Plan assumes that the City will utilize a mix of long-term GO bonds, grant anticipation notes, bond anticipation notes, and short-term construction financing in order to optimize the leveraging of the Project's revenue streams. All of these tools are currently available to the City and have been structured in the Financial Plan to conform to provisions of the Hawaii Constitution. The interest rates assumed for each type of debt instrument have been marked up by 25 to 50 basis points over rates that would be available for comparable maturities in today's market, in order to account for potential future interest rate fluctuations.

### **Credit Rating**

This Financial Plan assumes that the credit quality of the City and County of Honolulu will remain at its current rating. Adverse economic conditions or shifts in the City's debt policies could impact 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, the City's reliance its general fund revenues to pay transit system operating costs, and its ability to remain below the current affordability guidelines set by the City Council.

### **CAPITAL REVENUE RISKS**

#### **GET Surcharge Revenue**

The primary source of non-federal funding for the Project is the GET Surcharge revenues. 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 Financial Plan. Nonetheless, several mitigating factors are important to consider for the outlook in GET Surcharge revenues:

- Inflation plays an important role in forecasting GET revenues, as this source of funds is highly dependent on local prices. Higher general inflation in the post-construction years could increase GET Surcharge revenues without affecting Project capital costs.
- Unlike most sales taxes, the GET Surcharge has the benefit of being levied on a broad range of business activities including both goods and services. This diversification is usually seen positively by economists and the investment community and is usually associated with greater stability.

#### **FTA Funding: Section 5307; Section 5309 New Starts, FGM, and Bus Capital**

The Project assumes federal funding participation through the Section 5307 urbanized area program; and Section 5309 New Starts, FGM, and Bus Capital

programs. Federal legislation that authorizes these programs (SAFETEA-LU) was scheduled to expire at the end of September 2009, but has been extended until March 31, 2012. 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.

USDOT's FY12 budget proposal includes increasing levels of funding available for transit projects; including \$3.2 billion of funds for the New Starts program in FY2012, and a total of \$20.4 in funding between 2012 and 2017 for "Transit Expansion and Livable Communities" projects, which would include the New Starts program. While it is unlikely that these exact amounts will be enacted by Congress, it signals a strong commitment from the Administration to the New Starts program.

The timing of new authorization legislation could also impact whether FTA would have available funding authority to commit to a project in Honolulu. The FY2010 Appropriations bill provided unlimited contingent commitment authority for FTA, which would effectively rescind any limits on FTA's ability to make funding commitments that extended beyond the current authorization period. However, it is not clear whether future Appropriations bills will continue to extend that authority to FTA.

The timing of New Starts funding is also subject to appropriation uncertainties. The amount of the FTA contribution would be spelled out in a FFGA between FTA and the City. The FFGA will also identify the amount to be made available each year, subject to annual appropriations legislation. History has shown that Congress ultimately honors and appropriates the full amount spelled out in an FFGA. Congress could delay funding for the Project by reducing or stretching out the annual appropriations. Any delay could necessitate additional borrowing or schedule delays, potentially increasing the Project's capital cost.

The Financial Plan assumes that the City will issue debt that would be repaid with FFGA revenues, which are referred to as grant anticipation notes (GANs). These would allow the City to leverage future FFGA revenues before they have been appropriated, and any appropriation risk would be factored into the interest rate. This helps minimize the potential impacts of any delays in FFGA appropriations on the Financial Plan.

## **OTHER POTENTIAL OPPORTUNITIES FOR THE CAPITAL PLAN**

While the capital plan is balanced based upon the assumptions stated in Chapter 2, a variety of additional sources could be tapped if necessary, should the actual Project costs turn out to exceed current estimates or GET Surcharge revenues fall below expectations. The funding opportunities described below create robustness to the capital plan in the sense that added financial capacity can be brought to bear if necessary. This section describes some of the potential opportunities.

### **Other Federal Funding Opportunities**

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

- The Administration has proposed to create a National Infrastructure Bank within its 2012 Budget Plan. Referred to as the "I-Bank", this entity would receive funding of up to \$5 billion per year for 6 years, which would then be provided to transportation related infrastructure projects in the form of grants, loans or loan guarantees. Based on the proposed project criteria, the Project would meet the eligibility requirements for subsidized loans, which could reduce the borrowing costs associated with GET Surcharge-backed bonds.
- A similar proposal to create the American Infrastructure Finance Authority has been made by a bipartisan group of Senators. This new entity would receive \$10 billion in funding for one year, which would then be provided on a revolving basis to infrastructure projects that contribute to regional or national economic growth. The authority would provide low interest loans, loan guarantees and alternative minimum tax exemption on private activity bonds. Any reduced interest financing tools provided under this proposal could reduce the borrowing costs for the City, and provide additional capacity in the GET Surcharge revenue stream.
- A bi-partisan coalition of mayors has proposed the creation of Qualified Transit Improvement Bonds (QTIBs). QTIBs represent a new category of direct subsidy tax-preferred bonds for transit initiatives of national significance, and are pending legislative approval as part of pending or future tax legislation. It is proposed that the federal interest subsidy would be set at 100 percent of the interest rate on the bonds and the bond principal repayment must be backed by non-federal revenue source, such as GET Surcharge revenues. A 100 percent subsidy of long-

term bonds would reduce the Project interest costs by approximately \$204 million on long-term debt.

QTIBs are proposed to be enacted as part of a pilot program, through which the Secretary of Transportation would select nationally significant projects or programs of projects based on high benefit-cost ratios or other project parameters. Eligible projects would include public transportation projects, or programs of projects, that significantly reduce greenhouse gases or emissions, have an estimated capital cost in excess of \$1 billion, and derive not more than 30 percent of their capital cost funding from New Starts funds.

The creation of a QTIB-type financing instrument is not unprecedented. Since 1997, Congress has enacted half a dozen separate programs authorizing state and local governments to issue tax-preferred debt at or near zero percent. These programs, totaling in excess of \$37 billion, have been for purposes such as public education, Gulf and Midwestern disaster recovery, clean renewable energy, forestry conservation and energy conservation. The interest subsidies are designed to provide federal buy-downs of 70 percent to 100 percent of borrowers' interest expense. Each program has a volume cap and maturity limitation associated with it.

### **Extension of GET Surcharge Revenues**

The enabling legislation for the GET Surcharge revenues requires the state to stop levying the surcharge on December 31, 2022. Any change in the sunset date would require action by the state legislature. Extending the collection period by 2 years, through December 31, 2024, would generate approximately \$740 million in additional GET Surcharge revenues.

### **Lower Amount of GET Surcharge Revenues Retained by the State**

As stated earlier in the Financial Plan, the enabling legislation on the GET Surcharge specifies that 10 percent of GET Surcharge revenues be retained by the state. The 10 percent retention is included in the enabling legislation, so any change could require action by the state legislature. A decrease of this percentage from 10 to five percent would result in an increase in GET Surcharge revenues of \$149 million from FY2013 to FY2023.

### **Lease Financing Arrangement for Rail Vehicles**

The City is acquiring rail vehicles for the Project under the Core Systems Contract for an estimated capital cost of \$212 million. The City may explore the potential to enter into a lease financing arrangement through private

placement with a bank or financing institution, which could be secured by federal funds such as Section 5307 funds. Under such an arrangement, the City would still procure the vehicles under the Core Systems Contract, but assign the rights to the vehicles to the lessor (the financing institution) under an Assignment Agreement. The lessor would then delegate the rights to the vehicles back the City, and at the end of the lease term the full title would be transferred to the City. The City would likely structure a series of draws consistent with the contract progress payments. Under current market conditions, the average interest rate on a ten year lease term would be about 3.85 percent, whereas the rate on a 15 year lease would be approximately 4.00 percent.

One advantage of this arrangement would be to leverage the future Section 5307 revenues, and reduce the amount of Section 5307 revenues required for the Project during the construction period. This could permit more Section 5307 funds to be utilized for the fixed-route bus system. It could also enable the City to sculpt lease payments to match the progress payments under the Core Systems contract. Because the lease term could be structured to extend for 10 to 15 years, it could allow some additional GET Surcharge revenues to be available for other capital expenditures between FY2013 and FY2023.

### **Value Capture**

The Project will improve access to and spur development at many key areas within the City. The development of these sites and nearby areas will be significant, both in advance of the rail system opening and after opening as well. There are many ways that the City can benefit from this expected development, including through the use of Tax Increment Financing (TIF), Special Assessment Districts, Development Impact Fees, or other 'value capture' mechanisms. These options would generate additional Project funding, which could be used to offset any increase in capital costs or decrease in available GET Surcharge revenues, or used to reduce the City's contribution to O&M costs for the Project.

*Tax Increment Financing* provides a mechanism whereby future gains in tax revenues within the boundaries of a defined district can be used to issue bonds to fund capital improvements and other defined costs. TIF enabling legislation is in place under Chapter 33 of the Revised Ordinances of Honolulu. Any county council may provide for TIF by approving a tax increment financing plan and adopting an ordinance establishing the district.

*Special Assessments* involve levying a special property assessment paid annually within a defined area of benefit, with revenues used to finance Project-related capital, operating, maintenance, and other

improvements. The cost of the improvements is allocated to property owners within the district and collected based on a defined allocation formula over a predetermined number of years. House Bill 753 SD2 enacted by the State in 1999 grants the authority to individual counties to charter and authorizes the creation of Special Improvement Districts (SIDs). Each SID must be enacted by a separate ordinance of the County. Under local legislation in Honolulu, Ordinance 12 (April 2000) authorizes the establishment of SIDs in the City. The City has experience working with SIDs and issuing SID bonds.

*Development Impact Fees* are one-time fees paid when a landowner secures a building permit within a defined area of benefit, with revenues used to finance infrastructure improvements. The fees themselves, generally structured per dwelling unit or per square foot of non-residential space, are based on the relative benefit the infrastructure asset provides to the property owner.

To provide an order of magnitude estimate of potential revenue generation from value capture, a preliminary analysis was conducted of applying the three value capture concepts above in three geographic contexts: within a half-mile radius of each of the planned stations; within one-half mile of the corridor alignment (excluding station areas); and within the broader urbanized area (excluding the station and corridor areas). For each of the three concepts, revenue estimates were developed for the three potential areas of benefit over a 30-year period (2012-2048) in order to determine the level of bond financing that could be supported by value capture revenues. The analysis conservatively assumed 30-year bonds would be issued at a rate of 8.0 percent interest. Annual revenues were projected to be twice the annual debt service payment required (2.0x coverage ratio) and a 4.0 percent issuance cost was assumed. With application of the three concepts within a half-mile radius of planned stations only, the level of value capture-backed bonding that could be used to fund the Project ranged from approximately \$65 million to \$95 million, with the lowest level of bond proceeds used for purpose of sensitivity testing as a potential supplementary source of funding.

### **Private Participation**

As an alternative approach to value capture, the City could enter into an agreement directly with a private developer where the private company would compensate the City for transit development costs that generate economic activity. For other similar rail transit projects across the U.S., revenues associated with these types of mechanisms have generated on the order of 10

percent of total project costs, which could equal up to \$500 million for the Project.

**Other Transportation Funding Sources**

HDOT has received on average \$33 million over the last five years in Surface Transportation Program (STP) funds each year, and \$9 million in Congestion Mitigation and Air Quality (CMAQ) funds. Transit capital expenditures are an eligible use of both sources of funds. HDOT could transfer these funds to the City by asking the Federal Highway Administration (FHWA) to "flex" these funds to the Section 5307 program, to be dispersed to the Project. The City will work with HDOT to examine whether there are opportunities to utilize

**CAPITAL PLAN SENSITIVITY ANALYSES**

Sensitivity analyses were run to assess the City's capacity to cover unexpected cost increases or revenue reductions. This section presents the results of a potential reduction in annual amounts of New Starts funding, elimination of Section 5307 funding for the Project, a reduction in the growth rate in net GET Surcharge revenues, and a 10 percent increase in Project capital cost.

Table 4-1 presents how the impact of these scenarios could be mitigated. For the purpose of this Financial Plan, the first source of mitigation is \$65 million generated by bonding against value capture revenues,

*Table 4-1 Summary of Sensitivity Analysis Scenarios*

Scenario	Financial Shortfall (YOE \$M) <sup>1</sup>	Net Bond Proceeds from Value Capture Revenues (YOE \$M)	GET Surcharge Extension Scenarios to Eliminate Shortfall (in Quarters) <sup>2</sup>
1 - New Starts \$150M Annual Cap	\$33	\$65	0
2 - No Project Section 5307 Funding	\$223	\$65	3
3 - Lower GET Surcharge Growth	\$118	\$65	1
4 - 10% Project Capital Cost Overrun	\$434	\$65	5

1/ Represents Project cash balance after all Project debt is repaid in FY2023

2/ Timing and amounts of debt repayment affect the duration of the required GET Surcharge extensions

federal highway funds for the Project.

**Military**

Given that Honolulu has such a strong and large military presence, and considering that the Project will benefit many military users, consideration should be given to seeking financial support for the Project both in the form of capital and operating assistance. Military activities will always be a large component of Honolulu's business and development across O'ahu, and over the long-term the Military will benefit from the implementation of rail transit service. Preliminary discussions could be initiated with the appropriate officials to consider financial support for the Project. Any Military support in the form of capital funds received by the Project could be used to offset any decrease in available GET Surcharge revenues or to cover additional cost increases of the Project. Financial support could also be used to offset the difference between operating revenues and costs, which would reduce the Project O&M cost subsidy required by the City.

while the secondary source of mitigation is assumed to be an extension of the GET Surcharge.

Scenarios 1, 2, and 3 summarized in Table 4-1 address lower capital revenues, while Scenario 4 offsets higher capital costs, as described further. The detailed sensitivity cash flows are included in Attachment B.

**Scenario 1 – New Starts \$150 Annual Cap**

In Scenario 1, the annual amount of New Starts funding has been capped at a maximum of \$150 million per year. Under this scenario the City would not receive the full balance of New Starts funds until FY2022. The City would still issue approximately \$855 million in GANs to leverage the FFGA revenues, although the annual debt service would be sized to less than \$150 million per year so that it would not exceed the total amount of New Starts revenues expected in the following year.

Even with the issuance of GANs, the reduction in federal funds during the peak construction period would require additional bonds backed by GET Surcharge revenues to be issued during FY2014-FY2019. Without any further

mitigation, this scenario would result in a \$33 million funding shortfall. The City could mitigate this scenario fully by implementing and bonding against revenue from a value capture mechanism, which would result in a positive end balance of \$57 million.

### **Scenario 2 – No Project Section 5307 Funding**

This scenario assumes that the City would not utilize Section 5307 funds for the Project, and would presumably utilize these revenues for eligible capital expenditures for the fixed-route bus system instead. This would reduce the total amount of capital funding by \$241 million between FY2013-FY2023.

The City could mitigate this revenue reduction partially by issuing more GO bonds backed by GET Surcharge revenues during the construction period. However, after fully leveraging the GET Surcharge revenue stream, a funding shortfall of \$223 million would still exist. The City could fully mitigate this scenario by implementing and bonding against revenue from a value capture mechanism and extending the GET Surcharge by three quarters, through the end of September of 2023, which would result in a positive cash balance of \$86 million.

Another alternative for mitigating the impacts of a reduction in Section 5307 funding would be to employ a potential lease financing arrangement for rail vehicles, as described above. The City could pledge a smaller portion of Section 5307 revenues during the construction period to making lease payments, thereby allowing a larger portion to be utilized for bus-related capital expenditures from FY2013-FY2019.

### **Scenario 3 – Lower GET Surcharge Growth**

Scenario 3 examines the impact of a potential reduction in GET Surcharge growth in future years. This scenario assumes 4.00 percent growth in GET Surcharge revenues in all years beyond FY2011 (as opposed to 5.04 percent annual growth in the base case). This scenario results in a reduction of GET Surcharge revenues of \$182 million between FY2012-FY2023.

This scenario could be partially mitigated by issuing more GO bonds than in the base case scenario, although that strategy would still result in a \$118 million funding shortfall. The City could mitigate this scenario fully by implementing and bonding against revenue from a value capture mechanism and extending the GET for one quarter, through the end of March 2023, which would result in a positive cash balance of \$39 million.

### **Scenario 4 – 10 Percent Project Capital Cost Overrun**

This scenario illustrates the impacts of a 10 percent increase in capital costs occurring after execution of an

FFGA (in FY2013). This would increase the capital cost by approximately \$395 million and result in a funding gap of approximately \$434 million. This funding gap could be fully mitigated by implementing and bonding against revenue from a value capture mechanism and extending the GET Surcharge for five quarters, through the end of March 2024, which would leave the City with a positive cash balance of \$34 million.

## **OPERATING PLAN**

### **OPERATING COSTS**

#### **Core Systems Contract**

As mentioned in Chapter 3, about 90 percent of the Project's O&M cost will be covered by the Core Systems DBOM contract that was recently awarded. The operating and maintenance agreement includes pricing for labor, materials, management and administration necessary to support the operations and maintenance of the Project. As such, the risks and uncertainties around unit prices and service plan are strongly mitigated by the presence of this contract.

#### **Cost Escalation: Labor Cost, Energy Prices**

Inflation assumptions for O&M cost used in this Financial Plan are considered to be reasonably conservative. Rates were applied to each Project O&M cost category from the Core Systems Contract and each object class for TheBus and TheHandi-Van O&M costs. This level of disaggregation allowed for consideration of differences in the growth outlook for various cost items, such as health care or fuel prices, which are expected to increase faster than general inflation. Inflationary risks and uncertainties do remain, however, as the global and local supply/demand balance evolves. This is the case, for example, with energy costs in Honolulu, which are highly driven by oil prices and therefore subject to its volatility.

### **OPERATING REVENUES**

#### **Fare Revenues-Ridership**

Fare revenues are based upon current demand forecasts for ridership and a continuation of current fare levels in real terms, which could both change due to a number of short-term and long-term factors such as:

- The state of the economy
- The local job market
- Population growth
- Traffic congestion on roads and main highways
- Fuel prices

- Land use and development plans

While the existing travel demand forecast has made some assumptions with regard to each of these variables, there are uncertainties surrounding the timing and extent of each.

The operating revenues included in the Financial Plan assume periodic fare increases that would maintain a farebox recovery ratio between 27 percent and 33 percent, as per the City's current policy. However, fare revenues could be reduced if the City does not implement the fare increases as shown in the Financial Plan.

The fare revenue forecast has not taken into account any temporary ridership decreases that could result from the fare increases, because of previous experience demonstrating the relative inelasticity of the City's transit demand with respect to fares. Furthermore, the fare increases have been sized to increase the average fare at approximately the same rate as general price inflation, but on a less frequent basis. Accordingly, the fare increases should have a minimal effect on ridership. However, any reduction in ridership as a result of the fare increases could lead to a lower farebox recovery ratio.

#### **OTHER OPPORTUNITIES FOR THE OPERATING PLAN**

##### **Other Operating Revenues - Net Parking Revenues, Advertising Revenues, TOD (Joint Development)**

Additional and/or expanded sources of operating revenues could be considered for the Project. The following identifies selected options that could reduce the City's contribution to offset operating costs.

##### **Advertising and Other Non-fare 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 will also present potential advertising locations for local businesses. Based on 2010 NTD data, Honolulu receives approximately \$0.001 per boarding in advertising revenues, while similar larger-sized systems receive advertising revenues that are 10 to 100 times greater, after adjusting for ridership. Other miscellaneous operating revenue opportunities include the lease of right-of-way for telecommunications or naming of stations.

##### **Parking Revenues**

Demand for park and ride stations is strong in Honolulu, and charging even a nominal amount for daily parking could generate a significant amount of revenue. Collected parking funds could be used for capital and/or operating, as parking surcharges could be used to offset the construction costs of the parking garages, or revenues could be used to offset operating costs of the garages including garage attendants and security personnel.

##### **Improve Service Efficiencies in Bus and Rail Operations**

The addition of the Project to the existing transit network 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 reduce redundancies in the bus service as rail ridership grows. This would have an impact on ongoing bus fleet replacement cycles, which can lead to reductions in both capital and operating costs.

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## **Attachment A: Summary Cash Flows – Base Case**

Table A-1, Capital Plan Cash Flows

City Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Project Funding Sources</b>																						
Net GET Surcharge Revenues	3,154	121	166	186	195	205	215	226	237	249	262	275	289	304	224	-	-	-	-	-	-	
New Starts Revenues for the Project	1,550	-	21	224	250	250	228	192	98	30	7	-	-	-	-	-	-	-	-	-	-	
5307 Formula Funds Used for the Project	244	-	-	-	32	32	34	35	38	39	-	-	-	-	-	-	-	-	-	-	-	
ARRA Funds Used for the Project	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Net Proceeds from Long-term Debt	1,208	-	-	-	-	100	350	350	250	158	-	-	-	-	-	-	-	-	-	-	-	
Net Proceeds from Medium Term Notes (BANS)	350	-	-	-	-	88	71	133	58	-	-	-	-	-	-	-	-	-	-	-	-	
Net Proceeds from Medium Term Notes (GANS)	755	-	-	-	174	360	221	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Net Proceeds from Short-term Construction Financing	600	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	
Interest Income on Cash Balance	7	1	2	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total Project Sources of Funds</b>	<b>7,872</b>	<b>326</b>	<b>389</b>	<b>432</b>	<b>751</b>	<b>948</b>	<b>3,007</b>	<b>3,009</b>	<b>3,047</b>	<b>794</b>	<b>490</b>	<b>282</b>	<b>289</b>	<b>304</b>	<b>224</b>	-	-	-	-	-	-	
<b>Project Capital Costs</b>																						
Total Capital Cost	4,879	80	117	734	846	840	655	580	603	310	95	21	-	-	-	-	-	-	-	-	-	
<b>Debt Service</b>																						
Total Principal Payment on Long-term Debt	1,218	-	-	-	-	-	-	7	27	40	43	40	26	16	5	-	-	-	-	-	-	
Total Interest Payment on Long-term Debt	204	-	-	-	-	-	88	71	134	58	-	-	-	-	-	-	-	-	-	-	-	
Medium Term Notes Due (BANS)	352	-	-	-	-	-	3	2	4	2	-	-	-	-	-	-	-	-	-	-	-	
Medium Term Interest Due (BANS)	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Medium Term Notes Due (GANS)	759	-	-	-	-	234	213	182	95	29	6	-	-	-	-	-	-	-	-	-	-	
Medium Term Interest Due (GANS)	51	-	-	-	5	16	16	9	4	1	0	-	-	-	-	-	-	-	-	-	-	
Short-term Financing Due	600	-	-	-	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	
Finance Charges on Short-term Debt	85	-	-	-	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	
Transfer of Excess GET Surcharge Funds to Ongoing Capital	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total Project Uses of Funds</b>	<b>8,170</b>	<b>80</b>	<b>117</b>	<b>734</b>	<b>846</b>	<b>948</b>	<b>3,007</b>	<b>3,009</b>	<b>3,047</b>	<b>794</b>	<b>490</b>	<b>275</b>	<b>259</b>	<b>260</b>	<b>260</b>	<b>28</b>	<b>17</b>	-	-	-	-	
Finance Charges	295	-	-	-	1	10	21	31	44	52	49	40	26	16	5	-	-	-	-	-	-	
<b>Project Cash Balance</b>																						
Beginning Cash Balance	298	345	417	95	-	-	-	-	-	-	-	7	37	81	45	17	-	-	-	-	-	
Additions (deletions) to Cash	47	72	(322)	(95)	-	-	-	-	-	-	7	30	44	(35)	(28)	(17)	-	-	-	-	-	
Ending Cash Balance	345	417	95	-	-	-	-	-	-	-	7	37	81	45	17	-	-	-	-	-	-	
<b>City Fiscal Year</b>	<b>Total</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>
<b>Funding Sources for Ongoing System-wide Capital Cost</b>																						
Federal Assistance for Ongoing Capital Cost	147	2	2	2	2	2	2	2	2	2	3	3	3	3	5	5	7	18	19	20	20	22
5309 Fixed Guideway Modernization Funds	117	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
5309 Bus Discretionary Grants	418	9	9	10	-	-	-	-	-	-	20	34	29	30	24	35	27	31	31	59	51	51
ARRA Funds Used for Ongoing Capital Cost	26	20	5	0	0	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-
FTA Section 5316 (JARC) and 5317 (New Freedom)	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfers to the State's Vapoled Program	(57)	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(4)	(4)	(4)	(4)
<b>Total Federal Assistance for Ongoing Capital Cost</b>	<b>666</b>	<b>35</b>	<b>21</b>	<b>16</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>25</b>	<b>40</b>	<b>34</b>	<b>38</b>	<b>32</b>	<b>44</b>	<b>47</b>	<b>52</b>	<b>61</b>	<b>73</b>	<b>75</b>
<b>Ongoing City Capital Funding</b>																						
Transfer of Excess GET Surcharge Funds from Project Capital Plan	83	-	-	-	-	-	-	-	-	-	-	12	12	13	13	28	17	-	-	-	-	-
City General Obligation Bond Proceeds	624	9	6	22	58	60	55	70	41	80	44	10	13	12	13	12	15	16	17	25	23	24
<b>Total Funding Sources for Ongoing Capital Cost</b>	<b>1,357</b>	<b>44</b>	<b>26</b>	<b>38</b>	<b>63</b>	<b>66</b>	<b>61</b>	<b>75</b>	<b>47</b>	<b>86</b>	<b>49</b>	<b>35</b>	<b>65</b>	<b>59</b>	<b>64</b>	<b>71</b>	<b>76</b>	<b>63</b>	<b>69</b>	<b>105</b>	<b>96</b>	<b>98</b>
<b>Ongoing Capital Costs</b>																						
Additional Railcar Acquisitions	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	18	-	-	-	-	-
Rail Capital Asset Replacement Program (CARP)	155	-	-	-	-	-	-	-	-	-	1	6	12	13	13	11	8	14	19	19	20	20
Bus Acquisitions	286	29	14	24	17	20	31	32	36	75	37	17	41	34	38	30	37	34	37	72	62	67
Other Capital Cost	746	14	9	9	41	40	24	37	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hand-Over Acquisitions	135	1	3	5	5	5	5	6	6	6	6	7	7	7	8	8	8	8	9	9	10	10
<b>Total Ongoing Capital Cost</b>	<b>1,357</b>	<b>44</b>	<b>26</b>	<b>38</b>	<b>63</b>	<b>66</b>	<b>61</b>	<b>75</b>	<b>47</b>	<b>86</b>	<b>49</b>	<b>35</b>	<b>65</b>	<b>59</b>	<b>64</b>	<b>71</b>	<b>76</b>	<b>63</b>	<b>69</b>	<b>105</b>	<b>96</b>	<b>98</b>

Table A-2, Operating Plan Cash Flows

City Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Operating Revenues</b>																						
Fare Revenues (Bus)	1,486	46	53	54	55	56	66	73	73	72	75	68	69	76	77	78	79	79	89	90	91	
Fare Revenues (Rail)	447	-	-	-	-	-	-	-	-	-	13	31	32	33	37	38	39	39	45	46	47	
Total Fare Revenues (Handi-Van)	60	2	2	2	2	2	2	2	2	3	3	3	3	3	3	4	4	4	4	4	4	
<b>Total System Operating Revenue</b>	<b>1,994</b>	<b>48</b>	<b>55</b>	<b>56</b>	<b>57</b>	<b>58</b>	<b>68</b>	<b>77</b>	<b>78</b>	<b>80</b>	<b>91</b>	<b>102</b>	<b>103</b>	<b>104</b>	<b>116</b>	<b>119</b>	<b>121</b>	<b>123</b>	<b>138</b>	<b>140</b>	<b>142</b>	
<b>Federal Operating Assistance</b>																						
FTA Section 5307 Formula Funds Used for Preventive Maint.	335	21	21	21	-	-	-	-	-	-	-	22	18	27	28	35	28	37	34	8	17	19
FTA Section 5316 (LARC) and 5317 (New Freedom)	20	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
<b>Total Revenues for Operations</b>	<b>2,349</b>	<b>69</b>	<b>76</b>	<b>77</b>	<b>57</b>	<b>58</b>	<b>69</b>	<b>78</b>	<b>79</b>	<b>80</b>	<b>92</b>	<b>125</b>	<b>122</b>	<b>133</b>	<b>145</b>	<b>154</b>	<b>148</b>	<b>158</b>	<b>148</b>	<b>159</b>	<b>163</b>	
<b>Local Operating Assistance</b>																						
City's Operating Subsidy	5,289	127	128	135	165	173	173	206	232	254	275	267	281	283	285	288	304	305	322	350	361	372
<b>Operations and Maintenance (O&amp;M) Costs</b>																						
TheBus O&M Costs	5,138	163	170	176	184	192	200	209	216	223	238	246	253	261	270	278	287	295	305	314	324	333
Fixed Guideway O&M Cost	1,331	-	-	-	-	-	-	31	50	63	78	92	93	98	99	97	97	101	106	113	116	
TheHandi-Van O&M Costs	1,147	32	34	35	37	39	41	43	45	48	50	52	55	58	61	64	67	70	73	77	81	84
Other O&M Cost	23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
<b>Total O&amp;M Costs</b>	<b>7,638</b>	<b>195</b>	<b>205</b>	<b>213</b>	<b>221</b>	<b>232</b>	<b>242</b>	<b>284</b>	<b>312</b>	<b>335</b>	<b>367</b>	<b>392</b>	<b>403</b>	<b>416</b>	<b>430</b>	<b>442</b>	<b>452</b>	<b>464</b>	<b>480</b>	<b>498</b>	<b>520</b>	<b>535</b>
<b>Farebox Recovery Ratio (Bus and Rail)</b>																						
Farebox Recovery Ratio (Bus)	28.1%	31.1%	30.6%	29.8%	29.0%	32.9%	31.3%	28.7%	26.9%	27.9%	29.2%	28.9%	28.4%	30.7%	30.3%	30.2%	29.8%	29.3%	31.1%	31.1%	30.6%	
Farebox Recovery Ratio (Rail)	28.1%	31.1%	30.6%	29.8%	29.0%	32.9%	34.9%	33.7%	32.3%	31.5%	27.4%	26.9%	26.3%	28.3%	27.7%	27.1%	26.6%	26.0%	28.5%	27.9%	27.3%	

Note: Fare revenues are proportioned between bus and rail 50% by boardings by mode and 50% by passengers miles by mode

## **Attachment B: Summary Cash Flows – Sensitivity Analyses**

Table B-1, Sensitivity Analyses -- Scenario 1: New Starts \$150 Million Annual Cap

Scenario: New Starts \$150MM Annual Cap																						
City Fiscal Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Unit	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>CAPITAL PLAN</b>																						
<b>Project Funding Sources</b>																						
Net GET Surcharge Revenues	YOE \$M	3,154	121	166	186	195	205	215	226	237	249	262	275	289	304	224	-	-	-	-	-	-
New Starts Revenues for the Project	YOE \$M	1,550	-	21	150	150	150	150	150	150	150	150	150	150	29	-	-	-	-	-	-	-
5307 Formula Funds Used for the Project	YOE \$M	244	-	-	-	32	32	33	34	35	38	39	-	-	-	-	-	-	-	-	-	-
ARRA Funds Used for the Project	YOE \$M	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Value Capture Revenues	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Long-term Debt	YOE \$M	1,296	-	-	-	-	200	200	300	350	246	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (BANS)	YOE \$M	2,194	-	-	-	198	515	457	459	427	138	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (GANS)	YOE \$M	855	-	-	-	150	150	150	150	105	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Short-term Construction Financing	YOE \$M	600	-	-	-	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-
Interest Income on Cash Balance	0.50% YOE \$M	5	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Project Sources of Funds</b>	<b>YOE \$M</b>	<b>9,901</b>	<b>126</b>	<b>189</b>	<b>338</b>	<b>825</b>	<b>1,152</b>	<b>1,305</b>	<b>1,319</b>	<b>1,399</b>	<b>1,130</b>	<b>697</b>	<b>425</b>	<b>439</b>	<b>333</b>	<b>224</b>	-	-	-	-	-	-
<b>Project Capital Expenses</b>																						
Total CapEx	YOE \$M	4,879	80	117	734	846	840	655	580	603	310	95	21	-	-	-	-	-	-	-	-	-
<b>Debt Service</b>																						
Total Principal Payment on Long-term Debt	YOE \$M	1,305	-	-	-	-	-	-	-	46	92	161	231	247	258	270	-	-	-	-	-	-
Total Interest Payment on Long-term Debt	4.50% YOE \$M	214	-	-	-	-	14	22	34	46	46	46	29	18	6	-	-	-	-	-	-	-
Medium Term Notes Due (BANS)	3.00% YOE \$M	2,205	-	-	-	199	518	459	461	429	139	-	-	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (GANS)	3.00% YOE \$M	72	-	-	-	6	21	14	14	13	4	-	-	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (GANS)	3.00% YOE \$M	859	-	-	-	-	137	136	137	141	145	145	28	-	-	-	-	-	-	-	-	-
Short-term Financing Due	YOE \$M	84	-	-	-	5	9	14	14	14	13	9	5	1	-	-	-	-	-	-	-	-
Finance Charges on Short-term Debt	2.50% YOE \$M	15	-	-	-	3	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-
Other Finance Charges	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Uses of Funds</b>	<b>YOE \$M</b>	<b>10,233</b>	<b>80</b>	<b>117</b>	<b>734</b>	<b>846</b>	<b>1,152</b>	<b>1,305</b>	<b>1,319</b>	<b>1,399</b>	<b>1,130</b>	<b>697</b>	<b>447</b>	<b>426</b>	<b>305</b>	<b>276</b>	-	-	-	-	-	-
<b>Project Cash Balance</b>																						
Beginning Cash Balance	YOE \$M	298	345	417	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Additions (deletions) to Cash	YOE \$M	47	72	(396)	(21)	-	-	-	-	-	-	(22)	13	27	(52)	-	-	-	-	-	-	-
Ending Cash Balance	YOE \$M	345	417	21	0	0	0	0	0	0	0	0	(22)	18	(33)	(33)	(33)	(33)	(33)	(33)	(33)	(33)

Table B-2 Sensitivity Analyses – Scenario 1: New Starts \$150 Million Annual Cap (with Value Capture Revenues)

Scenario: New Starts \$150MM Annual Cap (with Value Capture Revenues)																								
City Fiscal Year	Unit	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>CAPITAL PLAN</b>																								
<b>Project Funding Sources</b>																								
Net GET Surcharge Revenues	YOE \$M	3,154	121	166	186	195	205	215	226	237	249	262	275	289	304	224	-	-	-	-	-	-	-	-
New Starts Revenues for the Project	YOE \$M	1,550	-	21	150	150	150	150	150	150	150	150	150	150	29	-	-	-	-	-	-	-	-	-
5307 Formula Funds Used for the Project	YOE \$M	244	-	-	-	32	32	33	34	35	38	39	-	-	-	-	-	-	-	-	-	-	-	-
ARRA Funds Used for the Project	YOE \$M	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Value Capture Revenues	YOE \$M	65	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Long-term Debt	YOE \$M	1,231	-	-	-	-	-	100	350	350	250	181	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (BANS)	YOE \$M	672	-	-	-	-	-	164	150	215	143	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (GANS)	YOE \$M	833	-	-	-	348	466	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Short-term Construction Financing	YOE \$M	600	-	-	-	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-
Interest Income on Cash Balance	0.50%	6	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Project Sources of Funds</b>	<b>YOE \$M</b>	<b>8,359</b>	<b>126</b>	<b>189</b>	<b>338</b>	<b>825</b>	<b>953</b>	<b>782</b>	<b>1,010</b>	<b>1,088</b>	<b>930</b>	<b>697</b>	<b>425</b>	<b>439</b>	<b>333</b>	<b>225</b>	-	-	-	-	-	-	-	-
<b>Project Capital Expenses</b>																								
Total CapEx	YOE \$M	4,879	80	117	734	846	840	655	580	603	310	95	21	-	-	-	-	-	-	-	-	-	-	-
Debt Service	YOE \$M	1,240	-	-	-	-	-	-	-	50	106	160	213	227	237	248	-	-	-	-	-	-	-	-
Total Principal Payment on Long-term Debt	4.50%	206	-	-	-	-	-	-	7	27	40	43	41	27	16	6	-	-	-	-	-	-	-	-
Medium Term Notes Due (BANS)	YOE \$M	676	-	-	-	-	-	-	165	151	216	143	-	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (BANS)	3.00%	20	-	-	-	-	-	-	5	5	6	4	-	-	-	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (GANS)	YOE \$M	837	-	-	-	-	-	-	125	129	133	137	141	145	28	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (GANS)	3.00%	127	-	-	-	-	10	24	25	21	17	13	9	5	1	-	-	-	-	-	-	-	-	-
Short-term Financing Due	YOE \$M	600	-	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-
Finance Charges on Short-term Debt	2.50%	15	-	-	-	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
Other Finance Charges	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Uses of Funds</b>	<b>YOE \$M</b>	<b>8,600</b>	<b>80</b>	<b>117</b>	<b>734</b>	<b>846</b>	<b>953</b>	<b>782</b>	<b>1,010</b>	<b>1,088</b>	<b>930</b>	<b>697</b>	<b>424</b>	<b>404</b>	<b>283</b>	<b>253</b>	-	-	-	-	-	-	-	-
<b>Project Cash Balance</b>																								
Beginning Cash Balance	YOE \$M	298	345	417	21	0	0	0	0	0	0	0	0	0	1	36	86	57	57	57	57	57	57	57
Additions (deletions) to Cash	YOE \$M	47	72	(396)	(21)	-	-	-	-	-	-	-	1	35	50	(29)	-	-	-	-	-	-	-	-
Ending Cash Balance	YOE \$M	345	417	21	0	0	0	0	0	0	0	0	1	36	86	57	57	57	57	57	57	57	57	57

Table B-3, Sensitivity Analyses – Scenario 2: No Project Section 5307 Funding

Scenario: No FTA Section 5307 Funding																							
CITY FISCAL YEAR																							
Unit	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Project Funding Sources</b>																							
Net GET Surcharge Revenues	YOE \$M	3,154	121	166	186	195	205	215	226	237	249	262	275	289	304	224	-	-	-	-	-	-	-
New Starts Revenues for the Project	YOE \$M	1,550	-	21	224	250	250	250	228	192	98	30	7	-	-	-	-	-	-	-	-	-	-
5307 Formula Funds Used for the Project	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARRA Funds Used for the Project	YOE \$M	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Value Capture Revenues	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Long-term Debt	YOE \$M	1,478	-	-	-	-	-	100	350	350	250	428	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (BANS)	YOE \$M	988	-	-	-	-	-	188	209	311	280	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (GANS)	YOE \$M	753	-	-	-	206	394	154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Short-term Construction Financing	YOE \$M	600	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-
Interest Income on Cash Balances	0.50%	4	1	2	2	0	-	-	-	-	-	-	-	-	(1)	(1)	-	-	-	-	-	-	-
<b>Total Project Sources of Funds</b>	<b>YOE \$M</b>	<b>8,551</b>	<b>126</b>	<b>189</b>	<b>412</b>	<b>751</b>	<b>949</b>	<b>1,007</b>	<b>1,113</b>	<b>1,190</b>	<b>978</b>	<b>720</b>	<b>282</b>	<b>289</b>	<b>303</b>	<b>224</b>	-	-	-	-	-	-	-
<b>Project Capital Expenses</b>																							
Total CapEx	YOE \$M	4,879	80	117	734	846	840	655	580	603	310	95	21	-	-	-	-	-	-	-	-	-	-
<b>Debt Service</b>																							
Total Principal Payment on Long-term Debt	YOE \$M	1,489	-	-	-	-	-	-	7	27	40	43	57	34	21	7	-	-	-	-	-	-	-
Total Interest Payment on Long-term Debt	4.50%	235	-	-	-	-	-	-	189	210	313	281	-	-	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (BANS)	YOE \$M	993	-	-	-	-	-	-	6	6	9	8	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (BANS)	3.00%	30	-	-	-	-	-	-	232	213	182	95	29	6	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (GANS)	YOE \$M	757	-	-	-	-	-	-	18	16	9	4	1	0	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (GANS)	3.00%	54	-	-	-	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-
Short-term Financing Due	YOE \$M	600	-	-	-	-	-	-	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-
Finance Charges on Short-term Debt	2.50%	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Finance Charges	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Uses of Funds</b>	<b>YOE \$M</b>	<b>9,052</b>	<b>80</b>	<b>117</b>	<b>734</b>	<b>846</b>	<b>949</b>	<b>1,007</b>	<b>1,113</b>	<b>1,190</b>	<b>978</b>	<b>720</b>	<b>350</b>	<b>323</b>	<b>323</b>	<b>323</b>	-	-	-	-	-	-	-
<b>Project Cash Balance</b>																							
Beginning Cash Balance	YOE \$M	298	345	417	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Additions (deletions) to Cash	YOE \$M	47	72	(322)	(95)	-	-	-	-	-	-	-	(69)	(35)	(20)	(99)	-	-	-	-	-	-	-
Ending Cash Balance	YOE \$M	345	417	95	0	0	0	0	0	0	0	0	(69)	(103)	(124)	(223)	(223)	(223)	(223)	(223)	(223)	(223)	(223)

Table B-4, Sensitivity Analyses – Scenario 2: No Project Section 5307 Funding (with Value Capture Revenues and GET Surcharge Extension)

Scenario: No FTA Section 5307 Funding (with Value Capture and GET extension to Q1 of FY2024)																								
CITY FISCAL YEAR	Unit	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Project Funding Sources</b>																								
Net GET Surcharge Revenues	YOE \$M	3,417	121	166	186	195	205	215	226	237	249	262	275	289	304	319	169	-	-	-	-	-	-	-
New Starts Revenues for the Project	YOE \$M	1,550	-	21	224	250	250	250	228	192	98	30	7	-	-	-	-	-	-	-	-	-	-	-
5307 Formula Funds Used for the Project	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARRA Funds Used for the Project	YOE \$M	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Value Capture Revenues	YOE \$M	65	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Long-term Debt	YOE \$M	1,612	-	-	-	-	-	100	350	350	250	362	200	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (BANS)	YOE \$M	988	-	-	-	-	-	188	209	311	280	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (GANS)	YOE \$M	753	-	-	-	206	394	154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Short-term Construction Financing	YOE \$M	600	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Income on Cash Balance	YOE \$M	8	1	2	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Sources of Funds</b>	<b>YOE \$M</b>	<b>8,998</b>	<b>126</b>	<b>189</b>	<b>412</b>	<b>751</b>	<b>949</b>	<b>1,007</b>	<b>1,113</b>	<b>1,190</b>	<b>978</b>	<b>720</b>	<b>482</b>	<b>290</b>	<b>304</b>	<b>319</b>	<b>169</b>	-	-	-	-	-	-	-
<b>Project Capital Expenses</b>																								
Total CapEx	YOE \$M	4,879	80	117	734	846	840	655	580	603	310	95	21	-	-	-	-	-	-	-	-	-	-	-
Debt Service	YOE \$M	1,625	-	-	-	-	-	-	-	50	106	160	233	298	314	328	136	-	-	-	-	-	-	-
Total Principal Payment on Long-term Debt	4.50% YOE \$M	257	-	-	-	-	-	-	7	27	40	43	53	44	28	13	3	-	-	-	-	-	-	-
Medium Term Notes Due (BANS)	3.00% YOE \$M	993	-	-	-	-	-	189	210	313	281	-	-	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (BANS)	3.00% YOE \$M	30	-	-	-	-	-	6	6	9	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (GANS)	3.00% YOE \$M	757	-	-	-	-	232	213	182	95	29	6	-	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (GANS)	3.00% YOE \$M	54	-	-	-	-	6	18	16	9	4	1	0	-	-	-	-	-	-	-	-	-	-	-
Short-term Financing Due	2.50% YOE \$M	600	-	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-
Finance Charges on Short-term Debt	2.50% YOE \$M	15	-	-	-	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
Other Finance Charges	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Uses of Funds</b>	<b>YOE \$M</b>	<b>9,210</b>	<b>80</b>	<b>117</b>	<b>734</b>	<b>846</b>	<b>949</b>	<b>1,007</b>	<b>1,113</b>	<b>1,190</b>	<b>978</b>	<b>720</b>	<b>313</b>	<b>342</b>	<b>342</b>	<b>342</b>	<b>139</b>	-	-	-	-	-	-	-
<b>Project Cash Balance</b>																								
Beginning Cash Balance	YOE \$M	298	345	417	95	0	0	0	0	0	0	0	0	0	168	79	56	86	86	86	86	86	86	86
Additions (deletions) to Cash	YOE \$M	47	72	(322)	(95)	-	-	-	-	-	-	-	168	(52)	(38)	(22)	30	-	-	-	-	-	-	-
Ending Cash Balance	YOE \$M	345	417	95	0	0	0	0	0	0	0	0	168	116	79	56	86	86	86	86	86	86	86	86

Table B-5, Sensitivity Analyses – Scenario 3: Lower GET Surcharge Growth

Scenario: GET Reduction	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Unit	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>CAPITAL PLAN</b>																						
<b>Project Funding Sources</b>																						
Net GET Surcharge Revenues	YOE \$M	2,972	121	166	184	192	199	207	216	224	233	242	252	262	273	200	-	-	-	-	-	-
New Starts Revenues for the Project	YOE \$M	1,550	-	21	224	250	250	250	228	192	98	30	7	-	-	-	-	-	-	-	-	-
5307 Formula Funds Used for the Project	YOE \$M	244	-	-	-	32	32	33	34	35	38	39	-	-	-	-	-	-	-	-	-	-
ARRA Funds Used for the Project	YOE \$M	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Value Capture Revenues	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Long-term Debt	YOE \$M	1,311	-	-	-	-	100	350	350	350	161	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (BANS)	YOE \$M	402	-	-	-	-	106	100	177	19	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (GANS)	YOE \$M	755	-	-	-	179	366	211	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Short-term Construction Financing	YOE \$M	600	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Income on Cash Balance	0.50%	5	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Project Sources of Funds</b>	<b>YOE \$M</b>	<b>7,842</b>	<b>126</b>	<b>189</b>	<b>410</b>	<b>752</b>	<b>948</b>	<b>1,007</b>	<b>1,028</b>	<b>1,077</b>	<b>839</b>	<b>472</b>	<b>259</b>	<b>262</b>	<b>273</b>	<b>200</b>	-	-	-	-	-	-
<b>Project Capital Expenses</b>																						
Total CapEx	YOE \$M	4,879	80	117	734	846	840	655	580	603	310	95	21	-	-	-	-	-	-	-	-	-
<b>Debt Service</b>																						
Total Principal Payment on Long-term Debt	YOE \$M	1,320	-	-	-	-	-	-	50	106	177	228	242	253	265	-	-	-	-	-	-	-
Total Interest Payment on Long-term Debt	4.50%	218	-	-	-	-	218	7	7	27	40	49	43	29	18	6	-	-	-	-	-	-
Medium Term Notes Due (BANS)	YOE \$M	404	-	-	-	-	-	107	100	178	19	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (BANS)	3.00%	12	-	-	-	-	-	3	3	5	1	-	-	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (GANS)	YOE \$M	759	-	-	-	-	234	213	213	182	95	29	6	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (GANS)	3.00%	51	-	-	-	-	5	16	16	9	4	1	0	-	-	-	-	-	-	-	-	-
Short-term Financing Due	YOE \$M	600	-	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-
Finance Charges on Short-term Debt	2.50%	15	-	-	-	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-
Other Finance Charges	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Uses of Funds</b>	<b>YOE \$M</b>	<b>8,259</b>	<b>80</b>	<b>117</b>	<b>734</b>	<b>846</b>	<b>948</b>	<b>1,007</b>	<b>1,028</b>	<b>1,077</b>	<b>839</b>	<b>472</b>	<b>298</b>	<b>271</b>	<b>271</b>	<b>271</b>	-	-	-	-	-	-
<b>Project Cash Balance</b>																						
Beginning Cash Balance	YOE \$M	298	345	417	93	0	0	0	0	0	0	0	0	0	(39)	(48)	(118)	(118)	(118)	(118)	(118)	(118)
Additions (deductions) to Cash	YOE \$M	47	72	(324)	(93)	-	-	-	-	-	-	(39)	(9)	2	(71)	-	-	-	-	-	-	-
Ending Cash Balance	YOE \$M	345	417	93	0	0	0	0	0	0	0	(39)	(48)	(118)	(118)	(118)	(118)	(118)	(118)	(118)	(118)	(118)

Table B-6, Sensitivity Analyses – Scenario 3: Lower GET Surcharge Growth (with Value Capture Revenues and GET Surcharge Extension)

Scenario: GET Reduction (with Value Capture Revenues and GET extension to Q3 of FY2023)																							
City Fiscal Year	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>CAPITAL PLAN</b>																							
<b>Project Funding Sources</b>																							
Net GET Surcharge Revenues	YOE \$M	3,056	121	166	184	192	199	207	216	224	233	242	252	262	273	284	-	-	-	-	-	-	-
New Starts Revenues for the Project	YOE \$M	1,550	-	21	224	250	250	250	228	192	98	30	7	-	-	-	-	-	-	-	-	-	-
S307 Formula Funds Used for the Project	YOE \$M	244	-	-	-	32	32	33	34	35	38	39	-	-	-	-	-	-	-	-	-	-	-
ARRA Funds Used for the Project	YOE \$M	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Value Capture Revenues	YOE \$M	65	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Long-term Debt	YOE \$M	1,266	-	-	-	-	100	350	350	350	350	95	21	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (BANS)	YOE \$M	402	-	-	-	-	106	100	100	177	19	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (GANS)	YOE \$M	755	-	-	179	366	211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Short-term Construction Financing	YOE \$M	600	-	-	100	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-
Interest Income on Cash Balance	YOE \$M	6	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total Project Sources of Funds</b>	<b>YOE \$M</b>	<b>7,948</b>	<b>126</b>	<b>189</b>	<b>410</b>	<b>752</b>	<b>948</b>	<b>1,007</b>	<b>1,028</b>	<b>1,077</b>	<b>839</b>	<b>472</b>	<b>280</b>	<b>262</b>	<b>273</b>	<b>284</b>	-	-	-	-	-	-	-
<b>Project Capital Expenses</b>																							
Total CapEx	YOE \$M	4,879	80	117	734	846	840	655	580	603	310	95	21	-	-	-	-	-	-	-	-	-	-
<b>Debt Service</b>																							
Total Principal Payment on Long-term Debt	YOE \$M	1,276	-	-	-	-	-	-	-	50	106	177	214	232	243	254	-	-	-	-	-	-	-
Total Interest Payment on Long-term Debt	YOE \$M	212	-	-	-	-	-	-	-	7	27	40	49	39	28	17	6	-	-	-	-	-	-
Medium Term Notes Due (BANS)	YOE \$M	404	-	-	-	-	-	-	107	100	178	19	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (BANS)	YOE \$M	12	-	-	-	-	-	-	3	3	5	1	-	-	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (GANS)	YOE \$M	759	-	-	-	-	234	213	182	95	29	6	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (GANS)	YOE \$M	51	-	-	-	-	5	16	16	9	4	1	0	-	-	-	-	-	-	-	-	-	-
Short-term Financing Due	YOE \$M	600	-	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-
Finance Charges on Short-term Debt	YOE \$M	15	-	-	-	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-
Other Finance Charges	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Uses of Funds</b>	<b>YOE \$M</b>	<b>8,208</b>	<b>80</b>	<b>117</b>	<b>734</b>	<b>846</b>	<b>948</b>	<b>1,007</b>	<b>1,028</b>	<b>1,077</b>	<b>839</b>	<b>472</b>	<b>280</b>	<b>260</b>	<b>260</b>	<b>260</b>	-	-	-	-	-	-	-
<b>Project Cash Balance</b>																							
Beginning Cash Balance	YOE \$M	298	345	417	93	0	0	0	0	0	0	0	0	0	2	15	39	39	39	39	39	39	39
Additions (deletions) to Cash	YOE \$M	47	72	(324)	(93)	-	-	-	-	-	-	-	-	2	13	24	-	-	-	-	-	-	-
Ending Cash Balance	YOE \$M	345	417	93	0	0	0	0	0	0	0	0	0	2	15	39	39	39	39	39	39	39	39

Table B-7, Sensitivity Analyses -- Scenario 4: 10 Percent Project Capital Cost Overrun

Scenario: 10% Increase in Capital Cost Starting in FY2013																								
City Fiscal Year	Unit	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>CAPITAL PLAN</b>																								
<b>Project Funding Sources</b>																								
Net CET Surcharge Revenues	YOE \$M	3,154	121	166	186	195	205	215	226	237	249	262	275	289	304	224	-	-	-	-	-	-	-	-
New Starts Revenues for the Project	YOE \$M	1,550	-	21	224	250	250	250	228	192	98	30	7	-	-	-	-	-	-	-	-	-	-	-
5307 Formula Funds Used for the Project	YOE \$M	244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ARRA Funds Used for the Project	YOE \$M	4	4	-	-	32	32	33	34	35	38	39	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Value Capture Revenues	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Long-term Debt	YOE \$M	1,721	-	-	-	-	-	200	350	350	350	471	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (BANS)	YOE \$M	1,253	-	-	-	-	-	229	282	429	312	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (GANS)	YOE \$M	750	-	-	-	259	447	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Short-term Construction Financing	YOE \$M	600	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Income on Cash Balance	YOE \$M	3	1	2	2	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Sources of Funds</b>	<b>YOE \$M</b>	<b>9,278</b>	<b>126</b>	<b>189</b>	<b>412</b>	<b>836</b>	<b>1,034</b>	<b>1,073</b>	<b>1,221</b>	<b>1,343</b>	<b>1,148</b>	<b>802</b>	<b>282</b>	<b>288</b>	<b>302</b>	<b>223</b>	-	-	-	-	-	-	-	-
<b>Project Capital Expenses</b>																								
Total CapEx	YOE \$M	5,274	80	117	734	930	924	720	638	664	340	104	23	-	-	-	-	-	-	-	-	-	-	-
Debt Service	YOE \$M	1,734	-	-	-	-	-	-	-	62	119	190	310	335	351	366	-	-	-	-	-	-	-	-
Total Principal Payment on Long-term Debt	YOE \$M	278	-	-	-	-	-	14	31	43	52	65	40	24	8	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (BANS)	YOE \$M	1,259	-	-	-	-	-	231	283	431	313	-	-	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (BANS)	YOE \$M	38	-	-	-	-	-	7	9	13	9	-	-	-	-	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (GANS)	YOE \$M	754	-	-	-	-	-	229	213	182	95	29	6	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (GANS)	YOE \$M	59	-	-	-	-	8	21	16	9	4	1	0	-	-	-	-	-	-	-	-	-	-	-
Short-term Financing Due	YOE \$M	600	-	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-
Finance Charges on Short-term Debt	YOE \$M	15	-	-	-	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
Other Finance Charges	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Uses of Funds</b>	<b>YOE \$M</b>	<b>10,010</b>	<b>80</b>	<b>117</b>	<b>734</b>	<b>930</b>	<b>1,034</b>	<b>1,073</b>	<b>1,221</b>	<b>1,343</b>	<b>1,148</b>	<b>802</b>	<b>404</b>	<b>375</b>	<b>375</b>	<b>375</b>	-	-	-	-	-	-	-	-
<b>Project Cash Balance</b>																								
Beginning Cash Balance	YOE \$M	298	345	417	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Additions (deletions) to Cash	YOE \$M	47	72	(322)	(95)	-	-	-	-	-	-	-	(123)	(87)	(73)	(152)	(434)	(434)	(434)	(434)	(434)	(434)	(434)	(434)
Ending Cash Balance	YOE \$M	345	417	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table B-8, Sensitivity Analyses – Scenario 4: 10 Percent Project Capital Cost Overrun (with Value Capture Revenues and GET Surcharge Extension)

Scenario: 10% Increase in Capital Cost Starting in FY2013 (with Value Capture Revenues and GET Extension to Q3 of FY2024)

City Fiscal Year	Unit	Total	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>CAPITAL PLAN</b>																								
<b>Project Funding Sources</b>																								
Net GET Surcharge Revenues	YOE \$M	3,583	121	166	186	195	205	215	226	237	249	262	275	289	304	319	335	-	-	-	-	-	-	-
New Starts Revenues for the Project	YOE \$M	1,550	-	21	224	250	250	228	228	192	98	30	7	-	-	-	-	-	-	-	-	-	-	-
S307 Formula Funds Used for the Project	YOE \$M	244	-	-	-	32	32	33	34	35	38	39	-	-	-	-	-	-	-	-	-	-	-	-
ARRA Funds Used for the Project	YOE \$M	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Value Capture Revenues	YOE \$M	65	-	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Long-term Debt	YOE \$M	1,669	-	-	-	-	-	200	350	350	350	352	67	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (BANS)	YOE \$M	1,222	-	-	-	-	-	229	282	419	292	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Medium Term Notes (GANS)	YOE \$M	750	-	-	-	259	447	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Proceeds from Short-term Construction Financing	YOE \$M	600	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Income on Cash Balance	0.50%	6	1	2	2	0	-	-	-	-	-	-	-	0	0	0	0	-	-	-	-	-	-	-
<b>Total Project Sources of Funds</b>	<b>YOE \$M</b>	<b>9,694</b>	<b>126</b>	<b>189</b>	<b>412</b>	<b>836</b>	<b>1,034</b>	<b>1,073</b>	<b>1,221</b>	<b>1,333</b>	<b>1,128</b>	<b>749</b>	<b>349</b>	<b>289</b>	<b>304</b>	<b>319</b>	<b>335</b>	-	-	-	-	-	-	-
<b>Project Capital Expenses</b>																								
Total CapEx	YOE \$M	5,274	80	117	734	930	924	720	638	664	340	104	23	-	-	-	-	-	-	-	-	-	-	-
<b>Debt Service</b>																								
Total Principal Payment on Long-term Debt	YOE \$M	1,682	-	-	-	-	-	-	-	52	108	157	230	264	277	290	303	-	-	-	-	-	-	-
Total Interest Payment on Long-term Debt	4.50%	310	-	-	-	-	-	14	32	32	44	54	61	46	33	20	7	-	-	-	-	-	-	-
Medium Term Notes Due (BANS)	YOE \$M	1,229	-	-	-	-	-	231	283	283	421	293	-	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (BANS)	3.00%	37	-	-	-	-	-	7	9	9	13	9	-	-	-	-	-	-	-	-	-	-	-	-
Medium Term Notes Due (GANS)	YOE \$M	754	-	-	-	-	-	229	213	182	95	29	6	-	-	-	-	-	-	-	-	-	-	-
Medium Term Interest Due (GANS)	3.00%	59	-	-	-	-	8	21	16	9	4	1	0	-	-	-	-	-	-	-	-	-	-	-
Short-term Financing Due	YOE \$M	600	-	-	-	-	100	100	100	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-
Finance Charges on Short-term Debt	2.50%	15	-	-	-	-	3	3	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-
Other Finance Charges	YOE \$M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total Project Uses of Funds</b>	<b>YOE \$M</b>	<b>9,959</b>	<b>80</b>	<b>117</b>	<b>734</b>	<b>930</b>	<b>1,034</b>	<b>1,073</b>	<b>1,221</b>	<b>1,333</b>	<b>1,128</b>	<b>749</b>	<b>321</b>	<b>310</b>	<b>310</b>	<b>310</b>	<b>310</b>	-	-	-	-	-	-	-
<b>Project Cash Balance</b>																								
Beginning Cash Balance	YOE \$M	298	345	417	95	0	0	0	0	0	0	0	0	0	28	7	0	9	34	34	34	34	34	34
Additions (deletions) to Cash	YOE \$M	47	72	(322)	(95)	-	-	-	-	-	-	-	28	(21)	(7)	9	25	-	-	-	-	-	-	-
Ending Cash Balance	YOE \$M	345	417	95	0	0	0	0	0	0	0	0	28	7	0	9	34	34	34	34	34	34	34	34

## Attachment C: Historical GET Data

Table C-1 Historical 4.00% Statewide GET Revenues Since 1981

City Fiscal Year	GET 4.00% Revenues	Annual Growth Rates	City Fiscal Year	GET 4.00% Revenues	Annual Growth Rates
1981	\$515,952,541		1996	\$1,306,485,667	4.31%
1982	\$542,253,113	5.10%	1997	\$1,342,627,310	2.77%
1983	\$562,797,732	3.79%	1998	\$1,318,387,286	-1.81%
1984	\$607,987,568	8.03%	1999	\$1,326,629,646	0.63%
1985	\$644,712,809	6.04%	2000	\$1,407,794,620	6.12%
1986	\$707,930,438	9.81%	2001	\$1,484,880,213	5.48%
1987	\$781,662,134	10.42%	2002	\$1,477,916,046	-0.47%
1988	\$845,785,351	8.20%	2003	\$1,615,351,758	9.30%
1989	\$936,226,844	10.69%	2004	\$1,710,913,530	5.92%
1990	\$1,056,199,616	12.81%	2005	\$1,950,030,632	13.98%
1991	\$1,170,615,754	10.83%	2006	\$2,224,511,711	14.08%
1992	\$1,208,723,624	3.26%	2007	\$2,380,677,790	7.02%
1993	\$1,210,512,109	0.15%	2008	\$2,379,880,665	-0.03%
1994	\$1,230,387,345	1.64%	2009	\$2,251,546,329	-5.39%
1995	\$1,252,463,263	1.79%	2010	\$2,147,251,742	-4.63%
				<b>1981 to 2010</b>	
				<b>CAGR</b>	<b>5.04%*</b>

\*Rate used in Financial Plan to forecast GET Surcharge revenues.

## Attachment D: O&M Cost Escalation Assumptions

Table D-1, Honolulu CPI-U and U.S. Health Care Costs Annual Growth Rates

	Honolulu CPI-U <sup>1</sup>	U.S. Healthcare Cost per Hour Worked <sup>2</sup>
<b>2005</b>	3.78%	6.77%
<b>2006</b>	5.86%	5.06%
<b>2007</b>	4.83%	7.87%
<b>2008</b>	4.26%	1.80%
<b>2009</b>	0.52%	3.08%
<b>2010</b>	2.11%	4.79%
<b>2005-2010 CAGR</b>	<b>3.54%</b>	<b>4.87%</b>

1/ DBEDT

2/ BLS National Compensation Survey, 3/9/2011, Civilian workers with the Production, transportation, and material moving occupations

Table D-2, Honolulu Actual and Forecasted Resident Population

	Honolulu County Total Resident Population	Annual Growth Rate	Honolulu County Resident Population Over 65 Years Old	Annual Growth Rate
<b>1980<sup>1</sup></b>	764,600		56,282	
<b>1990<sup>1</sup></b>	838,534	0.93%	91,788	5.01%
<b>2000<sup>1</sup></b>	875,054	0.43%	118,306	2.57%
<b>2005<sup>1</sup></b>	899,673	0.56%	127,692	1.54%
<b>2010</b>	911,833	0.27%	145,148	2.60%
<b>2015</b>	941,824	0.65%	165,988	2.72%
<b>2020</b>	969,462	0.58%	189,347	2.67%
<b>2025</b>	994,610	0.51%	213,784	2.46%
<b>2030</b>	1,017,565	0.46%	234,502	1.87%
<b>2035</b>	1,038,316	0.40%	248,215	1.14%

1/ Actuals per Revised Estimates from US Census Bureau (release date May 2009)

Source: 2009 State of Hawaii Data Book Table A-13

Table D-3 O&amp;M Inflation Costs Applied to Project CARP and Core Systems O&amp;M Costs

	Hourly Earnings – Transportation and Utilities Industry <sup>1</sup>	Hourly Earnings – Services to Buildings and Dwellings Industry <sup>2</sup>	Street, Subway and Rapid Transit PPI <sup>3</sup>	Line Haul Railroads PPI <sup>4</sup>	Average of PPI Indices
<b>2001</b>	N/A	N/A	N/A	N/A	N/A
<b>2002</b>	3.55%	3.16%	0.18%	2.26%	1.15%
<b>2003</b>	6.92%	3.16%	-0.83%	1.72%	0.37%
<b>2004</b>	3.13%	1.91%	-0.23%	2.63%	1.14%
<b>2005</b>	-6.45%	2.17%	2.60%	6.98%	4.72%
<b>2006</b>	0.03%	2.72%	2.27%	11.23%	6.70%
<b>2007</b>	2.98%	2.87%	2.52%	4.83%	3.71%
<b>2008</b>	2.61%	4.50%	1.86%	8.36%	5.25%
<b>2009</b>	7.26%	3.15%	2.24%	2.99%	2.64%
<b>2010</b>	0.40%	0.51%	3.45%	-0.84%	1.14%
<b>2001-2010 CAGR</b>	<b>2.20%</b>	<b>2.68%</b>	<b>1.55%</b>	<b>4.40%</b>	<b>2.96%</b>
Application in Financial Plan	O&M Labor Costs	CARP Labor Costs			O&M Materials Costs and CARP Materials and Special Equipment Costs

1/ BLS, Hourly Earnings for Production Employees, Transportation and Utilities Industry, Honolulu, SMU15261804000000001

2/ BLS, Hourly Earnings for Buildings and Dwellings Industry, U.S., CEU6056170008

3/ BLS, Producer Price Index, Street, Subway and Rapid Transit, U.S., PCU3365103365105

4/ BLS, Producer Price Index, Line Haul Railroads, U.S., PCU482111482111

Note: CARP subcontract costs escalated using 50% average PPI of 'Line Haul Railroads', and 'Street Subway, Trolley and Rapid Transit', and 50% BLS Honolulu, Hourly Earnings, Production Employees, Transportation and Utilities

## Attachment E: Local Financial Commitment Checklist

GRANTEE FINANCIAL SUBMITTAL	Included (check one)		Reason Why Information Has Not Been Provided
	Yes	No	
20-year cash flow statement (in year of expenditure dollars) including capital and operating financial plans (provided both electronically and in hardcopy). The cash flow statement should clearly show revenues and expenses for the project separated from those for the remainder of the transit system.	X		
Detailed written description/discussion of all assumptions used in the financial plan including: Federal/state/local/debt proceeds funding assumptions Average fare assumption Average weekday ridership assumptions Debt coverage requirements/assumptions Assumptions used in the calculation of operating expenses for each mode (i.e. -- vehicle miles, vehicle hours of service provided, etc.)		X	Previously submitted to FTA FMOC
Project Description and <u>New Starts Project Finance Template</u>		X	Previously submitted to FTA as part of the FY2013 New Starts Report
Capital cost estimate for the proposed project (in year of expenditure dollars) in the FTA standardized cost category worksheet format		X	Previously submitted to FTA as part of the FY2013 New Starts Report
Sensitivity Analysis (spreadsheet calculations as well as narrative summary)	X		
Supporting Documentation Including:			
Background information and description of the New Starts fixed guideway project, including project status	X		
Historical revenue and expense data (minimum of 5 years required, more than 5 years appreciated)	X		
Commitment letters, contracts, agreements, legislative referendums or other documents demonstrating local share commitment of non-Federal funding partners		X	Provided in 2009
Enacting legislative documents for tax referenda		X	Provided in 2009
Joint development agreements, or description and supporting documentation of other innovative financing techniques, if applicable		X	Not Applicable
Annual Operating and Capital Budgets for the past 3 years		X	Previously submitted to FTA FMOC
Audited Financial Statements and Compliance Reports for the past 3 years		X	Previously submitted to FTA FMOC
Annual Reports/Comprehensive Annual Financial Reports (CAFR) for the past 3 years		X	Previously submitted to FTA FMOC
Background information and description of the transit agency, including organizational structure and grantee enabling legislation		X	Previously submitted to FTA FMOC
TIP, STIP and Short Range Transit Plan (SRTP), if available (please provide only relevant pages of these documents)		X	Previously submitted to FTA FMOC
Regional Long Range Transportation Plan (please provide only relevant pages)		X	Previously submitted to FTA FMOC
Sponsoring Agency's Capital Improvement Program Document		X	Previously submitted to FTA FMOC
Bus and Rail Fleet Management Plans including fleet replacement schedules		X	Previously submitted to FTA FMOC
Latest bonding prospectus/credit facility documents (credit lines, commercial paper, etc.)		X	Previously submitted to FTA FMOC
Local development, demographic and economic studies used in preparing the financial plan, plus documentation supporting efficiency or productivity gain assumptions		X	Previously submitted to FTA FMOC
Other materials (if any), please describe:		X	Not Applicable