High Capacity Transit Corridor Project

Honolulu, Hawaii

(November 2009)

The City and County of Honolulu (the City) proposes to construct the High-Capacity Corridor Transit Project, a 20.1-mile rail line with 21 stations. 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 3rd-rail electrification 20.1 Miles 21 Stations
Total Capital Cost ($YOE):	$5,347.68 Million (Includes $290.3 million in finance charges)
Section 5309 New Starts Share ($YOE):	$1,550.00 Million (29.0%)
Annual Forecast Year Operating Cost:	$125.92 Million
Ridership Forecast (2030):	116,000 Average Weekday Boardings 64,000 Daily New Riders
Opening Year Ridership Forecast (2019):	97,000 Average Weekday Boardings
FY 2011 Local Financial Commitment Rating:	**Medium**
FY 2011 Project Justification Rating:	**Medium**
FY 2011 Overall Project Rating:	**Medium**

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. FTA approved entry into preliminary engineering in October 2009. The City and FTA are currently working to complete the Final

Environmental Impact Statement. 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.

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 project's travel-time savings (63,700 hours each weekday) relative to the project's annualized capital and operating costs compared to a baseline alternative.

Cost Effectiveness	
	New Start vs. Baseline
Cost per Hour of Transportation System User Benefits	$16.24*
Cost per Incremental Transit Trip	$16.17

*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 central business district (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 areas.

Economic Development Rating: Medium-High

The economic development rating is based upon the average of the ratings assigned to the subfactors below.

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 floor area ratio 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 to implement land use policies and encourage appropriate development.

Performance and Impacts of Policies: Medium-High

- 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-High	
	New Start vs. Baseline
Transportation System User Benefit Per Passenger Mile	3.9
Daily Trips by Transit Dependents Using the Project	18,600
Transit Dependent User Benefits per Passenger Mile	1.5

Environmental Benefits Rating: Medium	
Criteria Pollutant Status	**EPA Designation**
8-Hour Ozone (O_3)	Attainment Area
Carbon Monoxide (CO)	Attainment Area

Operating Efficiencies Rating: Medium		
	Baseline	**New Start**
System Operating Cost per Passenger Mile (current year dollars)	$0.41	$0.34

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

Locally Proposed Financial Plan		
Source of Funds	**Total Funds ($million)**	**Percent of Total**
Federal:		
Section 5309 New Starts	$1,550.00	29.0%
Section 5307 Urbanized Area Formula Funds	$300.72	5.6%
American Recovery and Reinvestment Act (ARRA)	$4.00	0.1%
State/Local:		
General Excise Tax (GET)	$3,492.96	65.4%
Total:	**$5,347.68**	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.

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: Medium

- The average age of the City's bus fleet is 9.2 years, which is older than the industry average.
- The City's good general obligation bond ratings, which were issued in 2009, are as follows: Moody's Investors Service Aa2, Standard & Poor's Corporation AA, and Fitch AA.

Commitment of Capital Funds: High

- Approximately 91 percent of non-New Starts funding is committed. Federal sources include Section 5307 Formula funds and funds from the American Recovery and Reinvestment Act. Local funds derive from the general excise tax (GET).

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

- Assumptions regarding growth in GET revenues and Section 5309 bus discretionary funds are optimistic compared to historical experience. Financing costs appear to be understated.
- The capital cost estimate is considered reasonable.
- The financial plan show the City has little ability to address funding shortfalls or cost increases. The GET surcharge revenues that will be applied to project-related debt service provide very slim coverage.

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

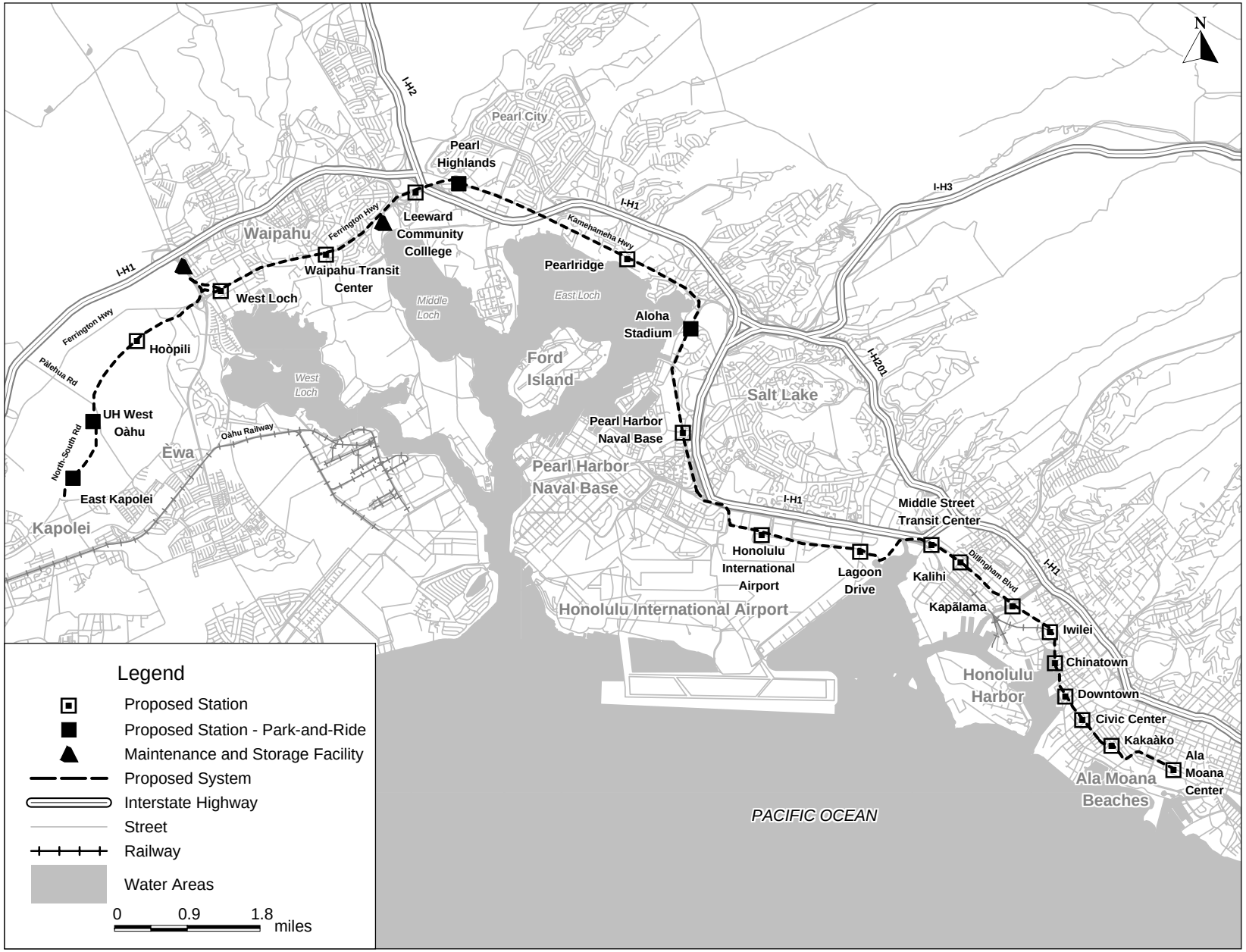
- Financial reporting for the operation of transit services by the City of Honolulu is reported in the City's Public Transportation System Fund. The current ratio of assets to liabilities for that fund as reported in its most recent audited financial statements is 1.32.
- The City has no recent service cutbacks.

Commitment of Operating Funds: High

- All operating funds are considered committed, including Federal formula funds, fare revenues and other operating income, and subsidies from the City's General Fund and Highway Fund.

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

- Assumptions regarding state operating subsidies and growth in rail unit operating costs and bus and paratransit operating costs are optimistic compared to historical experience.
- The operating cash flow assumes a balanced budget, with no accrual of an operating surplus or reserve.

High Capacity Transit Corridor Project

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