

Enhanced Transit: Streetcar or Bus Connection between Downtown Seattle and Capitol Hill Station via First Hill (John Street) (Seattle)

Project Number	N7a
Subarea	North King
Primary Mode Impacted	Link
Facility Type	Link Service
Version Number	6.0
Date Last Modified	12/14/2006

Project Locator Map



Short Project Description

Enhance transit service connections between First Hill, the Central Link light rail line, and downtown Seattle transit hubs with new transit service (streetcar or bus) along the Jackson Street / Broadway Avenue corridor between the International District and Broadway/John.

Project Purpose: increase regional transit accessibility to First Hill.

Cost and Schedule

Cost (in Millions of 2006\$)*

Schedule

Streetcar	Low	High
Agency Admin	\$7.0	\$8.0
Environmental Clearance and PE	\$3.3	\$3.8
Final Design, Specs, Permitting	\$8.3	\$9.5
ROW Acquisition	\$13.1	\$15.0
Construction	\$72.0	\$82.8
Vehicles	\$19.4	\$22.3
Contingency	\$6.6	\$7.6
Total	\$129.7	\$149.2

Proposed Schedule Not Yet Developed

Annual O&M	\$5.2
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Bus	Low	High
Agency Admin	\$0.8	\$0.9
Environmental Clearance and PE	\$0.5	\$0.6
Final Design, Specs, Permitting	\$0.5	\$0.6
ROW Acquisition	\$0.5	\$0.6
Construction	\$4.3	\$4.9
Vehicles	\$5.6	\$6.4
Contingency	\$1.1	\$1.3
Total	\$13.4	\$15.4

Annual O&M	\$3.5
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* Cost estimates for bus option are in 2005\$

Design Basis	Conceptual
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Environmental Documentation Required

- Environmental Impact Statement Required
- Environmental Assessment Required
- Environmental Checklist Required

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Relationships to Other Projects

Relationship

Project

Complements

N7c Enhanced Transit: Streetcar Extension John Street to Aloha Street (Seattle)

Project Partners

City of Seattle DOT

King County Metro

Long Description

This capital project scope, and the companion capital cost estimate, are intended to include the entire project development cycle (agency and project administration, environmental clearance, design, all aspects of property acquisition, permits, agreements, construction, testing, commissioning and contingencies) from project initiation through the start-up of the revenue operations.

This project would enhance transit service connections between First Hill, the Central Link light rail line, and downtown Seattle transit hubs with new transit service (streetcar or bus) along the Jackson Street / Broadway Avenue corridor. Two options were considered for providing service between International District Station and Capitol Hill Station via Jackson Street, 12th Ave, Boren Avenue, and Broadway:

1. Streetcar
2. New bus route

The streetcar route would extend as far north as John Street. The bus route would provide service from 2nd Ave and Jackson to Aloha Street, as that would be the logical location for bus turnarounds. An extension of the streetcar option to Aloha Street is described in project N7c.

Project Elements Included:

Streetcar (Option 1):

- At-grade in-street streetcar generally operating in curbside street lanes in combination of mixed traffic and business access transit-only lanes
- Approximately 2.2 miles in length
- Double-track entire alignment, using a one-way couplet on Jackson / King Street
- Business access transit-only lanes on Jackson (westbound only) from 5th Ave to 12th Ave and on Broadway southbound from James Street to Terrace Street and northbound from Alder Street to Seattle Central Community College at Olive Street
- Streetcar-only lane under I-5 on King Street
- 13 streetcar stops (Seven stops are constructed as a curb bulb-out, six stops fit with existing sidewalk. Amenities include shelters, signage, lighting, seating, and real-time passenger information)
- Light maintenance and vehicle storage facility
- Removal and replacement of the top 12 to 18 inches of pavement in streetcar lanes only
- Transit signal priority at up to 13 intersections
- Transit-only signal phase at 6 intersections
- 1 percent for art per ST policy
- 10 minute peak headways, 15 minute off-peak and weekends, 20 hours per day, 7 days per week
- Skoda-type low-floor vehicles and associated traction power supply facilities including 3 substations and OCS
- One-car trains
- 6 vehicles (including 2 spares)
- Pantograph overhead power supply
- Connection to Waterfront Streetcar on 5th Avenue

Bus (Option 2):

- Transit signal priority at up to 19 intersections
- Transit-only signal phase at 4 intersections
- Business access transit-only lanes on Jackson (westbound only) from 4th Ave to 12th Ave and on Broadway southbound from Olive Street to Terrace Street and northbound from Alder Street to Olive Street
- Enhanced shelters with real-time passenger information at all stops
- Bus bulbs at 5 stops (all other stops are curbside)
- 7 40-ft electric trolley coaches, including one spare
- 1 percent for art per ST policy
- 10-15 minute peak, off-peak and weekends, 20 hours per day, 6 days per week (16 hours per day Sunday)

Utilities:

- Relocation of major parallel water utilities (one 32" line, one 40" line)
- Relocation of overhead trolleybus wires where necessary (no poles)
- Protection and bridging for major utility crossings
- Installation of new poles for pantograph overhead power supply

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Right of-Way and Property Acquisition:

- ROW for maintenance base and vehicle storage
- Purchase of properties for widening to accommodate three 90 degree right turns at intersections
- Allowance for construction laydown area

Mitigation:

- The final project scope will include all mitigation(s) committed to by ST in pertinent, future project-level environmental documents
- Traffic mitigation during construction

Exclusions:

- Non-structural architectural and aesthetic elements in excess of the ST art program
- Replacement of displaced on-street parking
- Grade-separated pedestrian crossings
- Utility undergrounding
- Central radio communications
- Upgrading of street lighting or pavement type
- Street, sidewalk and utility upgrades or betterments not directly needed to support bus or streetcar facilities and operations
- Demolition of closed bus zones and other costs of stop consolidation
- Bus maintenance base expansion for fleet additions
- Conversion of streetcar vehicles from pantograph to trolley poles
- Additional signage at IDS or Capitol Hill light rail stations
- Other stop (station) and trackway components and amenities not specifically included
- Ticket vending machines or Smart Card readers
- Community development fund
- Third party funding

Permits Required:

- Building, electrical, mechanical, utility, construction-related
- Master use
- Street use

Agreements Required:

- City of Seattle
- WSDOT agreement for undercrossing of I-5
- King County Metro

ST has developed scope definitions for ST2 project proposals for the purposes of developing cost estimates, implementation schedules, a financial plan, and the estimation of project benefits. This scope definition should not be construed as a commitment that all defined features will be included in the final developed project.

Evaluation Measures

Measure	Measurement/ Rating: Streetcar	Measurement/R ating: Bus	Notes
Average Weekday Ridership	3,000 - 3,500	2,000	
Capital Cost	\$129.7 - \$149.2	\$13.4 - \$15.4	in Millions of 2006\$ (Bus in 2005\$)
Annual Operating Cost	\$5.2	\$3.5	in Millions of 2006\$ (Bus in 2005\$)
Travel Time & Reliability	Medium	Medium	
Connectivity & Integration	Medium	Medium	
Land Use & Development	High	High	
Customer Experience	Medium	Medium	
Risk Avoidance	Medium	High	

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Key Issues and Benefits

Issues

- It is Sound Transit's policy that light rail lines are "provided primarily in separated rights-of-way with traffic signal preemption ..." (ST Long Range Plan, 07/2005). The streetcar option considered in this project would operate in mixed traffic with signal priority, and in transit-only lanes.
- The methodology and assumptions for the conceptual design and cost estimate are based on the example set by the Seattle DOT's South Lake Union (SLU) Streetcar Project. The capital cost estimate developed for the First Hill streetcar is based on the assumption that a similar level of stakeholder coordination and cooperation during design and construction as seen for the SLU Streetcar Project will be achieved.

Benefits

- Improves speed, reliability and capacity of transit connections between the First Hill neighborhood, downtown Seattle and Capitol Hill, in lieu of a station on the regional light rail line.
- Streetcar Option 1 may be a catalyst for new mixed use development in the corridor.
- Both options support planning goals and policy being proposed in City of Seattle's Livable South Downtown plan.