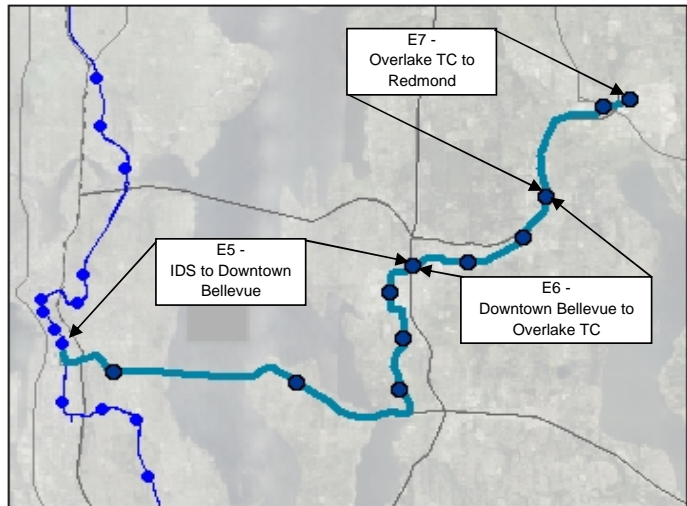


# HCT-RC BRT: Seattle to Downtown Bellevue

Project Number	E5
Subarea	East King
Primary Mode Impacted	ST Express
Facility Type	BRT Facility
Version Number	3.0
Date Last Modified	5/19/2006

Project Locator Map



## Short Project Description

Construct a Rail Convertible Bus Rapid Transit project (RC BRT) on an exclusive guideway for conversion to future light rail service from downtown Seattle to downtown Bellevue and Overlake Hospital via I-90. Construct a large transfer station in the vicinity of the International District Station in south downtown Seattle to provide transfers to Central Link and buses operating on surface streets. Stations would be provided on I-90 at Rainier Avenue and Mercer Island. In Bellevue, this segment of RC BRT would have three to four stations which would serve a regional park-and-ride, downtown Bellevue, and Overlake Hospital. The alignment and station locations will be determined through project level design and environmental review. Cost estimates for both aerial and underground alignments in downtown Bellevue are presented here. This project is an 11.4 mile component of the total proposed RC BRT line from Seattle to Redmond via I-90 and downtown Bellevue.

**Project Purpose:** Provide reliable High Capacity Transit (HCT) within its own ROW from Seattle to east of downtown Bellevue.

## Cost and Schedule

Cost (in Millions of 2005\$)

Schedule

Alignment incl. underground component cost

	Low	High
Agency Admin	\$77.8	\$89.5
Environmental Clearances and PE	\$48.0	\$55.2
Final Design, Specs, Permitting	\$120.0	\$138.0
ROW Acquisition	\$87.3	\$100.4
Construction	\$1,041.5	\$1,197.7
Vehicles	Not Included	Not Included
Contingency	\$137.0	\$157.5
<b>Total Cost</b>	<b>\$1,511.6</b>	<b>\$1,738.3</b>

Proposed Schedule Not Yet Developed

Alignment incl. aerial component cost

	Low	High
Agency Admin	\$61.0	\$70.2
Environmental Clearances and PE	\$32.4	\$37.3
Final Design, Specs, Permitting	\$81.1	\$93.2
ROW Acquisition	\$200.0	\$230.0
Construction	\$703.8	\$809.3
Vehicles	Not Included	Not Included
Contingency	\$105.9	\$121.7
<b>Total Cost</b>	<b>\$1,184.2</b>	<b>\$1,361.9</b>

Design Basis

Conceptual

## Environmental Documentation Required

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

# HCT-RC BRT: Seattle to Downtown Bellevue

## Relationships to Other Projects

<i>Relationship</i>	<i>Project</i>
Dependent on	Construction and implementation of the I-90 R8-A Alternative
Dependent on	Completion of Central Link
Dependent on	Project E8 - Construction of the Maintenance Facility and Vehicle Purchase
Impacted by	Bus services and ridership impacted by the SR 520 Bridge Replacement Project

## Project Partners

<i>Agency</i>	<i>Department</i>	<i>Contact</i>	<i>Phone</i>	<i>e-mail</i>
WSDOT				
KC Metro				
City of Bellevue				
City of Seattle				
City of Mercer Island				

## 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 operations.*

At this stage of project development, a representative alignment was used to develop a cost estimate. The final alignment and station locations would be determined through project level design and environmental review. The base cost estimate includes design allowance contingency, construction change order contingency, and unallocated contingency.

### Assumptions:

- R-8A Project on I-90 will be completed
- No direct access facilities to be provided to the RC BRT transit only guideway
- Existing bridge structures will not be modified for future light rail operations. These modifications will be carried out during the RC BRT conversion to LRT phase of the project
- Guideway infrastructure (drainage, walkways, structural components etc) constructed during the RC BRT phase will facilitate future installation of LRT components, ducting, catenary pole footing and stray current protection
- LRT rail and systems installation will not occur within the RC BRT guideway construction phase
- Fire/Life Safety systems and ventilation facilities constructed in the RC BRT phase will accommodate the more stringent design criteria for both bus and light rail operations within existing I-90 tunnels and lids
- BRT vehicles for the total East Corridor alignment from Seattle to Redmond will be included in the capital costs for the maintenance facility (detailed in Project E8T5 project description)
- D2 ramp and I-90 center roadway converted to exclusive transit use
- Existing Bellevue Transit Center provides bus transfer facilities in downtown Bellevue

### Representative Alignment Project Elements

Alignment facilities between Seattle and South Bellevue:

- 6.9 miles of at-grade alignment on I-90

Alignment facilities between South Bellevue and Overlake Hospital:

- 4.3 miles of new aerial alignment for elevated alternative through downtown Bellevue; OR 2.7 miles of new aerial alignment and 1.8 miles new underground alignment for subway alternative through downtown Bellevue

Station facilities:

- Terminal station provide in downtown Seattle south of the existing International District station
- At-grade stations on I-90 center roadway at Rainier Avenue and Mercer Island
- Four new stations in Bellevue (four aerial with elevated alternative through downtown and two aerial and two underground with subway)
- Up to 1,420 structured parking stalls built on existing surface park-and-ride
- Kiss-and-ride facilities at up to three stations
- New local bus transfer facilities (four bays) at up to two stations
- 1 percent for art per ST policy

### Utilities

Utility investigations have not been carried out. Relocation of standard utilities along the alignment has been assumed as part of the scope and has been estimated using an average per route-foot allowance.

## HCT-RC BRT: Seattle to Downtown Bellevue

### ROW

Property interests required for the prototypical alignment include fee acquisitions, partial takes, easements and interagency agreements. Right-of-way requirements include construction staging and contractor laydown areas. No specific provisions are made for contractor parking. Cost estimates include associated relocation, administration and legal costs, and contingency.

### Mitigation:

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

### Exclusions:

- Maintenance facility will be costed separately (refer to E8 project description)
- Non-structural architectural and aesthetic elements in excess of the ST art program, except at the Bellevue Transit Center
- Vehicle costs will be costed separately (refer to E8 project description)
- R8-A funding requirements
- Modifications to the existing bridge structures
- Grade separated pedestrian crossings of arterials

### Permits

WSDOT agreements for:

- Transit operations along the D2 Ramps
- Transit operations on I-90 center guideway and associated bridges
- Transit operations on the I-90 East Channel Bridge
- Removal of the HOV connection from I-90 to South Bellevue Way
- Under or over crossing of I-405

BNSF permits:

- For aerial crossing of BNSF
- For underground crossing of BNSF
- Access to the maintenance facility right-of-way requirements

City of Bellevue agreements:

- Transitway agreement to operate within the city streets
- Mercer Island permits for Station

Others:

- Potential operating agreement with King County Metro
- City of Seattle permit for Rainier Avenue Station and connection to Central Link
- Mercer Island permit for Mercer Island Station

### Project Dependencies

- Construction and implementation of the I-90 R8-A Alternative
- Completion of Central Link
- Construction of Project E6 – downtown Bellevue to Overlake Transit Center
- Construction of Project E7 – Overlake Transit Center to Redmond

*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.*

# HCT-RC BRT: Seattle to Downtown Bellevue

## Evaluation Measures

<i>Measure</i>	<i>Measurement/ Rating</i>	<i>Notes</i>
Average Weekday Ridership	11,000	
Capital Cost (Underground Align.)	\$1,511.6 - \$1,738.3	in Millions of 2005\$
Capital Cost (Aerial Align.)	\$1,184.2 - \$1,361.9	in Millions of 2005\$
Annual Operating Cost (Underground Align.)	\$21.0	in Millions of 2005\$. O&M costs for this project are subject to change and will be recalculated when the full extent of the operation of the ST2 bus system for all of the Sound Transit subareas is known.
Annual Operating Cost (Aerial Align.)	\$21.0	in Millions of 2005\$. O&M costs for this project are subject to change and will be recalculated when the full extent of the operation of the ST2 bus system for all of the Sound Transit subareas is known.
Travel Time & Reliability	High	
Connectivity & Integration	High	
Land Use & Development	High	
Customer Experience	High	
Risk Avoidance	Low	

## Key Issues and Benefits

### Issues:

- System shut-down during conversion/time required to convert to LRT operations.  
The estimated capital cost range to convert the prototypical RC BRT alignment to LRT operations between downtown Seattle and Redmond Terminal Station is \$772.9 million to \$892.2 million (2005\$). The conversion cost is dependant on the amount of LRT infrastructure provided at the time of RC BRT implementation, the construction schedule for conversion, the level of bus operations provided during the conversion period and assumes the HCT guideway is closed for the duration of conversion. It is anticipated that further analysis will be completed to define the conversion process and that the conversion cost will be refined.
- Additional terminal/transfer station adjacent to the IDS and pedestrian connections to the Link IDS Station
- Alignment between I-90 and downtown Bellevue will be determined through project level design and environmental review
- Aerial or subway alignment through downtown Bellevue
- ROW along the alignment
- BNSF interface
- Park-and-ride capacity
- Potential wetland, parkland, and historic impacts
- Environmental mitigation

### Benefits:

- Provides exclusive transit right-of-way between downtown Seattle and downtown Bellevue, the two highest density employment centers in the region
- Provides direct HCT connection between the regional growth centers of downtown Seattle and downtown Bellevue
- Supports long range transportation and land use plans
- Increases transit reliability and visibility
- Increases job accessibility, particularly from Seattle to the Eastside
- Increases accessibility to special events in Seattle and Bellevue