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COMMENTARY

## **Rail transit not worth the big financial risk**

By Cliff Slater

Our policymakers need to get a firm handle on the financial risks taxpayers will be taking with the City's rail transit proposal.

They need to assure themselves that the City's transit projections will be met within a reasonable range of error. This is particularly important for Honolulu since, on a per capita basis, the \$4.6 billion projected cost<sup>i</sup> would become the most expensive rail line ever built in the U.S, even allowing for inflation and without cost overruns.<sup>ii</sup>

To make a sensible assessment of the financial risks of the project, policy makers need to review the experiences of other metro areas that have built rail lines.<sup>iii</sup>

Until recently the only official U.S. Department of Transportation (USDOT) comparisons of capital cost projections versus actual cost, was the 1990 Pickrell Report.<sup>iv</sup>

This report showed errors for the eight projects studied as averaging 44 percent. More importantly, they revealed a wide error range from the best, at 11 percent under projection, to the worst, at 83 percent over.<sup>v</sup> Only one of these, the original Pittsburgh light rail line, came in under its projected cost.

Last month the USDOT released a new report<sup>vi</sup> covering those projects built between 1990 and 2003, which showed that of the 21 projects covered, the best performer, San Jose, was 28 percent under forecast and the worst, Portland, was 72 percent over, for an average of 21 percent over forecast.

More important than averages is the distribution of the various error rates. For example, if the resulting costs of the 21 projects were between  $\pm 10$  percent of the forecasts it would be a reasonable indication to our policy makers of the likely accuracy of the Honolulu projections.

However, that is not the case here. These 21 projects' costs relative to forecasts errors were evenly distributed over a wide range of 72 percent over to 28 percent under forecasts. If we were to apply that range of error to the \$4.6 billion projection, it would result in a spread of \$3.3 billion to \$7.9 billion.

The City Administration will undoubtedly paint this as ridiculously improbable and wildly pessimistic.

However, each of these 21 capital cost projections was thought at the time to be reasonable by both the transit agency and its consultant who produced them. Just as our City Transportation Department and its consultants, Parsons Brinckerhoff, also believe their current cost projections are reasonable.

In addition, the US DOT Federal Transit Administration's in-house analysts and outside consultants also examined each of these 21 capital cost projections in great detail and thought them all reasonable.

And so here we have innumerable transit planners, engineers and accountants, all well educated and experienced and all believing that, as a the result of their hard work, the cost projections would be, dare we say it, reasonable.

And the forecast errors have not improved. Here are the errors of the last three rail lines built:<sup>vii</sup>

- San Francisco BART Airport Extension, heavy rail, 21 percent overrun.
- Minneapolis Hiawatha light rail, 49 percent overrun.

- San Juan, Puerto Rico, heavy rail, 113 percent overrun.

Again, we must emphasize that the agencies and their consultants, each separately producing the projections, thought each of them reasonable as did the staff and outside consultants at FTA.

Upon what can policy and opinion makers rely?

The FTA believes that projects that are within  $\pm 20$  percent range are reliable. On this basis, Honolulu’s forecast could have nearly a billion dollar cost overrun and still be considered “reliable.” And, in this latest FTA report, nearly half of the project errors exceeded the 20 percent limit.

Our policy and opinion makers need to understand how far the projections might be in error, and then consider how, or even if, they can cope with the resulting financial impact. After all, Senator Inouye said recently that if the City had to spend one billion dollars fixing the sewage treatment facility, it would bankrupt us. The rail project could be as much as \$8 billion, before accounting for operating losses and bond interest. What would be the financial impact of that?

The City’s Alternatives Analysis shows us clearly that traffic congestion, with rail, is going to be far worse than it is today.<sup>viii</sup> Can Honolulu taxpayers really afford to risk this many billions on a project that will not reduce traffic congestion?

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**Footnotes:**

<sup>i</sup> The City’s projected capital costs are from the [Alternatives Analysis](#) p. 5-2. ([http://www.honolulutransit.com/more\\_info/library/files/Alternatives\\_Analysis\\_Chapter3\\_to\\_End.pdf](http://www.honolulutransit.com/more_info/library/files/Alternatives_Analysis_Chapter3_to_End.pdf)) The City has given us its estimates of \$4.6 billion for LPA (Locally Preferred Alternative), and \$3.6 billion for the MOS (Minimum Operating Segment), which is the shorter 20-mile version of the LPA. However, since no metro area has ever built their shorter MOS version without completing the full LPA, it is appropriate that we consider only the cost of the full LPA.

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<b>The Coming Rail Tax Burden</b>			
Light rail costs in comparison to population			
Metro Area	Cost in \$millions	MSA population	Cost per capita
Dallas	\$1,369	5,222,000	\$262
Denver	\$1,693	2,582,000	\$656
Portland	\$1,703	2,265,000	\$752
Sacramento	\$735	1,797,000	\$409
Salt Lake City	\$408	1,334,000	\$306
St. Louis	\$1,068	2,604,000	\$410
Pittsburgh	\$1,289	2,571,000	\$501
Honolulu	\$4,600	910,000	\$5,055

Data sources: For costs: Pickrell Report, FTA's CPAR study & [www.lightrail.com/projects.htm](http://www.lightrail.com/projects.htm). Adjusted for inflation using State Data Book. For population: FHWA's msacomparison.xls

<sup>iii</sup> The use of comparable projects is widespread in business planning and certainly in real estate. Unfortunately, It is not an FTA requirement for transit agencies to include them in their AA/DEIS.

<sup>iv</sup> Pickrell, Don H. *Urban Rail Transit Projects: Forecast Versus Actual Ridership and Costs*. U.S. Dept. of Transportation. October 1990. It is informally known as the Pickrell Report, because its lead researcher was Dr. Don Pickrell, Chief Economist of the US DOT’s Volpe Research Center. The study is available at the Municipal Library. The following table summarizes the capital cost projections versus actual costs:

Pickrell Report, Table S-2: Rail Project Capital Cost (in millions of 1988 dollars)	
Heavy rail transit projects	Light rail transit projects

	Wash. DC	Atlanta	Baltimore	Miami	Buffalo	Pittsburgh	Portland	Sacramento
Forecast	\$4,352	\$1,723	\$804	\$1,092	\$478	\$699	\$172	\$165
Actual	\$7,968	\$2,720	\$1,289	\$1,516	\$722	\$622	\$266	\$188
% Difference	83%	58%	60%	39%	51%	-11%	55%	13%

<sup>v</sup> The following table summarizes Table 3 of the [Contractor Performance Assessment Report](http://www.fta.dot.gov/documents/CPAR_Final_Report_-_2007.pdf) at: [http://www.fta.dot.gov/documents/CPAR\\_Final\\_Report\\_-\\_2007.pdf](http://www.fta.dot.gov/documents/CPAR_Final_Report_-_2007.pdf)

**Final costs as percentage of forecast**

Actual Capital Costs vs. Projected Costs (CPAR)			
City	Mode	Percent	Risks
Portland	LRT	172%	19%
Jacksonville	AGT	160%	50-
San Francisco	HR	160%	80%
Seattle	Trolleys	157%	over
San Jose	LRT	148%	24%
Los Angeles	HR	148%	20-
Baltimore	LR	142%	50%
St. Louis	LRT	122%	over
Denver	Bus/HOV	120%	76% chance of being over
Denver	LRT	119%	19%
Pittsburgh	Bus/HOV	117%	10-
Baltimore	HR	113%	20%
Dallas	LR	111%	over
Atlanta	HR	108%	
Miami	AGT	103%	
Houston	Bus/HOV	103%	24% ± 10 %
Salt Lake City	LRT	98%	
St. Clair Co.	LRT	92%	24% chance of being under
San Diego	LRT	90%	14%
Chicago	HR	86%	10- 30%
San Jose	LRT	72%	under
Source: FTA's Contractor Performance Assessment Report. September 2007.			

The forecast used was that made at the date of the AA/DEIS since that was used in the Pickrell Report, which focused upon “the accuracy of projections that were available to local decision-makers at the time the choice among alternative transit improvement projects was actually made.” (emphasis in the original). p. 3.

<sup>vi</sup> Contractor Performance Assessment Report. *September 2007*. Prepared by: Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation. [http://www.fta.dot.gov/documents/CPAR\\_Final\\_Report\\_-\\_2007.pdf](http://www.fta.dot.gov/documents/CPAR_Final_Report_-_2007.pdf)

<sup>vii</sup> The Dantata report: Northeastern University scholars presented a new study at this year’s Transportation Research Board’s Annual Conference. (Dantata, Nasiru A., Ali Touran & Donald C. Schneck. *Trends in U.S. Rail Transit Project Cost Overrun*. TRB Annual Meeting 2006). This study uses the Pickrell methodology to compare projected versus actual costs for post-1990 rail projects. <http://www.honolulutraffic.com/Dantata06-0897.pdf>

<sup>viii</sup> The Alternatives Analysis, Table 3-12 ([http://www.honolulutraffic.com/more\\_info/library/files/Alternatives\\_Analysis\\_Chapter3\\_to\\_End.pdf](http://www.honolulutraffic.com/more_info/library/files/Alternatives_Analysis_Chapter3_to_End.pdf)) shows that the highway capacity during the peak morning hour through the Kalauao screenline is not being increased through 2030. However, the demand is forecast to grow from the current (2003) level of 14,650 to 21,093, an increase of 44 percent.