



PLANNING AHEAD *Sound Transit 2*

Help us write the next chapter of the regional transit story. Your ongoing involvement will help identify the best way to expand the regional transit system.

HELPING US SHAPE THE FUTURE

Sound Transit held ten public hearings in King, Pierce, and Snohomish Counties on the Draft SEIS. We extend our thanks to all hearing attendees and those who commented on the Draft SEIS. All input received will be considered in finalizing the SEIS and updating the Long-Range Plan.

Don't stop now - you can still get involved! Add your name to our project contact list to receive notice of project progress, outreach activities and additional public meetings. Mail, email or call us, or visit the web - we'll make sure you stay informed.

CONTACT US

If you would like to join our mailing list, receive a copy of the Final SEIS or other corridor studies, please contact us.

Phone: Call (206) 398-5000 for more information

Email: main@soundtransit.org

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401 S Jackson St.
Seattle, WA 98104



SOUND TRANSIT 2 CONNECTING THE REGION



Expanding the Regional Transit System: Getting Around Puget Sound

Imagine it's 2030...

Puget Sound has grown by 1.2 million people...as many new people added as live in metropolitan Portland, Oregon in 2004.

Roadway congestion has increased dramatically. It now lasts almost all day. Delay has gone from 25 to 70 hours per year for people commuting alone. That's almost two full work weeks stuck in traffic.

That's a lot to plan for...

ARE WE READY?

**A Guide to Sound Transit's
Long-Range Planning Process**

May 2005

PLANNING AHEAD

Off to a good start

In 1996 the public responded to already chronic congestion by voting to ask Sound Transit to build a regional mass transit system that connected the urban areas of Pierce, King and Snohomish counties. That system included express buses, commuter and light rail trains, park-and-ride lots and transit centers.

Today, almost all of these projects are complete or under construction. With the core of an effective regional mass transit system up and running, what's next? How do we handle future growth and still keep ourselves moving? More and more, people across the region are talking about the need to invest in both roads and transit. Sound Transit is taking steps to help the public choose potential future mass transit investments — Sound Transit 2.

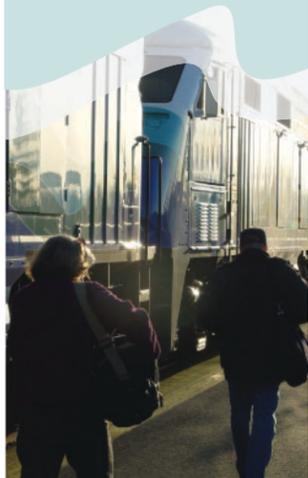
That's why Sound Transit is updating its existing Long-Range Plan for regional mass transit investments. With the core elements of the regional system in place, it's time for this region to see how the system might expand to meet future growth.

Planning for the future

Our region's strategy for managing growth, VISION 2020, focuses housing and job growth in urban areas, and connects them with high-quality transportation. Most recently, the region's overall transportation plan, Destination 2030, updated transportation information. It confirmed the need for high-quality transit services as part of a balanced plan offering alternatives to driving alone in our cars.

In December 2004, Sound Transit released a draft environmental study that looks at the impacts of expanding our regional mass transit system. This is now being followed by the effort to update the Regional Transit Long-Range Plan—the “big picture” of how we want our transportation system to grow. Later this year, Sound Transit and the people of this region will take the next step toward realizing the big picture by pulling together to approve the next set of projects that make the most sense—Sound Transit 2.

This pamphlet will provide an overview of our transportation planning process and a roadmap to the next set of investments in our regional transit system.



BUILDING FOR THE FUTURE

Increased transit use provides long-term benefits to air quality, land use, and energy consumption. Building the services called for in the Long-Range Plan can make a considerable difference in connecting our region - especially along our most congested roadways during rush hour. Transit investments support the region's growth and help assure a vital economy.

- Commuters could get to their destinations more quickly and reliably. Transit predictability goes up in segments where some form of dedicated right-of-way is in place.
- Additional transit investments could give people an alternative to being stuck in traffic. Larger numbers of people will be moving faster through the region's most congested travel corridors during the most congested times of day.
- Region-wide transit ridership could grow by 151% over current levels. Transit ridership in downtown Seattle alone from all directions could be increased by more than 100,000 daily riders.
- Ridership could increase in the North Corridor by over 175,000 daily riders, a 158% increase. In the East Corridor, ridership could grow by 53,500 daily riders, a 240% increase over today. And the South Corridor could add 101,800 daily riders, a 131% expansion.



Everyone benefits from transit

- Public transit saves typical Tacoma-Seattle-Everett area commuters about 27 hours a year - the equivalent of more than three entire work days of sitting in traffic.
- If everyone who rides buses or trains in our region suddenly started driving, it would cause another 22 hours of delay for rush hour travelers each year.
- Sound Transit has already completed two major HOV access projects in Lynnwood and Bellevue. Two more, Federal Way and Ash Way, are under construction.





Sound Transit's Long-Range Plan update is being supported by two efforts: the SEIS and a group of issue papers addressing specific long-range planning issues. Issue paper topics include planning for bus rapid transit in the State Route 99 corridor, expanding light rail corridors in Tacoma, and converting bus rapid transit to light rail technology. These issue papers provide additional information about costs, engineering feasibility and operational issues and are designed to help the Sound Transit Board and the region identify any potential changes to the existing Long-Range Plan. All of this information will be reflected in the updated Draft Long-Range Plan, which is scheduled for public review in May and June.

The issue papers are available on the project website.

<http://www.soundtransit.org/projects/longrange/issuepapers.asp>

SUPPORTING THE LONG-RANGE PLAN

The Draft SEIS, issued December 2, 2004, was an early step in the environmental review process required by the State Environmental Policy Act, or SEPA. The study supplements Sound Transit's 1993 EIS by updating key population, employment, and transportation information and evaluating potential impacts of two different long-range planning alternatives.

One system alternative (the "No Action Alternative") assumes completing the core regional system approved by voters in 1996 and integrating with other regional transportation projects such as:

- Seattle Monorail Project's Green Line
- Local and supplemental transit services
- Regional highway improvements that are currently approved and funded

In addition to all of the above, the second alternative (the "Plan Alternative") represents a complete buildout of the mass transit system adopted in the 1996 Long-Range Plan, with potential additional options such as:

- New light rail corridors and connections
- Expanded commuter rail service
- Bus rapid transit
- Elevated monorail technology

The SEIS uses a model - consistent with federal guidelines and national industry standards - to forecast how many people within various regional travel corridors will ride the system. The study finds substantial benefits from expanding our existing transit system. A Final SEIS is slated for release June 2005.

CONNECTING THE REGION ... Regional Mass Transit is Here

Sound Transit is implementing the region's transit plan. The regional mass transit system built over the past seven years is connecting more than 37,000 people every day with their jobs, homes, shopping hubs, sporting events and more. The system provides transit options, using light rail, commuter rail, express buses, and other traffic improvements to move people around the region. The system connects communities and offers new choices — fast trains, fast buses, transit centers, and park-and-ride lots.

Bricks and Mortar Up and Down the Sound...\$1.6 Billion in *Sound Move* Projects



- **Link light rail** - The 1.6-mile Tacoma Link line from the Tacoma Dome Station to downtown Tacoma has exceeded ridership projections and already carried more than a million riders since opening in August 2003. Major construction worth \$1 billion is under way on the 14-mile Central Link line from Seattle to SeaTac, serving up to 12 stations. Airport Link, serving SeaTac Airport, is slated for completion by the 2010 Vancouver, B.C. Olympic Games. An extension to the north of downtown Seattle is also part of *Sound Move* and is currently undergoing engineering and environmental planning work.
- **Sounder commuter rail** - The Everett-Seattle-Tacoma lines have already served over three million riders on 82 miles of track between the north and south ends of the Sound Transit region. Sounder Game Day service to Seahawks and Mariners games carried nearly 39,000 fans to games in 2004.
- **Regional express bus service** - Sound Transit regional express buses have carried more than 33 million riders on 19 express bus routes connecting the region: Federal Way to Bellevue; Lakewood to SeaTac Airport; Issaquah, Everett, Woodinville, Redmond, and Gig Harbor to Seattle.
- **Transit centers, HOV ramps, park-and-ride lots, and more** - Sound Transit has invested more than \$850 million in new park-and-ride lots (10,000 spaces and 3,000 more on the way), direct access freeway ramps, transit centers, and arterial street improvements to allow buses to avoid congested areas.

PLANNING FOR THE FUTURE ...

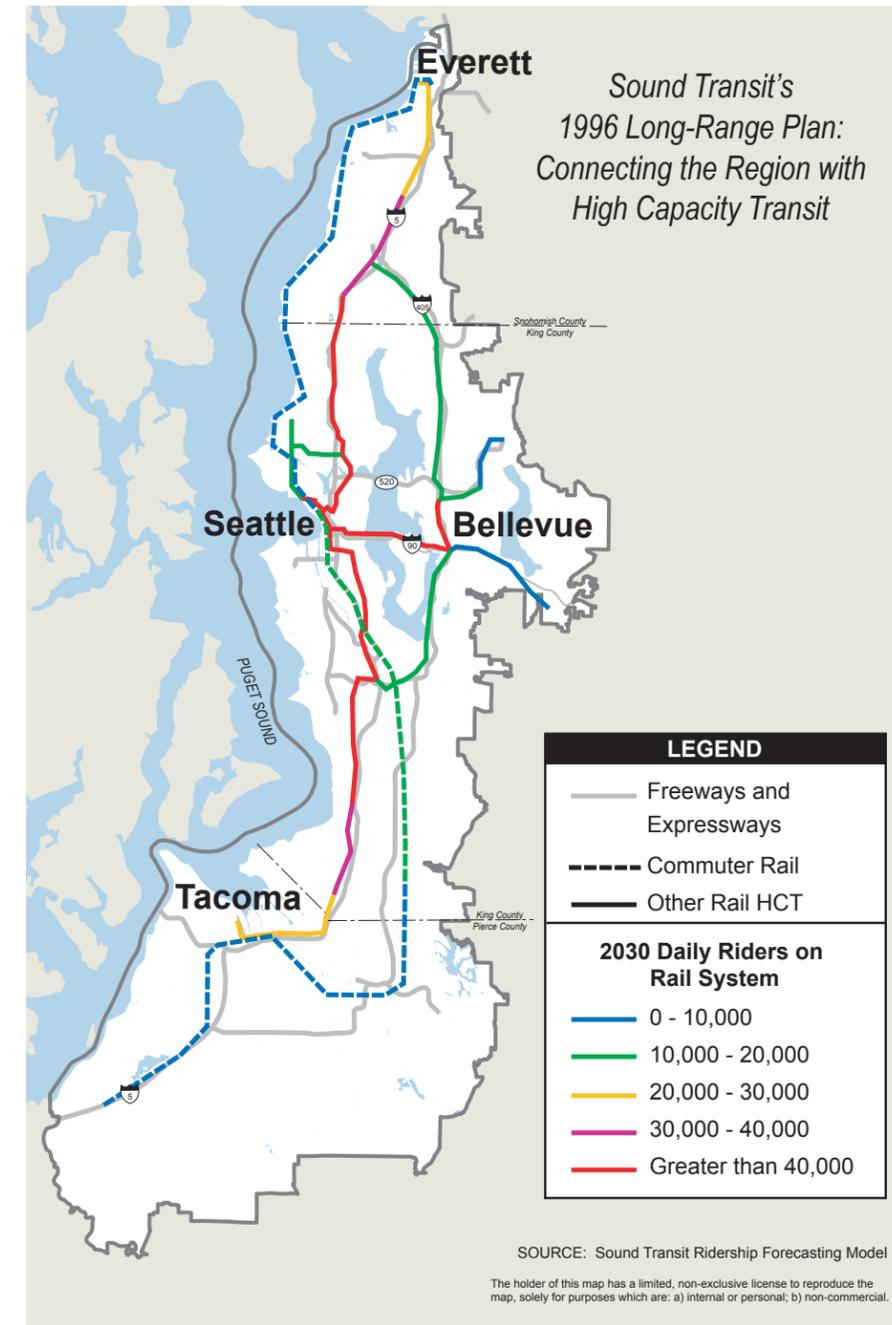
The region's Long-Range Plan includes *Sound Move*, a core group of transit investments approved by the voters in 1996. With most of these projects in operation or under construction today, Sound Transit can now look at expanding the system to further serve our region's long-term transportation needs.

In December 2004, Sound Transit released a Draft Supplemental Environmental Impact Statement (SEIS), revisiting and updating the environmental studies that underlie the 1996 Long-Range Plan. The SEIS incorporates new growth, congestion, and transportation information. The SEIS, which will be finalized in June 2005, provides the background for the Sound Transit Board to update the Long-Range Plan. (See Page 6 of this pamphlet for more details about the SEIS).

The updated Long-Range Plan will identify a menu of potential projects to help accommodate future growth and congestion. The next phase of projects, Sound Transit 2 (ST2), will select investments from that menu to give Puget Sound residents more transportation options. Potential investments range from additional park-and-ride lots to new light rail or bus rapid transit services and facilities.

The Sound Transit Board will adopt an updated Long-Range Plan in June 2005. ST2 decision-making begins once a Long-Range Plan has been adopted, and a public vote will follow - perhaps as soon as November 2006.

The voters of this region will make the ultimate decision about what we do. Sound Transit is committed to creating services that meet your needs. We want to do it right.



Reaching Out

Sound Transit is bringing information to you where you live, work, commute, shop, and go to school, in order to guarantee you're part of the planning process. We are also reaching out to regional leaders and giving them the opportunity for in-depth consideration of long-range and implementation planning issues.

Look for Sound Transit information at transit centers, sporting events, malls, libraries, and businesses throughout the region. Log on to the project website and fill out an online comment form at any time: www.soundtransit.org.

See the back page of this pamphlet for more information on making your voice heard.

1993

Sound Transit created

1996

Long-Range Plan adopted

Public approves
Sound Move

1997-2004

Building a regional mass transit system

2004

Release of Draft SEIS

2005

Public comment on Draft SEIS
Preparation of Final SEIS
Updated Long-Range Plan

★ You are here

2006

Sound Transit 2
Earliest possible public vote

2007—Beyond

Expanding the regional transit system



I-90 Corridor/East King County High Capacity Transit Analysis

Key points to consider

The I-90 corridor/East King County high capacity transit analysis looked at issues specific to each scenario in addition to cost and ridership. The overall results of the analysis of each scenario are summarized as follows:

HOV/BRT

- Assumes HOV lanes are managed to provide reliable speed and travel time advantage
- Reliant on WSDOT funding for freeway-to-freeway HOV connections
- Surface street operations in Seattle CBD
- Only scenario that preserves I-90 center lanes for HOV and Mercer Island SOVs
- Only scenario independent of BNSF right-of-way acquisition

Busway/BRT

- Eastside regional bus facility underneath Bellevue Transit Center
- Most reliant on BNSF right-of-way acquisition
- Requires transfer station in Seattle CBD
- Requires rebuilding of Wilburton trestle

Light rail transit (LRT)

- Highest ridership on I-90 bridge
- Integrated with Central Link
- Some segments have higher capital/operating costs and lower ridership
- Highest cost element, Bellevue CBD tunnel, could cost significantly less if aerial
- LRT operation on floating bridge feasible; operational design analysis being completed

Monorail

- Must operate at-grade on a lightweight steel beam on I-90 bridge and Mercer Island (technology untested)
- Hitachi vehicles do not fit within Mt Baker tunnel and other constrained areas
- Bombardier vehicle can fit, with reconstruction of some structures
- Requires transfer station in Seattle CBD
- Some segments have higher capital/operating costs and lower ridership

Rail-convertible bus

- Capital costs are higher than busway/BRT (approaching LRT costs)
- Costs do not include conversion
- Requires bus service accommodation during conversion
- Highest cost element, Bellevue CBD tunnel, could cost significantly less if aerial
- Transfer station in Seattle CBD will be required until system conversion to LRT
- No known conversions from BRT to LRT except Downtown Seattle tunnel
- No exact threshold for conversion

The purpose of this analysis is to address long-term mobility needs in the I-90 corridor/East King County subarea through the development of a reliable High Capacity Transit (HCT) system that operates as independently of the growing freeway and roadway congestion as possible, provides a highly attractive alternative to travel by automobile, and integrates seamlessly with the HCT system now being implemented by Sound Transit.

Scenarios

The maps shown inside illustrate five different scenarios for building an HCT system across the I-90 corridor and throughout East King County.

- HOV/BRT—an express bus network that primarily relies on the existing HOV system.
- Busway/BRT—an express bus network that operates on dedicated bus lanes separated from other traffic.
- Three Fixed Guideway scenarios—light rail, monorail, and rail-convertible bus operating in exclusive rights-of-way.

Charts showing ridership and costs for each scenario, broken down by segment, appear below the maps.

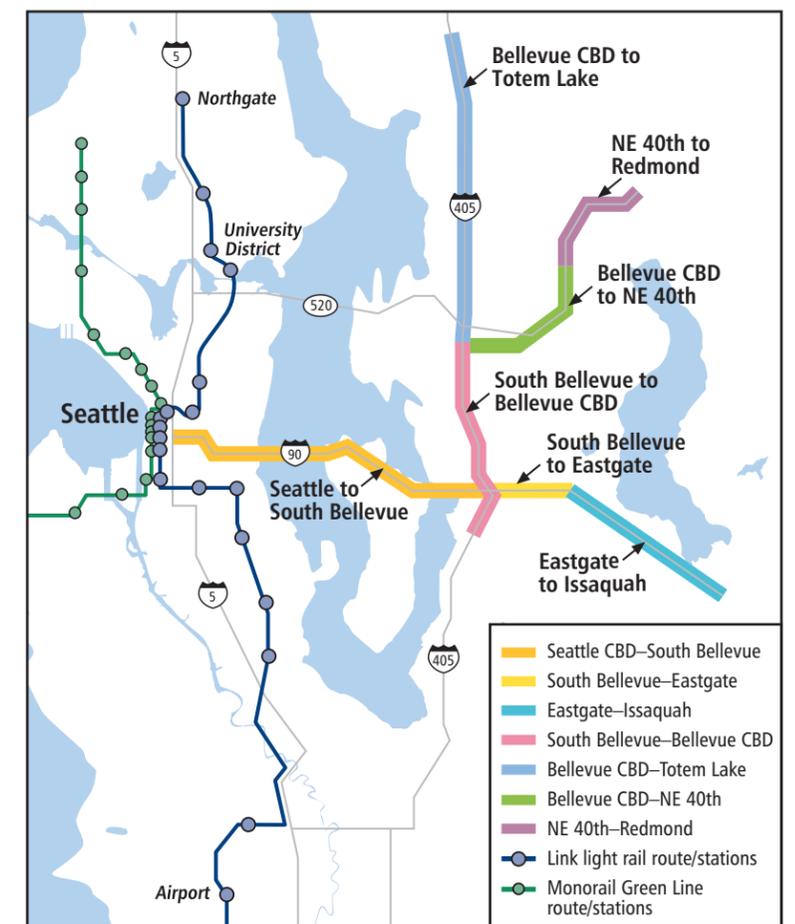
The analysis builds upon the following previous decisions:

- SR-520: Bridge replacement & HOV lanes in near term
- I-405: Record of Decision includes Bus Rapid Transit (BRT)
- I-90: Ultimate configuration: R-8A with High Capacity Transit in the center roadway

Principal findings

- No one scenario fits the needs of all the segments.
- A combination of technology scenarios may best serve the needs of the I-90 Corridor/East King County subarea.

I-90 Corridor/East King County System Segments

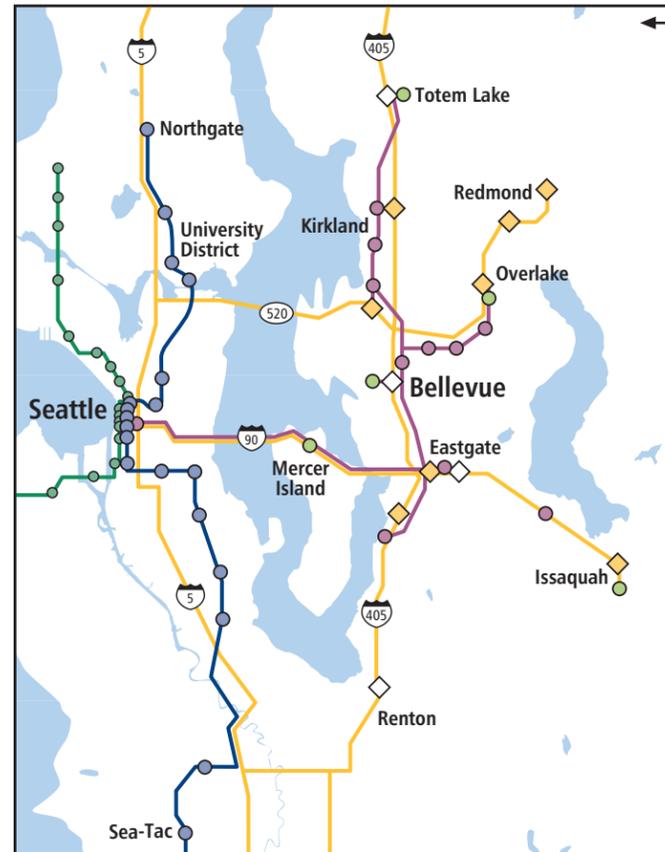


HOV/BRT Scenario



- Potential Facilities**
- Freeway Bus Only Connections
 - New Direct Access Facility
 - In-Line BRT Stop
- Existing or Planned Projects**
- Direct Access Facility
 - Transit Center or Park & Ride Lot
 - Link Light Rail Route & Stations
 - Monorail Green Line Route & Stations
 - HOV Lanes

Busway/BRT Scenario



- Potential Facilities**
- Busway Route & Stations
 - New Direct Access Facility
- Existing or Planned Projects**
- Direct Access Facility
 - Transit Center or Park & Ride Lot
 - Link Light Rail Route & Stations
 - Monorail Green Line Route & Stations
 - HOV Lanes

Fixed Guideway Scenarios



- Potential Facilities**
- Fixed Guideway Route & Stations for light rail, monorail, or rail-convertible bus
- Existing or Planned Projects**
- Link Light Rail Route & Stations
 - Monorail Green Line Route & Stations

Ridership and Cost by Segment (Refer to map on front)

Seattle CBD → South Bellevue

Scenario	Ridership	Cost
HOV/BRT	30,000	<\$10m
Busway/BRT	29,000	\$250-340m
LRT	48,000	\$300-410m
Monorail	31,000	\$720-990m
Rail-Convertible BRT	36,000	\$300-410m *

South Bellevue → Eastgate

Scenario	Ridership	Cost
HOV/BRT	11,000	\$160-220m
Busway/BRT	11,000	\$120-170m
LRT	9,000	\$210-290m
Monorail	7,000	\$200-270m
Rail-Convertible BRT	7,000	\$180-240m *

Bellevue CBD → NE 40th (Overlake)

Scenario	Ridership	Cost
HOV/BRT	13,000	\$1.6-2.2b
Busway/BRT	13,000	\$430-590m
LRT	15,000	\$540-740m
Monorail	12,000	\$640-870m
Rail-Convertible BRT	14,000	\$480-660m *

Bellevue CBD → Totem Lake

Scenario	Ridership	Cost
HOV/BRT	19,000	\$260-360m
Busway/BRT	21,000	\$780m-1.1b
LRT	6,000 ◇	\$810m-1.1b
Monorail	4,000 ◇	\$1-1.4b
Rail-Convertible BRT	5,000 ◇	\$750m-1b *

South Bellevue → Bellevue CBD

Scenario	Ridership	Cost
HOV/BRT	15,000	\$1.8-2.5b
Busway/BRT	16,000	\$510-700m
LRT	37,000	\$780-1.1b (tunnel) \$410-\$560m (aerial)
Monorail	26,000	\$400-540m
Rail-Convertible BRT	29,000	\$790m-1.1b (tunnel) * \$380-\$520m (aerial)

Eastgate → Issaquah

Scenario	Ridership	Cost
HOV/BRT	6,000	\$120-160m
Busway/BRT	7,000	\$340-470m
LRT	7,000	\$790m-1.1b
Monorail	6,000	\$830m-1.1b
Rail-Convertible BRT	7,000	\$670-920m *

NE 40th (Overlake) → Redmond

Scenario	Ridership	Cost
HOV/BRT	5,000	\$200-270m
Busway/BRT	5,000	\$670-920m
LRT	7,000	\$710-970m
Monorail	6,000	\$730m-1b
Rail-Convertible BRT	7,000	\$650-880m *

* Does not include conversion cost

◇ Additional transit volumes in HOV lane = approximately 15,000

Note: Ridership numbers in a segment should not be added to numbers in other segments. The sum of segment costs does not equal total system costs because segment costs do not include vehicles, maintenance facilities and other system costs.



I-90/East King County High Capacity Transit Analysis Summary

What's next?

This brochure summarizes the range of information that the people of the Puget Sound area and the Sound Transit Board of Directors will use to make decisions about how the regional transit system should be expanded to serve transit growth in the region. As you can see as you review this material, each approach brings with it both benefits and risks: ultimately, the decision will boil down to a choice about what makes the most sense for improving regional mobility for the long term and supporting the kind of livable communities citizens value so highly.

Using this brochure

The information below is intended to provide some additional information to assist the reader in reviewing the material contained in this brochure.

What was evaluated?

The Board requested an objective "apples to apples" comparison of different modes of bus, light rail, and monorail service throughout the Eastside. The analysis examined:

- Capital costs
- Operation/maintenance costs
- Ridership
- Traffic impacts
- Additional policy or technical issues

What is high capacity transit (HCT)?

HCT is a system that:

- carries a large number of riders with more frequent and reliable service
- operates as independently of the freeway and roadway network as possible, avoiding areas with growing roadway congestion; and
- provides an attractive option to automobile travel.

A note on cost figures contained in this document:

All estimated construction and operating costs are in 2005 dollars. Construction costs are conceptual only, for general comparative purposes. Operating/maintenance costs are represented as changes to the projected total operating and maintenance baseline costs for the Sound Transit district in 2030, which are estimated to be \$720 million.

A note on bus volumes in downtown Seattle and Bellevue:

Downtown Bellevue bus volumes in 2030 are estimated to be 125 buses per peak hour (69 currently). Downtown Seattle bus volumes are estimated at 531 buses per peak hour (414 currently). Downtown bus volumes in this document are shown as changes to these baseline bus volumes.

Get Involved

During May and June, 2005, Sound Transit will host public meetings on the I-90 study and the larger Long-Range Planning effort of which it is a part. In the fall of 2005, and on into 2006, Sound Transit's work to prepare for the future will continue. Look for more information on planning for the next round of investments in our regional mass transit system—and for how you can be involved—at Sound Transit's web site, www.soundtransit.org. Or feel free to contact us any of the following ways:

Phone: Call (206) 398-5000 for more information

Email: main@soundtransit.org

Mail: Sound Transit
401 S. Jackson St.
Seattle, WA 98104

For printed materials in alternative formats, call (206) 689-4727 or (888) 713-6030 TTY.

Introduction

In 1996, voters approved Sound Move, the first step in a regional transit system connecting King, Pierce and Snohomish Counties. That system included express buses, commuter and light rail trains, park-and-ride lots, and transit centers. Today, almost all of these projects are complete or under construction.

Recent studies have shown that by 2030, another 1.2 million people will live in the Puget Sound region and the average driver will spend an additional 70 hours each year sitting in her car. Rush "hour" will last most of the day. The Sound Transit Board of Directors has taken steps to prepare for that growth, laying the groundwork for the next steps toward expanding our regional transit system.

These next steps include updating the long-range plan for transit in the region as well as making decisions for the next round of investment in high capacity transit.

For East King County, that work is especially significant: analysis undertaken by the Puget Sound Regional Council shows that the eastside is the regional market most ripe for system expansion. As a result, the Board has asked for a thorough study of options for system expansion in East King County that would give them the ability to make "apples to apples" comparisons and arrive at decisions that both improve regional mobility and support the livable communities that the people of this region value so highly.

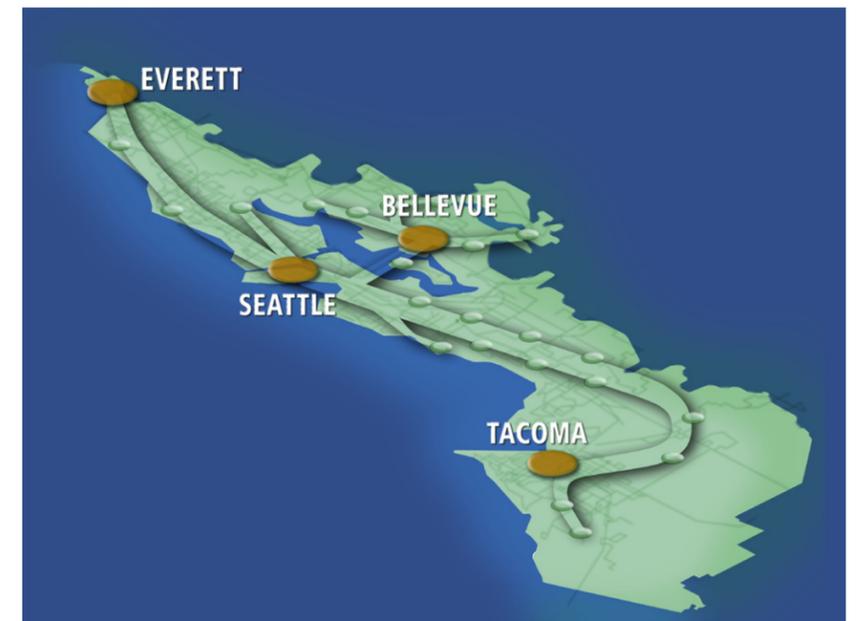
The work to date

In March 2005, Sound Transit prepared an issue paper titled "I-90 Corridor/East King County High Capacity Transit Analysis." That issue paper evaluated different high capacity transit technologies to connect communities throughout East King County to the

developing regional transit system via the I-90 corridor. The system studied runs between Bellevue and Seattle with three branches extending to Kirkland, Redmond, and Issaquah.

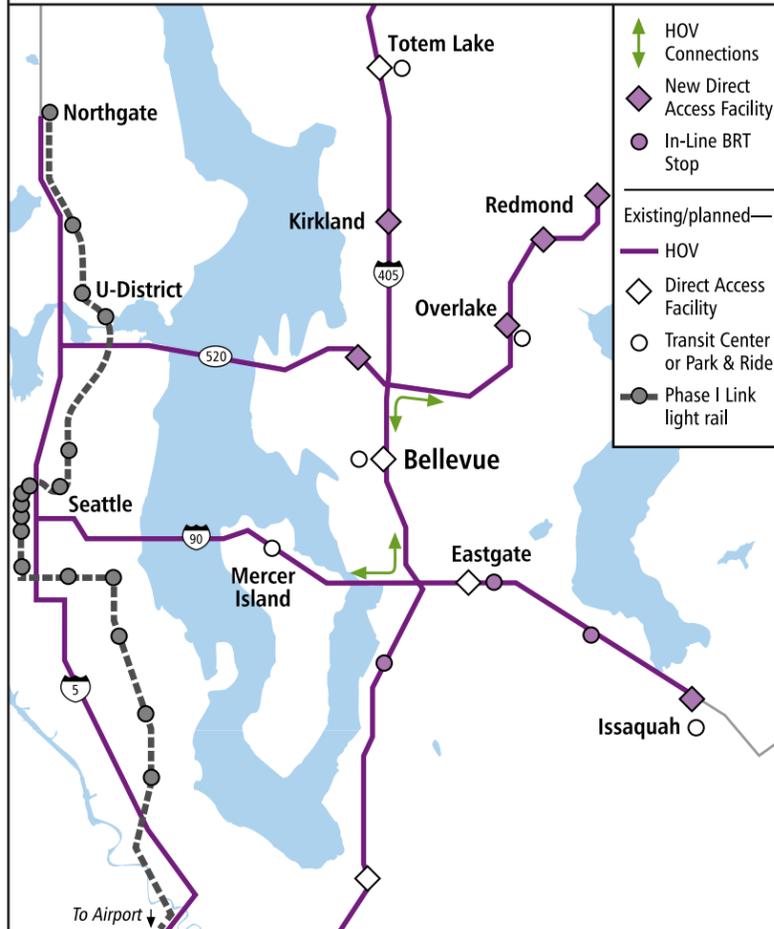
The Sound Transit Board reviewed this issue paper at a workshop held on March 31, 2005. After doing so, they directed staff to complete additional analysis of all transit technologies as well as a hybrid that combined the best features of the most promising modes—bus rapid transit and light rail. Sound Transit also met with the State Department of Transportation (WSDOT) to evaluate ways to reduce the significant capital cost of rebuilding freeway interchanges to provide HOV to HOV connections at I-405/I-90 and I-405/SR-520.

This paper summarizes the range of analysis that has been completed. A supplement to the I-90 Corridor/East King County HCT issue paper can be found on the Sound Transit website later in May, at <http://www.soundtransit.org/projects/longrange/issuepapers.asp>.



HOV/BRT

Description: This option relies on the HOV lane system on the major freeways, augmented by direct access ramps and freeway-to-freeway connections that provide transit speed and reliability. It assumes on-street operations in both the Bellevue and Seattle downtowns.



Key Facts

I-90 Cross-lake Ridership (2030):
30,000 daily riders

Total Capital Costs:

Bus-only ramps: \$1.4–\$1.9 b
HOV ramp construction costs plus interchange rebuild:* \$2.5–\$3.5 b
Additional cost to complete 5 remaining HOV connections is \$0.9–\$1.2 b

Operating/Maintenance Costs:

+\$5.6m/yr (+0.8%)

Sample Travel

Times (2030):	HOV/BRT	No action
Seattle to Bellevue	36 min.	39
Bellevue to Redmond	29	45
Issaquah to Seattle	54	55
Kirkland to Bellevue	33	44
Mercer Is. to Bellevue	15	19

Seattle street impacts:

+25 buses/hour (+4.7%)

Bellevue street impacts:

+33 buses/hour (+26.4%)

Key Findings

- Moderate improvement to travel times.
- Only scenario that continues Mercer Island SOV use of center lanes.
- Independent of BNSF right-of-way.
- Assumes surface street operations in Bellevue and Seattle.

Risks

- Most reliant on WSDOT to manage HOV system to provide fast and reliable transit travel time.
- Subject to possible legislative decisions to allow single-occupant vehicle (SOV) use of HOV system.

- Implementation is dependent upon WSDOT's ability to reconstruct freeway interchanges in a manner that permits freeway widening before HOV connections are built.
- Raises significant policy and financial question of whether WSDOT and/or ST should fund construction of freeway interchange modifications and HOV connections.

*HOV Freeway to Freeway Interchange Connections: The costs shown represent the total costs for interchange rebuilds and freeway to freeway HOV connections. How the costs may be paid, whether by WSDOT or ST is dependent on which agency has funds and when funds become available. In addition, the number of freeway to freeway connections has been reduced to the two most critical connections—the northwest quadrant of I-405/I-90 and the southeast quadrant of I-405/SR-520. This has resulted in reduced costs compared to the earlier study.

Fixed guideway: Rail-convertible BRT

Description: Exclusive busway on I-90 from Seattle to Bellevue with three branch lines to Redmond, Kirkland and Issaquah. Built to LRT standards for later conversion to LRT.



Key Facts

I-90 Cross-lake Ridership (2030):
36,000 daily riders

Total Capital Costs:

With tunnel: \$3.7–\$5.0 b
With aerial: \$3.3–\$4.5 b

Operating/Maintenance Costs:

–\$17.2m/year (–2.4%)

Sample Travel

Times (2030):	Rail Convertible BRT	No action
Seattle to Bellevue	32 min.	39
Bellevue to Redmond	25	45
Issaquah to Seattle	48	55
Kirkland to Bellevue	32	44
Mercer Is. to Bellevue	14	19

Seattle street impacts:

–94 buses/hr (–17.7%)

Bellevue street impacts:

–16 buses/hr (–12.8%)

Key Findings

- Moderate improvement in travel times.
- Increased reliability with exclusive right-of-way.
- Highest cost element, Bellevue CBD tunnel could cost less if aerial alignment used.
- Unlike Busway BRT, does not transition to freeway HOV system in outlying areas. Capital costs approach LRT costs.
- Either transfer station in Seattle CBD required until conversion to LRT, or significant impacts to Seattle surface streets from additional bus volumes.

Risks

- I-90 traffic impacts: Implementation of this scenario would convert the I-90 center lanes to two-way for HCT. This would increase the people moving capacity

of the center roadway. It will result in travel times of about 9-13 minutes between the East Channel Bridge on Mercer Island and Rainier Avenue South in Seattle for general purpose traffic, which is similar to current conditions. In addition, an HOV lane will be in operation in both directions on the outer roadways.

- Costs do not include conversion—conversion costs unclear since specifics of conversion not determined. Cost drivers could include: phasing of construction to maintain some bus service; possible changes to design standards or environmental regulation; or mitigation for street impacts if/when buses are displaced.
- Later conversion to LRT must accommodate continued bus operations during conversion period.
- No known conversions to LRT exist—Downtown Seattle tunnel comes closest.
- No exact threshold for conversion.

Fixed guideway: Monorail

Description: Monorail extending from a transfer station in Seattle to Bellevue, with three branch lines to Redmond, Kirkland and Issaquah.



Key Facts

I-90 Cross-lake Ridership (2030):

31,000 daily riders

Total Capital Costs:

\$5.0–\$6.8 b

Operating/Maintenance Costs:

+\$21.5m/yr (+3%)

Sample Travel

Times (2030):

	Monorail	No action
Seattle to Bellevue	26 min.	39
Bellevue to Redmond	23	45
Issaquah to Seattle	47	55
Kirkland to Bellevue	32	44
Mercer Is. to Bellevue	12	19

Seattle to Bellevue

Bellevue to Redmond

Issaquah to Seattle

Kirkland to Bellevue

Mercer Is. to Bellevue

Seattle street impacts:

–92 buses/hr (–17.3%)

Bellevue street impacts:

–16 buses/hr (–12.8%)

Key Findings

- Significant improvements in travel time.
- Increased reliability with exclusive right-of-way.
- Requires transfer station in Seattle CBD.
- Some segments have high capital/operations costs and modest ridership.

Risks

- I-90 traffic impacts: Implementation of this scenario would convert the I-90 center lanes to two-way for HCT. This would increase the people moving capacity of the center roadway. It will result in travel times of about 9-13 minutes between the East Channel Bridge on Mercer Island and Rainier Avenue South in

Seattle for general purpose traffic, which is similar to current conditions. In addition, an HOV lane will be in operation in both directions on the outer roadways.

- Must operate at-grade on a lightweight steel beam across I-90 bridge (untested technology); elevated monorail on floating bridge is infeasible.
- Hitachi vehicles do not fit within Mt. Baker tunnel and other constrained areas; Bombardier vehicle can fit, with reconstruction of some structures, including excavation within Mt. Baker tunnel.

Fixed Guideway: Light Rail (LRT)

Description: Light rail system connected to Central Link from Seattle to Bellevue with three branch lines to Redmond, Kirkland, and Issaquah.



Key Facts

I-90 Cross-lake Ridership (2030):

48,000 daily riders

Total Capital Costs:

With Bellevue CBD tunnel: \$4.6–\$6.2 b

With Bellevue CBD aerial: \$4.2–\$5.7 b

Operating/Maintenance Costs:

+\$29.0 m/year (+2.7%)

Sample Travel

Times (2030):

	LRT	No action
Seattle to Bellevue	23 min.	39
Bellevue to Redmond	23	45
Issaquah to Seattle	44	55
Kirkland to Bellevue	32	44
Mercer Is. to Bellevue	12	19

Seattle to Bellevue

Bellevue to Redmond

Issaquah to Seattle

Kirkland to Bellevue

Mercer Is. to Bellevue

Seattle street impacts:

–95 buses/hr (–17.9%)

Bellevue street impacts:

–18 buses/hr (–14.4%)

Key Findings

- Significant improvement in travel times.
- Increased reliability with exclusive right-of-way.
- Integrated with Central Link with direct service through downtown Seattle tunnel—no transfer station required.
- Highest ridership on I-90 bridge and between downtown Bellevue and downtown Seattle.
- Highest cost element, Bellevue CBD tunnel could cost less if aerial alignment used.
- Some segments have high capital/operations costs and modest ridership.
- LRT operation on I-90 bridge feasible; operational design analyses being undertaken.

Risks

- I-90 traffic impacts: Implementation of this scenario would convert the I-90 center lanes to two-way for HCT. This would increase the people moving capacity of the center roadway. It will result in travel times of about 9-13 minutes between the East Channel Bridge on Mercer Island and Rainier Avenue South in Seattle for general purpose traffic, which is similar to current conditions. In addition, an HOV lane will be in operation in both directions on the outer roadways.
- Analysis assumes a rebuilt SR 520 with HOV lanes. If this does not occur, transit ridership on I-90 will increase. Light rail on I-90 provides greatest capacity to address this.

Light Rail/HOV Hybrid

Description: Light rail, extending from Seattle to Bellevue and to Overlake or Redmond, with HOV/BRT in the segments from Bellevue to Totem Lake and from South Bellevue to Issaquah.



Key Facts

I-90 Cross-lake Ridership (2030):

42,000 daily riders (rail to Overlake)
44,000 daily riders (rail to Redmond)

Total Capital Costs:

Bellevue CBD tunnel:
\$2.7 - \$3.7b (to Overlake)
\$3.2 - \$4.4b (to Redmond)
Bellevue CBD aerial:
\$2.3 - \$3.2b (to Overlake)
\$2.8 - \$3.9b (to Redmond)

Operating/Maintenance Costs:

+\$12.3m/yr (+1.7%) (Rail to Overlake)
+\$17.3m/yr (+2.4%) (Rail to Redmond)

Sample Travel

Times (2030):	RAIL/HOV	No action
Seattle to Bellevue	26 min.	39
Bellevue to Redmond	23-28	45
Issaquah to Seattle	55	55
Kirkland to Bellevue	32	44
Mercer Is. to Bellevue	14	19

Seattle street impacts:

-46 buses/hr (-8.7%)

Bellevue street impacts:

-14 buses/hr (-11.2%)

Key Findings

- I-90 light rail would be integrated with Central Link with direct service through the downtown Seattle tunnel—would not require transfer station.
- Extending light rail to Redmond adds about 2,000 riders to the rail system while drawing about 1,000 from the Kirkland-Bellevue bus line.
- Highest cost element, tunnel in Bellevue CBD, could be reduced if aerial.
- Does not require BNSF right-of-way.

Risks

- I-90 traffic impacts: Implementation of this scenario would convert the I-90 center lanes to two-way for HCT. This would increase the people moving capacity of the center roadway. It will result in travel times of about 9-13 minutes between the East Channel Bridge on Mercer Island and Rainier Avenue South in Seattle for general purpose traffic, which is similar to current conditions. In addition, an HOV lane will be in operation in both directions on the outer roadways.
- Analysis assumes a rebuilt SR 520 with HOV lanes. If this does not occur, transit ridership on I-90 would increase. Light rail on I-90 provides greatest capacity to address this.

Busway/BRT

Description: Exclusive busway in the core of the Eastside, which transitions to the freeway HOV system at Totem Lake in the north, Overlake in the northeast, Eastgate in the east, and Newport Hills in the south.



Key Facts

I-90 Cross-lake Ridership (2030):

With transfer station: 29,000 daily riders
With street operations: 30,000 daily riders

Total Capital Costs:

W/transfer station: \$3.1-\$4.2 b
W/street operations: \$3.1-\$4.2 b

Operating/Maintenance Costs:

W/transfer station: -\$5.5 m/year (-0.8%)
W/street operations: +\$6.3 m/year (+0.9%)

Sample Travel

Times (2030):	Busway/BRT	No action
Seattle to Bellevue	32-35 min.	39
Bellevue to Redmond	29	45
Issaquah to Seattle	48-51	55
Kirkland to Bellevue	32	44
Mercer Is. to Bellevue	14	19

Seattle street impacts:

W/transfer station: -73 buses/hr (-13.7%)
W/street operations: +25 buses/hr (+4.7%)

Bellevue street impacts:

+29 buses/hour (+23.2%)

Key Findings

- Moderate improvement in travel times.
- Increased reliability with exclusive right-of-way.
- Adds east leg to NE 6th Street/I-405 interchange to allow buses to serve downtown Bellevue.
- Eastside regional bus facility underneath Bellevue Transit Center.
- Either transfer station in Seattle CBD required, or impacts to Seattle surface streets from additional bus volumes.

Risks

- I-90 traffic impacts: Implementation of this scenario would convert the I-90 center lanes to two-way for HCT. This would increase the people moving capacity of the center roadway. It will result in travel times of about 9-13 minutes between the East Channel Bridge on Mercer Island and Rainier Avenue South in Seattle for general purpose traffic, which is similar to current conditions. In addition, an HOV lane will be in operation in both directions on the outer roadways.
- Most reliant on acquisition of the BNSF right-of-way.
- Requires rebuilding of Wilburton trestle.