

Preliminary considerations suggest a high degree of uncertainty about whether the benefits of rail justify the costs. As the conversation about rail costs advances, we should continue to consider the relative size of the benefits.

There has been a recent elevation of interest in the costs of the proposed Honolulu rail transit project. Construction costs are estimated at \$5.5 - \$6.5 billion, possibly with a Federal subsidy of \$1.55 billion.¹ Operation and maintenance costs, extended to the end of 2051, will total roughly \$4.8-\$5.5 billion.² What has not been determined, however, is whether these costs are warranted by the expected benefits.

There are two primary types of benefits. Direct benefits accrue to rail riders, and for an individual may be large or small depending on preferences and access to transportation alternatives. Preliminary analysis indicates that direct benefits may range from \$10.4 to \$13.5 billion.³ Indirect project benefits to road users derive from reduced commuter traffic. Even though commuter traffic with rail may not decrease significantly from today's levels,⁴ there may still be benefits from decreasing congestion relative to the "no build alternative," in which case traffic might become substantially worse.⁵ Depending on the time costs of sitting in traffic, the proportion of road commuters switching to rail, and how much that improves traffic, the indirect benefits could be enough to render total benefits of the rail project greater than the costs, both measured in present value terms.

But let's take a closer look. Excluding New York and Chicago, average transit ridership (including bus and rail) in the remaining top 50 U.S. metropolitan statistical

metropolitan areas is well below 4% and declining, even in periods that included rail construction.⁶ Even if Honolulu were to maintain its current high 6% level of transit ridership, that would be inconsistent with a substantial fraction of road commuters switching to rail. More fundamentally, the City's "no-build alternative" provides a false perspective. The only reason that congestion-reducing benefits are counted in project evaluation is because drivers impose external congestion costs on each other. Congestion pricing, an increasing trend in many parts of the U.S., could potentially remove this externality altogether, thereby reducing indirect benefits of rail to zero. (The revenue generated from road pricing can be returned to taxpayers in a lump-sum fashion so as not to burden the general population with additional costs.) Other congestion-reducing alternatives would similarly reduce indirect benefits. In addition, a complete benefit-cost analysis should count the economic losses from increased congestion during the construction period, which are likely to offset any small indirect future benefits.

Even if the direct and indirect benefits are too small to justify the costs of rail, some argue that "transit oriented development" should also be counted on the benefit side of the ledger. This is true in principle, but we have no way of knowing whether those benefits will be positive or negative. Assuming that Hawaii will experience an economic recovery

before rail construction is completed, development near rail stations will partially displace development elsewhere. Negative consequences may include the gentrification of lower-income neighborhoods and reduction of growth in the urban core. Another alleged rail benefit is the creation of jobs. But proceeding with inefficient projects typically shrinks the economy, reduces its growth rate, and decreases employment.⁷ In any case, project jobs are a cost to taxpayers, not a benefit. It has also been asserted that Hawaii's growth

rate is depressed because of a low capital stock and that government-funded infrastructure will increase that stock. But the present value of rail's capital may be negative, once costs are fully taken into account.

These preliminary considerations suggest a high degree of uncertainty about whether the benefits of rail justify the costs. As the conversation about rail costs advances, we should continue to consider the relative size of the benefits.

--Jim Roumasset and Sherilyn Wee

1 U.S. Department of Transportation, Federal Transit Administration. Honolulu High-Capacity Transit Corridor Project Final Environmental Impact Statement. June 2010. <http://www.honolulutransit.org/library/>. Construction of the Kapolei to Waipahu section was assumed to be completed by the end of 2016 and the remainder of the project by the end of 2021. All costs and benefits were reckoned to the end of 2051.

2 Infrastructure Management Group, Inc. Analysis and Evaluation of the City and County of Honolulu's Proposed High Capacity Rail Transit Project. December 2010. http://www.honolulutraffic.com/Final_Report_Honolulu_Rail_Transit_Financial_Plan.pdf.

3 The optimistic forecast is based on assumptions of 97,000 average weekday boardings (80% of which are commuting trips), a price elasticity of rail demand of -0.6, and a driving cost of 50 cents/mile plus a time cost based on \$20 per hour (FTA, High Capacity Transit Corridor Project, 2009; Betz, C., J. Bergstrom, and J. Bowker, "A Contingent Trip Model for Estimating Rail-trail Demand," *Environmental Planning and Management* 46.1 (2003): 79-96, ProQuest (web. 24 Feb. 2010); Your Driving Costs. AAA, 2009.

4 U.S. Department of Transportation, Federal Transit Administration. Honolulu High-Capacity Transit Corridor Project Final Environmental Impact Statement. June 2010. <http://www.honolulutransit.org/library/>

5 U.S. Department of Transportation, Federal Transit Administration. Honolulu High-Capacity Transit Corridor Project Final Environmental Impact Statement. June 2010. <http://www.honolulutransit.org/library/>

6 "Rail project's ridership projection is highly improbable," Dec 20, 2010 entry at [honolulutraffic.com](http://www.honolulutraffic.com), based on FHWA, Journey to Work trends in the United States and its Major Metropolitan Areas, 1960-2000.

7 Farmer, R. and D. Plotnikov, "Does Fiscal Policy Matter? Blinder and Solow Revisited" <http://www.nber.org/papers/w16644>

UHERO

THE ECONOMIC RESEARCH ORGANIZATION
AT THE UNIVERSITY OF HAWAII

UHERO THANKS THE FOLLOWING SPONSORS:

KAWEKI'U - THE TOPMOST SUMMIT

The Bank of Hawaii

KILOHANA - A LOOKOUT, HIGH POINT

Hawaii Electric Light Company, Ltd.

Hawaiian Electric Company, Inc.

Maui Electric Company, Ltd.

County of Kaua'i Office of Economic Development

Kamehameha Schools

Matson Navigation Company

KUAHIWI - A HIGH HILL, MOUNTAIN

American Savings Bank

Central Pacific Bank

Hawaii Foreign-Trade Zone

Kaiser Permanete Hawaii

KYA Sustainability Studio

Servco Pacific Inc.

Kulia I Ka Nu'u (literally "Strive for the summit") is the value of achievement, those who pursue personal excellence. This was the motto of Hawai'i's Queen Kapi'olani. Sponsors help UHERO to continually reach for excellence as the premier organization dedicated to economic research relevant to Hawai'i and the Asia Pacific region.

The UHERO Forecast Project is a community-sponsored research program of the University of Hawai'i at Mānoa. The Forecast Project provides the Hawai'i community with analysis on economic, demographic, and business trends in the State and the Asia-Pacific region.

All sponsors receive the full schedule of UHERO reports, as well as other benefits that vary with the level of financial commitment.

For sponsorship information, browse to <http://www.uhero.hawaii.edu>.