



## CITY OF KIRKLAND

### Department of Public Works

123 Fifth Avenue, Kirkland, WA 98033 425.587.3800

[www.ci.kirkland.wa.us](http://www.ci.kirkland.wa.us)

---

**To:** Dave Ramsay, City Manager

**From:** Daryl Grigsby, Public Works Director  
David Godfrey, P.E., Transportation Engineering Manager

**Date:** December 19, 2008

**Subject:** COMMENT LETTER ON RAIL FEASIBILITY STUDY

#### RECOMMENDATION:

It is recommended that the Council authorize the Mayor to sign the attached comment letter regarding the feasibility of rail on the eastside rail corridor. The study was prepared at the direction of the state legislature by the Puget Sound Regional Council in cooperation with Sound Transit.

#### BACKGROUND DISCUSSION:

City Council and many Kirkland residents have a keen interest in the development of the rail corridor that runs through Kirkland. In 2008, the Port of Seattle, King County and the Burlington Northern Santa Fe Railroad reached an agreement whereby the Port would purchase the rail corridor from BNSF and then sell a trail easement to King County. This transaction was expected to be complete in late 2008, but the status of the credit market made it difficult for the Port to sell the necessary bonds. The Port expects to sell the bonds to a more favorable market in early 2009.

The recently passed ST2 measure includes a maximum contribution of \$50 million which may be used for engineering and design, and for the purchase of capital equipment and real estate that can either be sold or used on Sound Transit's existing transportation system. Sound Transit's investment is contingent upon three conditions being met prior to December 31, 2011.

1. Completion of the Sound Transit/PSRC feasibility study and determination that passenger rail on the Eastside BNSF corridor is feasible and would be a meaningful component of the region's future transportation system, as required by state law;
2. The Sound Transit Board's determination that the ridership forecasts, financing plan, and capital and operating cost estimates and operating plan are reasonable and that the service will provide substantial benefits to the regional transportation system in the Sound Transit District; and
3. Execution of an agreement with other public or private parties regarding the implementation of a passenger rail system.
4. If a partnership for passenger rail on the Eastside BNSF is not executed by December 31, 2011, the \$50 million in ST2 plan for a partnership will be reprogrammed to further implementation of BRT service on the I-405 corridor.

This Council and past Councils have strongly supported development of a trail for walking and biking along the rail corridor. In June, Council took the following position:

“The City of Kirkland has long looked upon the BNSF right-of-way as primarily a facility for non-motorized travel. However, we are also interested in an investigation of how rail transport might function alongside a trail. There are a number of unanswered questions concerning rail operations including impact on residential neighborhoods and local street traffic, ridership potential, parking accommodation and station locations.”

In 2008, the State Legislature passed SHB 3224 with the following purpose:

“.. determining whether commuter rail service between eastern Snohomish County and eastern King County ... can be a meaningful component of the region’s future transportation system.” It required Sound Transit and the PSRC to “submit a joint report on the results to Senate & House transportation committees by Feb 1, 2009

A draft of that report has been completed. An executive summary and a powerpoint presentation on the draft report are attached. The [entire report](#) is available online. Capital costs for developing the entire corridor are estimated at about \$1 billion in capital costs plus about \$350 million to develop the multi-use trail. Maintenance and operating costs are estimated at about \$28 million/year. Ridership on the segment between Woodinville and Bellevue is estimated to be 1,770 in 2020 with ridership on the entire corridor forecast to be 6,070 in 2020.

The draft report concludes that:

- Passenger rail is feasible on the corridor; there are no fatal flaws.
- Costs are high, but far cheaper than establishing a new corridor.
- Ridership is moderate.

Given that the direction from the legislature was to determine the answer to this question: “Can commuter rail service between eastern Snohomish County and eastern King County ... be a meaningful component of the region’s future transportation system.”, the report is adequate. Unfortunately, the legislature did not define what feasibility means. In particular, there is no upper limit on cost per trip that would define rail unfeasible. Many of the questions that the Council is interested in are left unanswered by the study. Mostly this is due to the fact that many of these questions are beyond the scope of the report. For Kirkland, the answers to these questions will determine whether or not rail is desirable.



**PSRC's and Sound Transit's  
BNSF Woodinville Subdivision  
Feasibility Study  
(East Snohomish and King Counties)**

Ad Hoc Advisory Committee

December 10, 2008



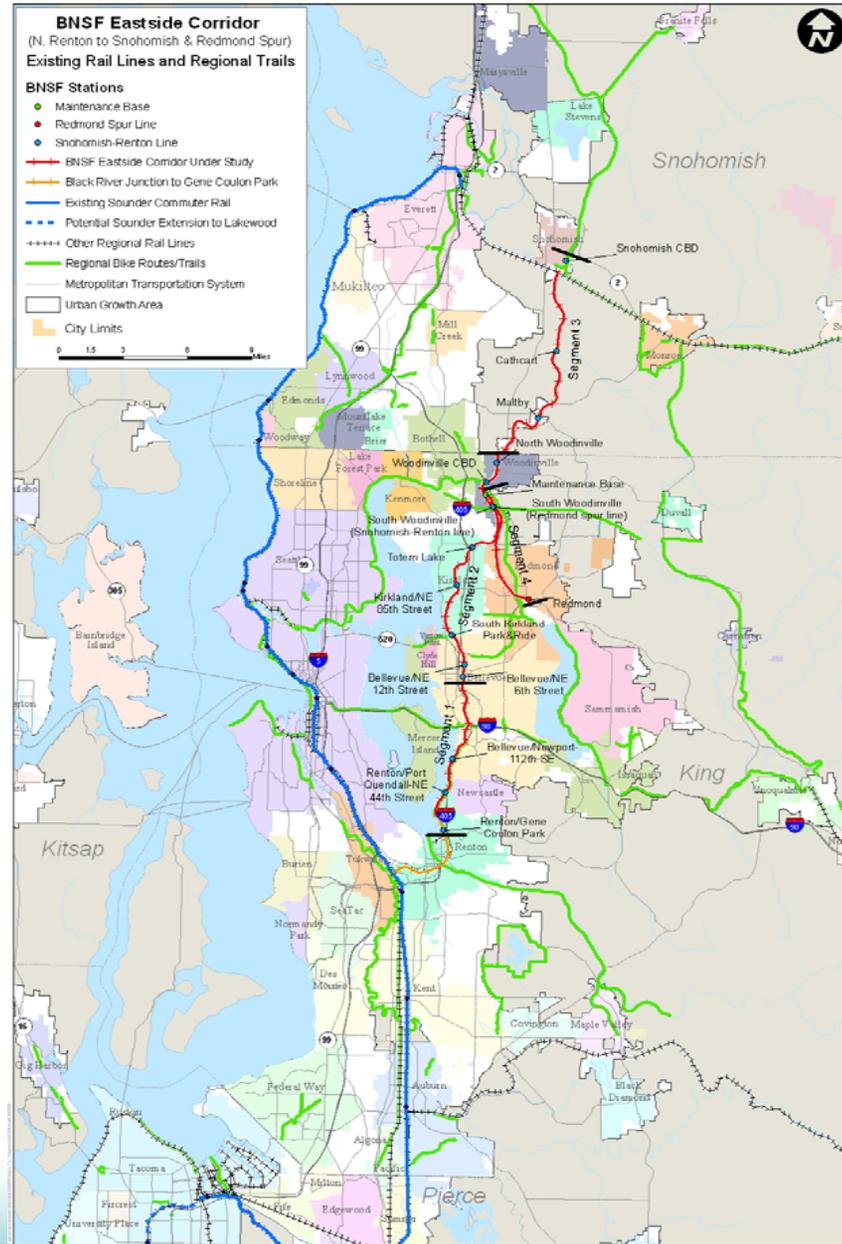
Quick Recap:  
**Substitute House Bill 3224**

## Feasibility Study on Commuter Rail Services

- Requires ST and PSRC to work together
- SHB 3224's purpose:
  - ".. determining whether commuter rail service between eastern Snohomish County and eastern King County ... can be a meaningful component of the region's future transportation system."*
- ST and PSRC "shall submit a joint report on the results to Senate & House transportation committees by Feb 1, 2009"

# Quick Recap: Description of the Woodinville Subdivision Corridor

- 34-miles from Coulon Park to Snohomish *plus* 7-mile spur from Woodinville to Redmond
- Extensively single-track
- Mostly 100-foot wide Right-of-Way
- 24 bridge structures
- 107 at-grade crossings



Quick Recap:

# Condition of the Corridor

- Generally poor condition
  - Old facilities
  - Slow running speeds
- Very curvy
- Most of the ROW is not flat in cross-section
- No signals or train communication system

Quick Recap:

## Status in ST2/Mass Transit Expansion

Approved by voters in the RTA District on November 4th

- \$50M East King County subarea contribution; Limited to capital elements
- Potential passenger rail partnership
  - For long-term passenger rail service
- Must be committed by December 2011
  - Or, will be reprogrammed to I-405 HOV BRT service

## Quick Recap: Approach

- “Feasibility” study
  - Does not identify:
    - The optimal solution or a “preferred alternative,”
    - The lowest cost, or most cost-effective option
- Conceptual engineering only
- Identifies the cost & ridership of four primary segments
- Uses ST’s ERP-reviewed costing method

Quick Recap:

# Public Involvement

- Ad Hoc Advisory Committee
  - All affected jurisdictions and stakeholders
  - Meetings:
    - July 10<sup>th</sup> ✓
    - November 19<sup>th</sup> ✓
    - December 10<sup>th</sup> ✓
- Piggyback on Port of Seattle/King County Public Process

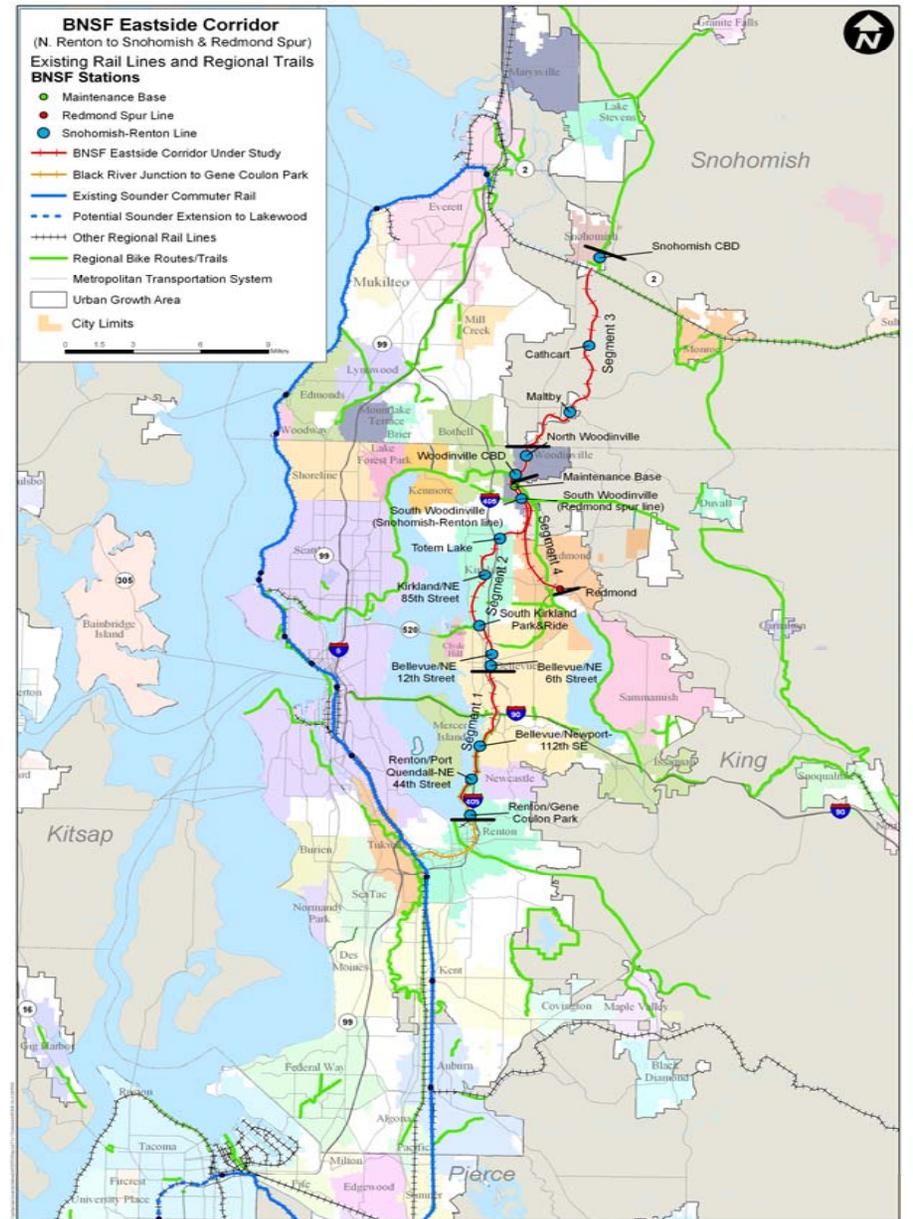
Quick Recap:

# General Assumptions for the Study

- Upgrades at permanent infrastructure standards (not a demonstration project)
- Service could be either *Sounder* vehicles or DMUs
- Complete signal/communication and centralized train control systems
- No new grade-separated crossings
- New structures will accommodate freight *and* locomotive-hauled passenger trains
- Small, new yard & shops facility
- Two-direction service with 30 minute headways, each weekday
- Average speed, including stops = **24 mph** along corridor

# Quick Recap: Station Assumptions for the Study

- 16 stations
  - 2 in Renton
  - 3 in Bellevue
  - 3 in Kirkland
  - 1 in Redmond
  - 4 in Woodinville
  - 1 in Maltby
  - 1 in Cathcart
  - 1 in Snohomish
- Most would have parking
- Property acquisition necessary at some stations



Quick Recap:

# Bridge/Structure Assumptions

- Significant new structures
  - Rail & trail over I-405 southbound lanes
  - Rail parallel to Wilburton trestle (trail on existing trestle)
  - Rail parallel to Snohomish River bridge (trail on existing bridge)
- Other bridges
  - Replacement of 2 low-height bridges damaged by trucks
  - Minimal upgrades to the other 20 bridges

# What Work Have We Done since the Advisory Committee Last Met?

- Reconciled ridership forecasts with capital costs (southern terminus at Gene Coulon Park)
- Estimated operating & maintenance costs
- Estimated cost-effectiveness for commuter rail
- Estimated the cost of a parallel trail south of I-90

# Significant Updates to the Report In Response to Other Comments

- Identified all rail and trail bridges
- Additional projects included in commuter rail cost comparison
- Expanded discussion of tourism opportunities
- Identified quantities for trail cost estimate

# RIDERSHIP (2020 daily trips)

	<b>Cumulative Segments</b>	<b>Trips in 2020</b>	
Segment 2 11.7 miles	Bellevue-to-Woodinville	1,770	
Segment 1+2 19.9 miles	Coulon Park-to-Woodinville	4,580* (2,810)	
Segment 1+2+3 32.4 miles	Coulon Park-to-Snohomish	5,015 (435)	
Segment 1+2+3+4 39.2 miles	Coulon Park-to-Snohomish with South Woodinville-to-Redmond Spur	6,070* (1,055)	
	* Ridership adjusted for southern terminus at Coulon Park rather than Renton CBD		

## Quick Recap:

# Capital Cost Estimates for Commuter Rail

Commuter Rail System		Cost Estimate Range	Cost Estimate (2008\$ millions)
Segments 1 through 4	Renton-to-Bellevue, Bellevue-to-Woodinville, Woodinville-to-Snohomish <i>plus</i> Redmond-to-Woodinville (Spur)	Low	\$753
		High	\$979
System Components	Vehicle Yard & Shop	Low	\$57
		High	\$74
	Vehicles (DMU)	Low	\$64
		High	\$74
	Corridor Acquisition (by Port of Seattle)		
<b>TOTAL</b>		<b>Low</b>	<b>\$981</b>
		<b>High</b>	<b>\$1,233</b>

Quick Recap:

## How do these Cost Estimates Compare?

- Typical Commuter Rail Project Costs in U.S.
  - Range is \$8 - \$20 million/mile depending on needed upgrades
- “Soup-to-Nuts” cost estimate (\$24-to-\$30 million/mile) is higher due to:
  - Extensive structural, grade crossing and track & signal work
  - Conceptual engineering stage = higher contingency factors
  - Includes some costs likely missing from other projects’ data
  - Assumes some “potential” costs (e.g., hazardous materials/soils clean-up, utility modifications)

# Operations & Maintenance Costs

Cost Category	Low Range Cost Estimate (2008 \$/Year)	High Range Cost Estimate (2008 \$M/Year)
Vehicle operations & maintenance	6,000,000	8,000,000
Maintenance of way	2,000,000	3,000,000
Overhead and other costs	16,000,000	21,000,000
Total annual O&M costs	24,000,000	32,000,000

# Conceptual Cost-effectiveness (2008 \$)

Commuter Rail Segments		Forecasted Daily Trips in 2020	Cost Estimate Range	Capital Cost Estimate	Annualized Capital Cost per Trip in 2020
Segment 2 13.5 miles	Bellevue to Woodinville	1,770	Low	\$230	\$22.05
			High	\$299	\$28.66
Segments 1+2 21.7 miles	Coulon Park to Woodinville	4,580	Low	\$414	\$15.33
			High	\$538	\$19.93
Segments 1+2+3 34.1 miles	Coulon Park to Snohomish	5,015	Low	\$638	\$21.57
			High	\$829	\$28.04
Segments 1+2+3+4 41.0 miles	Coulon Park to Snohomish plus spur	6,070	Low	\$753	\$21.05
			High	\$979	\$27.37

Quick Recap:

# Capital Cost Estimates for Concurrent Trail

Segment		Lower Cost Option (2008\$ millions)	Higher Cost Option (2008\$ millions)
Renton-to-Bellevue	Low	\$67	\$72
	High	\$87	\$94
Bellevue-to-Woodinville	Low	\$109	\$128
	High	\$141	\$167
Woodinville-Snohomish	Low	\$95	\$97
	High	\$124	\$126
Redmond-Woodinville	Low	\$27	\$35
	High	\$35	\$46
<b>Total</b>	<b>Low</b>	<b>\$297</b>	<b>\$332</b>
	<b>High</b>	<b>\$387</b>	<b>\$432</b>

# General findings

- Passenger rail service on the Woodinville Subdivision appears to be feasible
  - Genuine potential for significant ridership
  - Implementing a *permanent* service could be expensive, but far cheaper than establishing a new ROW from scratch
  - Feasibility Study revealed no clear fatal flaws
- If rail bed remains in place, a trail costs more
  - If trail uses rail bed first, passenger rail would cost more later

# Conclusions

- Passenger rail could be a meaningful component of the region's transportation system
  - Segments & stations could be phased-in; most productive first
  - Rail-related capital improvements could be phased-in as corridor ridership grows
  - Corridor connects several Regional Growth Centers
- For most of the Corridor's length, a concurrent/parallel pedestrian & bicycle trail could also fit within the ROW
- Passenger rail service does not preclude freight and tourism/excursion trains

# Next Steps

- Receive final comments now and issue **Final** Report in January
- Presentations to PSRC Transportation Planning Board and ST Board of Directors (12/11)
- Compile jurisdictional and agency comments in a report appendix
- Final Report to Legislative Transportation Committees in January
- Presentation to Transportation Committees, *if requested*, by February 1<sup>st</sup>
- Further study/refinement of passenger rail in the corridor
- ST request for proposals from interested partners (2009/2010)



# BNSF Woodinville Subdivision Feasibility Study



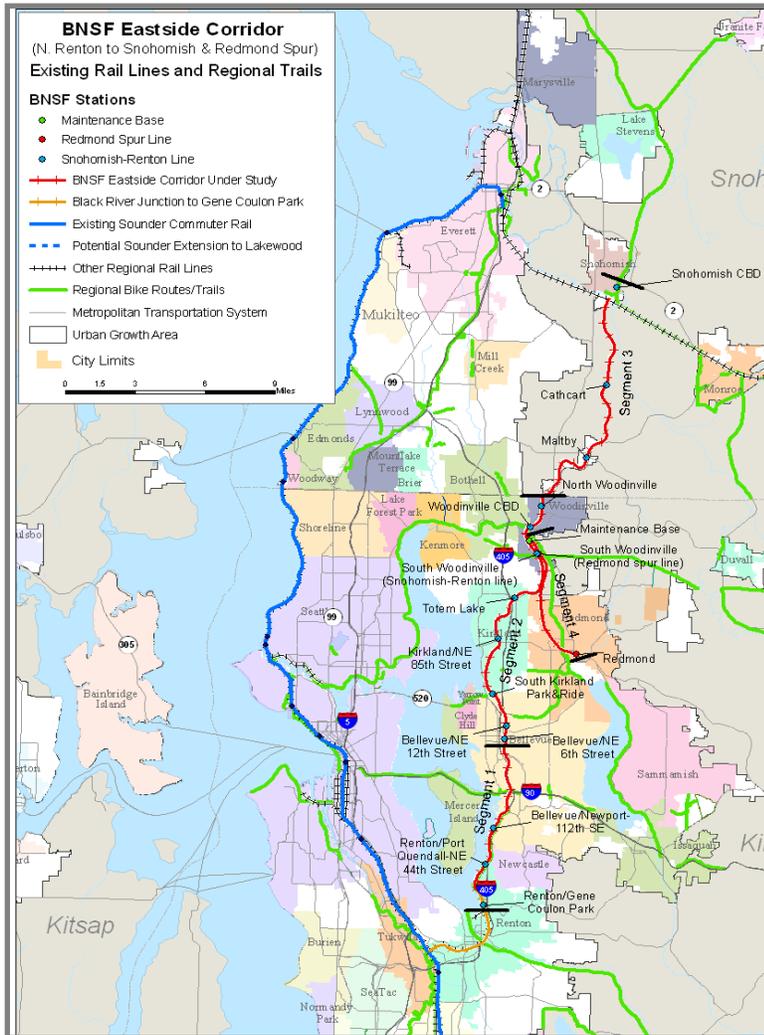
Questions?  
Comments?

# DRAFT Executive Summary

## BNSF Eastside Corridor Commuter Rail Feasibility Study

### Background

In 2008, the state legislature passed Substitute House Bill 3224, directing Sound Transit and the Puget Sound Regional Council (PSRC) to complete a feasibility study to “determine whether commuter rail service between eastern Snohomish county and eastern King county ... can be a meaningful component of the region’s future transportation system” and develop a cost estimate for passenger rail and a concurrent bicycle/pedestrian trail.



The Eastside BNSF corridor extends 34 miles from north Renton, through Bellevue and Woodinville, and on to Snohomish. The corridor also includes a 7-mile spur from Woodinville to Redmond. It is extensively single-tracked, with mostly 100-foot wide right-of-way and includes 24 bridge crossings, 97 curves and 107 at-grade crossings. The railbed area is level but the adjacent right-of-way on either side of the track is often sloped. In some areas, it appears the right of way has been encroached upon by adjacent uses or portions have been sold. The map locates the corridor in relation to other rail lines and trails in the region.

Future use of the corridor has been the topic of discussion among various groups in the region for several years. Burlington Northern Santa Fe (BNSF) is in the process of

abandoning the corridor and the Port of Seattle has committed to acquiring it through the federal rail-banking process. Once acquired, King County intends to purchase an easement within the corridor from the Port for a bicycle and pedestrian trail. Potential future uses of the corridor, or certain segments, may include passenger rail, excursion trains, short haul freight service, and a regional trail. The Port anticipates closing on the acquisition in the first quarter of 2009.

The feasibility study builds on previous studies of passenger or commuter rail on the corridor and augments that base of information by estimating potential future ridership in the corridor identifying potential station locations, reviewing the suitability of the existing tracks for passenger rail, estimating the effect passenger rail service might have on freight rail and tourism in the region, developing cost estimates for passenger rail and a concurrent parallel bike/pedestrian trail and identifying the most beneficial and cost-effective segments.

The analysis was guided by the following general assumptions, derived from information about the condition of the rail infrastructure in the corridor and the safety requirements for passenger rail operation:

- Upgrades were identified and costs were estimated at permanent passenger rail infrastructure standards including full replacement of the track, ties and railbed (a demonstration project or a project implemented by private entities could be accomplished differently)
- Service could be provided with either *Sounder*-style vehicles (locomotives and bi-level coaches) or diesel multiple units (DMUs)
- Complete signal/communication for train detection and control, centralized train control would be provided
- All public and private grade crossings would be upgraded
- No new grade-separated crossings were included
- No evaluation has been made of the condition of existing bridges
- One small new yard and shops facility, likely located somewhere along the line north of downtown Bellevue
- Average speed, including stops = 24 mph along corridor
- Two-way service, 30 minute headways, 16 hours per day weekdays.

The study does not identify the optimal solution, a preferred alternative, or the lowest cost or most cost-effective option. That information would be developed later, in subsequent studies if deemed appropriate. Because only limited conceptual engineering data is available, the cost estimates and ridership forecasts are conservative, meaning it is recognized that the broad assumptions required during conceptual planning and design, such as installing control systems at all public and private grade crossings, may be revised through more detailed study in preliminary engineering/environmental analysis and final design. The capital cost estimates were developed using the methods employed by Sound Transit for its ST2 Plan. As required by State law, those methods were reviewed by the State's independent Expert Review Panel.

Consistent with the directing legislation, the feasibility analysis includes cost estimates and potential ridership information for various segments of the corridor that may have independent utility. Those segments are:

- Renton-to-Bellevue (Gene Coulon Park in north Renton to Bellevue CBD)
- Bellevue CBD to Woodinville

- Woodinville to Snohomish (this segment is outside of the Sound Transit district)
- Redmond to Woodinville spur

The study has been guided by a Steering Committee comprised of representatives of the Port of Seattle, King County, Snohomish County, PSRC and Sound Transit. The Ad Hoc Advisory Committee comprised of jurisdictions potentially affected by passenger rail service and/or a trail (the cities of Snohomish, Woodinville, Kirkland, Bellevue, Newcastle, Renton, King County and Snohomish County) reviews materials and provides input. The Ad Hoc Advisory Committee has met three times during the feasibility study process. In addition, the meetings are open to the public and feasibility study materials and reports are available on the PSRC website.

### **Key Findings**

- Operating passenger/commuter rail on the corridor is feasible through a variety of capital improvements to facilitate higher speeds than can be achieved today and to improve the safety of the track, structures, and roadway crossings in the corridor
- The capital cost estimate for passenger rail is within the range for other lines that have been implemented across the country, although at the high end of that range due to the neglected condition of the corridor and the lack of safety and communication systems along the line
- The BNSF Eastside Corridor has the potential for significant transit ridership, connecting the regional growth centers of Renton, Bellevue, Kirkland/Totem Lake and Redmond, with trips as high as 6,070 per day
- Downtown Bellevue is the key ridership destination along the corridor, due to its concentrations of population, employment and commercial activity
- Implementation of service along the corridor requires a vehicle storage and maintenance facility which appears to be located most readily north of downtown Bellevue where there are appropriately-zoned large parcels adjacent to the track
- Throughout much of the Corridor, a pedestrian/bike trail could also fit within the existing Right-of-Way; in some locations, property acquisition would be required to accomplish both
- The estimated capital cost for a fully improved pedestrian/bike trail parallel to the rail line ranges from \$297 million to \$432 million depending on the width of the trail area.

The following capital cost estimates were developed based on a conceptual design and include broad assumptions for track and trackbed, rail bridges, signals/train control/crossings, stations and right-of-way; and soft costs such as administration, design and environmental review and construction management. The cost estimates include significant contingencies appropriate to the conceptual level of analysis.

## Capital Costs

<b>Segment 1</b>	<b>North Renton (Coulon Park) - Bellevue</b>	<b>Low</b>	<b>\$184</b>
		<b>High</b>	<b>\$239</b>
<b>Segment 2</b>	<b>Bellevue - Woodinville</b>	<b>Low</b>	<b>\$230</b>
		<b>High</b>	<b>\$299</b>
<b>Segment 3</b>	<b>Woodinville - Snohomish</b>	<b>Low</b>	<b>\$224</b>
		<b>High</b>	<b>\$291</b>
<b>Segment 4</b>	<b>Redmond - Woodinville</b>	<b>Low</b>	<b>\$116</b>
		<b>High</b>	<b>\$150</b>
<b>Subtotal</b>		<b>Low</b>	<b>\$753</b>
		<b>High</b>	<b>\$979</b>
<b>Yard &amp; Shop</b>		<b>Low</b>	<b>\$57</b>
		<b>High</b>	<b>\$74</b>
<b>Vehicles</b>		<b>Low</b>	<b>\$64</b>
		<b>High</b>	<b>\$74</b>
<b>Corridor Acquisition (by the Port of Seattle)</b>			<b>\$107</b>
<b>TOTAL</b>		<b>Low</b>	<b>\$981</b>
		<b>High</b>	<b>\$1,233</b>

## Operating costs

Operating costs are estimated at \$24 to \$32 million per year based on two-way service on the corridor with 30 minute headways operated 16 hours per day weekdays, along with maintenance of way, vehicle maintenance and operating costs and overhead and other costs.

## Ridership

	<b>Cumulative Segments</b>	<b>Trips in 2020</b>
<b>Segment 2 11.7 miles</b>	<b>Bellevue-to-Woodinville</b>	<b>1,770</b>
<b>Segment 1+2 19.9 miles</b>	<b>Coulon Park-to-Woodinville</b>	<b>4,580* (2,810)</b>
<b>Segment 1+2+3 32.4 miles</b>	<b>Coulon Park-to-Snohomish</b>	<b>5,015 (435)</b>
<b>Segment 1+2+3+4 39.2 miles</b>	<b>Coulon Park-to-Snohomish with South Woodinville-to- Redmond Spur</b>	<b>6,070* (1,055)</b>
<b>* ridership adjusted for southern terminus at Coulon Park, rather than Renton CBD</b>		

## Sound Transit 2

Sound Transit 2, the high capacity transit package of investments approved by voters in November 2008, includes a \$50 million capital contribution to a potential passenger rail partnership. If a partnership is not implemented by the end of 2011, the funds will be reprogrammed to further the implementation of HOV BRT service in the I-405 corridor. Sound Transit 2 does not include any additional funds for commuter or passenger rail on the Eastside BNSF corridor.

January 7, 2009

**DRAFT**

Mr. Charlie Howard  
Transportation Planning Director, PSRC  
1011 Western Ave, Suite 500  
Seattle WA 98104-1035

Dear Mr. Howard:

Thank you for the opportunity to comment on the draft feasibility study for rail on the Eastside Rail Corridor. Council appreciates the work that went into preparing the report both by PSRC and Sound Transit staff.

The City of Kirkland has taken the following position on use of the corridor.

*"The City of Kirkland has long looked upon the BNSF right-of-way as primarily a facility for non-motorized travel. However, we are also interested in an investigation of how rail transport might function alongside a trail. There are a number of unanswered questions concerning rail operations including impact on residential neighborhoods and local street traffic, ridership potential, parking accommodation and station locations."*

Unfortunately the study, although it may answer the question that the legislature posed in SHB 3224, does not answer the questions that are of most interest to the Kirkland City Council. We understand that most of these questions are beyond the scope of the report. In our judgment however, we feel that feasibility is truly defined by how the stations fit in communities, whether adequate parking is supplied, how operations will impact neighbors and what costs, for items such as grade crossing upgrades for example, will be borne by cities. Feasibility is also defined by an upper reasonable bound for cost per rider. Again, you were not given such a definition by the legislature and so the report does not address these issues.

Until a clearer and more complete definition of feasibility is presented, we feel that it is premature to conclude that rail operations are feasible or decide whether or not there are fatal flaws. Almost any project is *feasible* given enough money. Perhaps the better questions are: is rail *practical* or *desirable*?

Given the cost estimates; about \$1 billion in capital costs for the rail line, plus about \$350 million for the multi-use trail along with maintenance and operating costs of about \$28 million/year, we believe it will not be practical for a private party to operate passenger rail in the corridor. Nor is there a public agency likely to fund subsidize operations in the foreseeable future. Certainly Sound Transit 2 does not include such funding.

It's exciting to anticipate use of the corridor as a unique facility for safe and convenient walking and cycling while preserving the option for rail usage in the future should it become practical and desirable. Thank you once again for your work on the report and offering the opportunity to comment.

Sincerely,

Kirkland City Council

By: James L. Lauinger, Mayor

cc: 45th and 48th District Legislators