



**S E A T T L E S T R E E T C A R**  
Network Development Report  
Appendix E

**Seattle Department of Transportation**  
**May 2008**

## **APPENDIX E**

### **EVALUATION OF WEST SEATTLE, BALLARD-INTERBAY, UPTOWN-CAPITOL HILL, AND RAINIER LINES**

The Seattle Streetcar Network Development Concept approved by the City Council in Resolution 31042 included four additional routes for analysis. These routes are considered “less promising” at this time, because of issues such as technical feasibility, cost per mile, and ridership potential.

#### **West Seattle**

SDOT evaluated a potential streetcar connection from downtown Seattle (King Street Station area) to West Seattle Junction (California/Alaska) via First Avenue South and the West Seattle Freeway. The route presented operational challenges, as rail transit in a shared right-of-way is not compatible with a freeway operating environment requiring unprotected lane changes (as would be necessary for the streetcar to enter and exit the West Seattle Freeway at grade). An elevated structure could likely be retrofitted to the center median of the West Seattle Bridge, with long approach structures at each end of the bridge. However, the cost per mile would be in excess of \$100 M, resulting in a capital facilities cost of over \$600 million. SDOT considers this outside of the range of reasonable capital costs per mile for a streetcar. SDOT also evaluated a potential low-level bridge alignment, but found that existing structures restrict the available turning radius to less than the minimum required for operation of a streetcar.

#### **Ballard-Interbay**

SDOT evaluated a potential streetcar connection to the center of Ballard via Interbay. Operations through Interbay on Elliott Avenue W and 15<sup>th</sup> Avenue W presented similar operational challenges, as portions of these roadways function as limited-access roadways similar to freeways, with unprotected lane movements from through travel lanes to exit lanes. However, SDOT was able to identify a number of reasonable modifications to these roadways that could allow the streetcar to travel in the outside (curb) lane through the corridor, with limited number of new, signalized movements. In this configuration, there would be more operational conflicts with bicycles, freight, and general vehicles entering and exiting the roadway from adjacent curb cuts than would be desirable.

In addition to the operational shortcomings of the alignment, capital cost analysis indicated that this route would have a considerably higher cost per mile than a route to Ballard via Fremont, with not travel time advantage. The main cause of the higher cost per mile is the estimated cost to retrofit the Ballard Bridge, which has very long approach structures.

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Given the availability of a lower-cost, operationally superior alternative to serve Ballard, the Ballard-Interbay route was considered less promising at this time. Supporters of redevelopment of the Interbay area note that there is potential for new jobs and housing and a streetcar could help serve and support such development. The potential for streetcar service to Interbay can be revisited as development proposals for the area evolve.

### **Capitol Hill**

SDOT evaluated a route connecting Uptown, South Lake Union and Capitol Hill. There are currently no freeway crossings that align directly with this desire line across the center of the Uptown and South Lake Union neighborhoods (i.e., in the vicinity of Thomas/Harrison/Republican streets). The nearest freeway crossing is at Denny Way. This was found to have a segment with a 17% grade, well in excess of the maximum grade for streetcar vehicles. The next freeway crossing, at Olive Way, allows only for eastbound travel, because of the configuration of on ramps. It was also noted that the Olive Way crossing is closer to the downtown Commercial Core neighborhood than to South Lake Union. The Capitol Hill route concept fails the minimum technical criteria for streetcars. An Uptown-South Lake Union route could be accomplished if a signalized, at-grade crossing of Aurora Avenue/Route 99 were introduced. Such an operational modification may also offer general traffic and pedestrian circulation improvements. The South Lake Union-Uptown transit market may not in and of itself generate a large number of streetcar trips, as many such trips would be walkable if new at-grade routes were introduced. However, this routing could be revisited in the future.

### **Rainier Avenue**

SDOT evaluated a route connecting from the International District at Jackson/Rainier to the Link Light Rail McClellan Station Area via Rainier Avenue S. No significant technical or operational flaws were identified, but the route provides a similar connection to that offered by light rail from McClellan Station to the International District station. The existing densities and development capacity along Rainier Avenue S between these areas, and the lack of major attractions and destinations between the areas, suggest that local streetcar ridership along Rainier would not be very competitive with light rail service between McClellan and the International District. The Central Line would provide a transfer opportunity for service along the Jackson Street corridor via light rail from Southeast Seattle.