

The rail capital cost forecast is understated.

The rail line contemplated in the Draft Oahu Regional Transportation Plan (Draft) would run from Kapolei to the University of Hawaii (UH) and the Draft projects it to cost \$2.57 billion in 2005 dollars.ⁱ

The costs used in the Draft emanated from DTS as is detailed in the calculation kindly supplied to us by Mr. Melvin Kaku, its acting Director.ⁱⁱ

Essentially, the city Department of Transportation Services (DTS) took the cost of Vancouver's Millenium line and adjusted it for "geographical differences" and inflation using the *Civil Works Construction Cost Index System* and the *Price Trends for Federal-Aid Highway Construction*. This produced a cost of \$100 million a mile.

However, we do not believe this is the most accurate method to arrive at even a rough approximation of cost. There are too many differences between Hawaii and Canada, a foreign country with different labor laws and currency. Hawaii has far higher construction costs than other states — and certainly Canada. Hawaii's average cost per lane mile of highway, for example, is 2.5 times the U.S. average.ⁱⁱⁱ

A far better method is to base calculations on the cost differences between the No-Build option and the 15.9-mile LPA option^{iv} in the 1992 FEIS, which Parsons Brinckerhoff, the DTS's current consultant, produced. That forecast took into account — one assumes — the additional costs for rail feeder buses, and the high costs of Hawaii's labor laws and the political policies affecting construction that are peculiar to Hawaii. It may even have take into account land acquisition and relocation costs, even though they would have been much lower *at that time* than they would be today, even if we allow for inflation.

The inflation factor between 1991 and 2005 was 31.8 percent.^v Applying that to the \$1.85 billion cost brings it up to \$2.44 billion in today's money, or \$153 million per mile.

However, construction costs have risen far higher than inflation. Both the U.S. Government's *Price Trends for Federal-Aid Highway Construction*,^{vi} and the *Civil Works Construction Cost Index System* show a 49 percent increase in costs between 1991 and 2005,^{vii} and applying that to the \$1.85 billion gives us \$2.76 billion.

In addition, we must allow for the additional 8 miles between Waikele and Kapolei. The 15.9 miles of the 1992 route costing \$2.76 billion in 2005 dollars, results in \$173 million per mile, or an additional \$1.38 billion for the 8-mile extension.

The base cost of \$2.76 billion and the \$1.38 billion for the Kapolei addition totals to \$4.14 billion for the full Kapolei to UH line. This amount is 60 percent higher than the \$2.57 billion shown in the Draft — before cost overruns.

A range of error at this stage of ± 20 percent results in a forecast of \$3.3 - \$5.0 billion, which gives a better idea of the financial scope of the project.

Whatever the exact cost would eventually be, it will be far higher than the \$2.57 billion shown in the Draft. OMPO must revise it and give the public an opportunity to comment on it in a new Draft.

In addition, there does not appear to be any provision for interest costs for the bonds necessary to construct rail, which will come as a great surprise to taxpayers. The 1992 FEIS, p. 6-8, showed accumulated bond interest of \$990 million through just the first six years of its financial plan.

Nor does the Draft warn taxpayers that virtually all of the rail cars, rail lines and other equipment will have to be replaced, or rehabilitated, within 25 years from start of operations as can be seen from the provisions made in other metro areas with rail as follows:

Chicago Transit Authority capital expenditure plan: "All rail cars rehabilitated at mid-life (12-13 years), overhauled at their quarter-life points (6 and 18 years), and either rehabilitated or replaced at the end of their useful life (25 years)."^{viii}

Atlanta Transit Authority: "MARTA started work last year to rebuild and upgrade all 48 miles of track. It is an extensive project that will not be complete until mid-2007. Our trains have run every day for over 25 years – this work is necessary to keep the system strong for the next 25 years and beyond. The Track Renovation is part of a major capital program that also includes the overhaul of over 200 of MARTA's rail cars."^{ix}

Table from Transportation and Land Use Coalition^x

Fig. 3: BART's \$6.8 billion in Capital Maintenance and Renovations Needs ^{xi} (all costs are in MILLIONS) Source: BART Planning Department report to Board of Directors, November 9, 2000.				
Category	2001 - 2010	2011 -2020	2021 - 2030	Category Totals
Continuous Recurring Needs	\$370	\$430	\$470	\$1,270
Cyclical Fixed Facilities Renovation and Replacement Needs	\$790	\$770	\$1,190	\$2,750
Cyclical Transit Vehicle Renovation and Replacement Needs	\$600	\$852	\$1,364	\$2,816
Totals Over Time	\$1,760	\$2,052	\$3,024	\$6,836

BART began its first repair and rehabilitation plan in 1994 at a cost of \$1.2 billion within only 20 years of opening. There is no mention in the Draft of the future liability for what the Bay Area Rapid Transit District euphemistically refers to as "system reinvestment."

There is no consideration for these future expenses in the financial data provided in the Draft and the public must be apprised of such future liabilities.

Endnotes:

- i Displaying these estimates to two decimal places imputes to the calculations a degree of precision that can only mislead the public as to the accuracy of the calculations. Such forecasts should be displayed as a range.
- ii www.honolulutraffic.com/Kaku3.pdf
- iii http://www.wsdot.wa.gov/biz/construction/pdf/I-C_Const_Cost.pdf p. 7.
- iv FEIS, p. S-16.
- v <http://www.hawaii.gov/dbedt/info/economic/databook/db2004/section14.pdf> for 1991 to 2004 assuming a 2.3 percent increase for 2005.
- vi <http://www.fhwa.dot.gov/programadmin/pt2005q2.pdf>
- vii <http://www.usace.army.mil/usace-docs/eng-manuals/em1110-2-1304/entire.pdf>
- viii <http://www.transitchicago.com/business/capitalprogram.html>
- ix http://www.itsmarta.com/newsroom/latest_news/singletrack.htm
- x <http://www.transcoalition.org/reports/overext/overextended.html>
- xi BART: “If funding from Sec. 5307 and 5309 funds are held constant over the next ten years, then the average annual gap for BART is \$112 million. Seismic retrofit costs of \$610 million over the next ten years do not appear to be included in the BART Planning Department's figures above (figure 3).”