

City and County of Honolulu's Review of Infrastructure Management Group, Inc. (IMG)

Financial Plan Assessment

Key Issues and City and County of Honolulu Findings

December 16, 2010

SUMMARY: While the IMG report purports to focus on the financial implications of the City's rail transit project, much of the report discusses bus issues that are independent of the rail project. Concerning both bus and rail, the report's conclusion of a resulting \$1.7 billion shortfall is not adequately substantiated. A review of IMG's methods show that important and more relevant data was not recognized or considered and the report's authors used incorrect figures and assumptions that allowed them to reach unsupported conclusions. The report also reflects a lack of understanding of transit financials and fails to recognize key economic indicators used by the State of Hawaii. This further reinforces the City's position that the rail transit Financial Plan is sound. In addition, the FTA has already reviewed the City's Financial Plan, and found the project to be financially sound and allowed it to move forward. The FTA also continually reviews the project's Financial Plan and will do so again as the project enters its next phase of Final Design.

- **\$1.725 Billion Shortfall**

The IMG Report, commissioned by former Gov. Linda Lingle, includes the summary statement *"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."* (Executive Summary, page 3).

It should be noted that the IMG report describes a \$1.725 billion shortfall between their expectation of revenues and their expectation of costs, which would result in the need for the City to provide this level of additional funding. To be clear, the report cites a revenue shortfall, not added costs as some media reports have incorrectly suggested. IMG apparently arrived at this conclusion based on three key issues: a \$910 million dollar shortfall for the rail construction program, a \$375 million dollar shortfall for "ongoing capital expenditures," primarily bus purchases over the next 20 years, and a \$440 million dollar increase in the City subsidy of bus plus rail Operating and Maintenance (O&M) costs.

The IMG report's \$910 million dollar shortfall for the rail construction program appears to include an estimated reduction of approximately \$505 million in expected GET surcharge revenues and an estimated increase of approximately \$405 million in rail capital costs.

The \$375 million dollar shortfall cited by IMG for ongoing capital expenditures appears to include an estimated increase of approximately \$125 million in rail rehabilitation and replacement costs and an estimated decrease of approximately \$250 million in expected FTA Section 5309 Bus Discretionary Funds.

The \$440 million dollar increase in the City operating subsidy suggested by the IMG report appears to include an estimated increase of approximately \$310 million in bus O&M costs, an estimated increase of approximately \$30 million in rail O&M costs, and an estimated decrease of approximately \$100 million in fare revenues.

Each of these components of IMG's \$1.725 billion shortfall is discussed in turn below.

- **GET Surcharge Forecast**

The IMG Report includes the summary statement *"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."* (Executive Summary, page 3). The report further states *"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."* (Executive Summary, page 10).

The IMG Report paints a picture of two competing forecasts, theirs and the one presented in the August 2009 Financial Plan. Amazingly, the IMG Team, while working for the State of Hawaii, ignored the source of forecasts specifically prepared for the Governor and the Legislature by the State's Council on Revenues. If the IMG Team had explored this source they would have discovered that the Council on Revenues' most recent report forecasts state general fund tax revenues for FY 2011 through FY 2017 will grow at a compound rate of approximately 6.7 % per year, certainly more than 4 % per year used by the City.

Further, other than creating several charts showing how historical GET revenues compared to the certain economic variables (employment, population, etc.) it does not appear that the IMG Team completed any statistical analyses to determine whether there was a statistically significant relationship between GET and these economic variables. Rather, to generate its forecast of GET surcharge revenues, the IMG Team appears to have merely selected a historical period of time, calculated the compound annual growth rate of GET revenues over that historical period of time, and then extrapolated that calculated growth rate to every year of its forecast.

Regardless of their actual methodology, however, the IMG Report's discussion of GET growth rates draws a comparison between the Hawaii economy and the U.S. Gross Domestic Product (GDP). The Report describes a forecast of U.S. GDP from the Congressional Budget Office (CBO), which "is expected to average between 4% and 4.5% for the next ten years" in order to support their 4 % growth rate conclusion. In reality, the most recent forecast of nominal GDP published by the CBO in August 2010 shows average annual growth over the next ten years (2011 to 2020) of 4.7%, even exceeding 6% in the short term (2013 and 2014) during CBO's projected timing of an economic recovery.

In contrast to a nebulous process that may or may not be tied to U.S. GDP, for the GET forecast used in the August 2009 Financial Plan complex statistical analyses were performed that tested data on the historical GET tax base against several economic variables in order to identify which had the greatest explanatory power, and the degree of that effect. These data combined with independent forecasts of economic variables (e.g., retail spending, hotels and lodging spending, etc.) were used to create the City's Financial Plan's forecast for the GET surcharge revenues.

- **Rail Capital Costs**

The IMG Report states *"Capital costs projections total \$5.347 B in 2009 dollars in the IMG Model. This figure is adjusted from the \$5.120 B projections in the Financial Plan based on Honolulu High-Capacity Transit Corridor Project Spot Report recommendation by the FTA's Project Management Oversight Contractor ("PMOC"). These costs were escalated to 2011 dollars in IMG's model due to the two year delay and totaled \$5.526 B."* (Page 37).

Both the August 2009 Financial Plan and the July 2009 PMOC Spot Report quote capital costs in Year-of-Expenditure (YOE) dollars and from all indications the IMG Financial Model operates on YOE dollars. Therefore it is assumed that all the amounts listed above are in YOE dollars, not in 2009 or 2011 dollars. Even so, the statement in the IMG Report is confusing. The July 2009 PMOC Spot Report recommends a Project Budget of \$5,288,260,599 (YOE), of which \$230,873,271 is finance charges. So the PMOC's recommended capital cost is \$5.057 billion. The August 2009 Financial Plan uses this cost amount and adds an additional \$63 million to reflect costs incurred before Entry into Preliminary Engineering, for a total of \$5.120 billion, excluding finance charges. IMG's attribution of a project cost of \$5.347 billion to the July 2009 PMOC Spot Report is simply incorrect.

IMG's rationale behind the further increase from \$5.347 billion to \$5.526 billion presumably reflects the assumption that the project schedule has shifted one-and-a half to two years out in time from what was assumed in the August 2009 Financial Plan and thus the total cost of the project needs to be escalated accordingly. Such a wholesale shift of the project schedule has not occurred. Due to the delay in the acceptance of the EIS under the Lingle Administration, the schedule for the first guideway section has slipped slightly and this likely will result in some increase in project cost. But the contract that was awarded to a contractor was for design and construction of the West O'ahu Farrington Highway guideway and preliminary engineering efforts have been underway, and those contracts have come in millions of dollars under budget. Construction activities on subsequent guideway sections were not anticipated to begin before 2011 and so receipt of a Record of Decision later than anticipated in the August 2009 Financial Plan should have little, if any effect, on the costs of those contracts. One activity that has been delayed compared to what was assumed in the August 2009 Financial Plan is the acquisition of property, but property values are little changed from what was expected at that time.

- **Rail Rehabilitation and Replacement Costs**

The IMG Report states *“Major renewal and replacement costs were adjusted for fixed guideway, as explained in the Operating Plan Review (Section 6). The Operating Plan assumes no fixed guideway renewal and replacement costs until 2026. IMG Team believes such projections are highly underestimated and certainly would happen earlier than 2026.” (Page 37).*

Section 6 of the IMG Report does not appear to include such a discussion, so it is difficult to determine if the concern primarily relates to how much should be budgeted on an annual basis for rehabilitation and replacement or to when such costs will begin to occur. Certainly over time the replacement of vehicles and equipment will be a cost item that the City will need to deal with, just as it currently does with the bus system. Rail vehicles have a 25-year life, approximately twice that of a bus, and will need rehabilitation during their life and replacement at the end of their useful life. The majority of rail vehicles, though, will be delivered after 2015, with final deliveries expected in 2024 and 2025. This is still a very young fleet, and therefore the City’s rehabilitation and replacement estimates are reasonable.

- **Section 5309 Bus Discretionary Funds**

The IMG Report assumes \$166.4 million in FTA Section 5309 Bus Discretionary Funds, as compared to \$419 million assumed in the August 2009 Financial Plan. *(Executive Summary, page 13).*

While the purchase of replacement buses and additional buses used to expand service has been and will continue to be a cost to be incurred by the City and County of Honolulu, it is a cost that is independent of the existence of a rail transit system, though implementation of a rail system could result in some reduction of future bus needs. The extent to which these bus acquisition costs can be partially paid for using Section 5309 Bus Discretionary Funds is open to speculation, since they are allocated at the FTA’s (and the Congress’s) discretion. The FTA encourages transit agencies to keep their bus fleets “young” by replacing buses once they’ve reached their nominal life of 12 years. Allocation of discretionary funds is a means that FTA can use to encourage this practice. When FTA funds aren’t available, one response of transit agencies can be to replace buses less frequently, leaving buses in service beyond 12 years. Currently, many of the buses in the City’s fleet are more than 12 years old. If fewer Bus Discretionary Funds are available to Honolulu in the future than assumed in the August 2009 Financial Plan the City will need to decide through its budgeting process whether to make up the “difference” with City funds or to spend less and replace buses less frequently.

- **Increase in City Operating Subsidy**

The IMG Report states *“For bus, over the 2009-2030 projection period, the year of expenditure increase in operating costs is \$311 M, an increase of approximately 6% of the \$5,209 M in the Financial Plan spreadsheet. For rail, the increase is \$29 M, an increase of approximately 2% over the \$1,355 M in the spreadsheet.” (Pages 50-51)*

The IMG Team states the bus and rail O&M costs are underestimated by approximately \$340M between 2009 and 2030. The IMG Team’s sole basis for this appears to be that the 2009 and 2010 projected vehicle revenue hours (VRH) in the project financial plan for TheBus are lower than actual VRH for TheBus. In comparing historical VRH to the forecasts, it is true that bus VRH were slightly underestimated. However, the IMG Team did not acknowledge that bus VRH is only one of many inputs used to estimate bus O&M costs. The other major variable is vehicle-revenue miles (VRM). While the forecasted 2009 and 2010 revenue vehicle hours presented in the August 2009 Financial Plan have turned out to be about 5% lower than actuals, the revenue vehicle miles were about 6% higher. Given that a sizable proportion of TheBus O&M cost is driven by both of these level of service variables, the increase in O&M cost due to the understatement of RVH is more than offset by a decrease in O&M cost due to the overstatement in revenue vehicle miles.

Further, while the IMG Report speculates that the City’s operating plan did not include layover and recovery time, a review of the publicly available Honolulu High-Capacity Transit Corridor Project *Transportation Technical Report* (August 2008) reveals the factors that were included in the development of the Bus Operating Plans (including time periods, running time, number of bus trips, layover and recovery time and mileage for each route). This is incorrect. The City’s *Transportation Technical Report* clearly states:

“Layover and recovery times were determined from vehicle assignments and are presented in minutes. Recovery time is built into vehicle schedules to allow for daily fluctuations caused by on-time performance delays. These delays are affected by traffic, heavy passenger volumes, and other circumstances affecting timely performance. Layover times may vary between bus trips for each time period. In these cases, layover times were averaged for the time period.”

The IMG Team also states *“it appears logical to assume that, if the bus operating cost methodology had this issue, so does the rail operating cost calculation.”* As described above, their partial analysis does not support this extreme jump in logic. There is no basis for concluding that bus and rail O&M costs have been underestimated by \$340 million.

- **Ridership and Fare Revenues**

The IMG Report states *“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.” (Executive Summary, page 4)*

The IMG Report addresses two issues in reaching its conclusion, “an exceptionally large growth in transit utilization” and the impact of fare increases on transit ridership.

The IMG Team’s analysis focuses on a faulty measure of transit utilization, unlinked passenger trips (UPT) per capita. An unlinked trip occurs each time a transit patron boards a vehicle, so a person transferring from bus to rail is counted as making two unlinked trips. Going from an all-bus system to a transit system with a rail line backbone and buses feeding it will inherently result in more transfers and thus more unlinked trips. While the transfer from bus to rail may be viewed as an inconvenience, this inconvenience is more than made up by the quicker and more reliable travel time for the transit trip as a whole. As shown in Figure 3-7 of the FEIS, travel times will improve substantially, up to a 60 percent travel time savings. These improved end-to-end transit trip times will result in more people using transit, with an approximately 25% increase in transit’s share of all trips made on Oahu, a significant percentage increase, but far more realistic than the IMG Team’s projected 73%.

With respect to the effect of fare increases, the IMG Report puts forward two questions.

1. Is the pattern of fare increases – two very large ones over a period of twenty years (from the 2010 fare increase to the end of the projection period of 2030) – realistic?
2. What will the impact of these fare increases be on transit ridership?

To answer these questions, the IMG Team relied upon their personal experience and data from 1991; but, not on more recent Honolulu data and adopted City Council policy.

The IMG Report extracts selective portions of the August 2009 Financial Plan without a full reference to the complete statement on page 3-6 of the Financial Plan which reads as follows:

“The growth in average fare shown as a ‘step function’ with increases of approximately \$0.33 in FY2015 and FY2023 are reasonable considering the City’s historical fare increases, and assumes a reasonable timetable for future fare increases, while staying consistent with the travel demand analysis which assumes fare adjustments are in line with inflation. A City resolution (00-29 CD1) currently stipulates that the farebox recovery ratio for TheBus be maintained between 27% and 33%, which demonstrates a commitment of the City to keep operating costs and revenues growing at a comparable rate on average.”

The IMG Report advocates a personal belief in defiance of adopted City and County of Honolulu policy, placing this belief as being more relevant than the historically successful oversight the City Council has maintained on monitoring the revenue and ridership implications of its public transportation fare policies. The IMG Report ignores both the complete content of the Financial Plan and facts readily available from a number of sources. For example, Table 18.26 in the 2009 State of Hawaii Data Book (available on line) shows the bus fare history for Oahu. The one-way cash fare increased 150% in a nine-year period between the years of 2001 and 2010.

A 50% fare increase was approved by the City Council increasing the one-way cash fare from \$1.00 to \$1.50 on July 1, 2001. The City Council increased the fare by three more times over a seven-year span to arrive at today's fare of \$2.50.

Yet a 35% fare increase was cited by the IMG Report as being a "...large fare increase that may be difficult to implement." The IMG Report further opines "Transit fare increases are difficult to implement because they impact riders and because many transit riders have low incomes and few, if any, transportation alternatives. The public hearing process can be difficult for agency managers. Very large fare increases – and fare increases of this size are among the largest the members of the IMG Team have ever encountered – are particularly difficult."

Several studies of transit fare increases, dating back 30 years, have shown that Honolulu's fare increases have not resulted in subsequent reductions in transit usage. Further, as the extract from the August 2009 Financial Plan noted above states, the fare increases included in the Financial Plan are merely aimed at keeping up with local inflation. Over the long term, the net effect of periodic fare increases is expected to be negligible or non-existent.

- **Lessons from Other Rail New Starts**

The IMG Report describes several examples of transit projects where the final capital cost exceeded the amount budgeted at various stages in the project, and asserts that these examples should lead one to conclude that the Honolulu rail project will exceed its budget. *"Although the IMG Team did not directly incorporate the results of this peer-based risk assessment into its financial analysis Base Case, the overall "before and after" record suggests that the outputs of IMG's models be treated as conservative estimates of the potential financial demands that the rail project is likely to place on the City and County of Honolulu." (Executive Summary, page 6).*

However, this assertion does not differentiate among the many complex reasons that projects may have exceeded their budgets and IMG even notes *"each rail project has its own unique set of circumstances, making it difficult to compare two projects."* Further, while the IMG Report references FTA's *Contractor Assessment Report of 2007* (actually the Contractor Performance Assessment Report, September 2007), no mention is made of the fact that relevant data in the 2007 report is from another report included as an Appendix, entitled *Predicted and Actual Impacts of New Starts Projects*, dated September 2003. This 2003 report includes data from projects mostly completed in the 1980s and 1990s.

Since the time of this 2003 report, FTA has substantially improved its risk assessment procedures that each New Starts project must use to develop capital cost estimates. Based on experience with previous New Starts projects, FTA now requires capital cost estimates to include higher levels of contingency in project budgets to reduce the potential for cost overruns. FTA's stringent risk assessment procedures are being used to develop the cost estimates for the project.

Coincidentally, the day after Governor Lingle released the IMG Report, FTA issued a press release noting *"Federal Transit Administrator Peter Rogoff today joined state and local officials for the opening of the Dallas Area Rapid Transit's (DART) Green Line. The 24-mile northwest-southeast extension to the city's light rail system was completed six months ahead of schedule and, thanks to the American Recovery and Reinvestment Act, under budget."*

- **Fiscal Capacity**

The IMG report claims that *"the need for the City to comply with the EPA wastewater consent decree will impose additional burden on Honolulu household income that will equal the new financial burden of the rail project."* (Executive Summary, page 21) The IMG Report also implies that this could impact the City's credit rating.

This conclusion fails to note that the wastewater projects will be financed with sewer fees and will not count towards the City's General Obligation debt limits. Therefore the wastewater projects will not affect the ability of the City to finance the rail transit, which has its own dedicated funding source.

The IMG Report states that unfunded retiree obligations will place *"vastly greater pressures on the City Budget and necessitating significant tax increases and/or spending cuts."* (Executive Summary, page 21).

However, the IMG Report fails to describe the steps that the City is taking to minimize these impacts. While Fitch Ratings, in its October 2009 report, maintains that "pension and OPEB (Other Post-Employment Benefits) will continue to pressure the City's finances", it also noted that "the city has prudently established an OPEB reserve, which equals about one-half the annual required contribution. In addition, the city has transferred about \$40 million to a state-run OPEB trust."