

High-Capacity Corridor Transit Project

Honolulu, Hawaii

(November 2009)

The City and County of Honolulu (the City) proposes to construct the High-Capacity Corridor Transit Project, a 20.6-mile rail line with 21 stations operating. The project would serve the south shore of Oahu from a western terminus in Kapolei, past Pearl Harbor and Honolulu International Airport, through downtown Honolulu, to an eastern terminus at Ala Moana Center. The electrified (third rail) line will be almost entirely on elevated structure in existing public rights of way – primarily arterial streets. Rail service would extend over 20 hours each day with automated trains running every three minutes in the weekday peak periods and six minutes during most off-peak hours.

The corridor is geographically constrained by the ocean to the south and two mountain ranges to the north. Pearl Harbor reaches well inland from the ocean and pinches the already-narrow corridor near its mid-point. Severe highway congestion persists on H-1, a freeway that extends through the length of the corridor, and on the limited number of major arterials that serve the corridor. In the urban core around downtown Honolulu, street capacity is similarly limited by the scarcity of continuous arterials. The Honolulu bus system provides service throughout the corridor. Per-capita ridership is among the top five in the country, reflecting heavy traffic congestion, high parking costs in the urban core, and high-frequency bus service. Service quality suffers substantially from mixed-traffic operations, however, and increasing traffic congestion continues to degrade schedule reliability, increase operating costs, and exacerbates the bus-capacity limitations on the highest-ridership bus routes. The proposed project would be fully grade-separated, provide higher-speed and more reliable transit service, and produce substantial reductions in travel times for large numbers of transit riders in the corridor.

Summary Description

Proposed Project:	Elevated rail line with 3 rd -rail electrification 20.6 Miles 21 Stations
Total Capital Cost (\$YOE):	\$5,348 Million (Includes \$290 million in finance charges)
Section 5309 New Starts Share (\$YOE):	\$1,550 Million (29.0%)
Annual Forecast Year Operating Cost:	\$278 Million
Ridership Forecast (2030):	116,000 Average Weekday Boardings 64,000 Daily New Riders
Opening Year Ridership Forecast (2013):	97,000 Average Weekday Boardings
FY 2011 Local Financial Commitment Rating:	Medium
FY 2011 Project Justification Rating:	Medium
FY 2011 Overall Project Rating:	Medium

The City's schedule anticipates a request for entry into Final Design in mid-2010, and a Full Funding Grant Agreement (FFGA) for the project in 2011. The City must maintain a sufficient New Starts rating throughout project development.

Project Development History and Status

The City completed an alternatives analysis for the corridor in November 2006 and identified a 20-mile elevated fixed-guideway as a starter project with future extensions both east and west. In May 2007, the

Oahu Metropolitan Planning Organization amended the transportation plan for Oahu to include this initial project. In April 2008, the City chose steel-wheel-on-steel-rail as the technology and, in November 2008, completed a Draft Environmental Impact Statement for the project. In May 2009, the City requested that the project enter preliminary engineering and FTA approved the request in October 2009. The City and FTA are currently working to complete the Final Environmental Impact Statement.

Project Justification Rating: Medium

The project justification rating is based on the weighted average of the ratings assigned to each of the following criteria: the cost-effectiveness criterion is weighted 20 percent; the transit supportive land use criterion is weighted 20 percent; the economic development criterion is weighted 20 percent; the mobility improvements criterion is weighted 20 percent; the environmental benefits criterion is weighted 10 percent; and the operating efficiencies criterion is weighted 10 percent.

Cost Effectiveness Rating: Medium

The cost effectiveness rating reflects the magnitude of the project’s travel-time savings (63,700 hours each weekday) relative to the project’s annualized capital and operating costs, all in comparison to a baseline alternative.

Cost Effectiveness Rating: Medium	
	<u>New Start vs. Baseline</u>
Cost per Hour of Transportation System User Benefits	\$16.24/hour*
Cost per Incremental Transit Trip	\$16.17/trip

*Indicates that measure is a component of Cost Effectiveness rating

Transit-Supportive Land Use Rating: Medium

The land use rating reflects the population and employment densities within ½-mile of proposed station areas:

- Average population density across all station areas is 8,300 persons per square mile. Total employment served is at least 164,000 (including 48,000 in the CBD).
- Ranging from west to east, existing land uses in the station areas typically include open, agricultural land; low-density, single-family residential; moderate-density, multi-family residential; light-commercial and harbor front industrial; high-density commercial and retail, and moderate-density, mixed-use retail and residential.
- Pedestrian facilities in the corridor’s station areas are non-existent in the undeveloped western end of the corridor but generally improve towards the east. Many station areas suffer from wide arterial streets, considerable surface parking, disconnected residential subdivisions, and segregated development patterns. The corridor’s eastern areas have adequate pedestrian infrastructure and better pedestrian amenities and design.
- Parking is scarce and expensive in the CBD, but generally free and available in most other station areas.

Economic Development Rating: Medium

The economic development rating is based upon the average of the ratings assigned to the subfactors below. The rating reflects conditions as of August 2007.

Transit-Supportive Plans and Policies: Medium

- Land use in the corridor is controlled by only two entities – the State of Hawaii and the City and County of Honolulu. Honolulu has specifically sought to concentrate new development in the Honolulu primary urban center and to establish a secondary urban area to the east in the community of Kapolei, at the eastern end of the proposed alignment. City and state-developed regional and subarea plans that cover the corridor include urban growth boundaries with strong protections for agricultural and preserved land outside these boundaries. The majority of the developable urban area was built up in the 1940s to 1960s and has been redeveloped since.
- All current area and sub-area community land use plans contain objectives that explicitly support the project and that generally encourage transit-oriented projects, pedestrian orientation, and dense, mixed-use patterns of development.
- Neighborhood transit-oriented development (TOD) plans are being developed for each of the station areas, and will serve as the basis for rezoning and other improvements.
- In 2006, the City Council of Honolulu amended its *Revised Ordinances* to define a *Transit-Oriented Development Ordinance*. The ordinance is intended to guide development in and around transit stations and is currently under development by the city.
- Existing zoning statutes allow for relatively high commercial and residential densities and relatively low parking requirements compared to most suburban areas in the U.S., and in some cases allow for mixed-use development. Some planned-unit developments and special districts have provisions for pedestrian amenities, but for the most part pedestrian-oriented design requirements and guidelines are not included in existing zoning regulations.
- Of the several comprehensive plans covering corridor communities, only the initial TOD Ordinance definition in the *Revised Ordinances* proposes incentives to explicitly promote transit-oriented development, including the use of FAR bonuses, shared parking requirements, and reductions in external trips. Honolulu is currently engaged in a TOD planning process for the proposed station areas to develop more detailed plans and amendments to zoning ordinances in order to implement land use policies and encourage appropriate development. No information was provided regarding efforts to work with developers.

Performance and Impacts of Policies: Medium

- Opportunities for redevelopment are greatest near the termini of the alignment in the Ewa Plain to the west and the Kaka‘ako Community Development District (CDD) to the east. The Ewa Plain has master plans for major development projects including high densities, a mix of uses, and pedestrian-friendly design in the vicinity of three proposed stations.
- The Kaka‘ako CDD has seen an abundance of pedestrian/transit friendly development projects recently including expansion of open air, pedestrian retail strips, major commercial and shopping centers located at existing bus transit stations (and the site of a proposed station), and high-density, live-work developments within walking distance of downtown. In addition, the area has undergone upgrades to its street network and infrastructure to add or replace sidewalks and improve the flow of pedestrian and vehicular traffic.
- The greatest impact of the transit project, outside of the Ewa Development Area, will be the redevelopment of existing land uses. Policies and market forces are at work within the Kaka‘ako CDD to encourage infill and TOD redevelopment. However, areas near stations in the Waipahu, Pearl City, and Salt Lake communities may be the least adaptable to redevelopment due to the concentration of industrial/light-commercial uses, U.S. military and state property, and lower demand than other areas.

Mobility Improvements Rating: Medium		
Transportation System User Benefit Per Passenger Mile	<u>New Start vs. Baseline</u>	
	3.9 minutes/passenger-mile	
	Daily Trips by Transit Dependents Using the Project 18,600 trips per day	
Transit Dependent User Benefits per Passenger Mile	1.5 minutes/passenger-mile	
Environmental Benefits Rating: High		
<u>Criteria Pollutant Status</u>	<u>EPA Designation</u>	
8-Hour Ozone (O ₃)	Attainment Area	
Carbon Monoxide (CO)	Attainment Area	
Operating Efficiencies Rating: Medium		
System Operating Cost per Passenger Mile (current year dollars)	<u>Baseline</u>	<u>New Start</u>
	\$0.41/pass-mi.	\$0.34/pass-mi.

Local Financial Commitment Rating: Medium

The local financial commitment rating is based on the weighted average of the ratings assigned to each of the following criteria: the New Starts share of project costs is weighted 20 percent; the strength of the capital finance plan is weighted 50 percent; and the strength of the operating finance plan is weighted 30 percent.

Section 5309 New Starts Share of Total Project Costs: 29.0%

Rating: High

The City is requesting a 29 percent New Starts share of total project costs, which results in a *High* rating for this measure.

Capital Finance Plan Rating: Medium

The capital finance plan rating is based upon the weighted average of the ratings assigned to each of the subfactors below. The agency capital condition is weighted 25 percent, the commitment of capital funds is weighted 25 percent, and the capital cost estimate, planning assumptions and capital funding capacity subfactor is weighted 50 percent.

Agency Capital Condition: High

- The average age of the City’s bus fleet is 9.2 years. The average age of the demand-responsive fleet is 4.7 years. The bus fleet age was the oldest recorded in the time period researched with NTD data (2003-2008). The demand-responsive fleet age was slightly higher than the average over that period (4.6 years).
- The latest City general obligation bond issue (May 2009) was rated AA by Standard & Poors, Aa2 by Moodys, and AA by Fitch. No changes in the City’s ratings have been reported since.

- The capital condition rating based solely on fleet age would be Medium-Low, while the capital condition rating based solely on bond ratings would be Medium-High. Because this is more than a one-step difference, the rating is an average of the two, or Medium.

Locally Proposed Financial Plan		
<u>Source of Funds</u>	<u>Total Funds (\$million)</u>	<u>Percent of Total</u>
Federal:		
Section 5309 New Starts	\$1,550.0	29.0%
Section 5307 Urbanized Area Formula Funds	\$300.7	5.6%
American Recovery and Reinvestment Act (ARRA)	\$4.0	0.1%
State/Local:		
General Excise Tax (GET)	\$3,493.7	65.3%
Total:	\$5,347.7	100.0%

NOTE: The financial plan reflected in this table has been developed by the project sponsor and does not reflect a commitment by DOT or FTA. The sum of the figures may differ from the total as listed due to rounding.

Commitment of Capital Funds: High

- Approximately 91 percent of non-New Starts funding is committed. Federal sources include Section 5307 Formula funds and the American Recovery and Reinvestment Act.

Capital Cost Estimates, Planning Assumptions, and Financial Capacity: Low

- The capital cost estimates/planning assumptions subfactor is rated *Low*. The major factors contributing to this rating are: (i) material downside risks to the GET surcharge revenue forecast, and consequently the inability to cover all debt service cost; (ii) no net debt capacity; and (iii) lack of information to substantiate the City’s capacity to absorb a material amount (up to \$535 million) of cost risk. In addition to these concerns, bus capital funding – clearly needed as evidenced by the relatively old age of the bus fleet – depends on a much higher level of Federal funding than has previously been the case.
- The Project Management Oversight Contractor (PMOC) issued a spot report in July 2009 that recommended an increase of \$116.8 million in the capital cost of the project reflect recommended line item adjustments to vehicle requirements and escalation rates. The PMOC noted that the revised total includes a contingency allowance that is 31.8 percent of the adjusted baseline cost estimate. The City incorporated this increase in its financial plan, but also found it necessary to increase the Project’s financing costs by \$59 million, bringing the total cost for the Project to the current \$5,347 million.
- GET surcharge revenues are the linchpin of the capital financial plan. Although the GET surcharge raises a significant amount of revenue, there is downside risk to the forecast. Given that GET surcharge revenues are highly leveraged in the financial plan, any shortfall in revenue would have material consequences on the City’s ability to finance the local share of project cost, unless other sources of capital funds are identified. The collection of GET surcharge revenues commenced in January 2007. GET surcharge revenue has consistently been less than forecasted.
- The financial plan forecast is higher than a recent forecast prepared by the Council on Revenues (COR), a group that advises the Governor of Hawaii. If the forecast were restated to reflect the COR’s forecasted rate of growth for GET revenues, the revenue shortfall would be about \$80

million through 2015. If the financial plan's forecasted growth rates were applied from that point forward, the shortfall would total about \$322 million through 2023.

- The GET surcharge revenues that will be applied to Project-related debt service provide very slim coverage. The debt service coverage ratio is 1.0 – the absolute minimum – in fiscal years 2019 through 2021. Although there is no coverage requirement *per se* associated with general obligation debt, the slim margin in debt capacity coupled with the slim coverage ratio effectively means there is no additional financial capacity to address funding shortfalls or cost increases.
- The financial capacity of the City to provide additional support to the project is a complicated question that cannot be reasonably answered in the scope of this review. However, given the relative optimism of other assumptions affecting the amount of City funds that would be needed to support the Project and the other elements of the transit system (e.g., GET surcharge revenue forecast, section 5309 bus funds, funding of operating subsidy requirements), it seems reasonable to conclude, until and if supporting information is presented, that the City lacks the capacity to provide the additional funds necessary to support a Medium or Medium-Low rating.

Operating Finance Plan Rating: Medium

The operating finance plan rating is based upon the weighted average of the ratings assigned to each of the subfactors listed below. The agency operating condition is weighted 25 percent, the commitment of operating funds is weighted 25 percent, and the operating cost estimates, planning assumptions and operating funding capacity subfactor is weighted 50 percent.

Agency Operating Condition: Medium

- Financial reporting for the operation of transit services by the City of Honolulu is reported in the City's Public Transportation System Fund. At the close of FY 2008 (June), that fund had current assets of \$26.5 million and current liabilities of \$20.1 million, yielding a current ratio of 1.32, indicating sound financial condition. The Public Transportation System Fund held cash and investments of \$11.2 million, which is about 6.3 percent of annual operating cost.
- The City has maintained bus service in recent years as measured by system-wide vehicle-revenue miles.

Commitment of Operating Funds: High

- Operating funds consist of Federal formula funds (7 percent), operating revenues (30 percent), and operating subsidies from the City's General Fund and Highway Fund (63 percent). All of these funds are considered to be "committed" since they are under the direct control of the City.
- However, as noted below, the forecasted subsidies would require the City to transfer to the Public Transportation System Fund a higher share of the General Fund and Highway Fund than has historically been the case.

Operating Cost Estimates, Planning Assumptions, and Financial Capacity: Medium-Low

- The project will have a significant impact on operating costs. Its net cost projected for 2020 (\$85.9 million) will be about 32 percent of the cost of bus and Handi-Van services. Further, the rail operating cost estimate has much more upside risk than downside risk because of assumptions made by the City in estimating project operating costs based on experience with existing rail systems elsewhere. Also worth noting is the relatively low rate of growth in rail unit costs – between 2019 and 2030, rail unit cost is forecast to grow at 1.5 percent annually, a full point below inflation.
- The financial plan assumes a steady increase in bus and demand-response services throughout the forecast. Operating subsidies are forecast to grow at 4.3 percent, on average, for the forecast

- period. This is a lower rate of growth than experienced over the past five years (8.5 percent), and is also less than the longer-term trend (6.3 percent annually, 1998 to 2008).
- Although the forecasted rates of growth in operating subsidies are below historical growth rates, the forecast requires increasing levels of transit subsidy relative to the funds from which the subsidies are transferred – the General Fund and the Highway Fund. Between 2000 and 2010, transit operating subsidies were, on average, 10 percent of combined General Fund-Highway Fund revenues. Between 2010 and 2030, operating subsidies are forecast to average 14 percent of General Fund-Highway Fund revenues, reaching a maximum of 17 percent when the full line opens in 2019. Although there was one year when the historical percentage approached the forecasted average (e.g., 14.8 percent in 2001), it was an anomaly. An increase from 10 percent to 14 percent of General Fund-Highway Fund revenues is significant. If the forecasted rate (14 percent) were put into effect today, it would leave about \$44 million less revenue for General Fund and Highway Fund programs.
 - The operating cash flow assumes a balanced budget, with no accrual of an operating surplus or reserve. Thus, the 2008 year-end cash and investments held in the Public Transportation System Fund (\$11.2 million) could be assumed to be constant. These funds represent 6.3 percent of operating costs in 2008, and would represent 3.2 percent of operating costs in 2019 when the Project fully opens. In 2030, these funds would represent 2.3 percent of operating cost.

MAP