

EXECUTIVE SUMMARY

Financial Plan Assessment, Feasibility and Fiscal Implications of the Honolulu Rail Transit Project

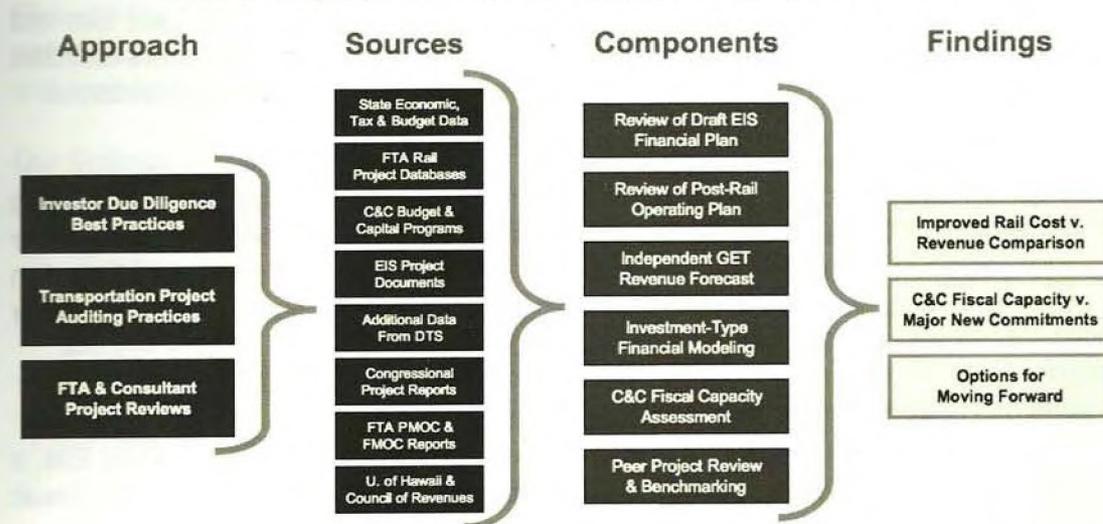
prepared by
Infrastructure Management Group, Inc.
 in conjunction with the Land Use and Economic
 Consulting Group of CB Richard Ellis and Thomas A. Rubin

1. Study Overview

The Honolulu High Capacity Rail Transit Project is one of the largest proposed transit projects in the country. Its budget dwarfs the New York Second Avenue Subway Phase I and the Washington Dulles Corridor Metrorail Project. Of the 43 projects listed in the Federal Transit Administration's ("FTA's") *Annual Report on Funding Recommendations*, the only projects with larger dollar values are the New York Long Island Rail Road East Side Access and the New Jersey Access to the Region's Core, which was recently canceled by the New Jersey governor due to its cost overruns. In light of Honolulu project's size compared to the population served by it, Governor Linda Lingle requested that the Hawaii Department of Transportation procure an independent financial review.

Infrastructure Management Group, Inc. ("IMG"), in conjunction with the Land Use and Economic Consulting Group of CB Richard Ellis ("CBRE") and Thomas A. Rubin (together, the "IMG Team") was tasked by the Hawaii Department of Transportation to evaluate the rail project's financial plan, including revenues and costs, the post-rail operating plan, and the fiscal implications for Honolulu. In addition, the IMG Team examined the financial performance history of other relevant transit rail projects relevant to Honolulu's plans. The diagram below summarizes the analytic process.

The Independent Financial Assessment Process



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This report goes substantially beyond the relatively limited periodic financial reviews conducted as part of the FTA's new starts grant approval process. Those reviews and the FTA's process itself are directed toward protection of the federal interest and rely upon the strictures of the Full Funding Grant Agreement ("FFGA") to place all risk of cost overruns or revenue shortfalls on local taxpayers. By contrast, the IMG Team used standard infrastructure investor due diligence processes similar to what lenders, bond rating agencies and infrastructure fund managers use to evaluate financial feasibility.

The IMG Team's analysis takes the *local public investment perspective*, seeking to assess the reasonableness and accuracy of the current Financial Plan while separately analyzing (using new models with updated information and more complete range of assumptions) the local fiscal consequences of the most likely cost and revenue scenarios. Such independent due diligence is essential to informed investment decisions. The assessment was guided by the following:

- Standard investor due diligence practices for publicly and privately funded infrastructure projects in the U.S.;
- The IMG Team's collective experience in reviewing other, similar transportation investments for governments and private investors in the U.S. and around the world, and
- The specific concerns expressed by the FTA in its internal review of the project, particularly those raised in the full report of New Starts Financial Assessment conducted by its independent Financial Management Oversight Consultant ("FMOC").

The assessment consisted of a review of the current Financial Plan and the conduct of several independent, standalone analyses. All told, the assessment included five major components:

1. A review of the current Financial Plan
This task was led by IMG with assistance from Thomas Rubin and the Land Use and Economic Consulting Group of CB Richard Ellis. It was based upon the Team's collective experience with other rail projects as well as FTA reports and transit industry databases.
1. A peer project review
This task was conducted by IMG and transit finance and accounting specialist Thomas Rubin using FTA data, Congressional reports, contacts with the peer project sponsor agencies and previous internal and published reports on the peer projects. Information from these peer projects informed the financial risk assessment and provided lessons for Hawaii on the management of its rail project and post-rail operations.
2. A new GET surcharge revenue forecast, based on the latest data
This task was led by the Land Use and Economic Consulting Group of CB Richard Ellis, a global development advisory firm with an office in Honolulu, using data from the Hawaii



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Department of Taxation, Department of Business, Economic Development and Tourism, the University of Hawaii, and other sources. The forecast utilized the strong historical relationships between growth rates for the US Gross Domestic Product, Hawaii Gross State Product, Honolulu County economic activity, population, and GET collections.

3. A new investment-type financial model, including revised inputs and more complete scenarios

This task was led by IMG using proven financial models from other transit new start projects and incorporating data from several sources, including the current Financial Plan, the new GET forecasts, the Operating Plan assessment, the FTA FMOC and PMOC reports, and the peer projects analysis. The model utilized a Base Case (mostly likely), Downside Case (which we have judged to be the second most likely), and Best Case (judged to be plausible but least likely) scenarios.

4. A review of the post-rail operating plan, including assessment of the projected costs, revenues and service assumptions

This task was conducted by Thomas Rubin using information in the EIS, FTA data and documents, and other proprietary and publicly available data. This was based on the post-rail experience of other transit systems and FTA funding, maintenance and equipment replacement guidelines.

5. An assessment of the C&C strategic fiscal capacity

This task was conducted by IMG based upon information supplied by various State of Hawaii agencies, C&C agencies, members of the Council of Revenues and publicly available data. It compared the C&C's prospective baseline spending levels to the new capital improvement other major spending obligations that were unknown at the time of the rail project financial plan was developed.

The combination of these task components allowed The IMG Team to evaluate the current Financial Plan and the project itself from a variety of capital, revenue, cost and risk perspectives, and to do so without relying entirely on the models and assumptions used by the project's engineer and program manager.

Our findings are summarized below:

1. ***GET revenues are most likely to grow at a compounded rate that is approximately 30 percent lower than the forecast included in the current Financial Plan.***
2. ***The Project is most likely to require over \$1.7 billion more capital and operating subsidy from the City of Honolulu over the 20-year time frame than was assumed in the current Financial Plan. The difference between the planned and most likely subsidy over 30 years will be even greater, as major rail repair and equipment replacement costs are included and larger-than planned operating subsidies persist.***



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3. *There is a substantial risk that required subsidy could be \$4.5 billion more than the planned amount over the 20-year timeframe, even if all of the current Financial Plan's presumed federal New Start funds are realized (but delayed) and construction costs are only 10 percent more than assumed in the current Financial Plan.*
4. *The total capital and operating subsidy paid by local taxpayers in addition to the GET surcharge is estimated to range from \$9.3 billion under the 30-year Best Case scenario to \$14.5 billion under the 30-year Downside Case.*
5. *The debt required to finance the rail project is likely to push annual debt service levels for Honolulu well past its current 20-percent-of-budget guidelines.*
6. *The financial challenges for the rail project could be overcome by increasing the duration or size of the GET surcharge. For example, the construction shortfall could be eliminated by between 5 and 19 years (depending upon the scenario) or increasing the GET surcharge rate by between 24 and 76 percent.*
7. *Post-rail transit system usage and fare revenue are likely to be substantially lower than is projected in the current Financial Plan, since the Plan's projection would require an unprecedented and unrealistic growth in transit utilization for a city that already has one of the highest transit utilization rates in the country.*
8. *The rail project will be competing with other large and previously ill-defined or unaccounted financial obligations of Honolulu, such as unfunded pension and retiree health care liabilities and increased capital and operating expenses related to compliance with the EPA wastewater consent decree.*

2. Lessons from Other Rail New Starts

A large number of assumptions go into creating cost and revenue estimates for a rail transit project. Although these estimates become more refined as the project moves through the planning phase from concept to construction details, the consistency with which actual costs have exceeded these estimates and ridership has fallen short caused Congress to require that FTA to submit annual "Before and After" reports on all federally-assisted rail projects.

In order to understand the likelihood that each risk might be realized in the Honolulu project, the IMG Team conducted case studies of several other U.S. rail transit projects. Most had outcomes substantially different from their plans. We compared the information in these case studies to the Honolulu project plans. We also reviewed additional FTA reports, studies, and information



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provided directly to IMG from the peer project sponsors. This analysis revealed the several important lessons for the Honolulu project.

On average, the actual costs of heavy rail New Starts projects are significantly higher than estimated in the AA/DEIS, FEIS, and FFGA. In its "Before and After" assessment report of 2007, for example, FTA concluded that approximately half of the studied projects in the report "significantly underestimated capital costs in their AA/DEIS," with most others showing at least some material underestimation (the Financial Plan reviewed by The IMG Team was roughly between the DEIS and FEIS stage). As shown in the following table, data on nine New Starts heavy rail projects shows that final costs average 29.2% higher than AA/DEIS stage, and 22% higher than the FEIS stage and FFGA stage. These overruns occurred despite the 20 percent to 40 percent contingencies built into the projects' cost estimates at the FEIS stage.

Estimated vs. As-Built Costs for Heavy Rail Projects

City	Project Name	\$ Yr	Capital Costs (millions) reported in same year dollars of construction dollars*				As-Built Capital Costs as Percentage of Estimate			
			AA/DEIS	FEIS	FFGA	As-Built	AA/DEIS	FEIS	FFGA	
Atlanta	North Line Extension	1997	439.5	389.7	352.0	472.7	107.5%	121.3%	134.3%	
Baltimore	Extension to Johns Hopkins	1991	313.7	310.5	310.5	353.0	112.5%	113.7%	113.7%	
Chicago	Douglas Branch	2004	441.7	477.7	473.2	440.8	99.8%	92.3%	93.2%	
Chicago	SW Transitway	1990	604.0	532.3	438.4	522.0	86.4%	98.1%	119.1%	
Los Angeles	Red Line	1995	3,031.3	3,181.3	3,505.6	4,469.7	147.5%	140.5%	127.5%	
San Francisco	BART Ext. to SFO	2004	1,193.9	1,230.0	1,185.7	1,551.6	130.0%	126.1%	130.9%	
San Francisco	Colma BART Station	1996	112.5	130.1	171.6	179.9	159.9%	138.2%	104.9%	
San Juan	Tren Urbano	2001	1085.6	1309.2	1280.6	2228.4	205.3%	170.2%	174.0%	
Washington DC	Largo Metro Rail Ext.	2002	375.0	432.6	412.6	426.4	113.7%	98.6%	103.3%	
AVERAGE								129.2%	122.1%	122.3%

*Values expressed as midpoint of construction dollars

The capital cost estimates in the Honolulu Financial Plan include an aggregate 31 percent construction cost contingency, but this is merely typical of the contingencies that were built into the DEIS-stage and FEIS-stage estimates for the projects listed above and for FTA New Start applications overall at the same stage of plan development; that is, the Honolulu estimates do not include a greater-than-usual measure of protection from the cost escalation risk factors that have afflicted previous rail New Starts.

Similarly, FTA has identified fare revenue forecasts as an additional concern for New Starts, especially for cities without rail experience. An examination of AA/DEIS and FEIS reports reveals that the ridership estimates stated in these documents are often highly optimistic. Moreover, a 2007 FTA report concluded that ridership forecasts for initial build-out of multi-phase systems tend



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grants. This is a pattern consistent with the experience of other New Start grant recipients. It calls into question the projected bus discretionary funding for the period 2011-2017, when over \$154 million is expected over these seven years, an average of approximately \$22 million per year, at the same time that Honolulu is projected to be receiving \$1.38 billion in New Starts grants. Accordingly, we do not find these projections to be viable.

- **5309 New Starts Funding:** While we believe that the Financial Plan assumption of a \$1.55 B FTA commitment to the Project is possible, it is optimistic in aggregate and, at \$250 million per year, highly optimistic with regard to the annual appropriation. This concern was also raised by the FTA's FMOC. Nevertheless, we have mostly accepted the assumption in our financial analysis by simply extending the time period over which the funds are paid (by additional three years in the Base Case). However, the City may need to find different sources of funding to cover the bridge loans that will be required to keep the construction period from being extended.

We believe that the federal New Start grant assumptions in the Financial Plan are materially at risk despite FTA's tentative approvals to date (although we have opted to include the dollar amount assumption in our own financial model, albeit over a longer period of time). Moreover, we find that the Financial Plan's assumptions for FTA bus discretionary grants to be both unprecedented and unacceptably optimistic, a concern shared by the FTA's independent financial consultant. Changing the assumption to a more realistic level increases the local subsidy by approximately \$227 million over 20 years.

4. GET Surcharge Revenues

The IMG Team examined key economic variables in Hawaii and the U.S. economy from FY 1990 thru FY 2010 from the Hawaii Department of Business, Economic Development and Tourism ("DBEDT") and the U.S Bureau of Economic Analysis. We examined monthly GET collections in Honolulu County, employed workforce, population, construction permits and spending. We also examined the U.S. Gross Domestic Product for each fiscal year from 1990 through 2009 to determine the statistical relationship with the Hawaiian economy for use in forecasting GET.

In order to overcome the possible effect of temporary swings in the long-term relationships between GET revenues and the US and Hawaiian economies (e.g., short-lived spikes or drops in tourism or construction), the IMG Team looked at three different 15-year time periods between 1990 and 2010, each containing a slightly different mix of boom and bust phenomenon. These were used to define the Base Case, Best Case and Downside Cases. Key findings were:

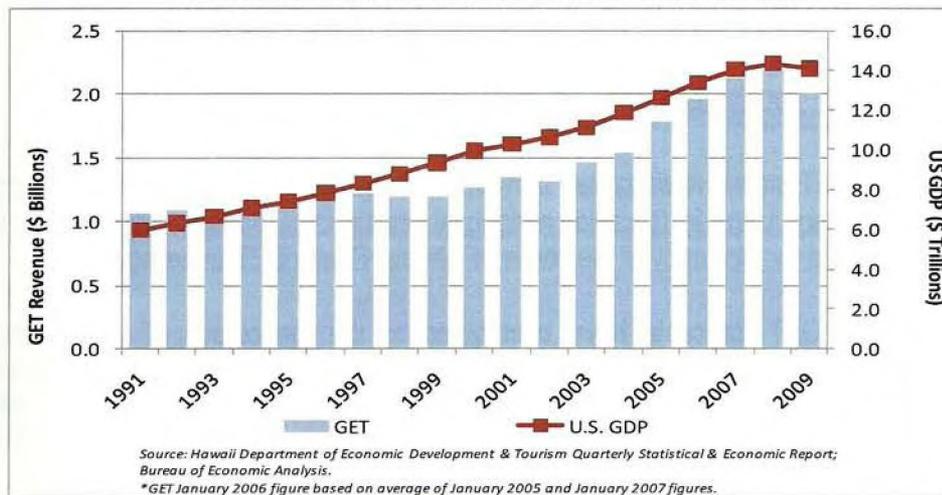
- Actual GET revenues collected in FY 2009 and FY 2010 were 4.9 percent and 2.1 percent lower than the prior year's actual collection respectively – so the base year for our forecast was \$5 million lower than PB.



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- The U.S. GDP has outpaced the Hawaii economy over past 20 years by +40 percent (4.5% CAGR vs 3.3% CAGR).
- While there have been periods before 1990 in which Honolulu's economic growth rates have exceeded US GDP growth (the emergence of long-distance jet service, airline deregulation and surges in the Japanese economy), the relationship of the past three decades (as shown in the chart below) -- and most likely future relationship -- is that Hawaii and Honolulu's growth lags US GDP growth somewhat, as other tourism-dependent regional economies have tended to do over the long term.

Honolulu GET Revenues vs. US GDP FY1991 - 2009

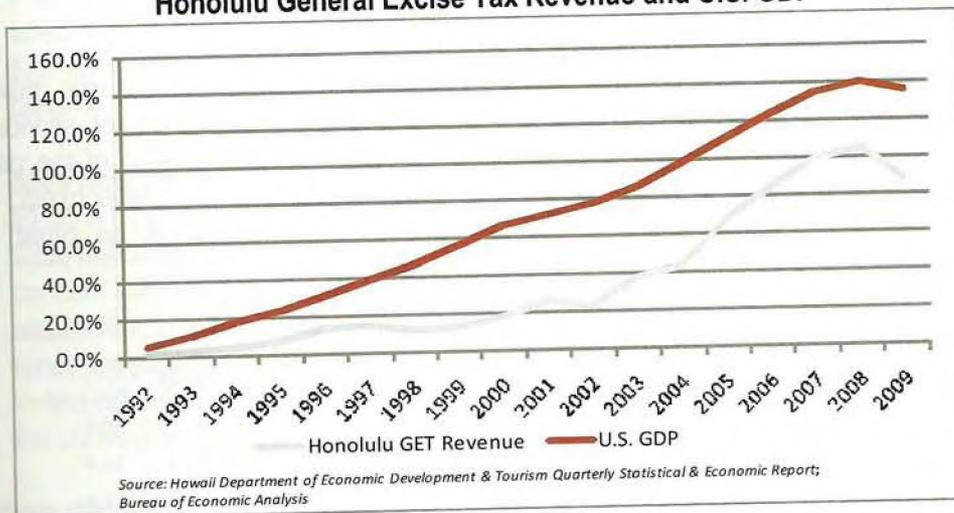


- Since 1990, Honolulu GET growth rates have averaged between 3.5 percent and 4.7 percent over every 15-year period since 1990, somewhat less than US GDP growth. The chart below shows the cumulative impact of this difference: over time the growth of GET revenues have grown to a cumulative level that as of 2009 was roughly 37 percent lower than the growth of U.S. GDP. We believe that a similar aggregate impact can reasonably be expected over the 20-30 year planning period of the rail project.



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**Cumulative Growth Rates
 Honolulu General Excise Tax Revenue and U.S. GDP**



- Honolulu GET growth rates spiked between 2004 and 2008 because of an unprecedented and temporary surge in (taxable) residential construction activity. We believe this may have affected the accuracy of the current Financial Plan's GET forecasts.
- Unrealized GET forecasts have contributed to the inaccuracy of the baseline GET assumptions used in the Financial Plan. The actual 2010 GET is \$ 2,316 million - a 20% decline from 2007 estimates. In 2010 the projected GET for 2014 is \$3,036 million - a 7 percent decline from 2008 and an 18 percent decline from 2007 estimates.

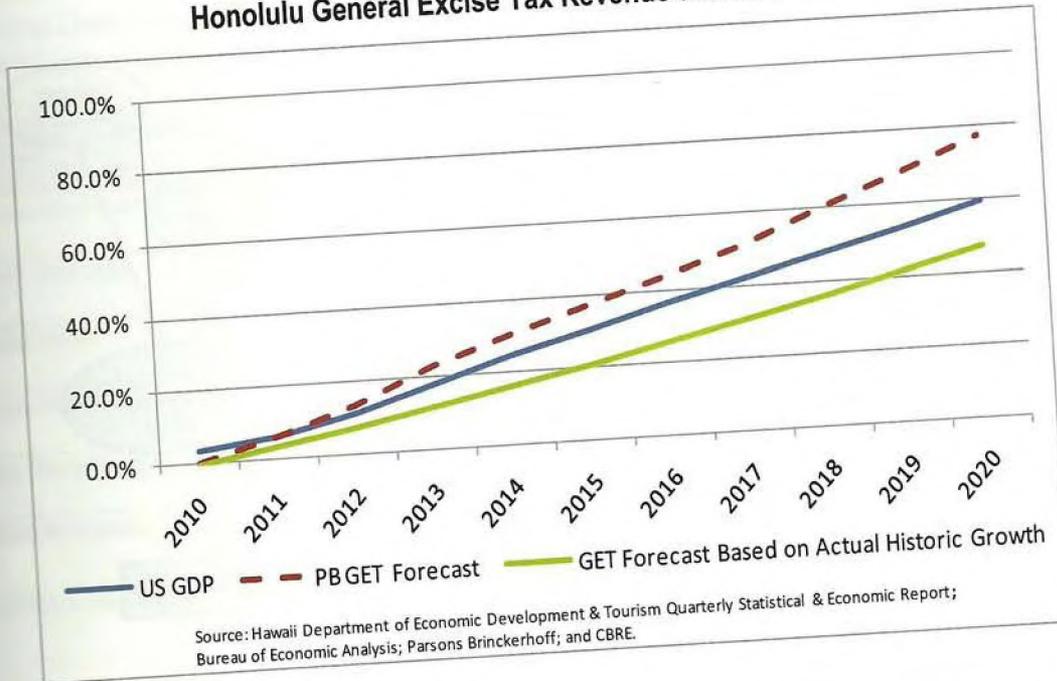
As noted earlier, The IMG Team's GET forecasting model utilizes a range of 15-year compound annual growth rates ("CAGR") for the Hawaii economy beginning in the mid-1990's and ending at the peak of the economic boom and at the end of the most recent recession to provide a conservative to optimistic forecast assumption. For 1995-2010 the CAGR was 3.7%. For 1994-2009 the CAGR was 4.0%. For 1993-2008 the CAGR was 4.7%. As another reference source, the Congressional Budget Office ("CBO") forecasted growth in U.S. GDP is expected to average between 4 percent and 4.5 percent for next ten years. Assuming a similar historic relationship, the GET tax growth is unlikely to grow beyond a 4 percent compound growth rate over the forecast period, well below the 5.4 percent in the current Financial Plan.

Modeling this relationship yields GET revenues that are \$366 million to \$560 million less than the \$3.5 billion estimated by Financial Plan. The chart below shows that the Financial Plan forecast for GET revenue growth exceeds the cumulative growth rate of the U.S. economy and the historic average growth rate of the Hawaiian economy by 40 percent within the first 10 years of the forecast period.



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Forecast Cumulative Growth Rates Honolulu General Excise Tax Revenue and U.S. GDP



The red dotted line ("PB GET Forecast") is the forecast used in the Financial Plan. The solid blue line is the cumulative growth rate for U.S. GDP. The solid green line is the GET forecast based on actual historical growth, which was used by The IMG Team in its financial model.

The gap between the Financial Plan's GET forecast and the forecast based on historical trends is very large in project financing terms: lenders and investors typically discount revenue forecasts that so sharply deviate from known historical relationships. In order for the Financial Plan's forecast of GET revenue ("PB GET Forecast") to occur, the Hawaiian economy and Honolulu's share of it would have to experience long-term growth rates more than double population growth. This is a highly unlikely scenario.

5. The Financial Analysis

The IMG Team developed a new financial model for the project based upon IMG's own transit project finance models from similar projects and utilizing the new GET forecasts (see Section 4 in this Executive Summary), cost data from the current Financial Plan and other sources, and updated assumptions for inflation, financing costs and other inputs. The diagram below shows how the information was combined in the model:



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The table below shows how the assumptions vary. Note that the dollar amounts in the line item for 5309 Bus Discretionary Funds applies only to the 20-year comparison, since we did not perform a direct 30-year comparison between the current Financial Plan and the results of our model.

Assumption	Current Financial Plan	IMG Model	Reasoning
Construction Costs	\$5.1 B	\$5.3 B (excluding inflation)	Reflects recommendation from FTA PMOC report
Model start year	2009	2011	ROD not received in 2010 as expected in Financial Plan
Model length	20 years	30 years	Enables forecast of ongoing maintenance investments
Beginning Transit Fund Balance	\$154 M	\$381 M	Construction delay results in more GET collections
New Starts Funding	\$1.55 B over 9 years	\$1.55 B over 12 years	Project unlikely to receive more than \$150 M per year in New Starts funding
Grant Anticipation Notes	N/A	For shortfall from New Starts funds	Bridge financing needed while New Starts funding is pending
5309 Bus Discretionary	\$419 M	\$166.4 M	Capped at \$2.6 M per year during construction. Very rare for properties to receive major Bus Discretionary in same years as New Starts funds
Operations & Maintenance Costs	\$7.2 B	\$7.7 B	Includes wait time between bus runs
GET revenue	\$3.5 B	\$2.7 B	4% long-term growth rate maintains historic relationship of GET and GDP

These basic assumptions were further refined into three scenarios: Base Case, Best Case and Downside Case. The assumptions for these scenarios are summarized in the table below:

SUMMARY OF SCENARIOS			
	Base Case	Downside Case	Best Case
Beginning Year of the Model	2011	2013	2011
Transit Fund Balance at Start of Construction	\$ 380,880,555	\$ 718,859,595	\$ 380,880,555
Long-Term Debt Interest Rate	3.96%	4.96%	3.96%
City Funds for Ongoing Capex Annual Cap	-	100,000,000	-
GET Forecast	IMG 4%	IMG 3.7%	IMG 4.7%
O&M Forecast	IMG	IMG	EIS
O&M Increase	0%	10%	0%
CAPEX Increase	0%	10%	0%
Capital Renewal & Replacement Forecast	Lower IMG	IMG	Lower IMG w/ \$25 M Cap
Capital Renewal & Replacement Increase/Decrease	0%	20%	-20%
Fare Revenue Decrease	0%	-20%	0%
Fare Elasticity	-0.1	-0.33	0
New Starts Forecast	\$150 M Cap, extended 3 yrs	\$150 M Cap, extended 3 yrs	Financial Plan
5309 Bus Discretionary Forecast	Doubled IMG	IMG (\$1.3 M per year)	Financial Plan w/ \$15 M and \$20 M Cap



Based on the assumptions and various adjustments to the Financial Plan projections discussed above, IMG's financial analysis estimates the impact the taxpayer subsidy (in addition to the GET surcharge revenue) that the rail project would require over a 30-year period. The results of this analysis are presented in the table below. The key results are highlighted in yellow for each of the three business lines, Rail Construction, Ongoing Capital and Major Maintenance, and Operations.

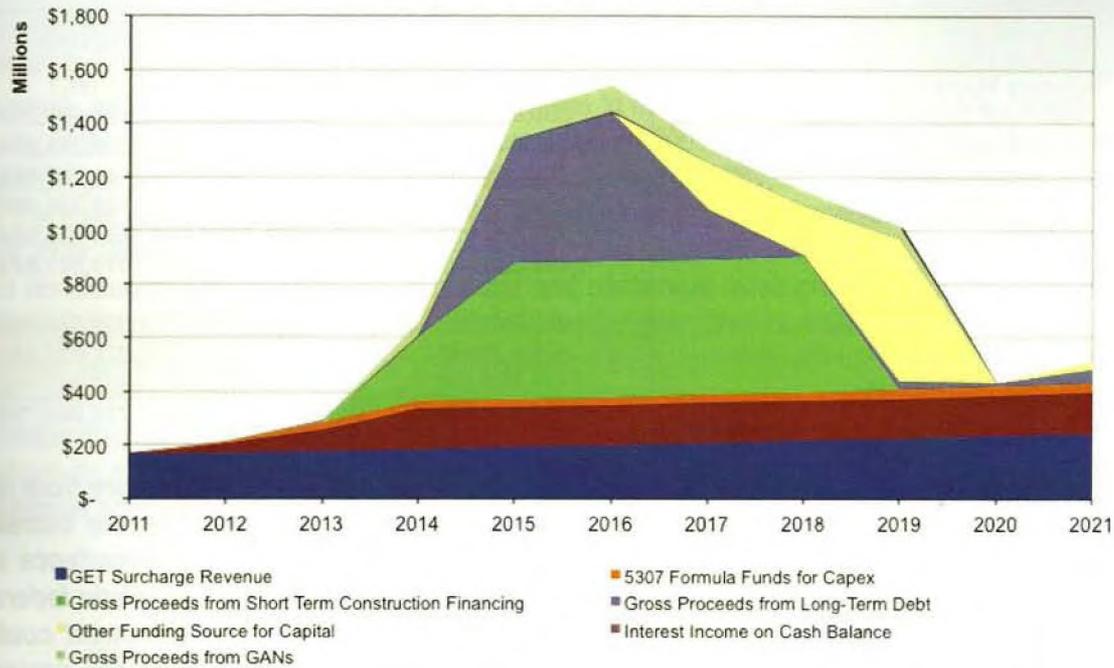
SCENARIO RESULTS (30 Yr)			
	Base Case	Downside Case	Best Case
Beginning Model Year	2011	2013	2011
Transit Fund Balance Prior to Construction	380,880,555	718,859,595	380,880,555
GET Surcharge Revenue	2,700,943,516	2,306,439,863	2,838,061,453
Total Farebox revenues	3,856,775,624	2,799,582,625	4,120,640,531
Total Debt Service	4,329,216,249	3,853,947,576	3,897,898,165
Total OpEx	12,424,589,605	14,316,916,725	11,893,733,614
Total Ongoing CapEx	2,487,410,441	2,770,245,758	2,373,210,441
<i>Rail Construction Shortfall</i>	<i>909,544,246</i>	<i>1,701,802,819</i>	<i>678,256,434</i>
<i>City Match Funds for Ongoing Capex</i>	<i>1,738,328,475</i>	<i>1,775,374,204</i>	<i>1,597,487,679</i>
<i>City Operating Subsidy</i>	<i>7,845,252,049</i>	<i>10,794,772,169</i>	<i>7,050,531,151</i>
Total City Support	10,493,124,771	14,271,949,192	9,326,275,263

All scenarios require at least \$9 B in subsidies from the City over 30 years. For the Base Case, the portion of this subsidy attributable to the construction shortfall (\$909.5 M) can be eliminated if the funding shortfall is eliminated by extending the GET sunset year to 2030 or by instituting an increase in GET surcharge of 36 percent (Base Case). The entire additional Honolulu subsidy could probably be eliminated by increasing the GET surcharge and continuing it indefinitely.

The chart below shows (in yellow) how much *new* capital subsidy from the City is needed *in addition to* the amounts in the Financial Plan simply to cover construction costs in the Base Case.



Project Construction Funding Sources



This construction fund shortfall can be eliminated either by extending the GET surcharge until 2030 or increasing the surcharge rate to 0.0068 instead of the current 0.005. However, covering *post-construction* capital, operating and maintenance subsidies *beyond what is included in the current Financial Plan* would require several times those hypothetical increases.

Since the Financial Plan forecast is 20 years, we also conducted model runs using a 20-year time horizon. As noted earlier, the most significant differences between the IMG Model Base Case results and those of the Financial Plan are lower GET surcharge revenue projections in the IMG Base Case, and significantly higher City support for ongoing capital costs mainly due to lower 5309 Bus Discretionary grant projections. When the Base Case scenario results are summarized for a 20-year period and compared to the Financial Plan, the additional subsidy amount required is \$1.725 billion. The breakdown of this total among construction, ongoing capital expenditure (that is, making up for the lower 5309 FTA funds) and operating subsidy is shown in the following table:



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SCENARIO RESULTS (20 Yr)			
	Base Case	EIS Financial Plan*	Difference
Beginning Model Year	2011	2009	2 Yrs
Transit Fund Balance	380,880,555	154,429,296	226,451,259
GET Surcharge Revenue	2,700,943,516	3,524,257,317	(823,313,801)
Total Farebox revenues	2,320,904,460	2,274,676,571	46,227,889
Total Debt Service	4,324,416,249	4,461,054,516	(136,638,267)
Total OpEx	7,726,545,991	7,242,420,006	484,125,984
Total Ongoing CapEx	1,492,533,588	1,381,671,715	110,861,873
<i>Rail Construction Shortfall</i>	<i>909,544,246</i>	<i>-</i>	<i>909,544,246</i>
<i>City Match Funds for Ongoing Capex</i>	<i>948,986,851</i>	<i>571,363,394</i>	<i>377,623,457</i>
<i>City Operating Subsidy</i>	<i>5,135,558,508</i>	<i>4,697,660,413</i>	<i>437,898,095</i>
Total City Support	6,994,089,606	5,269,023,807	1,725,065,799

Under the most likely scenario, the C&C will need to provide at least \$1.725 B more from its General Fund over 20 years to support the rail project than is forecasted in the current Financial Plan. Moreover, if construction and operating costs replicate the experience of many peer projects in cities without previous rail development, or if the optimistic federal fund assumption is not fully realized, this new and additional funding requirement could grow to nearly \$4.5 B. Total 30-year C&C General Fund support for the rail project (construction and operations) is projected to range between \$9.3 B and \$14.3 B.

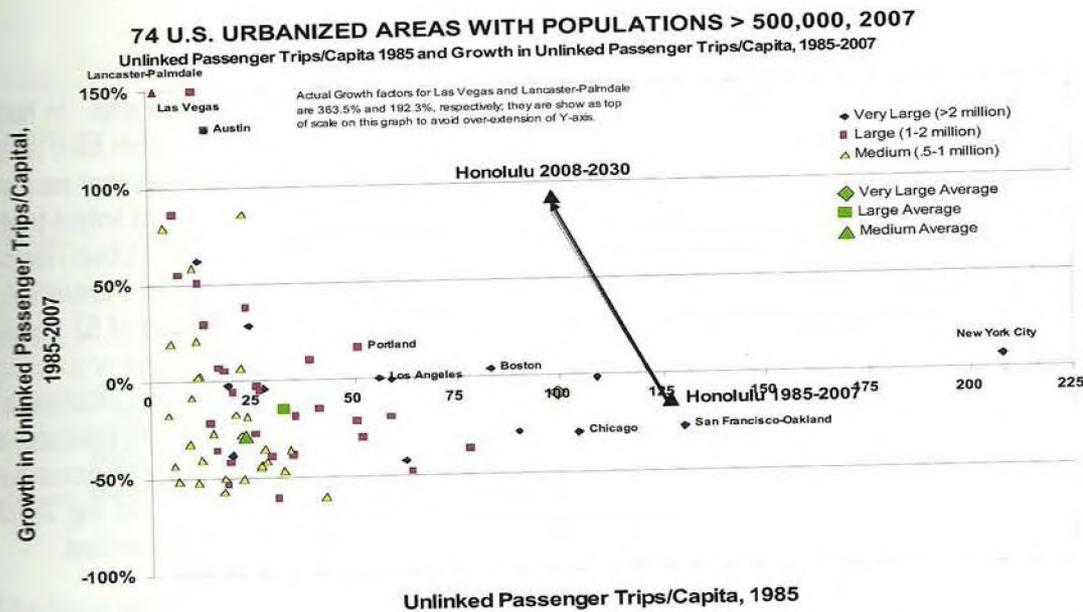
The FTA's independent financial consultant shared these concerns in its report evaluating the Honolulu rail project's Financial Plan: "First, it is questionable whether the City can afford the growth in subsidies presented in this financial plan, which require a higher portion of the General Fund and Highway Fund revenues than has historically been the case. Second, the subsidies could be yet higher due to optimistic assumptions regarding operating cost growth for all services. Third, the projected cash balances of the Public Transportation System Fund, inferred from current cash plus investments and the forecasted balanced budget, fall below the 1.5 Month standard (12 percent of operating costs) that would be needed to support a higher rating. Finally, there is some prospect that the Project's O&M costs could be understated, based on comparison to heavy rail and light rail operations in the US."

The financial challenges for the rail project could be overcome by increasing the duration or size of the GET surcharge. For example, the construction shortfall could be eliminated by extending collections by 5 to 19 years (depending upon the scenario) or increasing the GET surcharge rate by between 24 and 76 percent. The entire City subsidy (\$7 billion in the 20-year Base Case and \$10.5 billion in the 30-year Base Case) could be eliminated by increasing the GET surcharge and then continuing it indefinitely.



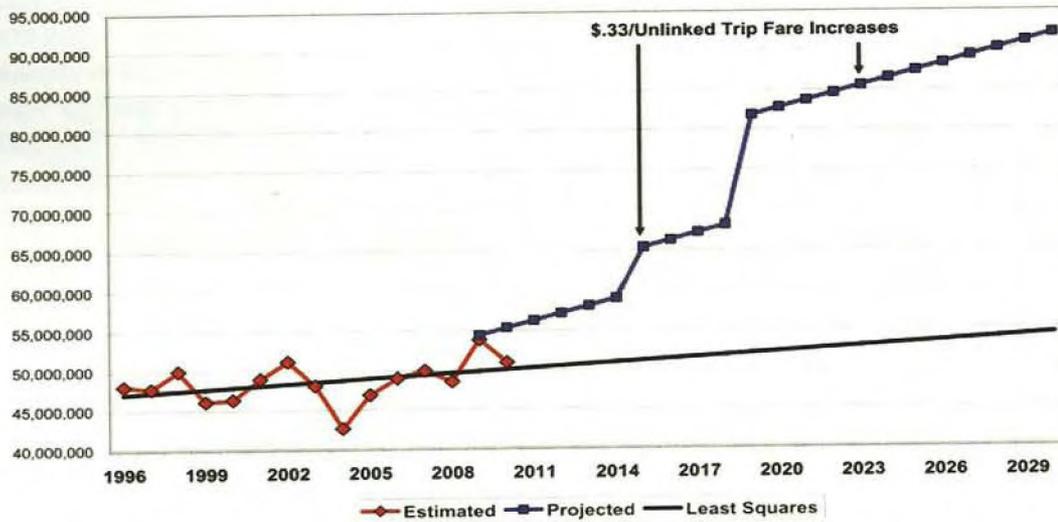
6. Issues in the Post-Rail Operating Plan

The project plan shows an exceptionally large growth in transit utilization in Honolulu over the study period, 2008-2030, a rate The IMG Team believes to be unrealistic for a city already starting from one of the high base level of usage in the country. In 2007, Honolulu ranked second in unlinked passenger trips ("UPT") per capita, trailing only New York City, and fourth in passenger miles ("PM") per capita, after New York City, Washington, D.C., and San Francisco-Oakland. From 2007 to 2030, Honolulu's UPT per capita is projected to increase 73% and PM per capita 119%. There is no historical precedent for the transit trip and passenger miles growth projected for Honolulu during the study. The chart below shows how extraordinary this increase would be – note the line drawn between Honolulu's historic usage level and the forecast level -- compared to growth rates for other cities: while cities that start off with low transit usage often experience big percentage jumps (the left side of the chart), cities with high transit usage (the middle and right side of the chart) do not, and for logical reasons. Accordingly, the Financial Plan's post-rail ridership and fare revenue scenario appears implausible.



This concern is amplified by the series of very large fare increases assumed in the Financial Plan. The following graph shows unlinked passenger trips from the historical through the projection period, with the two major fare increases marked.

**TheBus + Rail Linked Trips
 1996-2008 Estimated/2009-2030 Projected**



Note from the chart that the fare increases are assumed to have no impact on ridership. In fact, the first one, in 2015, is actually accompanied by a major increase in ridership – from 59.0 M to 65.3 M annual linked trips, or approximately 11% – due primarily to the opening of another section of the rail system in that year. The second shows an increase from 83.7 M to 84.7 M linked trips, or approximately 1%. This runs directly counter to experience. In 1991, the American Public Transit Association produced its survey of surveys, *Fare Elasticity and Its Application to Forecasting Transit Demand*⁴, which consolidated results of before and after fare increase surveys of 52 transit systems. It found the fare elasticity for bus systems in urbanized areas of one million or more is minus .36 and, in cities of less than one million (like Honolulu), minus .43. A simple application of the APTA fare elasticities suggests that the planned 2015 35% fare increase would produce a *reduction* in ridership of approximately 12%, vs. the 11% *increase* projected (this does *not* consider the increase in ridership that the opening of a rail extension would likely have), and the 2023 increase of 26% would produce a *decline* of approximately 9%, vs. the 1% *increase* projected.

Post-rail transit system usage and fare revenue are likely to be substantially lower than that projected in the current Financial Plan, since the Plan's projection would require an unprecedented and unrealistic growth in transit utilization for a city that already has one of the highest transit utilization rates in the country.

7.0 Fiscal Capacity

The rail project will be built at a time when the C&C's fiscal resources will be strained by other substantial commitments, many of which were not fully known when the rail plan was developed,

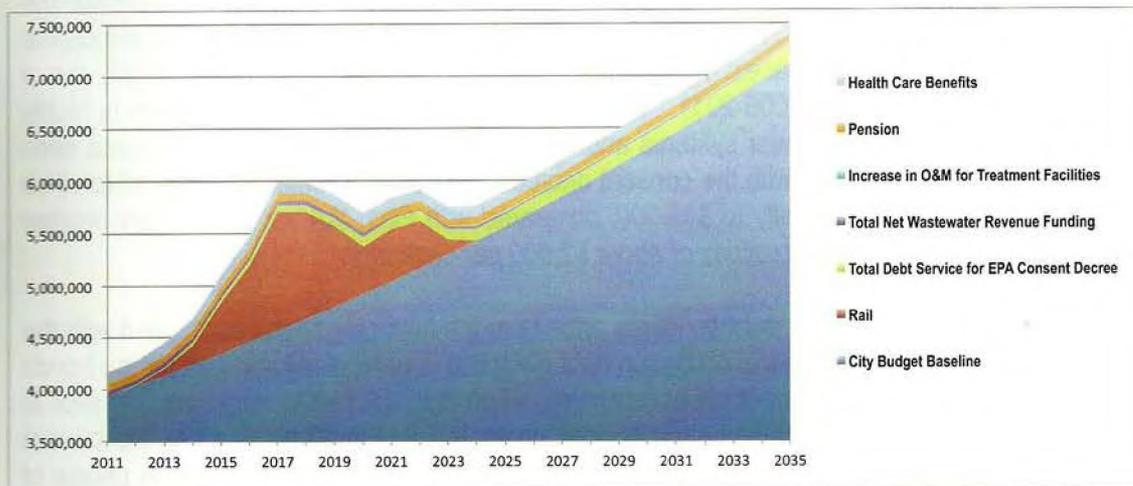


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such as the costs of complying with the recent EPA wastewater consent decree and the unfunded pension and health care commitments for C&C retirees. Accordingly, the IMG Team identified the major new demands and compared the magnitude to both the rail project's and the City and County's projected baseline spending level. Although compliance with the EPA consent decree is funded sewer fees rather than by taxes, we include it here because it draws from the same economic base as city taxes. Moreover, in some cases, utility revenue bond obligations can also affect rating agency views of a city's overall fiscal capacity.

The chart below depicts obligations that the C&C will be responsible for through FY 2035 and the level of spending associated with those obligations. It includes (1) a baseline level of spending (city budget) growing at 2.5 percent annually in nominal terms (well below its historical growth rate, but suitable for illustration purposes), (2) expenditures related to rail construction, (3) additional expenses related to the recent EPA consent decree and paid through wastewater rates, and (4) actuarially calculated contributions required to keep up with the City and County's growing employee pensions and other post retirement benefit (i.e. healthcare) obligations.

Projected City/County Expenditures through 2035 (\$000s)



The areas above the City Budget Baseline level are relatively new or recently-known expenses that the city and county will likely be responsible for over the next 25 years and which they are currently not incurring. They include the following:

- **Unfunded Pension Liability:** The C&C does not report the level of pension liability as separate from state obligations. Instead, city financial statements reference state actuary reports. Traditionally the C&C represents about 13.5% of total reported state liability. We used this assumption to extrapolate the C&C's obligation from the statewide data.



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- **Unfunded Retiree Health Care Liability:** Across the U.S., government expenditures for retiree health care are increasing rapidly due to both rising medical costs and the increasing number of retired public employees. Honolulu and Hawaii continue to fund retiree health care primarily out of general funds on a pay-as-you-go basis, meaning that the health care obligations are essentially 0% pre-funded. The City of Honolulu reports its total liability for OPEB to be approximately \$1.95B and state unfunded OPEB liability estimates are much higher. While the reported C&C unfunded liability purports to take into account the rising cost of healthcare, leaving the OPEB obligations essentially 0% funded will lead to a ballooning obligation as more and more employees retire, placing ever increasing pressure on the yearly C&C budget. This means that the chart above may significantly understate the likely growth in the C&C's obligations.
- **Wastewater Consent Decree Compliance:** In total, the C&C expect to spend \$5.4B on capital improvements to satisfy the EPA wastewater consent decree. The upgrades and repair will also increase overall Operations and Maintenance (O&M) costs of the system. These costs could rise significantly based upon the experience of other cities adopting similar improvements. No official estimates on these increases have been made available to the public, so IMG utilized its in-house wastewater utility expertise to estimate the potential new obligation. The city will finance much of the increased operations and capital costs through rate increases. Fitch reports that Honolulu increased rates 175% (on a cumulative basis) from 2006-2011. The report also pointed out that the system is highly leveraged compared to peer systems and that debt levels are projected to increase even more in order to comply with the consent decree: *"Debt per customer is projected to climb from about \$9,500 currently to \$15,000, compared with Fitch 'AA' rating category median for water and wastewater utilities of about \$2,000 per customer."*
- **The Rail Project:** Similar debt concerns arise from the new obligations associated with the rail project. The 20% general obligation debt guideline is particularly relevant for the bonds issued during the final year of rail construction, when the FTA FMOC forecasts City debt to rise to 19.4% of the City operating budget under the assumptions used in the current Financial Plan, which we regard as overly optimistic. Moreover, the recent FTA review of the Rail Project reported that *"it is questionable whether the operating subsidy required by the project could be absorbed by the City without tangible cuts in City services or increases in other taxes"* and that the city showed *"very little capacity to absorb cost increases or funding shortfalls [with] potentially significant revenue risks."* As the IMG Team's independent financial analysis shows, the rail project alone is likely to cause the City and County to exceed its statutory debt limit.

The FTA's financial consultant (FMOC) reached the following conclusion in his report on the Financial Plan: *"The debt financing assumptions for the project maximize the leverage that could be gained from the GET surcharge revenue stream, leaving little if any upside to debt capacity. The Project-related debt will also push the City to its limit of affordability for general obligation debt."* We concur with the FTA's evaluation of the C&C's fiscal capacity,



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and add to it our conclusion that the rail project's subsidies will need to be substantially higher than the assumptions in the Financial Plan (a concern also raised by the FMOC).

Additionally, the need to comply with the EPA wastewater consent decree will impose an additional burden on Honolulu household income that will equal the new financial burden of the rail project. Finally, the C&C's unfunded retiree obligations are likely to add several times the financial burdens posed by the rail and wastewater projects, placing vastly greater pressures on Honolulu's government budget and necessitating significant tax increases and/or spending cuts. This will make it more challenging to provide the upfront and continuing subsidies for the rail project.

