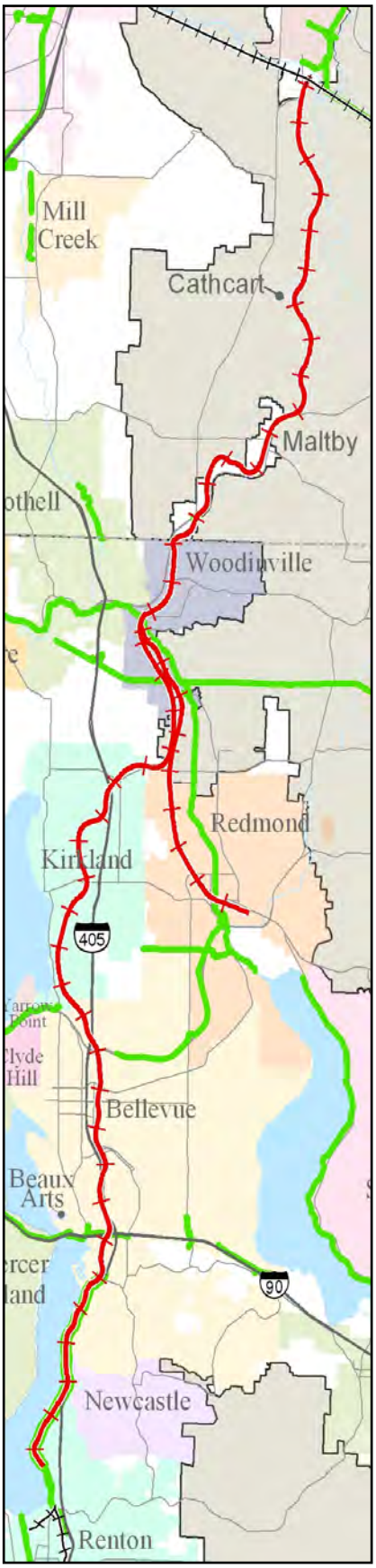
BNSF Corridor Preservation Study

FINAL REPORT

May 2007



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This study was performed for the Puget Sound Regional Council by the HDR consultant study team, which was made up of the following firms, each providing specific expertise:

Technical Team Coordination, Rail Scenario Development, Cost and Traffic Impact Analysis, Jurisdiction and Interested Party Assessment:	**HDR Engineering**
Environmental Planning and Regulatory Compliance:	**The Resource Group**
Rail Operations & Planning, FRA Regulatory Compliance:	**Transit Safety Management**
Assessment of Future Economic and Community Impacts:	**Berk & Associates**
Advisory Committee Meeting Facilitation:	**Norton-Arnold & Company**

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EXECUTIVE SUMMARY

In the fall of 2003, the Burlington Northern Santa Fe (BNSF) Railway Company indicated its intent to divest roughly 42 miles of railroad corridor in east King and south Snohomish counties from its operational rail lines. The BNSF asked if there was public interest in maintaining/preserving this extensive corridor for transportation purposes.

PSRC took on the question of "public interest" and conducted a series of discussions with the eight jurisdictions along the corridor plus the Washington State Department of Transportation (WSDOT), Sound Transit and several of the regions' environmental/bicycling interests. The resulting recommendation to preserve the corridor for future transportation uses was endorsed by PSRC's Executive Board who unanimously agreed that this regional rail corridor should be preserved for future transportation uses and communicated this regional interest to the BNSF Railway Company in July 2004. The Executive Board also directed that the corridor be further studied to explore several key issues that needed to be resolved if this corridor were to be publicly acquired.

In partnership with WSDOT, PSRC obtained federal grant funds in February 2005 to conduct a technical study to identify desirable potential uses and examine the general impacts, comparative costs of such potential uses, and the legal/institutional issues associated with preserving/acquiring this corridor.

The BNSF rail corridor was studied by PSRC's consultant team throughout 2006 with extensive oversight from PSRC's BNSF Corridor Advisory Committee.

Technical Study Elements

The study covered the rail corridor from the northern vicinity of Gene Coulon Memorial Beach Park in Renton to the City of Snohomish (including an 8 mile spur from Woodinville to Redmond).

The study elements included the following:

- Scenario development for 5 potential future uses of the corridor in each of the 4 segments of the corridor over 3 time frames (short 5–10 years, medium 10–20 years, long 20–40 years).
- Rough order of magnitude cost estimates to identify per-mile costs of each scenario for relative comparative purposes.
- General evaluation criteria for the scenarios by the different time frames and corridor segments.
- Traffic impact/implications at a sampling of key major at-grade crossings.
- General/programmatic assessment of potential future economic and community impacts.

The study examined current and potential future transportation uses for this corridor and the technical elements of the study were substantially complete by December 2006, with BNSF Corridor Advisory Committee deliberations on final recommendations complete by the third week of January 2007.

Recommendations built upon technical analysis were developed from the study and identified the most desirable and feasible uses for subsequent project-level planning and development work to be conducted in the corridor by other parties. The recommendations on potential transportation uses also proposed phased timing for project planning and development over three time periods: short (within next 10 years), mid-term (10-20 years), and long-term (20-40 years).

Scenarios

Five technically distinct BNSF corridor development scenarios were identified by the PSRC for this study.

Scenario 1 - Trail-Only (Common Baseline) assumed removal of rails and ties and reconstruction of the railway bed to accommodate wide paved pathways used by bicyclists and pedestrians (typically 12-14 feet wide in urban areas and no less than 10 feet for rural areas).

Scenario 2 - Trail with Current Rail (includes Dinner Train) assumed adding the regional trail along one side of the existing rail line with a barrier separation between the trail and rail. It would allow continued low-level freight use along with the Spirit of Washington Dinner Train.

Scenario 3 - Trail with Increased Rail, assumed enhancing/improving the existing eastside BNSF rail corridor for redundant or backup/bypass freight rail use. Significant upgrades and reconstruction of the rail track bed, signals, at-grade safety upgrades for unprotected crossings, and potential bridge structural improvements would be required to carry heavier, longer, and more frequent freight trains to correct the corridor's inadequate geometry and infrastructure base.

Scenario 4 - Trail with Commuter Rail assumed the trail as a baseline development along one side of the rail line and the addition of commuter trains much like the Sounder trains being operated by Sound Transit. Commuter trains need higher operating speeds than freight trains: appropriate physical separation between rail and trail and upgraded grade-crossings for safety, signal improvements for higher train volumes, and development of stations would be needed.

Scenario 5 - Trail with High Capacity Transit (HCT) assumes shared trail use with public passenger transport vehicles. The technology would involve one of a number of variations of high capacity transit, from light rail transit (LRT) trains such as Sound Transit's LINK to forms of monorail or other yet-to-be demonstrated "exclusive" guideway HCT options. As long as the BNSF corridor right-of-way is "preserved," opportunities for future HCT consideration will remain viable.

Additional Topics Discussed During the Study

Short Line Rail Operations. The remaining freight related businesses located on the Woodinville Subdivision are small, single carload businesses, primarily building materials with the exception of the Boeing 737 fuselage shipments.

Boeing Plant Access. The Boeing Company has been moving its longer 737-900 stretch fuselages to the Renton plant down this eastside rail line from Everett via Snohomish and east King County to avoid damage to those longer fuselages because of a side clearance constraint at the Cedar River Bridge south of the Boeing plant. If the clearance constraint at the bridge is fixed, only the Sprit of Washington Dinner Train would use the line. WSDOT's expansion plans for I-405 in Renton call for replacement and relocation of the Cedar River Bridge. WSDOT and BNSF are working together to provide a new Cedar River Bridge that will allow Boeing access for all aircraft fuselages from the south/mainline.

Wilburton Crossing Abandonment. During the study BNSF announced their intent to abandon the roughly 0.6 mile segment of rail line between Renton and Bellevue at the I-405 Wilburton Crossing. The State, region and BNSF have the opportunity to consider a long-term abandonment of the Wilburton I-405 crossing once the Cedar River Bridge is replaced, which could save approximately $35 million for the construction expansion of I-405 in the south Bellevue/Wilburton tunnel area. Not having to accommodate operational rail service during construction would account for $10 million of these savings, a portion of which would allow WSDOT to work with BNSF to replace the Cedar River Bridge in Renton.

If the rail crossing was not replaced, an additional $25 million in construction costs could be saved. If rail operations are required in the future, the rail crossing could be reinstated. The abandonment included a request to "rail bank" this section of the corridor to preserve it for potential future rail use.

"Connections for Our Future." In October 2006, King County and the Port of Seattle announced a creative multimodal "deal" to acquire the rail corridor which involves aviation and transcontinental freight rail improvements. This deal involves King County, the Port of Seattle, the Governor's Office/WSDOT, and BNSF.

Utility Crossings. Puget Sound Energy (PSE) currently has over 20 crossings along the corridor that PSE needs to preserve. PSE is also interested in looking at siting overhead electric infrastructure longitudinally along the corridor.

Sound Transit Bus Rapid Transit (BRT) Plans. Sound Transit plans to add 5 more routes to the I-405 Corridor over the next few years and 100,000 additional bus hours by 2027. Sound Transit will consider some form of HCT – most likely commuter or light rail - in future decades as passenger demand may warrant.

Data Gathering

Hy-rail Tour. BNSF staff took the consultant team on a Hy-rail tour along the mainline (Segments A, B, and C) of the corridor to familiarize the team with the corridor and assist in identifying areas with issues such as steep slopes, standing water, wetlands, right-of-way related issues (e.g., encroachments), at-grade crossings, and existing trails. Segment D (the spur running from Woodinville to Redmond) was not included in the tour.

Corridor Maps. Four sets of maps were developed to assist the BNSF Corridor Advisory Committee in its understanding of the corridor. The four sets included:

- Opportunities and Constraints Maps showing the overall geographic context where the BNSF rail corridor runs through the local communities in King and Snohomish counties.
- A Corridor Context Map showing the regional corridor and how it is being studied in four geographic segments (A-D).
- Corridor Segment Maps to show each segment individually in greater detail.
- Corridor Aerial Maps showing the overall geographic context where the BNSF rail corridor runs through the local communities in King and Snohomish counties at an enhanced scale of ½ mile per aerial section.

At the request of the Advisory Committee, two items were added to the maps: right-of-way lines and trail connections.

Interviews. The HDR team met with staff from the eight jurisdictions along the corridor to discuss the three scenarios and how they fit with local plans and visions, to discuss more specific local information about opportunities and constraints, and to assess local comprehensive plan compatibility with the scenarios. The meetings were held with cities of Renton, Bellevue, Kirkland, Redmond, Woodinville, and Snohomish, plus King and Snohomish counties. Meetings were also held with Cascadia Center, Puget Sound Energy, Cascade Bicycle Club and the Bicycle Alliance to discuss their interests and visions related to the corridor and the three scenarios.

A shared interest and vision emerged from the interviews supporting public ownership of the corridor, preservation for future use, rail banking, corridor use for a trail (with or without rail), compatibility with local plans and visions, and establishing a rail corridor trail alignment.

WSDOT Study Information. The Statewide Rail Capacity and Needs Study, which looked at freight rail needs and explored new ideas including consideration of a state partnership role investing with private sector companies to help meet statewide rail capacity needs, was shared with the BNSF Advisory Committee. The WSDOT and PSRC staff, along with the consultant team, using information gained from the statewide study, concluded there is no strategic value to preserving the BNSF corridor as a redundant freight corridor.

Technical Analysis

Technical analyses were conducted to support and inform the work of the BNSF Corridor Advisory Committee, and included the following:

Fact Sheets. Prepared to assist understanding of the requirements for the development, operations and maintenance of each of the five scenarios.

Rail Use Configuration. The line has several potential rail uses, each of which requires a different infrastructure configuration. An infrastructure analysis was conducted using track charts (a schematic representation of the arrangement of the tracks, the curvature, and the grades), and included a review of commuter versus freight traffic, potential siding locations, proposed speed limits, and potential signal and traffic control requirements.

Technical Focus on First 3 Scenarios. Since extensive prior technical analyses had been conducted in the I-405 corridor by the WSDOT and Sound Transit, it was decided to respect those many years of work and their publicly adopted conclusions. The recommendations from those other studies suggested that passenger-rail options in this corridor were not yet technically justified by relatively lower projections of transit travel demand nor financially feasible when comparing to express bus and bus rapid transit (BRT) operations in this corridor that have been approved, funded and are already in partial operation. This meant that the latter two rail-passenger scenarios (#4 & #5) were recommended to be retained for long-term consideration and did not need further technical study for short and medium-term recommendations in this corridor study.

Environmental Assessment

An assessment of existing community and environmental conditions along the corridor was performed via a review of County maps and plans to identify potential issues or concerns which could arise from selection of each scenario. PSRC and King County data of wetland, stream, and flood hazard locations was used to identify possible areas of concern within each segment.

As expected, based on the amount of potential right-of-way necessary for a specific scenario, the potential environmental and community impacts vary significantly.

Scenario 1 – Trail Only. Negative impacts are not expected as a result of this scenario. It is anticipated that conversion of the corridor from rail to trail will create beneficial effects.

Scenario 2 - Trail with Current Rail. Additional right-of-way could be required for Scenario 2, and increased train speeds could disrupt existing activities adjacent to the rail line.

Scenario 3 - Trail with Increased Rail. The most extensive use of right-of-way is required for Scenario 3 for the construction of sidings to allow passing for two-way train traffic.

If the project moves forward, additional environmental reviews would be required for all scenarios in order to fully assess potential site-specific impacts to the natural and built environments.

Economic Impact Assessment

Interviews were held with those likely to be affected by the scenarios, including businesses, bicycle groups, and many of the jurisdictions along the corridor. Research was conducted to

identify previous studies about rail corridor use and reuse, which focused primarily on property values and commercial businesses along other trail corridors across the country, as well as community attitudes towards those trails. The impacts were considered over short, medium, and long term time frames, with impacts categorized as positive or negative and to what degree (small, medium, or large). All scenarios are expected to bring positive impacts to the group of future trail users. The impacts to rail users are expected to be small except for the Dinner Train.

Scenario 1 – Trail Only: Largest positive impacts would be to trail users, and potential positive impacts would benefit property owners and the community as a whole. Negative impacts were seen to the Spirit of Washington Dinner Train, as it would no longer be able to run on its current route.

Scenario 2 – Trail With Current Rail. Impacts to trail users remain positive but may be lessened with dual use. Impacts to residential and business property owners and the surrounding community are expected to remain the same. Negative impacts to the Dinner Train would not occur if the tracks are replaced after I-405 construction.

Scenario 3 – Trail with Increased Rail. Positive impacts are still present for trail users, but are less due to increased use of the rail line. The need for greater space for two-way train operations had the potential for the most negative impacts.

Costs

Relative order of magnitude (ROM) costs for the three scenarios were calculated using information from the BNSF track charts for all segments of the corridor and generic planning level costs presented in the Fact Sheets. As specific engineering estimates were neither planned nor appropriate for this high-level comparative assessment of corridor uses, single "$" signs were used to represent a range of construction costs between roughly $1 million and $25 million. The costs included only specific corridor construction costs and did not include potentially significant ancillary costs such as fencing, mitigation, drainage, trailheads and new local access.

The resulting estimated costs, which were not based on any field investigation and are not engineering estimates, were what one might intuitively expect: Scenario 1 (trail-only) was the least costly and Scenario 3 (increased freight rail) was the most costly.

Traffic Impacts

A traffic impacts analysis study for six (6) major at-grade crossings for Scenarios 1, 2, and 3 was conducted to assess and quantify impacts of trail traffic to roadway traffic at high impact locations. Data for the road network was collected from the four local jurisdictions (cities of Bellevue, Redmond, Kirkland, and Woodinville).

Four distinct types of road and trail intersection crossing configurations were analyzed for the three scenarios:

- Configuration 1 – Trail crosses roadway at-grade, paralleling the existing track.
- Configuration 2 – Trail crosses roadway at-grade but is routed to the nearby adjacent intersection.
- Configuration 3 – Trail crosses over roadway on a grade-separated pre-fabricated bridge.
- Configuration 4 – Trail crosses under roadway in an open air tunnel.

The study used industry methodology, estimating vehicular, intersection, mid-block and railroad crossing delays and the resulting level of service (LOS). The analysis focused on evaluating the configurations of each scenario over the same baseline year, 2030. The four configurations were

evaluated for each of the three scenarios from the perspective of roadway delay, trail user safety and convenience, and cost:

Roadway Delay. The study results suggested that converting the existing BNSF corridor into a bike trail (Scenario 1 – Trail Only) would create the least delay to roadway users. Scenario 2 – Trail with Current Rail, had the potential for moderate growth for in delay. Scenario 3 – Trail with Increased Rail, would cause significantly negative traffic impacts and the highest levels of traffic delay due to more frequent and much longer freight trains.

Trail User Safety and Convenience: The impacts of the trail user crossing configurations did not vary by scenario. For each scenario, Configurations 3 and 4 are the safer solutions for trail users due to physical separation from vehicular traffic. Configuration 1 provides the shortest distance to cross, Configuration 2 is the least convenient, and the grade-separated crossings in Configurations 3 and 4 are more desirable (and minimize traffic impacts the most).

Cost. Configuration 2 would be the least expensive to construct and Configuration 4 would be is the most expensive to build and maintain. The delay costs varied widely by location.

Rails with Trails Reports

Two reports were prepared for the study on the topic of rails and trails. The purpose of the reports was to inform the committee of the potential for dual rail and trail use and to identify the timing of trail development and the requirements of rails with trails.

Committee Deliberations

The BNSF Corridor Advisory Committee was formed in early 2006 and met six times between March 31, 2006, (kick-off meeting) and January 19, 2007. Data provided to the committee, key deliberations and committee actions are listed below by meeting date:

May 12, 2006 - The BNSF Corridor Advisory Committee (CAC) was asked to consider a proposal to recommend the two corridor scenario alternatives that included public transit options (scenarios 4 and 5, described in Chapter 1) be considered only for future long-term (20-40 years) planning consideration. The committee received the fact sheets and an overall corridor map along with four segment maps that showed a preliminary assessment of initial opportunities and constraints in the corridor.

The committee agreed to defer further analysis of Scenario 4 and Scenario 5 and move them into the long-term timeframe for future planning.

July 28, 2006 - The committee was briefed on the Washington Transportation Commission Statewide Rail Capacity & Needs Study, the interim findings from the interviews with local jurisdictions, and local jurisdiction perspectives on the corridor scenario compatibility with local plans. No actions were taken at the July 28, 2006, meeting.

September 29, 2006 - The committee was briefed on the proposed BNSF abandonment of the Wilburton crossing of I-405 and the overview and summary highlights of the corridor scenario options.

The committee agreed to eliminate Scenario 3 – Trail with Increased Rail from further discussion or consideration for the BNSF Corridor. This allows the committee to review the two remaining candidate uses of trail-only and trail-with-rail based upon the needs and opportunities of the individual segments.

December 1, 2006 – A briefing was presented on “Connections for Our Future” by representatives from the King County Executive’s Office and the Port of Seattle. The segments and sub-segments were reviewed with the committee, with a discussion of each of the rail

segments. A "straw vote" on preliminary/draft recommendations was taken for later review and reconsideration in early 2007 for potential uses and timing for each of the segments.

January 19, 2007 - The committee was briefed by Sound Transit to clarify the extent of its existing Express Bus service currently operating in the I-405 corridor (as much as 10-minute peak-period frequencies between Renton and Bellevue) and on their future Bus Rapid Transit (BRT) plans for the I-405 Corridor.

The committee agreed to accept the prior recommendations as presented in the straw vote memo, with the exception of striking the term "passenger" from recommendations to allow that either freight or rail trains might be reconsidered in the future.

RECOMMENDATIONS

The final recommendations of the BNSF Corridor Advisory Committee for proposed transportation uses over short, medium and long-term time periods were unanimously approved by PSRC's Transportation Policy Board on February 8, 2007, and also by its Executive Board on February 22. These corridor recommendations were also incorporated as amendments to the region's transportation plan (Destination 2030) at PSRC's General Assembly on April 5, 2007.

The committee's findings and recommendations built upon technical analysis developed for the study that identified the most desirable and feasible uses for subsequent more specific project-level planning and development work to be conducted in the corridor by other parties. The recommendations on potential transportation uses also proposed phased timing for project planning and development over three time periods, short (within next 10 years), mid-term (10-20 years), and long-term (20-40 years).

The committee's findings set the context for the proposed short, medium, and long-term transportation use recommendations of the eastside BNSF corridor. The findings include:

- Preserve this unique corridor.
- Not a strategic regional or state freight rail corridor.
- Preserve freight rail access to Boeing's Renton plant.
- Respect prior regional public transit studies in north-south Eastside corridor.
- "Medium-Term" time frame is needed to achieve long-term passenger rail objectives.
- Optimize cost-effectiveness of trail development:

A summary of the proposed short, medium and long-term transportation use recommendations is presented by County:

King County Rail Corridor Segments (A, B, and D). The candidate project uses for the rail corridor segments from Renton to Woodinville and from Woodinville to Redmond (i.e., most of the King County portions of this BNSF corridor) are recommended as "regional multipurpose trail," identified as an "interim use" and designated as "rail banked" by BNSF for the short-term period (next 10 years).

The regional plan will continue to show these corridors as regional multipurpose trails for medium and long-term but will add the proposed use and designation as potential candidate high capacity transit (HCT) corridors as defined in state law for dedicated rights-of-way to be preserved for rail transportation for the medium and long-term time periods (10-20 years and 20-40 years).

Woodinville to Snohomish Segment (C). The segment between the rail junction in Woodinville and the City of Snohomish city limits on the north side of the Snohomish River is recommended

to show dual “rail-and-trail” uses for short, medium and long-term time periods. Existing freight rail service supporting shippers along this part of the corridor will continue in use as long as those businesses are viable.

Short-Term Issues. Minimizing costs for regional trail construction would require removing the deteriorated tracks that are not currently suitable for modern passenger rail nor expanded/heavier freight rail use. The design of the trail must be carefully planned with affected local communities. BNSF freight operations for Boeing transporting 737 fuselages between Everett and Renton will be able to operate along the Puget Sound mainline rail corridor following the replacement of the Cedar River Bridge in Renton, expected to be complete by the end of 2007.

Recommendations for transportation uses by corridor segments are presented in detail in Chapter 5.

CHAPTER 1 - INTRODUCTION

BACKGROUND

The Burlington Northern Santa Fe (BNSF) Railway Company approached the Washington State Department of Transportation (WSDOT) in the fall of 2003 indicating its intent to divest roughly 42 miles of railroad corridor in east King and south Snohomish counties from its operational rail lines, indicating this "Woodinville Subdivision" line was no longer economically viable. The BNSF asked if there was public interest in maintaining/preserving this extensive corridor for transportation purposes.

As the corridor is entirely within the PSRC region, the WSDOT asked PSRC to take on the question of "public interest" in preservation of the BNSF corridor. By mid-2004, PRSC had conducted a series of discussions with all eight jurisdictions along this corridor and worked with an ad hoc committee including representatives from all jurisdictions plus WSDOT and the regions' environmental/bicycling interests. In June 2004, this committee's recommendations to preserve the corridor for future transportation uses was endorsed by PSRC's Executive Board, which communicated the region's interest to BNSF, asking them to work with the region while it examines the many aspects that will be required in order to accomplish corridor acquisition/preservation, the Board unanimously agreed that this regional rail corridor should be preserved for any number of transportation uses and took an action to communicate to BNSF that the region is interested in working with BNSF to explore the costs and implications of such corridor acquisition.

In partnership with the Washington State Department of Transportation, PSRC obtained federal grant funds to conduct a technical study to identify desirable potential uses and examine the general impacts, comparative costs of such potential uses and the legal/institutional issues associated with preserving/acquiring this corridor. The grant to conduct the BNSF corridor preservation study was applied for in fall 2004 and was approved by the federal government in February 2005. Some of these grant funds have also been provided to King County by PSRC to work in close collaboration with the county in its exploration of options for acquisition of this corridor.

The BNSF corridor preservation study grant identified five technically distinct scenarios for potential consideration as future uses of the BNSF eastside rail corridor.

In May 2005, King County announced its intention to purchase the corridor to get it into public ownership, with a priority to use the corridor for a trail. The county entered into negotiations with BNSF for the purchase of the corridor in both King and Snohomish Counties, which continued until October 2006. At that time, King County announced they had entered a conceptual agreement with the Port of Seattle to acquire the right-of-way, give it to the county and pay the cost of developing the trail. In February 2007 the Port of Seattle agreed in principle to purchase the corridor from BNSF and, via a complex land swap agreement, give it to King County for a public trail in exchange for the King County International Airport (a.k.a. Boeing Field).

PSRC Study Elements

- Rail Corridor Advisory consultants to advise and assist PSRC and its corridor planning partners on technical aspects of the study including trail planning, legal/institutional requirements, joint rail with trail planning, scenario development and screening to identify potential "best fit," traffic analysis for selected major at-grade crossings, generic cost estimates, and assessment of economic impacts.
- King County conducting a rail corridor appraisal, title research and environmental assessment work for the corridor in both King and Snohomish Counties.

- WSDOT providing supporting data and technical assistance on issues related to the study, including, but not limited to: providing baseline level of freight activity along the corridor; input to potential strategic concepts for freight use that could be of regional and statewide interest; and how the corridor interacts with and impacts aspects of current and future plans for major I-405 corridor improvements.
- BNSF Corridor Advisory Committee providing recommendations on corridor use scenarios to the PSRC Transportation Policy Board.

Chronology of Corridor Preservation Study and Related Activities

- Fall 2003: Burlington Northern Santa Fe (BNSF) Railway Company approaches WSDOT - "Woodinville Subdivision Corridor not penciling out. Is there any public interest in preserving it if BNSF divests interest?"
- January 2004: WSDOT asks PSRC "Isn't this more of a regional issue?" – Answer "Yes."
- February – May 2004: PSRC conducts interviews with local jurisdictions and meets with Ad Hoc BNSF Eastside Corridor Advisory Committee to identify degree of public interest in corridor preservation; conclusion was unanimous interest in preservation of corridor, qualified by need to know potential costs and legal/institutional implications for such.
- June 2004: PSRC Executive Board responds to BNSF "Very strong public interest in corridor preservation. Will conduct study to explore costs, impacts and implications of how it might be done."
- October 2004 – February 2005: PSRC-WSDOT partner on grant to secure federal funds for BNSF Corridor Preservation Study.
- December 2004 - May 2005: King County Executive and BNSF have discussions and make subsequent announcement about exclusive negotiating agreement to explore acquisition options.
- July 2005: PSRC contracts with rail and trail corridor experts to advise on study approach and passes partial grant study funds to King County to assist with appraisal, title research and environmental issues associated with potential corridor acquisition.
- December 2005: PSRC refines study scope and authorizes contract for consultant team for technical development and analysis of scenarios. King County Councilmember Julia Patterson appointed to chair BNSF Corridor Advisory Committee and invitations sent out for formation of Advisory Committee.
- March 2006: BNSF Corridor Advisory Committee holds "kick-off" meeting in Bellevue (see list further below showing Advisory Committee members).
- May – December: BNSF Corridor Advisory Committee meetings and deliberations on technical materials from consultant team.
- October 2006: King County and the Port of Seattle announce "Connections for Our Future", a creative multimodal land purchase and swap involving the rail corridor.
- January 2007: BNSF Corridor Advisory Committee finalizes recommendations regarding the corridor for presentation to the PSRC Transportation Policy Board.
- February 2007: PSRC Transportation Policy Board and Executive Board unanimously adopts the BNSF Corridor Advisory Committee recommendations for the corridor and directs key aspects involving proposed future corridor uses be incorporated in update of regional transportation plan, Destination 2030.

- February 2007: King County, Port of Seattle and BNSF Railway signed a preliminary deal for the Port to buy the rail line, then give it to the county in exchange for Boeing Field.

Burlington Northern Santa Fe (BNSF) Corridor Advisory Committee

(Members and Alternates)

♦ LOCAL JURISDICTIONS ♦

CITY OF BELLEVUE
Councilmember Don Davidson
Kim Becklund, Transportation
Shelley Marelli, Parks & Community Services

CITY OF KIRKLAND
Councilmember Tom Hodgson
Daryl Grigsby, Public Works Director

CITY OF REDMOND
Mayor Rosemarie Ives
Craig Larson, Parks Director
Dave Rhodes, Public Works Director
Nina Rivkin, Mayor's Office

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Peter Hahn, Plng/Building/Public Works
Gregg Zimmerman, Administrator,
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Puget Sound

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PROJECT DESCRIPTION

The Puget Sound Regional Council (PSRC) requested technical assistance for their corridor study team and partners on technical elements of the BNSF rail corridor preservation planning study. The HDR team was selected in February 2006 to provide this rail corridor consultant assistance.

The BNSF rail corridor, offered for sale by the BNSF Railway Company in early 2004, was studied by PSRC's consultant team throughout 2006 with extensive oversight from a highly diverse range of interests that served on PSRC's BNSF Corridor Advisory Committee. This corridor consists of roughly 42 miles of existing rail corridor (34 miles from Renton to Snohomish and 8 miles on the spur from Woodinville to Redmond). The final recommendations of the BNSF Corridor Advisory Committee for proposed transportation uses over short, medium and long-term time periods were unanimously approved by PSRC's Transportation Policy Board on February 8, 2007, and also by its Executive Board on February 22. These corridor recommendations will be incorporated as amendments to the region's transportation plan (Destination 2030) at PSRC's General Assembly in April 2007. These plan amendments will modify the planned transportation uses of this rail corridor to reflect candidate projects and uses for the King and Snohomish County segments as noted below over the given time periods. They will also help assure corridor preservation in King County for future high capacity transit rail consideration.

Technical Study Elements

- Scenario development for the 5 potential uses of the corridor in each of the four segments of the corridor (three in King County and one in Snohomish County) over three time frames (short-term 5–10 years, medium-term 10–20 years, and long-term 20–40 years).
- Rough order of magnitude cost estimates to identify per-mile costs of each scenario.
- Assist in developing general criteria for evaluation of the scenarios by the different time frames and corridor segments. Conduct screening to identify potential "best fit" of scenarios, considering compatibility with current comprehensive plans and with regional and state plans and economic interests.
- Assess traffic impact/implications at a sampling of key major at-grade crossings. Suggest possible options for how potential negative traffic impacts could be treated along with providing rough/generic cost ranges.
- Develop general/programmatic assessment of potential future economic and community impacts for the scenarios.

The BNSF rail corridor study covered the rail corridor from the northern vicinity of Gene Coulon Memorial Beach Park in Renton to the City of Snohomish (this includes an 8 mile spur from Woodinville to Redmond).

The study examined current and potential future transportation uses for this corridor and the technical elements of the study were substantially complete by December 2006, with BNSF Corridor Advisory Committee deliberations on final recommendations complete in January 2007. The study recommendations developed by PSRC's BNSF Corridor Advisory Committee were submitted to and unanimously approved by PSRC's Transportation Policy Board and Executive Board in February 2007.

The recommendations built upon technical analysis developed for the study that identified the most desirable and feasible uses for subsequent more specific project-level planning and development work to be conducted in the corridor by other parties. The recommendations on

potential transportation uses also proposed phased timing for project planning and development over three time periods, short (within next 10 years), mid-term (10-20 years) and long-term (20-40 years).

SCENARIOS

Scenarios Previously Identified for Study

Five technically distinct BNSF corridor development scenarios were identified by the PSRC for this study. During June and July of 2006, the scenarios underwent additional review and analysis by the consultant team in consultation with the eight local jurisdictions along the BNSF rail corridor and the other transportation and environmental/civic interests that participated on the BNSF Corridor Advisory Committee.

The five scenarios include:

1. Trail-Only (Baseline)
2. Trail with Current Rail (includes Dinner Train)
3. Trail with Increased Rail
4. Trail with Commuter Rail
5. Trail with High Capacity Transit

The nature of these five corridor scenarios is briefly described below.

Scenario 1 - Trail-Only (Common Baseline)

If developed as regional trail consistent with a number of other regional trails converted from abandoned rail corridors in the region, this scenario assumes removal of rails and ties and reconstruction of railway bed to accommodate wide paved pathway used by bicyclists and pedestrians (typically needing to be 12-14 feet wide in urban areas with higher volumes and no less than 10 feet for rural areas). Such trails also include a gravel shoulder along one side for runners, and, if possible in rural portions of the corridor, they sometimes have a parallel-unpaved equestrian pathway separated from the paved trail and shoulder.

2. Trail with Current Rail (includes Dinner Train)

This assumes adding the regional trail, generally as described above and where physically possible, along one side of the existing rail line. This allows shared trail and rail use by incorporating some form of barrier separation between trail and rail, which varies depending on speeds of trains (faster trains call for greater separation and more substantial types of barrier separations). Such dual trail-with-rail configuration would allow continued low-level freight use along with Spirit of Washington Dinner Train.

3. Trail with Increased Rail

A primary objective for this scenario is to have a contingency to keep regional and interstate rail freight moving in case of an unfortunate emergency event that might close or disrupt the existing mainline along the Puget Sound between Seattle and Everett. This scenario would build upon Scenario 2 above but would further enhance/improve the existing eastside BNSF rail corridor for the redundant or backup/bypass freight rail use. To accommodate the current type of freight rail traffic operating on the Puget Sound mainline rail tracks between Seattle and Everett, the corridor's currently inadequate geometry and infrastructure base would need to be improved to carry heavier, longer and more frequent freight trains (such as the double-

stack trains currently operating between Seattle and Everett). It would require at least a significant degree of upgrades and reconstruction of the rail track bed, signals, at-grade safety upgrades for unprotected crossings, and potential bridge structural improvements.

4. Trail with Commuter Rail

This alternative is similar to Scenarios 2 and 3, assuming the trail as a baseline development along one side of the rail line. The "rail" concept itself is different, involving commuter trains much like the Sounder trains being operated by Sound Transit. Commuter trains need higher operating speeds than freight trains to provide meaningful public service; appropriate physical separation between rail and trail and upgraded grade-crossings for safety; signal improvements for higher train volumes; and development of stations to serve the major population centers along the line. This alternative could employ a commuter rail technology that is different from the Sounder Trains and uses independently powered single or multi-unit passenger cars, also referred to as DMUs, or diesel motor units. These have been improved for modern usage and are found in a number of applications in the U.S. and Europe. One significant challenge for the "service utility" of this alternative has been commented upon in prior studies, which noted that the existing rail line is not very well located to effectively serve downtown centers such as Bellevue.

The I-405 Corridor Study Program and EIS (1999–2002) included examination of the commuter rail alternative in substantial depth in this corridor. After 4 to 5 years of a major public investment in intense studies and public involvement, they concluded and approved Bus Rapid Transit (BRT) using exclusive freeway lanes in I-405 with dedicated access ramps to major centers as the most cost-effective public transit solution for the I-405 corridor over at least the next 20 years. These actions were subsequently adopted into PSRC's regional plan and many projects and much funding has been secured to allow many segments to begin final design and construction.

5. Trail with High Capacity Transit (HCT)

This scenario also assumes shared trail use with public passenger transport vehicles. The technology would involve one of a number of variations of high capacity transit, from light rail transit (LRT) trains now under construction between Seattle and Sea-Tac airport to forms of monorail or other yet-to-be demonstrated or state of the art HCT options such as magnetic levitation vehicles. There is much flexibility in how electrified HCT technologies can be deployed, e.g., Sound Transit's Link LRT will be operating at-grade in streets, elevated above surface traffic, and in tunnels. It appears that as long as the BNSF corridor right-of-way is "preserved," the opportunities for future HCT consideration will remain viable.

In addition to the I-405 Corridor Study Program and EIS noted above, Sound Transit has also conducted extensive independent studies in its effort to determine long-range high capacity transit directions for the eastside area. Sound Transit has concurred with the I-405 transit conclusions for BRT in the I-405 corridor and, over several years of additional studies, has adopted a long-range plan that supports BRT for north-south transit in the eastside I-405 corridor but is now focusing on future regional east-west HCT concepts and technologies for its next phase of major transit investments over the coming 10 to 20 year period.

Note about "Why Trail as Baseline?"

As noted at the March 31 kick-off meeting, among the five potential alternative scenarios proposed and talked about over the past few years (all of course assuming an eventual "post-divested" BNSF corridor in public ownership), only the regional trail option has generated a strong consensus of support among all governmental and non-governmental interests with whom the PSRC staff met and interviewed. Most see it as a rare opportunity to create an

extensive, interconnected regional multi-purpose regional trail network with many other existing and planned regional trails in King and Snohomish counties.

Priority Assessment of Scenario Alternatives Using Prior Public Policy Actions to Identify Probable Implementation Time Periods

The following table depicts the staff and consultant team assessment of how the various scenarios can be viewed for priority screening and further study. This focuses on which corridor scenario alternatives are most logical for priority consideration to explore for potential action/implementation projects in the next decade or so. Those not suggested for priority study in short and mid-term time periods have regional, state, and local policy actions associated with them that have already suggested they only be considered as longer-term (post 20 year) alternatives.

Table 1 - Probable Time Frames for Prioritizing Scenarios for Further Study

ALTERNATIVE SCENARIO		Probable Time Frame for Consideration		
		Short-Term 0–10 Years	**Mid-Term** 10–20 Years	**Long-Term** 20–40 Years
1	**Trail-Only (Baseline)**	**X**	**X**	**X**
2	**Trail with Current Rail**	**X**	**X**	**X**
3	**Trail with Increased Rail**	**X** *(Needs study to identify if realistic*	**X**	**X**
4	**Trail with Commuter Rail**	***NA***	***NA***	**X**
5	**Trail with High Capacity Transit (HCT)**	***NA***	***NA***	**X**

Aspects of this assessment:

- This table contains “Xs” where it was assessed that it is reasonably possible to envision physical implementation (construction and operation) of a given scenario within each indicated time period, and where the region needs more technical analysis to determine if such is desirable and feasible to consider for potential future recommended implementation. At this general policy/planning level, this assessment does not include or consider other constraints such as financial assumptions about costs or financing.
- The notation of “NA” indicates an assessment revealing that extensive prior technical and policy analysis and public decisions have documented conclusions suggesting that these scenarios are not appropriate or cost-effective in this corridor in short or mid-term time frames but could later be considered in the longer-term future (20-40 year) time frame.

SEGMENTS

The corridor was broken into four segments labeled A–D, starting in Renton and running north to Snohomish (A-C), with the final segment (D) being the spur from Woodinville to Redmond. Corridor Segment Maps were produced for the study and are described in Chapter 2. Copies of the individual maps can be found in Appendix A, and the overall context map is included in Figure 1.

Segment A – Renton to Bellevue

Segment A runs from north Renton and to north Bellevue (milepost [MP] 4.1 to MP 13.9).

The southern terminus of the study is just north of MP 4 on the line, at the entrance to Gene Coulon Park. This is known as the SCOPA section of the BNSF line.

The northern terminus of Segment A ends just before MP 14 in north Bellevue, on the west side of I-405 just north of the SR 520 interchange with I-405. This is very near the Bellevue Public Works building, where the rail corridor has just passed under SR520 and I-405.

Segment B – Bellevue to Woodinville

This segment runs from north Bellevue, through Kirkland and the south Woodinville winery district, to downtown Woodinville (MP 13.9 to MP 24.9).

The southern terminus of the Segment B begins just before MP 14 in north Bellevue, on the west side of I-405 just north of the SR 520 interchange with I-405.

The northern terminus of Segment B is in downtown Woodinville, just before MP 25. This location is approximately 1.4 miles past the junction with Segment D (the spur to Redmond) and to the northeast of the rail bridge over 131st Avenue NE.

Segment C – Woodinville to Snohomish

This segment runs from downtown Woodinville, into Snohomish County through Maltby, to the north side of the Snohomish River.

The southern terminus of the Segment C begins in downtown Woodinville just before MP 25, to the northeast of the rail bridge over 131st Avenue NE.

The northern terminus of Segment C is on the north side of the Snohomish River, just across the rail bridge at the south limits of the City of Snohomish.

Segment C runs from MP 24.9 to MP 37.61, where the current active corridor splits to go east or west on the Everett to Stevens Pass mainline, plus MP 0.05 to MP 1.0. The latter milepost numbers refer to the now unused line that crosses the Snohomish River.

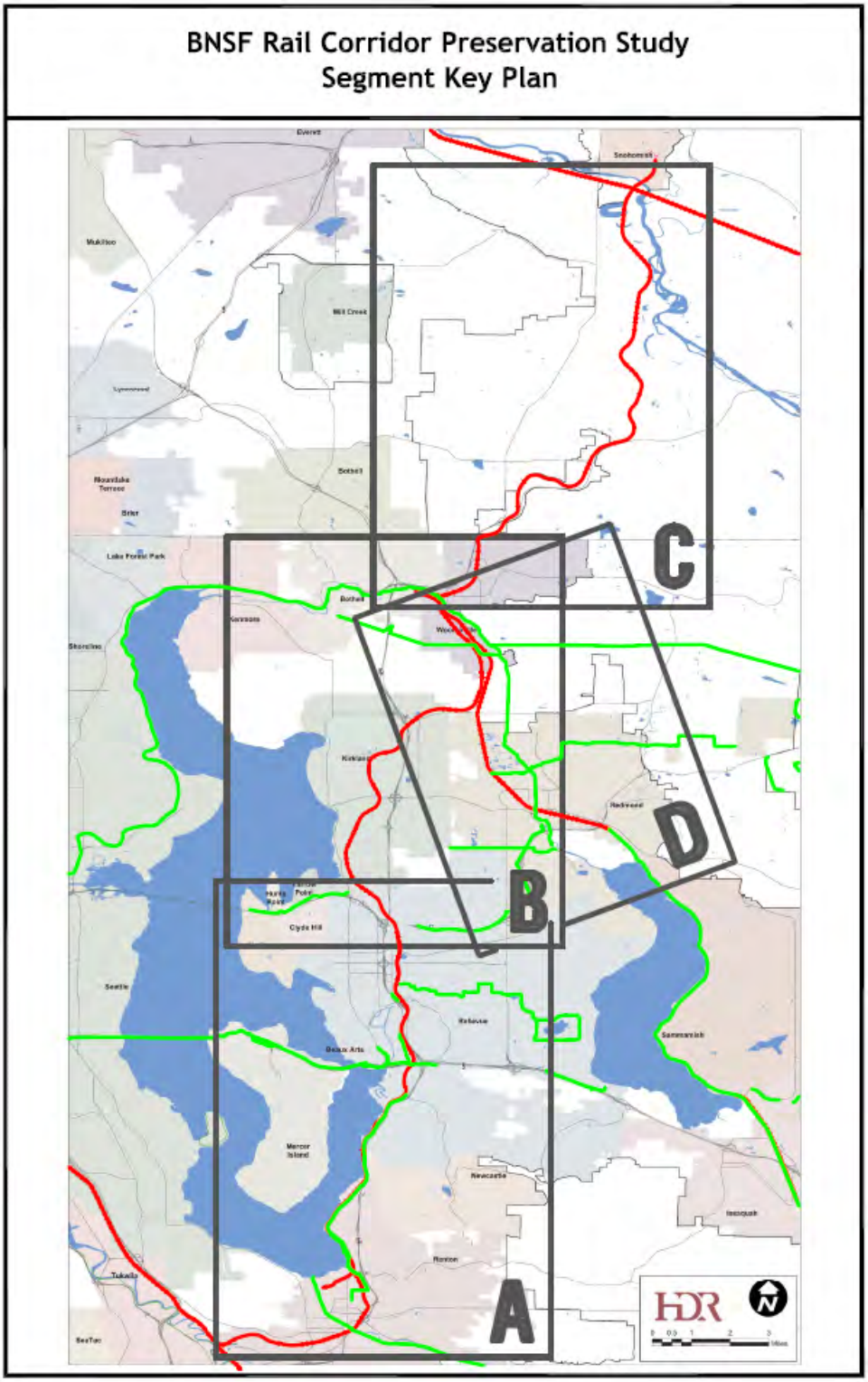
Segment D – Woodinville to Redmond (the Spur)

This segment, also known as the spur, runs from downtown Redmond to downtown Woodinville. It terminates just north of the SR520 and SR202 interchange. Further south along this corridor is the previously acquired East Lake Sammamish Trail, which has been rail-banked.

The southern terminus of the Segment D begins at the Bear Creek Trail connection, located south of 170th Avenue NE on NE 76th Street, approximately ¼ mile south of MP 7.0.

The northern terminus of Segment D is to the west of downtown Woodinville, roughly 1 ¼ miles north of the junction with Segment B.

Figure 1 – Corridor Context Map



A – Renton to Bellevue

B – Bellevue to Woodinville

C – Woodinville to Snohomish

D – Woodinville to Redmond

ADDITIONAL TOPICS DISCUSSED DURING THE STUDY

Short Line Rail Operations

The remaining freight related businesses located on the Woodinville Subdivision are small single carload businesses, primarily building materials with the exception of the Boeing 737 fuselage shipments. Servicing these businesses requires sending a local switch engine once or twice a week to deliver and collect rail cars along the line. This is a costly use of labor and equipment.

BNSF's business plan relies heavily on the operation of unit trains carrying containers or bulk commodities such as coal and grains. This "hook and haul" operation provides for the efficient use of labor and equipment while increasing the volume of freight that moves over existing rail lines. On shortline operations similar to the Woodinville Subdivision BNSF first looks at outsourcing the operations on the line to a third party to create a win-win business model. A lower cost operator provides the switching service and delivers the rail cars to BNSF at a designated interchange point. The BNSF then picks up and delivers cars based on an established train schedule. If the car volumes on the line can not economically support a third party switching operation then the line is subject to abandonment and sale.

Boeing Plant Access for Fuselages

The Boeing Company moves its longer 737-900 stretch fuselages (built in Wichita, Kansas, and shipped to its Everett plant) to the Renton plant down this eastside rail line from Everett via Snohomish and east King County. This is in contrast to the more direct and secure route used for its other 737 fuselages that are delivered to Renton using BNSF's main line along Puget Sound. Because of a side clearance constraint at the slight curve at the Cedar River Bridge south of the Boeing plant, the "stretch" fuselages have to use the eastside line to avoid damage. If the clearance constraint at the Cedar River Bridge is fixed, there would be no freight rail traffic at all in the Renton to Bellevue segment. Only the Sprit of Washington Dinner Train would use the line.

WSDOT's expansion plans for I-405 in Renton, where it runs next to the Cedar River Bridge, call for replacement and relocation of that bridge when that project moves forward. Given no freight rail traffic other than Boeing along this segment, and since the State DOT finds it could save at least $10 million if BNSF simply stopped operations along that segment of track during the I-405 south Bellevue construction period of 2008-2009, WSDOT and BNSF are working together to provide a new Cedar River Bridge that will allow Boeing access for all aircraft fuselages from the south/mainline.

Wilburton Crossing Abandonment by BNSF

During the study, BNSF announced their intent to abandon the roughly 0.6 mile segment of rail line between Renton and Bellevue at the I-405 Wilburton Crossing. The rail line passes over a southbound auto tunnel and runs in an open cut beneath a northbound freeway overpass.

Since this corridor is not considered "strategic" or of state interest (see WSDOT Study Information in Chapter 2 for more details), and with no shippers needing service in this segment, the State, region, and BNSF have the opportunity to consider a long-term abandonment of the Wilburton I-405 crossing once the Cedar River Bridge is replaced.

The abandonment would give the state an opportunity to save a total of approximately $35 million for the construction expansion of I-405 in the south Bellevue/Wilburton tunnel area. To

support this effort, BNSF proposed action to cease rail operations during the construction of the freeway and rail-bank/preserve that section of the corridor until it is needed in the long-term for potential future rail needs.

The freeway expansion construction cost savings in the Wilburton section are possible due to major differences in how the freeway would be constructed with and without having to accommodate an operating rail line. WSDOT planned to begin contracting with firms for design work in January 2007 and anticipated taking the rail line out of service by August 2007. WSDOT estimated the construction would happen between January 2008 and December 2009. The cost for this construction is estimated at $1.5 billion, which includes construction of a bike trail along the route, budgeted at $5 million.

WSDOT is committed to building and replacing a trail component parallel to I-405 that would run from the southern vicinity near the NE 44th interchange in north Renton to the north along and crossing I-405 at the Wilburton area.

Not having to accommodate operational rail service during construction will save the State $10 million, a portion of which will allow WSDOT to work with BNSF to replace the Cedar River Bridge in Renton, which will allow all of Boeing's aircraft fuselages to access the Boeing plant from the south along the Puget Sound mainline.

If the rail crossing did not need to be replaced, an additional $25 million in construction costs could be saved by not having to rebuild a new rail bridge over the widened I-405 southbound lanes. In the event that the longer-term plans require rail operations in this section, the rail crossing could be reinstated. BNSF formally filed for abandonment of the Wilburton Crossing on October 20, 2006.

Consistent with the wishes expressed in this study by all jurisdictions, BNSF's petition for abandonment includes a request to "rail bank" this section of the corridor. This rail banking provides unique federal protection for a given corridor section to be maintained in perpetuity as a rail transportation corridor. This legally assures it can be restored to some form of rail when and if the need arises.

"Connections for Our Future"

In October 2006, King County and the Port of Seattle announced a creative multimodal "deal" relating directly to the rail and trail corridor but also involving aviation and transcontinental freight rail improvements. This deal involves King County, the Port of Seattle, the Governor's Office/WSDOT, and BNSF.

While final agreements are not expected until later in 2007, the conceptual proposal is to first have the Port of Seattle purchase the rail line from BNSF. Then, once the sale is finalized, King County would transfer its King County Airport (Boeing Field) to the Port of Seattle, with the port providing funds to King County for regional trail development. Additional aspects of this package provide for the county, the port, the Governor/WSDOT, and the BNSF Railway Company to work together supporting improvements to Stampede Pass to enable double-stack container trains to cross the Cascades, and to work together to locate a much needed intermodal facility in the King County area and another smaller potential land swap to enable expanded rail freight capacity for the region and the state.

Utility Crossings

Puget Sound Energy (PSE) currently has over 20 crossings along the corridor that PSE needs to preserve. PSE is also interested in looking at siting overhead electric infrastructure longitudinally along the corridor. Through their participation on the BNSF Corridor Advisory Committee, the perspective for all utility crossing needs was voiced to assist the committee in understanding the issues associated with utility facilities and crossings. The following discussion of utility use in the corridor was provided by PSE staff:

Issues:

- Preservation of existing utility facilities and crossings along the corridor.
- Siting of future utility infrastructure is appropriate permitted activity along corridor.

Background:

- Utility use of the current BNSF corridor is an appropriate use for the corridor and should continue. There are currently numerous electric transmission and distribution crossings along the BNSF corridor. These facilities have been in use and utilizing crossings for years. As they are an existing use, those facilities shall stay without need to relocate (locations should be retained for facilities). Without this ability, there will be significant impact to relocate (i.e., environmental review process, permitting process and requiring the acquisition of sufficient property for facilities).
- The current BNSF corridor can serve trails, rails and utility infrastructure. Siting additional electric facilities within the corridor is a viable use of the corridor through the appropriate public environmental review and permitting processes. The BNSF corridor is a right of way running north and south through most of King County that would be extremely valuable to include for regional utility use. This statement is not meant to circumvent the public process for siting facilities, but rather to acknowledge the value of the corridor for multiple uses of which utilities should be incorporated. Because this is roughly a 42-mile long corridor, if a utility cannot participate in a process for accessing the trail they will have to find a way to go around (which will be incredibly difficult and expensive due to the length of the corridor). Additionally, siting utility infrastructure in a regional corridor is consistent with King County's Comprehensive Plan and prevents jurisdictions from coming into conflict with each other.

Figures 2, 3, and 4 illustrate Puget Sound Energy's current utility crossings of the BNSF corridor.

Figure 2 – PSE Transmission Crossing

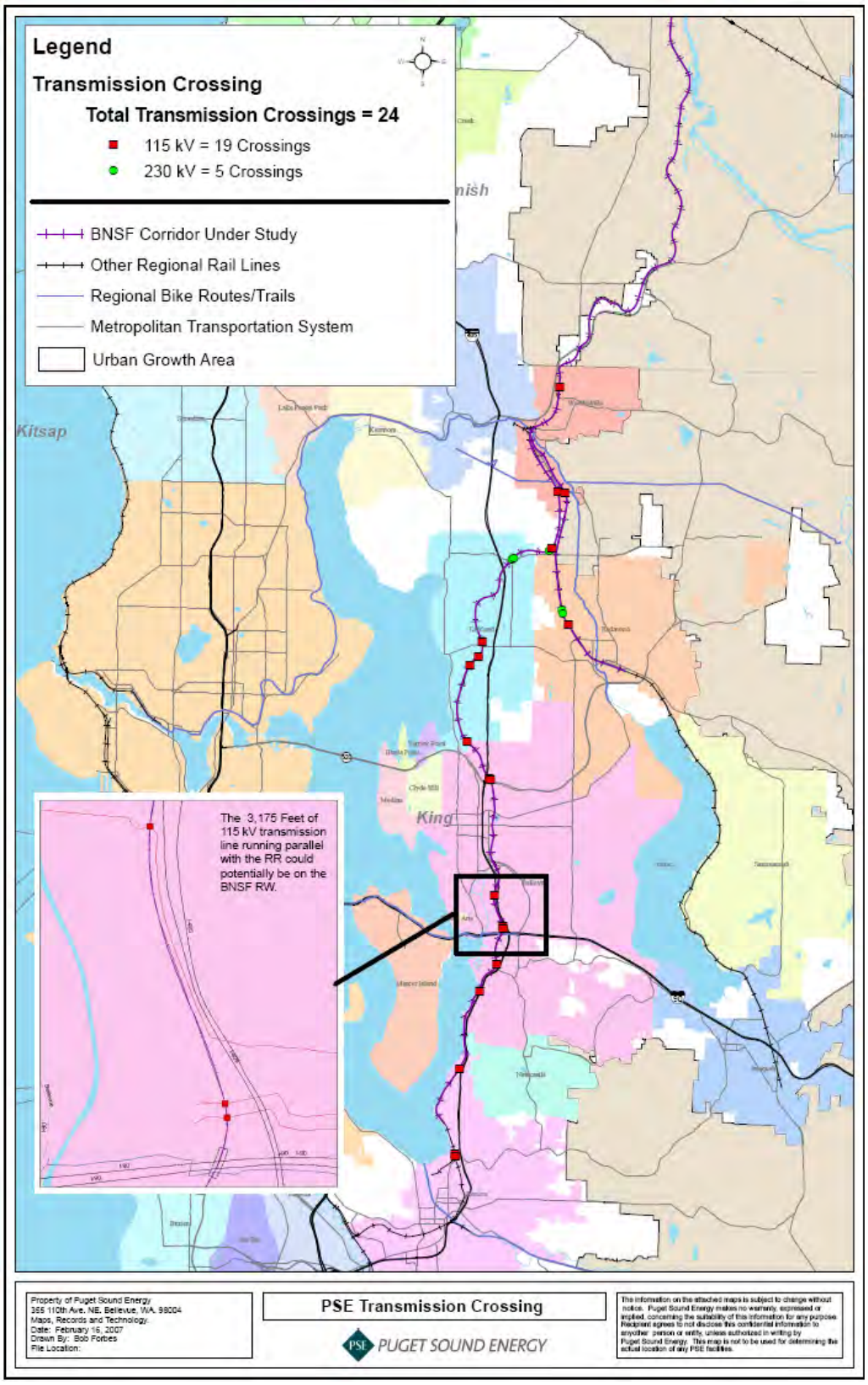


Figure 3– PSE Electric Distribution Crossing

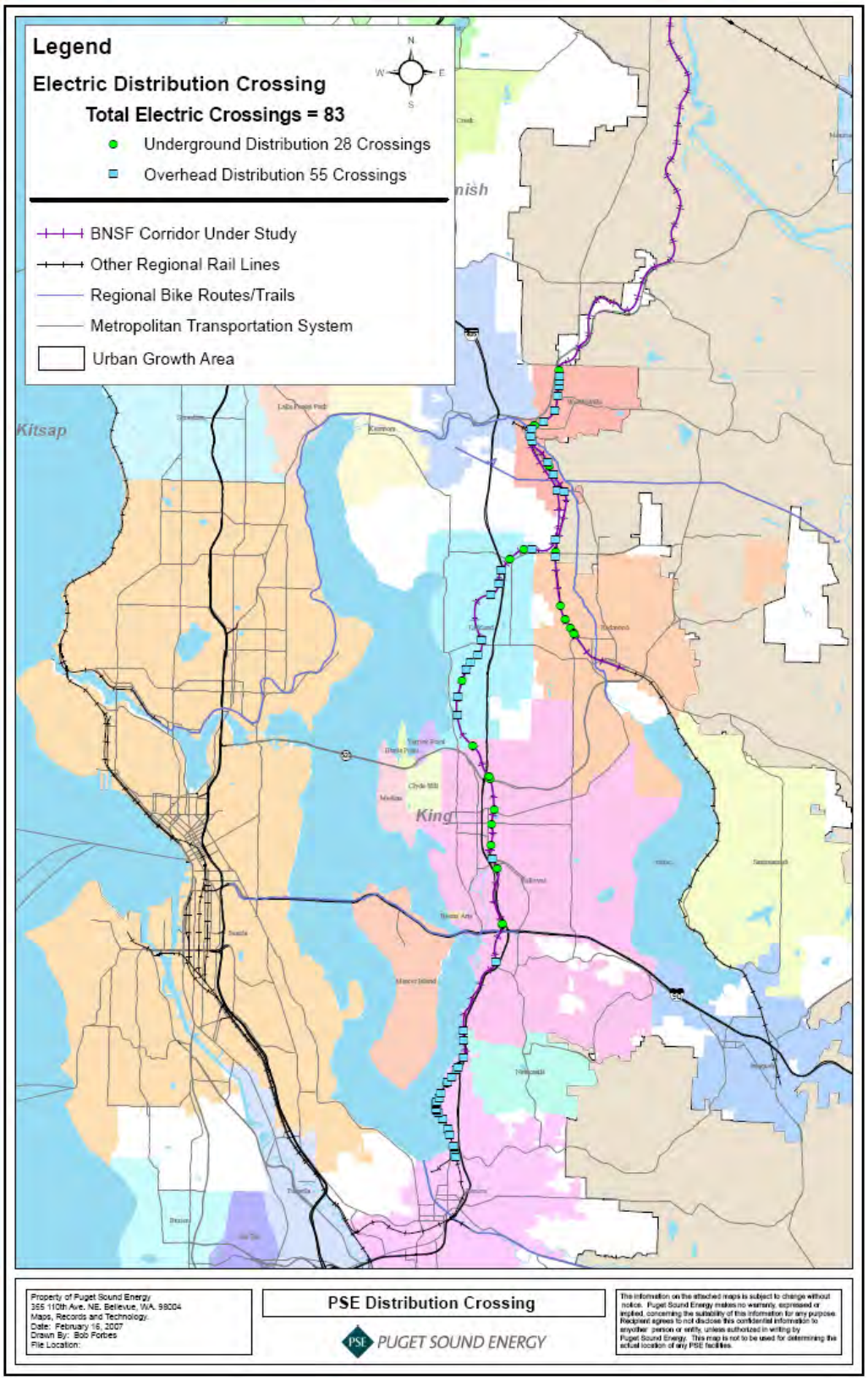
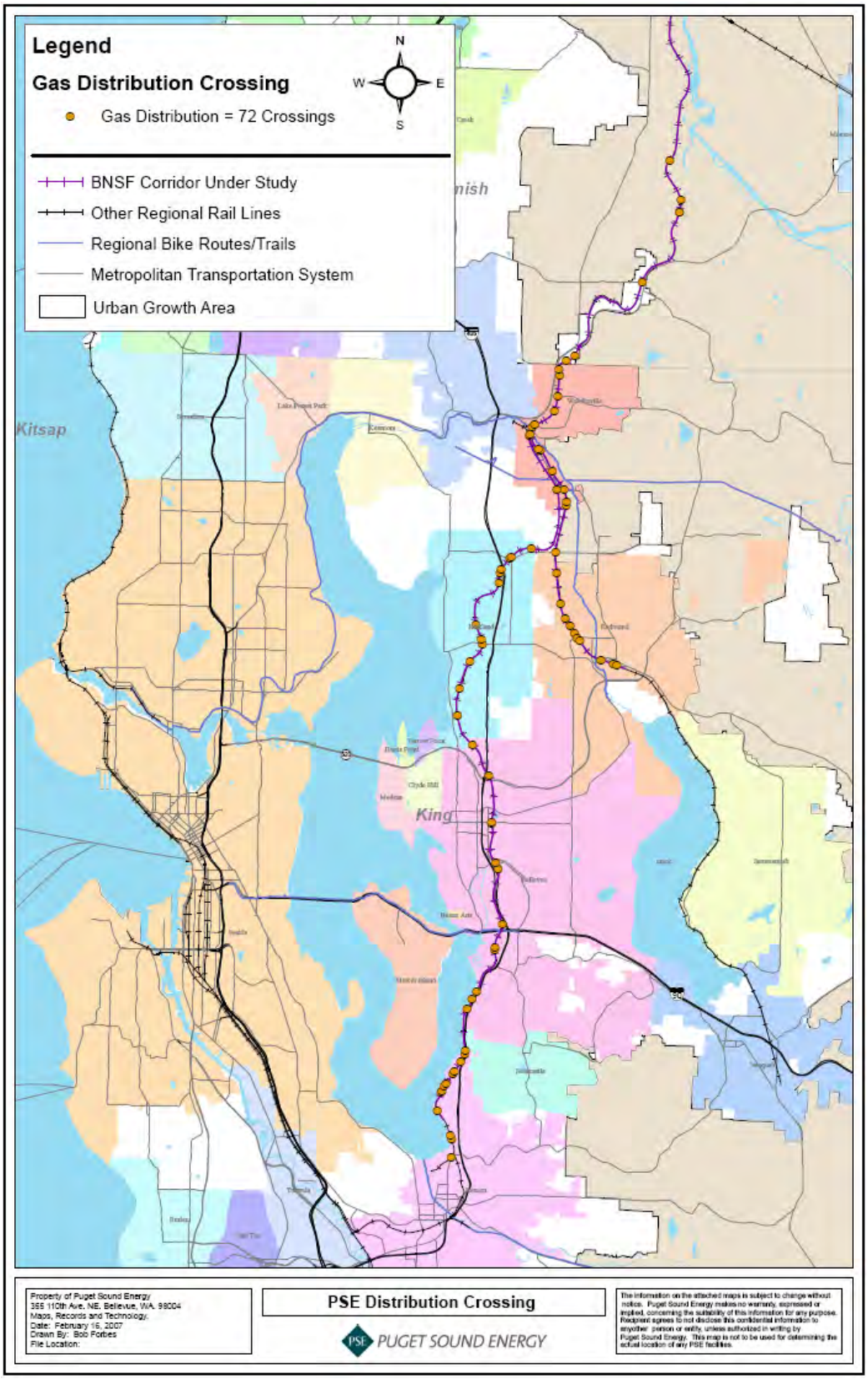


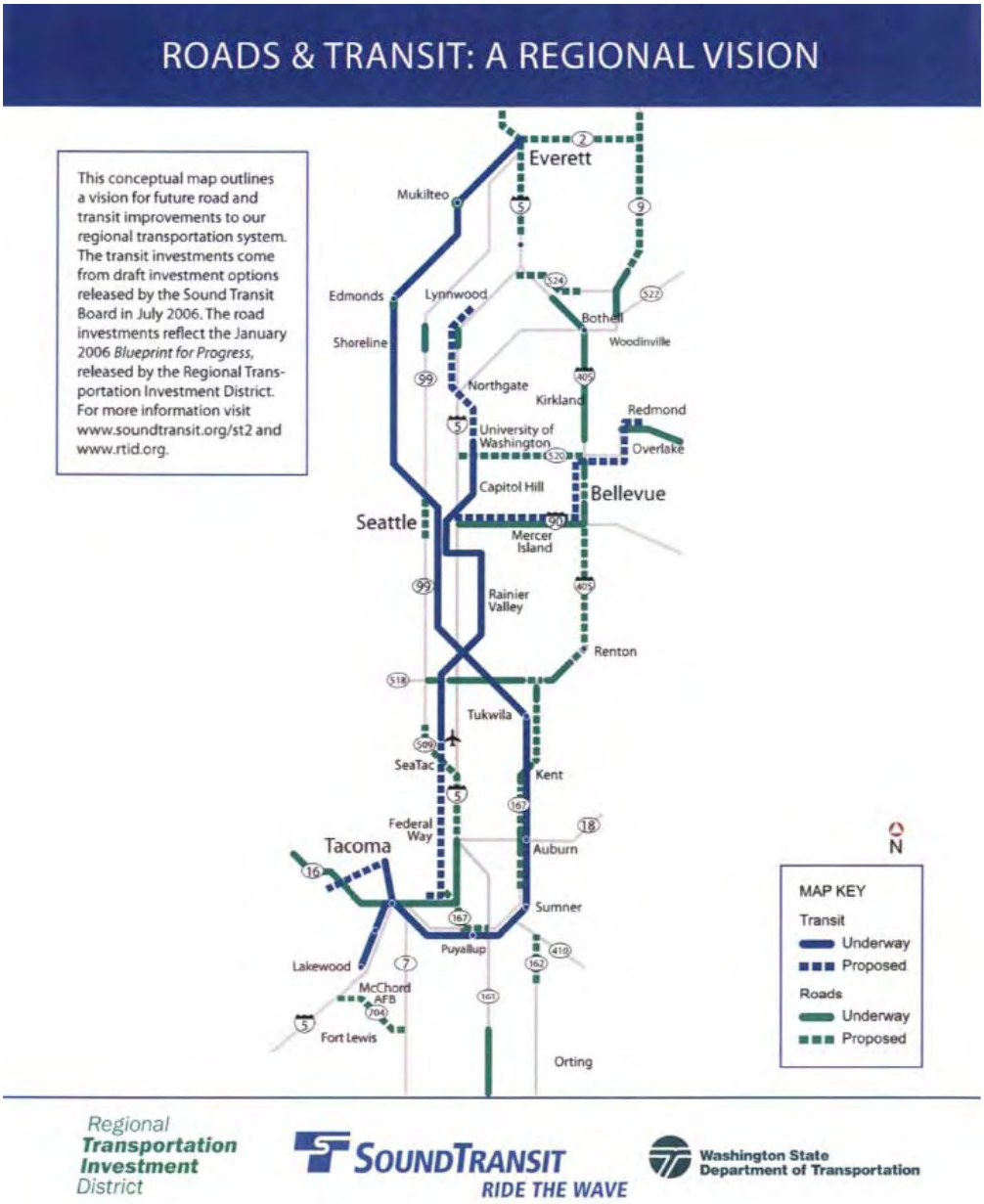
Figure 4 – PSE Gas Distribution Crossing



Sound Transit Bus Rapid Transit (BRT) Plans

At the January 19, 2007, meeting of the BNSF Corridor Advisory Committee, Sound Transit provided an overview of its current Express Bus services and proposed future bus rapid transit services in the I-405 corridor, paralleling the BNSF eastside corridor. Sound Transit is already running quality transit service with nearly 10 minute frequencies between buses in the peak period between Renton and Bellevue and they are planning on adding five more routes to the I-405 Corridor over the next few years. By 2027, Sound Transit plans to add 100,000 additional bus hours to serve this corridor. While bus rapid transit is currently the preferred and most cost-effective commuting option for the I-405 corridor, Sound Transit will be considering light rail in the future as passenger demand may warrant such. Figure 5 shows both the current and planned transit improvements to the Sound Transit system.

Figure 5 – Sound Transit Planned BRT Improvements



CHAPTER 2 – DATA GATHERING

DATA COLLECTION

BNSF Hy-Rail Tour

April 11, 2006, members the HDR team went on a Hy-rail tour conducted by BNSF staff. The tour began in downtown Renton and ended just before the Snohomish Junction, along the mainline (Segments A, B, and C) of the corridor. Segment D (the spur running from Woodinville to Redmond) was not included in the Hy-Rail tour.

The purpose of the Hy-rail tour was to familiarize the team with the corridor and to assist in identifying areas with the following potential issues:

- steep slopes,
- standing water,
- wetlands,
- right-of-way related issues (such as encroachments),
- at-grade crossings, and
- existing trails.

A video was produced from the tour, which was used to further identify and validate field observations of the listed items for the work products to support the study.

Mapping Background and Process

The PSRC provided the scenario mapping done prior to the study. These maps were used as baselines for the maps showing the overall corridor.

The mapping was developed using a variety of inputs:

- Results from the Hy-rail tour, listed above. The video was used to further identify the locations of the physical environment along the corridor.
- Aerial maps as a base for the corridor aerial maps, dated 2002.
- BNSF track charts, which provided mile post information and road structure identifications.
- Right-of-way lines for both King and Snohomish counties, provided by King County.
- Local jurisdictional interviews to discuss and better understand their thoughts on issues/concerns such as trail alignment, connectivity, linkage to park and rides, recreational needs, etc.
- Existing regional and local trail facilities that crossed or were near the corridor.

CORRIDOR MAPS

Four sets of maps were developed to assist the BNSF Corridor Advisory Committee in its understanding of the corridor. Except for the many oversize (62 pages, 11x17 inch) Corridor Aerial Maps, which are available to view on PSRC's website [BNSF Project/Study page at http://www.psrc.org/projects/bnsf/reports.htm] the other three sets of maps are included in Appendix A. Each of the map sets is described in more detail:

Corridor Context Map (Segment Keys)

The Corridor Context Map shows the regional corridor and how it is being studied in four geographic segments (A-D). It was included in Appendix A as the cover for each of the Corridor Segment Maps and the Opportunities and Constraints Maps, labeled as the Segment Key for each map set.

Corridor Segment Maps

The Corridor Segment Maps were developed to show each of the four geographic segments (A-D) individually, allowing greater detail on each map.

Opportunities and Constraints Maps

The opportunities and constraints maps show the overall geographic context where the BNSF rail corridor runs through the local communities in King and Snohomish counties. These maps also note preliminary assessments of various types of opportunities and constraints that might be associated with specific locations along the rail corridor.

Corridor Aerial Maps

The Corridor Aerial Maps show the overall geographic context where the BNSF rail corridor runs through the local communities in King and Snohomish counties at an enhanced scale of ½ mile per aerial section. These maps include the refined opportunity and constraints that might be associated with specific locations along the rail corridor.

At the request of the committee on May 12, two items were added to the maps:

- Right-of-Way Lines. These were added to the maps to better delineate corridor property boundaries and help the committee understand the impacts from the scenarios. King County provided the data to the HDR team from its current corridor analysis.
- Trail Connections. The maps initially included regional trail connections but not all local trails. In order to understand the number of trail connections and opportunities for trail heads along the corridor, further analysis was conducted to identify the non-regional trails.

HDR visited each of the members' jurisdictions and the additional corridor interests during June and July to get specific local information about opportunities and constraints they may see with any of these scenarios and also to help assess how compatible any of the scenarios might or might not be with their adopted local comprehensive plans.

INTERVIEWS

During the months of June and July 2006, the HDR team met with staff from the eight jurisdictions along the corridor to discuss the three scenarios and how they fit with local plans and visions, and to discuss more specific local information about opportunities and constraints they may see with any of these scenarios and also to help assess how compatible any of the scenarios might or might not be with their adopted local comprehensive plans. The meetings were held with staff from each of the following local governments: the cities of Renton, Bellevue, Kirkland, Redmond, Woodinville, and Snohomish, plus King and Snohomish counties. Meetings were also held with Cascadia Center, Cascade Bicycle Club, the Bicycle Alliance, and Puget Sound Energy to discuss their interests and visions related to the corridor and the three scenarios. A brief summary of the interviews is provided below. Full summary of the interviews is included in Appendix B.

Overview

The meetings/discussions focused on the following:

- Compatibility with local plans and visions.
- Connectivity.
- Uses for the corridor, including opportunities and constraints.

General Summary of Local Meetings and Discussions

There were a number of comments/items that all the interviews had in common. All supported the following, indicating a shared interest and vision:

- Public ownership of the corridor.
- Preservation for future use (don't do anything that precludes future uses). Comments included:
  - We can't predict what transportation needs will be in 50 or 100 years.
  - It would be a shame to lose a corridor that is already assembled.
- Rail Banking.
- Corridor use for a trail (with or without rail).
- Compatibility with local plans and visions.
  - All jurisdictions indicated a trail fits with their comprehensive plan and community vision. Most have a trail on the line in their current plan or are in the process of adding it.
  - All additional corridor interests support trail use on the corridor.
- Establishing a rail corridor trail alignment.
  - None see a need to deviate from the corridor. Suggested connections happen via links to other nearby trails, attractions, pathways, etc.

Information by Scenario

The interviews were conducted following the BNSF Advisory Committee's decision to eliminate Scenarios 4 and 5 from further technical study, as these were endorsed to be recommended for future long-term consideration. Therefore only Scenarios 1 through 3 are reported here.

Scenario 1 – Trail Only

- Most supported "trail only" through their community.
- Rail banking was noted as very important.

- Several suggested leaving the rails in place, even if abandoned.
- Opportunity to allow I-405 construction savings.

Scenario 2 – Trail with Current Rail

- Most supported continued rail use at the current level, at least in the short to medium term to support current businesses using the line.
- Residents in one community requested the rail stay as a separation from the trail activity.
- Several asked how the Counties would operate the line.

Scenario 3 – Trail with Increased Rail

- Few supported increased freight traffic on the line. Concerns include:
  - Increased traffic impacts at major at-grade crossings.
  - Increased separation requirements for rail and trail.
  - Noise impacts to residents (e.g., train horn soundings).
  - How the line will be operated by the counties.
- Higher costs for rail upgrades, maintenance, and operations.

Segment Attributes

Segment A – Renton to Bellevue

- Three (3) business users:
  - Two (2) freight users (Weyerhaeuser, Boeing for 737-900).
  - The Spirit of Washington Dinner Train.
- Residential concerns about separation from trail.
- Most planned for and considered future adjacent development along corridor to be compatible with minimal level of rail operation and/or regional trail.

Segment B – Bellevue to Woodinville

- Three (3) business users (same as Segment A) – no know additional users.
- Highest connectivity opportunities (trails, town centers, urban & growth centers).
- Most planned and future adjacent development, including utility impacts.

Segment C – Woodinville to Snohomish

- Highest concentration of freight users (Maltby area).
- Support an equestrian path along trail.
- Lowest potential for abandonment.

Segment D – Woodinville to Redmond (spur)

- One (1) freight user.
- Highest potential for abandonment.
- Rail banking needed to protect rail banked status of East Lake Sammamish Trail.
- Least like the other segments from a rail use perspective

- Urgency for action (abandonment) due to missed redevelopment opportunities

Local Jurisdiction Perspectives

At the July 28, 2006, BNSF Corridor Advisory Committee meeting, members from the jurisdictions of Renton, Bellevue, Kirkland, Woodinville, Redmond, the City of Snohomish, King County, and Snohomish County provided their local perspectives on corridor scenario compatibility.

Renton

Presenter: Gregg Zimmerman, Planning/Building/Public Works Director

Renton reported several concerns about the proposed corridor uses. While the railroad tracks are not heavily used, it is necessary for Boeing to use the tracks. Also, the City of Renton would be required to implement very expensive grade crossings in order to manage high capacity transit. There are many concerns about how increased freight usage will affect Renton neighborhoods that are situated around the rail, and increased freight usage would be incompatible with these residential neighborhoods. Kennydale has landscaping directly within the BNSF Corridor while Lake Washington residents are concerned about the security of their neighborhoods.

Overall, the corridor community is receptive to the development of a trail in this region. The Renton City Council also supports freight uses for the rail line. Both parties want to ensure security and safety for the residents that live in this area. They feel that a trail is compatible with corridor developments. However, at this time, Renton is unable to endorse any specific scenarios in the study until they have discussed the issue directly with Renton's citizens. Renton is calling for further analysis of the study's second alternative (Trail With Current Rail).

Bellevue

Presenter: Councilmember Dr. Don Davidson

Bellevue supports public accountability and encourages the urban trail design to emphasize neighborhood conservation. It will be important for trail design to incorporate integrated benefits and trail connectivity for the SR520 Corridor towards Microsoft. This Rails to Trails conversion is a regional collaboration and Bellevue is ready to participate on a regional basis. Bellevue would like to go forward with the study of all three scenarios.

Kirkland

Presenters: Councilmember Tom Hodgson and Daryl Grigsby, Public Works Director

Kirkland has been studying turning their stretch of rail into trail for the past six years. The Committee's comments have been consistent with jurisdictional interviews the city has conducted for their study. Kirkland offers broad public support for the development of a community trail but is also concerned about crime, privacy, and view impacts. More housing developments will be created in the future which will create a need for a shuttle between downtown Kirkland and Totem Lake to service commuting residents. Kirkland has not yet taken action on the study's three alternatives.

Kirkland has been working to develop a non-motorized trail link to the vastly developing Evergreen hospital. This will create a cross connection with the corridor. The city does not want this to preclude the State's work in the corridor nor to affect Kirkland's non-motorized work in the corridor. Finally, Kirkland is very excited about the BNSF Corridor study.

Woodinville

Presenter: Sarah Ruether, Transportation and Environmental Planner

Woodinville is very excited about this project and specifically supports a non-motorized corridor in this region although there are no long range plans for community transportation there. The city has a number of major transportation projects that hinge on the corridor and public ownership of the corridor would help Woodinville see them to fruition.

Redmond

Presenters: Mayor Rosemarie Ives and Craig Larson, Director of Parks and Recreation

Unlike other communities along the rail corridor, Redmond has no privacy issues with turning this stretch of rail into a trail. Redmond is the "Bicycle Capitol of the Northwest," so converting the rail into trails is a welcome idea.

Downtown Redmond struggles with a fenced, unused, industrial section located in the middle of the downtown corridor. The viability and connectivity with the East Lake Sammamish Trail needs to be taken into consideration. The city is committed to buying this rail corridor and has begun the process to plan for redevelopment. Redmond supports acquisition of the corridor and has an urgent need to get it into public ownership and use.

City of Snohomish

Presenter: Councilmember Larry Countryman

Snohomish has no privacy issues with the rail to trail conversion. There is a high bridge on the edge of the Snohomish River that creates a problem for the corridor. The trail may need to be rerouted to avoid having it connect over the bridge if some form of tourist train potentially uses this bridge. Councilmember Countryman continues to advocate the creation of a trolley from Woodinville to Snohomish because he feels that this will be an advantage for tourists who will have easier access to the bus system. The Snohomish City Council is following the corridor study and as long as some else is going to pay for the rail to trail conversion, they will offer their support.

King County

Presenter: Grover Cleveland, Business Director, Dept. of Natural Resources and Parks

The rails to trails conversion is a once in a lifetime opportunity. King County currently owns and operates over 125 miles of regional trails. This trail would connect to the Sammamish River Trail and the Burke Gilman Trail, as well as to the SR520, I-90, and Cedar River Trails. King County is open to compatible uses of the trail and encourages the public to fully use the trail.

Snohomish County

Presenter: Marc Krandel, Planning Supervisor, Snohomish County's Parks Department

Snohomish County would like a north-south trail from the Canadian border to Pierce County. The county supports rail banking along this section and has no privacy issues with the development of the rail line into a trail. While the rail line is free of privacy issues there are cougar and bear threats. Snohomish County supports Scenarios 1 and 2 of the rails to trails conversion. There are two trails that currently follow this proposed trail corridor. The Snohomish County Council is aware of the study and Councilmember Somers will inform the Council of the committee developments.

WSDOT STUDY INFORMATION

The Statewide Rail Capacity and Needs Study is taking a broad look at freight rail needs and exploring new ideas that include considering whether there should be a state partnership role investing with private sector companies to help meet statewide rail capacity needs.

The study is looking at the issue of meeting State and regional freight rail interests (including Ports of Seattle and Tacoma) for the substantial freight growth being projected in the coming years. This would be better accomplished through investments in rail corridor improvements that generated additional east-west capacity across the Cascade Mountains rather than north-south investments that would not increase overall capacity.

With Stevens Pass already at capacity, improvements in the eastside corridor under study offer no opportunity for net increases in freight rail traffic. Additional freight rail capacity improvements to cross the Cascades are being explored by the State and BNSF for the Stampede Pass corridor and the Columbia Gorge. Finding a way to open up Stampede Pass to handle intermodal rail traffic (meaning double-stack container rail cars it can't currently handle due to tunnel height limits) would accomplish the "Scenario 3" interest in "redundancy" in a much more productive manner. This "redundancy" objective was to seek a backup for cross Cascade rail traffic if mainline access problems occurred for more than a few days along the Puget Sound mainline between Seattle and Everett.

As a result, the study concluded there is no strategic value to preserving the BNSF corridor as a redundant freight corridor.

OTHER KEY ISSUES

Several other key issues needed attention in this study to determine potential development of corridor preservation options and recommendations:

- **Cedar River Railroad Bridge in Renton:** The rail curve at the bridge over the Cedar River precludes Boeing's access for extra long freight rail cars carrying 737-900 (stretch) fuselages from the Wichita, Kansas, plant to the Renton plant by way of the mainline rail through Seattle and Tukwila. The bridge alignment needs to be fixed to allow Boeing access for all plane assembly needs using the southern main line. Options and timing for such "fix" should be explored.
- **North-South Freight Rail Corridor Redundancy:** Interest was expressed to explore using the eastside BNSF corridor as an emergency and/or redundant regional rail track in central Puget Sound in case of a catastrophic event along the mainline between Seattle and Everett. The current eastside corridor condition is technically inadequate for high-volume heavy freight use. Identify the relative need and potential cost to address this interest in "redundancy." Would upgrading the corridor be best/right investment to address interest in "redundancy" and what impact on communities might be anticipated from longer and more frequent freight trains?
- **I-405 Wilburton Tunnels Improvements:** Significant costs have been budgeted by WSDOT as part of I-405 construction to maintain current rail operations and expand BNSF overpass and tunnel running over and under I-405 freeway lanes (north of I-90 in south Bellevue). What are the public consequences, strategies and/or contingency plans for dealing with the potentially awkward timing if WSDOT constructs these high cost elements for this rail segment within next few years and then BNSF subsequently abandons corridor?
- **HCT Potential for Corridor Preservation:** Sound Transit (ST) has clear interest in eastside HCT improvements, though its current plans have approved major north-south investments along this corridor, which have been programmed concurrent with I-405 expansion program for HOV and bus rapid transit (BRT). Current ST plans show no immediate need/priority for investment in a north-south rail corridor. Can the corridor be preserved for HCT if it is deemed desirable in the future?
- **Joint Rail and Trail Use:** There are several possible futures – If the corridor continues in limited freight operation or were to be improved for upgraded rail freight traffic, what are the options to identify segments able to accommodate joint rail-with-trail developments? Is joint rail-trail use technically feasible for the total corridor? What are the marginal costs for accommodating both modal options compared with either single purpose use?
- **Assure Continuous Corridor Acquisition for Snohomish Centennial Trail Connection:** Assure the key northerly quarter mile of corridor with a rail trestle and bridge over the Snohomish River is included in any acquisition action plan to enable eventual linking up with the Centennial Trail in the city of Snohomish and continues to Skagit County.
- **Financing:** How to pay for corridor acquisition and future potential improvements? Identifying potential desirable uses clarifies options and opportunities for revenue sources.
- **Legal & Institutional Issues:** Should long-term ownership and "stewardship" of the corridor be under single or multiple agency ownership? Examine the potential phasing options and strategy to work with Surface Transportation Board procedures. What is the role of local jurisdictions for potential trail development and how will consistency be assured?

CHAPTER 3 – ANALYSIS (TECHNICAL)

The study consultants conducted a variety of technical analyses to support and inform the work of the BNSF Corridor Advisory Committee. These analyses included:

Fact Sheets

The purpose of the fact sheets was to provide an understanding of the physical requirements and generic planning level costs for each scenario.

Rail Use Configuration

An example configuration for potential rail uses was prepared to give the committee an understanding of the rail operations requirements for increased freight operations and commuter rail operations along the current rail line.

Environmental Assessment

The objective of the assessment was to document the assessment of the existing community and environmental conditions along the corridor and provide environmental information to identify major areas of concern for each scenario, by segment.

Economic Impact Assessment

The assessment was conducted to determine the economic impacts of the three scenarios selected for further study on current and potential users of the corridor, users of the surrounding transportation network, property owners and communities.

Costs

The purpose of providing a relative order of magnitude cost for the three scenarios selected for further study was to allow the committee to compare the potential scale of investment requirements between the scenarios.

Traffic Impacts

This impact study was conducted to assess and quantify the impact of trail traffic to roadway traffic at selected high impact locations for the three scenarios. Train traffic impacts were also assessed and quantified for Scenarios 2 and 3.

Rails with Trails Reports

Two rails with trail (RWT) reports were produced to inform the committee of the requirements of rails with trails and present functioning RWT examples. The reports were provided by the PSRC's trail consultant, Tom Eksten.

FACT SHEETS

The fact sheets were prepared to assist the committee in understanding the requirements for the development, operations and maintenance of each of the five scenarios. They described the unique background, character, physical dimensions, relative per-mile costs and probable issues and concerns associated with each of the five technically distinct scenarios. The fact sheet for each scenario included the following information:

- Background.
- Scenario description.
- Footprint assumptions (trail based on King County standards, rail based on operations requirements).
- Generic planning level costs (broken out between capital and operations and maintenance).
- Notes clarifying costs – what was and was *not* included in unit costs.
- Potential time frame (to develop the scenario).
- Probable issues/concerns associated with the scenario.

A set of typical cross section drawings was provided and cross referenced in each scenario fact sheet. The drawings provided examples of how the typical 100-foot width of the BNSF corridor could potentially be used if developed to accommodate each of the five scenarios. At this stage of planning, there were essentially only two truly distinct physical differences among all five scenarios. These involve either a "Trail Only" configuration (showing how the rail corridor would appear if converted from current rail usage to a regional trail) or the remaining scenarios which show variations of corridor topography with "Trail with Rail" scenarios that reflect the combination of the trail with four other "rail-type" scenarios (passenger or freight). The fact sheets are included in Appendix C.

Overview by scenario:

Scenario 1 - Trail Only

This scenario was the easiest to understand as the rails are removed from the center of the corridor and a trail is built back along the center. The different potential widths in the Trail-Only footprint shown on the Fact Sheets would vary according to actual available right-of-way and topography. These range from the minimum acceptable for a viable trail to a more desirable maximum where space allows.

Scenario 2 - Trail with Current Rail

This scenario has more complexities and constraints due to topographic changes throughout the corridor. These changes result in significantly increased costs for development of the shared-use scenario options when compared to the Trail Only scenario.

Major current freight service along the corridor is concentrated at several areas, with most shippers located in or north of Woodinville in north King and in south Snohomish County (Maltby area). There are two remaining shippers south of Woodinville, but BNSF advises that these will not be there within the next 12-18 months. The corridor's largest shipper (Boeing) has the majority of its origins and destinations beyond the boundaries of this corridor. Boeing ships a variety of aircraft fuselages from Wichita, Kansas, to its Everett plant, and there separates the 737 line of fuselages to subsequently be shipped to the Renton plant. Only the larger stretch version 737-900 bodies are currently shipped along this corridor due to

clearance constraints at the Cedar River rail bridge in Renton. The BNSF is currently working to replace the bridge to assure Boeing has uninterrupted access to their plant from the south (via the Puget Sound mainline where all other 737 fuselages are shipped) regardless of the size of the fuselage.

Other constraints for shared trail and rail uses for this and the other shared rail-trail scenarios includes sections of narrow right-of-way (ROW) where it is difficult to develop the shared rail and trail configuration. Examples include the freeway crossings (I-90, I-405, and SR 522) where the rail corridor is just fifty-feet wide and typically has a single-track rail bridge.

Another constraint occurs when the center of the current rail bed (typically about 30 feet wide) has steep slopes or banks that are 10 feet above or below the adjacent land grade. In these instances, construction of an approximately ten-foot tall retaining wall on one side of the rail line is required to enable that portion of the corridor to accommodate shared rail and trail uses. This understandably increases the costs for shared use development.

All the "rail-use" scenarios require improvements to upgrade the current rail-track foundation to assure responsible long-term operations and lower future maintenance costs.

Scenario 3 - Trail with Increased Rail

A significant upgrading of the rail corridor is required to enable it to serve as an emergency back up corridor if there were long-term interruptions on the region's north-south mainline between Seattle and Everett.

The combined use by BNSF and Amtrak trains is currently over forty trains per day on the Seattle/Everett segment. This scenario assumes the potential for a substantial disruption to that Seattle-Everett segment of the mainline – via natural disasters or terrorism - that would require diverting the trains for an extended period of time until the mainline could be restored (over 6-12 months).

In this case, trains operating over Stevens Pass would be diverted to the eastside corridor. It has been estimated that 27 of the daily trains currently traveling the Seattle/Everett mainline are going to/from mid-west or eastern destinations and need to cross the Cascades via the Stevens Pass tunnel. To enable that number of trains to use this corridor, which must operate in two directions, five evenly spaced 8000-foot long siding tracks are needed. These sidings, handling waiting trains, need to be located along corridor segments where there are no at-grade crossings as not to impede local street traffic.

Different routes such as the Columbia River Gorge line or a potentially improved Stampede Pass would likely be used as well.

Scenario 4 - Trail with Commuter Rail

The fact sheet for this scenario included all the information for Scenario 3, with the addition of costs for adding a centralized traffic control signal system and stations for commuters. The signal system is necessary to run a desirable commuter service that would potentially need higher speeds than freight rail. It also includes crossing signal improvements to ensure appropriate safety systems are in place at all the at-grade crossings of vehicular traffic.

Scenario 5 - Trail with High Capacity Transit (HCT)

The fact sheets for this scenario include all the information for Scenario 4, with the addition of costs for adding guideways. The type of guideway, based on a selected technology, is to be determined at some future date if a high capacity transit system is eventually built.

Examples of light rail system configurations (elevated, at-grade, or in tunnel) are currently being constructed between Seattle and Sea-Tac for the LINK light rail system. However, the

Sound Transit Board of Directors has no current plans to consider light rail or other high capacity transit in the BNSF rail corridor.

RAIL USE CONFIGURATION

The line has several potential rail uses, each of which requires a different infrastructure configuration. A report entitled "Example Configuration for Potential Rail Uses, BNSF Woodinville Subdivision" was prepared by Tom White, of Transit Safety Management, to give the committee an understanding of the operational requirements if the current rail line is used for increased freight and commuter rail service. A summary of the report follows and a full copy of the report is included in Appendix D.

BACKGROUND

Currently called the Woodinville Subdivision, the BNSF line between Renton and Snohomish was originally constructed as a main line route and used as such into the early 1980s. The line originally extended north from Snohomish through Sumas, Washington, and on into Canada. The section of the line between Sedro-Woolley and Snohomish has been abandoned and is now the Centennial Trail in Snohomish County. In the late 1970s, a new connection at the Snohomish Junction was constructed that allows direct movement between the Woodinville Subdivision and Stevens Pass, providing an alternative route to the Coast Line (Seattle-Everett) in case of closure by weather, derailment, or maintenance. The last regularly scheduled through traffic on the line was discontinued in the early 1980's. The level of maintenance and associated track classification was subsequently reduced to support only local freight service along the line.

Currently service on the line consists of the Spirit of Washington dinner train and occasional (1 to 5 trains per week) local freight service for industrial customers on the line.

BNSF WOODINVILLE SUBDIVISION INFRASTRUCTURE ANALYSIS

Traffic

The suggested infrastructure arrangements consider:

- commuter trains on 20 minute headway (minutes between trains) with 10 minute headway possible in peak periods,
- freight trains on 40 minute headway (36 trains per day),
- freight trains on 30 minute headway (48 trains per day).

General

Diagrams known as track charts (a schematic representation of the arrangement of the tracks, the curvature, and the grades) were used in this analysis. The track charts represent the current infrastructure and the infrastructure required for the two types of traffic and the traffic density variation for freight trains, developed by the use of some basic principles of rail infrastructure and traffic management.

Sidings

The desired capacity in trains per hour affects the location of sidings. Sidings are located such that the longest running time between sidings on the line is half of the desired headway. Thus, if 20 minute headway is desired, the sidings should be a maximum of 10 minutes apart.

Freight

Typical freight trains need sidings of eight thousand to nine thousand feet in length. If the length of a siding is close to the length of the train, the train will enter the siding at a much lower speed to ensure that the train can be stopped at the far end. This increases the running time between the sidings, reducing capacity.

The suggested siding locations are approximate, based upon estimated running times at the speed limits shown. Ideally, siding locations would be evenly spaced (in travel time between sidings).

Passenger

The passenger train sidings only need sufficient length to accommodate the commuter trains being used on the line, as the stopping distance for a passenger train is much less than the stopping distance for a freight train. For example, a seven car train of equipment similar to the Sounder service is 665 feet long and a siding of 700-800 feet would be adequate.

Each station should also be located at a siding. The sidings have been located using estimated running times considering the speed limits shown; however, station site locations have not been considered. The number, location, and duration of station stops may cause the optimum siding locations to change.

Transit

If any part of the line is used for transit service (passenger trains on a headway of ten minutes or less), the line should have a second main track throughout the transit service area of the corridor.

Speed

The speed limits shown in Appendix D represent a reasonable speed limit for the type of service being considered. The practical elements of optimal speed are to be sufficient for commercial requirements of the service, minimize the need to change curve alignment, and be sufficient to minimize the number of sidings required to support the proposed or potential traffic.

The proposed speed limits are based upon the use of the existing track geometry except where noted. In general, it should be possible to make the needed adjustments without a significant relocation of the track.

Signals and Traffic Control

Whether the line is used for commuter service only, through (detour) freight service only, or a mixture of commuter and through freight service, automatic block signals and computerized train controls (CTC) are required.

Results

Five (5) new sidings would be required for increased freight capacity on this line. Their locations would be spaced at roughly even intervals along the mainline corridor, with such locations needing to avoid at-grade crossings to not block traffic, and do not coincide well with the two existing sidings already on the line.

If operating passenger trains at 20 minute headways, thirteen (13) passenger sidings would be required to allow effective service.

ENVIRONMENTAL ASSESSMENT

PURPOSE

An environmental white paper was prepared to assess the existing community and environmental conditions along the corridor. This assessment entailed a field survey and a review of County maps and plans to identify potential issues or concerns which could arise from selection of each scenario. This white paper, in conjunction with other project findings, provided the foundation for the Advisory Committee's recommendations. A summary of the white paper follows and a copy of the white paper and results from this analysis are located in Appendix E.

ASSUMPTIONS

The assessment was conducted following the May 12, 2006, BNSF Corridor Advisory Committee meeting at which Scenarios 4 and 5 were set aside from further study. For the purposes of the environmental assessment, the following assumptions were made for the three remaining scenarios:

Scenario 1 - Trail Only

This scenario includes the removal of existing rails and ties and reconstruction of the railway bed to accommodate a wide paved pathway to be used by bicyclists and pedestrians (typically needing to be at least 12 to 14 feet wide in urban areas with higher volumes and no less than ten feet for rural areas). Such trails also include a gravel shoulder along one side for runners, and, wherever possible, a parallel unpaved pathway for pedestrian use or equestrian use in rural areas.

Based upon past experience with trail development, Scenario 1 is assumed to have primarily beneficial effects to adjacent properties and the natural environment. Replacing the rail line with a trail would not require additional right-of-way, and eliminates any noise and air pollution that the current rail operation causes.

Scenario 2 - Trail with Current Rail

This scenario includes the construction of a regional trail along one side of the existing rail line. The trail would be similar to the trail described under Scenario 1 - Trail Only. This configuration allows for shared trail and rail use by incorporating some form of barrier separation between trail and rail, which varies depending on speeds of trains (faster trains call for greater separation and more substantial types of barrier separations, which generally means greater expense). Such dual trail-with-rail configuration allows continuing low-level freight use as well as the Spirit of Washington Dinner Train.

It is generally assumed no additional right-of-way is needed; however the rail line needs to be upgraded to allow for faster speeds. The faster speeds require greater separation between the trail and the rail which could trigger the need for additional right-of-way.

Scenario 3 - Trail with Increased Rail

A primary objective for this scenario is to have a contingency to keep regional and interstate rail freight moving in case of an emergency event that closed or disrupted the existing mainline along the Puget Sound between Seattle and Everett. This scenario builds upon Scenario 2 but would provide further enhancing/improving of the existing eastside BNSF rail corridor for more major double-stack freight trains in order to allow redundant or backup/bypass freight rail use. The corridor's currently inadequate geometry and infrastructure base would be improved to carry heavier, longer, and more frequent freight

trains (such as the double-stack trains currently operating between Seattle and Everett). This Scenario requires a significant degree of upgrades and reconstruction of the rail track bed, computerized train control signals, at-grade safety upgrades for currently unprotected crossings, and potential rehabilitation of bridges.

In order to implement Scenario 3, construction of five, equally spaced 8,000-foot long passing sidings that could require land acquisition would be necessary. Such additional construction would affect both natural and built environments. The large increase in the number of trains per day causes other effects, including, but not limited to, increased noise and air pollution.

METHODOLOGY

A general environmental evaluation was performed to determine an order of magnitude comparison between the three scenarios that were examined and reviewed as part of this environmental evaluation. The corridor is divided into four segments to reflect the similar features within certain areas. These segments, described in Chapter 2 with maps located in Appendix A, represent the physical location and conditions of the existing rail line which extends for approximately 42 miles between Renton and Snohomish.

Each segment was further divided into smaller geographic areas, approximately one mile in length. This further division allows the project team to focus on the unique characteristics of each neighborhood and community along the corridor. For evaluation purposes, each aerial plan sheet (corridor aerial maps developed for this BNSF Corridor Study) represents a segment section.

Each of these sections, along with the scenarios, was evaluated by using evaluation matrices developed for this study. The matrices provided for the comparison of scenarios and their segments. The elements chosen for analysis had readily available information and are typically reviewed as part of state and national environmental analyses. Measures – either quantitative or qualitative – were developed for comparative evaluation.

PSRC and King County data of wetland, stream, and flood hazard locations were used to develop a GIS database for this project. The GIS was then used to “layer” each of the matrix subjects over the rail line right-of-way to identify possible areas of concern within each segment. For land use information, interactive tools on the King County and Snohomish County websites were used to document existing land use and zoning. The Thomas Guide was also used to collect built environment information. The matrix was then completed for each segment section. Following evaluation of each segment section, results were compiled by segment for each scenario.

RESULTS

As expected, based on the amount of potential right-of-way necessary for a specific scenario, the potential environmental and community impacts vary significantly. The following summarizes the findings from the analysis, as presented in Exhibit 2 of the more in-depth assessment report (see Appendix E). These results were presented to the BNSF Corridor Advisory Committee at their September 29, 2006, meeting.

Scenario 1 - Trail Only

Negative impacts are not expected as a result of this scenario. It is anticipated that conversion of the corridor from rail to trail will create beneficial effects. Specifically:

- The natural environment would not be impacted; and
- Positive effects could result, such as:

- Decreased noise, vibration, and air pollution.
- Eliminating associated traffic delays at crossings.
- Decreased visual disruption to adjacent land uses.

Scenario 2 - Trail with Current Rail

Additional right-of-way could be required for Scenario 2. Also, increased train speeds could disrupt existing activities adjacent to the rail line. As such, potential impacts to the surrounding natural and built environment could result. Specifically:

- Initial review indicates that wetlands, flood hazard areas, and streams may be impacted.
- Sensitive receptors (schools, parks, etc.) located immediately adjacent to the rail line may experience some impacts such as:
  - Increased noise and vibration.
  - Disruption to residences and other land uses adjacent to the corridor.

Scenario 3 - Trail with Increased Rail

The most extensive use of right-of-way is required for Scenario 3 for the construction of sidings. This right-of-way area to be used would be in addition to any right-of-way that would be necessary to construct the trail adjacent to the rail tracks. In addition, increased train speeds could disrupt existing activities adjacent to the rail line. As such, potential impacts to the surrounding natural and built environment are likely to result. Specifically:

- Wetlands, flood hazard areas, and streams are impacted.
- Physical taking/relocation of homes, businesses, and parks may be needed in some limited areas.
- Sensitive receptors (schools, parks, etc.) located immediately adjacent to the rail line would likely experience impacts such as:
  - Increased noise and vibration.
  - Disruption to residences and other land uses adjacent to the corridor.

If this project moves forward, additional environmental review would be required in order to fully assess the potential impacts to the natural and built environment. Specific areas that require addressing in order to determine where a trail should be placed (if Scenarios 2 or 3 are moved forward) include analysis of:

- Location and type of geologic hazard areas (e.g., steep slopes).
- Detailed analysis of land uses near the corridor and a breakdown of land uses by type.
- The exact locations of:
  - Wetlands,
  - Streams,
  - Flood hazard areas,
  - Potential historic sites and cultural resource areas, and
  - Utility crossing locations.

Implementation of this project requires conformance to environmental regulations which include analysis of these elements.

ECONOMIC IMPACT ASSESSMENT

Berk & Associates conducted an economic assessment of the impacts of the three scenarios selected for further study during the May 12, 2006, CAC meeting. The committee was briefed on the economic assessment results at their September 29, 2006, meeting. A summary of the economic assessment report follows and a full copy of the report is included in Appendix F.

APPROACH TO THE ANALYSIS

The principal source of information used in developing the economic analysis was a series of interviews which Berk & Associates conducted with the major parties likely affected by the scenarios under study, including businesses, bicycle groups, and many of the jurisdictions along the corridor. (For a complete list of interviewees see the full report in Appendix F.) The interviews provided a picture of the possible benefits and challenges posed by each scenario, as well as the desired outcome, according to each party.

Research was conducted to identify previous studies about rail corridor use and reuse. These focused primarily on property values and commercial businesses along other trail corridors across the country, as well as community attitudes towards those trails. This research helped inform how residential and commercial property values are affected by trails, how property values change when rail corridors are converted to trails, how businesses are affected by trails, and how communities generally value trails in their area.

From the information gathered through interviews and research, the impact to each potentially affected party was considered for each scenario, over a short, medium, and long term time frame. It was then determined how each potentially-affected party might be impacted (positively or negatively), and to what degree (small, medium, or large).

POTENTIALLY-AFFECTED PARTIES

The following are the parties that are most likely be affected by changes in use in the corridor:

- **Current Users of the Rail Corridor.** This group is affected by the change in rail ownership and whether or not rail service is continued. These users include:
  - BNSF.
  - Spirit of Washington Dinner Train.
  - Freight rail-dependent businesses.
- **Potential New Users of the Corridor.** These groups are affected by the chosen scenario because it will determine how they are able to use the corridor in the future. These potential new users include:
  - Trail users – commuters.
  - Trail users – recreational.
- **Users of the Surrounding Transportation Network.** These groups are affected by any changes that occur in the surrounding transportation network as a result of the change of use in the corridor. These users include:
  - Residential users.
  - Business/commercial users.
- **Property Owners.** These groups of property owners are affected by changes in property values as a result of the change of use in the corridor. These property owners include:

- Residential on the corridor.
- Residential near the corridor.
- Commercial on the corridor.
- Commercial near the corridor.

- **Communities:**
  - How the corridor is used will affect economic development opportunities. The choice of scenarios will influence land use patterns, the types of businesses that choose to locate there, and the appearance and atmosphere of those businesses.
  - Perceptions of quality of life in the area may change depending on the chosen scenario because of the ways it will affect commutes, recreation options, and businesses.

EXPECTED IMPACTS

Table 2 – Expected Economic Impacts to Each Potentially-Affected Party

(See legend at bottom of table)

	SCENARIOS								
	#1 Trail Only			#2 Trail with Current Rail			#3 Trail with Increased Rail		
	Short	Medium	Long	Short	Medium	Long	Short	Medium	Long
USER IMPACTS									
What are the expected impacts to current users?									
BNSF	○	○	○	○	○	○	○	○	○
DinnerTrain	■	▬	□	— to ○	— to ○	— to ○	— to ○	— to ○	— to ○
Rail-Dependent Businesses	○ to □	○ to □	○ to □	— to ○	— to ○	— to ○	— to ○	— to ○	— to ○
What are the expected impacts to potential new users?									
Trail - Commuters	●	●	●	◒	◒	◒	○ to ◒	○ to ◒	○ to ◒
Trail - Recreation	●	●	●	◒	◒	◒	○ to ◒	○ to ◒	○ to ◒
IMPACTS TO USERS OF TRANSPORTATION NETWORK									
What are the expected impacts to users of the surrounding transportation network?									
Residential	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬
Businesses	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬	○ to ▬
IMPACTS TO PROPERTY OWNERS									
What are the expected impacts to residential property owners?									
On the Corridor	— to ○	— to ○	— to ○	— to ○	— to ○	— to ○	○ to □	○ to □	○ to □
Near the Corridor	◒	◒	◒	◒	◒	◒	○ to ◒	○ to ◒	○ to ◒
What are the expected impacts to commercial property owners?									
On the Corridor	○ to ◒	○ to ◒	○ to ◒	○ to ◒	○ to ◒	○ to ◒	○ to □	○ to □	○ to □
Near the Corridor	— to ○	— to ○	— to ○	— to ○	— to ○	— to ○	— to ○	— to ○	— to ○
COMMUNITY IMPACTS									
What are the expected impacts to the communities around the corridor?									
Economic Development	○ to ◒	○ to ◒	○ to ◒	○ to ◒	○ to ◒	○ to ◒	— to ◒	— to ◒	— to ◒
Quality of Life	◒ to ●	◒ to ●	◒ to ●	◒ to ●	◒ to ●	◒ to ●	◒ to ●	◒ to ●	◒ to ●

■ Large Negative ▬ Medium Negative □ Small Negative — No Change ○ Small Positive ◒ Medium Positive ● Large Positive

CONCLUSION

All scenarios are expected to bring positive impacts to the group of future trail users, but to varying degrees depending upon whether or not they share the corridor with rail traffic and, if so, how much and how frequently.

The impacts to rail users are generally expected to be small due to preemptive work being done to provide other accommodations for moving goods in the corridor. This is true except in the case of the Dinner Train, which is scheduled to cease operations on its current route as of the end of July, 2007 while construction work is done on I-405. Whether or not it is able to resume operations on a new route in the northerly part of the corridor will depend upon the final acquisition and corridor development and use decisions made by King County.

The design of the corridor will likely have a large effect on whether or not commuters choose to get out of their cars and use the trail, as well as how the surrounding transportation network interacts with the corridor, and whether its users are positively or negatively affected.

- **Scenario 1 - Trail Only**. This scenario will bring the largest positive impacts to trail users, as well as potential positive impacts to property owners and the community as a whole.

  This scenario undoubtedly causes negative impacts to the Spirit of Washington Dinner Train, as it is no longer be able to run on its current route, causing the owners of the business to relocate their operations.

- **Scenario 2 - Trail with Current Rail.** Positive impacts to trail users remain in this scenario, but may be lessened by having to share the trail with rail. The impacts to residential and business property owners are expected to remain the same as in Scenario 1, as are the impacts to the surrounding community.

  The negative impacts to the Dinner Train in Scenario 1 were not present in this scenario, and the Dinner Train continues to run as it does now, assuming the tracks are replaced at the end of the I-405 construction.

- **Scenario 3 - Trail with Increased Rail**. Positive impacts are still present in this scenario for trail users; however they are again lessened compared to those expected in Scenarios 1 and 2, due to increased use of the rail line. This impact will be determined by the frequency and length of time for which the rail line might be used as a redundant freight corridor.

Other impacts that may vary depending on the frequency of rail use are: impacts to property owners, who may see either small negative or small positive impacts; impacts to the users of the surrounding transportation network; and impacts to the surrounding communities in regard to potential economic development of the area.

COSTS

HDR provided a relative order of magnitude of costs for the three scenarios selected for further study to help inform the committee of the potential investment comparisons between the scenarios.

The relative order of magnitude (ROM) costs were calculated using information from the BNSF track charts for all segments of the corridor and the generic planning level costs presented in the Fact Sheets (discussed previously in Chapter 3 and included in Appendix C). The results of the exercise were presented in a matrix format to the committee on September 29, 2006. The matrix is included below in Table 3.

As specific engineering estimates were neither planned nor appropriate for this high-level comparative assessment of corridor uses, the "Relative Order of Magnitude Costs" matrix uses single "$" signs to represent a range of construction costs for a given scenario and segment of between roughly $1 million and $25 million. The costs included only specific corridor construction costs and did not include such potentially significant ancillary costs as fencing, mitigation, drainage, trailheads and new local access.

The resulting estimated costs, which were not based on any field investigation and are not engineering estimates, were what one might intuitively expect, i.e., that Scenario 1 (trail-only) was the least costly and Scenario 3 (increased freight rail) was uniquely the most costly. Scenario 3 could potentially cost over $200 million, not including likely needed mitigation, drainage, special rail control signalization, and additional right-of-way costs.

Table 3 - Relative Order of Magnitude Costs (for construction only)

Scenario Evaluation Criteria by Segment	Scenarios		
	#1 Trail Only	#2 Trail with Current Rail	#3 Trail with Increased Rail
	Low to High Ranges (1)		
Segment A	**$ - $**	**$ - $$**	**$$ - $$$**
Segment B	**$ - $**	**$ - $$**	**$$ - $$$**
Segment C	**$ - $**	**$ - $$**	**$$ - $$$**
Renton to Snohomish Total	**$ - $**	**$$ - $$$$**	**$$$$ - $$$$$$$$$**
Segment D (increased Rail n/a)	**$ - $**	**$ - $**	**$ - $ (2)**
Overall Total	**$ - $$**	**$$$ - $$$$$**	**$$$$$ - $$$$$$$$$**

$ = $1 - $25 million
(1) Ancillary costs, such as ROW acquisition, environmental mitigation, etc. not included.
(2) Segment D assumed that "Trail only" scenario was only applicable alternative for the spur,

TRAFFIC IMPACTS

HDR conducted a traffic impacts analysis study for six (6) major at-grade crossings for the three scenarios selected for further study. A summary of the traffic report and its results follow, with a full copy of the report included in Appendix G.

PURPOSE

The traffic impact analysis was conducted to assess and quantify impacts of trail traffic to roadway traffic at high impact locations under the three scenarios. The existing rail line crosses a number of roadways at-grade throughout the roughly 42-mile corridor. Six at-grade crossings of urban principal arterials or urban collectors were identified for analysis.

Data Collection

Data for the road network was collected from the four local jurisdictions (cities of Bellevue, Redmond, Kirkland, and Woodinville) where the selected at-grade intersections are located.

Existing Condition

The latest vehicle turning movement counts at the intersections adjacent to the study locations were furnished by the same four local jurisdictions. Woodinville's data was collected in 2006 and data from the remaining cities was collected in 2005. This data was used to project volumes in 2030 for the study.

2010 Opening Year

The study assumes the trail would be opened to the public in 2010 regardless of which scenario is selected. Three of the cities selected year 2022 as the future traffic forecast year in the citywide travel demand model. The City of Bellevue provided 2010 traffic projections. The data for the other jurisdictions was interpolated from the existing volumes and the forecast volumes of 2022. The opening year 2010 condition was not analyzed in this study because the impact from the opening year does not reveal long-term effects of the trail to the roadway.

2030 Design Year

The design year is 2030. In this study, the evaluation of impacts of all the scenario options and traffic treatment alternatives were made in the same baseline year, 2030.

Bellevue provided 2030 traffic projections while the other cities provided projections for 2022. The traffic volume data for 2030 was then extrapolated from the existing volumes and the forecast volumes of 2022 for the cities of Kirkland, Woodinville and Redmond.

At-Grade Crossing Locations

Several urban principal arterials and urban collectors that cross the BNSF corridor at-grade are currently serving high traffic demands. The locations listed below were identified as potential high impact locations.

- NE 8th Street in the city of Bellevue
- NE 124th Street and Totem Lake Boulevard NE in the city of Kirkland
- 132nd Place NE in the city of Kirkland
- NE 175th Street in the city of Woodinville
- NE 190th Street and Woodinville-Snohomish Road NE in the city of Woodinville
- 170th Avenue NE in the city of Redmond

METHODOLOGY

Traffic Treatment Alternatives

Alternatives that were considered are traffic treatments that could mitigate the potential impacts from changes in use of the rail corridor. The traffic analysis for the six major intersections that were examined included analysis of four distinct types of configurations for how the trail might cross those intersections. The configurations and associated assumptions considered at each location included:

- Configuration 1 assumed the trail will cross using an at-grade route paralleling the existing track location. Demand-activated pedestrian signals would be required.
- Configuration 2 assumed the new trail crosses the roadway at-grade, but would be routed to the nearby adjacent intersection. Upgrading signals and adding signage would be required.
- Configuration 3 assumed the new trail would cross over the roadway with a grade-separated pre-fabricated bridge structure.
- Configuration 4 assumed the new trail would cross under the roadway in an open air tunnel similar to the Burke-Gilman trail undercrossing of 68th Avenue NE constructed by King County in the city of Kenmore.

The details of each configuration for each location are shown in Appendix A of the Traffic Impacts Analysis Study, contained in Appendix G of this report.

Operational Analysis Methodology

The study uses industry methodology, estimating vehicular, intersection, mid-block and railroad crossing delays and the resulting level of service (LOS). “Synchro,” a traffic analysis software package, and an industry queuing theory equation are used to determine the delay and LOS. The details of the analysis methodologies are summarized in the sections below and described in detail in the full study (see Appendix G).

ANALYSIS

The analysis focused on evaluating the configurations of each scenario over the same baseline year, 2030. The traffic volume projections for 2030 were applied in the analysis for impacts from trails or trains to the surrounding roadways or intersections. The measurements of the traffic infrastructure upgrade are based on the long-term impacts.

Vehicular delays at roadway mid-blocks and the adjacent intersections were obtained for at-grade crossing Configuration 1 and Configuration 2. Delays caused by train traffic were calculated for Scenarios 2 and 3.

Cost Analysis

Cost analyses were conducted for each traffic treatment configuration at each study location.

- Configuration 1 requires the installation of a demand-activated signal on the mid-block section of the roadway where bike/pedestrian traffic would be designed to cross at-grade. A cost of $80,000 is estimated for constructing and operating the signal.
- Configuration 2 utilizes the existing sidewalks, crosswalks and signal infrastructure at the adjacent intersection. This involves minimal cost for signage and existing infrastructure upgrade. The effort and cost varies based on location, with costs ranging from approximately $7,500 to $17,000.

- Configuration 3 requires the installation of an overcrossing bridge structure for bike users and pedestrians. Estimated costs by location range between $1.3 million and $1.95 million.
- Configuration 4 requires the installation of an undercrossing tunnel structure. The costs estimated for the study locations range between $1.8 million and $2.1 million.

SUMMARY

This study suggested that turning the existing BNSF corridor into a bike trail will create the least delay impact to the roadway users at the selected locations. The trail traffic does produce delay to the selected roadway segments and the adjacent intersections, but not as significantly as the delay generated from train crossings.

The traffic impacts of the three scenarios showed that Scenario 1 – Trail Only, had the least impacts on traffic delay. Scenario 2 – Trail with Current Rail, shows the potential for moderate growth in delay, while Scenario 3 – Trail with Increased Rail, showed the highest levels of traffic delay with significantly negative traffic impacts.

The impacts of the trail user crossing configurations did not vary by scenario. For each scenario, Configurations 3 and 4 are the safer solutions for trail users as the configurations physically separate the trail traffic from the vehicular traffic.

Based on a trail user's perspective, Configuration 2 is least convenient as trail users need to travel a longer distance to the adjacent intersection to cross the roadway. Configuration 1 provides the shortest distance to cross, but requires users push the pedestrian signal button to trigger a green light. The wait time for trail users varies by locations, ranging from 15 seconds to 270 seconds. Configurations 3 and 4 are more desirable to trail users (and most beneficial for minimizing traffic impacts) as both provide direct, uninterrupted, and grade-separated crossings.

Based on the cost, Configuration 2 is the least expensive to construct and Configuration 4 is the most expensive to build and maintain. However, accounting for the delay cost generated by trail traffic or train crossings, Configurations 1 and 2 suddenly become less favorable. Overall, Configuration 2 is most favorable for the NE 8th Street in the city of Bellevue due to the lowest combination cost of delay and construction. Configuration 3 is most preferable for the NE 124th Street location in the city of Kirkland, and the NE 175th Sreet and the NE190th Street locations in the city of Woodinville. Configuration 1 is probably the best solution for the 132nd Place NE location in the city of Kirkland and the 170th Avenue NE in the city of Redmond.

RAIL AND TRAILS REPORTS

Two reports were prepared for the study on the topic of rails and trails. The purpose of the reports was to inform the committee of the potential timing of trail development and the requirements of rails with trails. The first is titled *An Introduction to Rails With Trails*, prepared by Tom Eksten and Phil Miller in March 2006. This report was made available to the committee at their May 12, 2006, meeting. The second report is *How Long will it Take . . . Some Typical Timeframe Considerations for Rail-to-Trail Development Projects*, prepared by Tom Eksten, trail consultant to the PSRC, in November 2006 and presented to the BNSF Corridor Advisory Committee at their December 1, 2006, meeting.

The latter "How Long Will it Take…Rail-to-Trail" report outlines the steps and associated timeframes required to acquire, abandon, plan, and develop a trail along a rail corridor. An explanation of railbanking is included in the report. The estimated time from initial formal agreement on corridor acquisition to the beginning of construction is presented in three time ranges: Minimum Time, 3-5 years; Reasonable Expected Time, 5-7 years; and Maximum Time, 8-10 years.

The earlier "Rails With Trails" report introduces an option that could concurrently preserve rail operations on the Eastside while allowing development of a unique and potentially very popular, and highly interconnected, multiple use trail corridor.

"Rails with Trails" (RWT) describes any shared use path or trail located on or directly adjacent to an active railroad corridor. There are about 65 RWTs encompassing 239 miles of shared use corridors in 30 states. These trails are located adjacent to active rail lines ranging from a few slow-moving short-haul freight trains weekly, to high-frequency Amtrak trains traveling as fast as 140 mph.

The report discusses how local government has preserved rail corridors for the public and the current RWT development process, and presents three existing RWT examples from around the United States that have varying characteristics applicable to the BNSF right-of-way under consideration. Both of these full reports are included in Appendix H.

CHAPTER 4 – COMMITTEE DELIBERATIONS

The BNSF Corridor Advisory Committee was formed in early 2006 and held its kick-off meeting on March 31, 2006 at the Puget Sound Energy building in downtown Bellevue. At the kick-off meeting, the committee was briefed on the study background, the key issues that would need to be addressed along the corridor, and the process for committee deliberations in the following meetings. No deliberations or committee actions occurred at the March 31, 2006 meeting.

MAY 12, 2006 *(Woodinville City Hall)*

DISCUSSION

The BNSF Corridor Advisory Committee (CAC) was asked to consider a proposal to recommend the two corridor scenario alternatives including public transit options (Scenarios 4 and 5, described in Chapter 1) be considered only for future long-term (20-40 years) planning consideration and not be subject to additional technical study in this BNSF Corridor Study. Additionally, it was proposed that priority attention and resources be focused on the remaining three more highly probable short and mid-term scenario alternatives, i.e., the trail and variations of current freight train and upgraded redundant corridor freight train uses (these latter alternatives could continue to accommodate dinner train use).

This recommendation acknowledged the many years of prior extensive technical and policy analysis and decisions regarding public transit options in the I-405 Corridor Program and Sound Transit's long-range plan. It also proposed that priority attention with remaining study resources, including the Advisory Committee's time and staff and consultant budgets, be focused on the remaining alternative scenarios that need more technical study due to lack of prior analysis on issues and could reasonably be considered for implementation in the short and mid-term periods for potential recommendations later this fall.

A decision on the action item was deferred to follow the presentation of the fact sheets, which provided in-depth technical information about the scenarios. The fact sheets, one per scenario, provided a description of the scenario plus the associated footprint assumptions, typical cross-sections, generic planning level costs for capital and operations and maintenance, potential timeframes, and probable issues and concerns. A full description of the information included in the fact sheets is included in Chapter 3. Copies of the facts sheets are located in Appendix C.

Following the presentation of the fact sheets, the committee approved the proposal of placing Scenarios 4 and 5 – those having the commuter rail and high capacity transit elements – out in future long-term periods and not be carried forward for additional analysis in this study in favor of focusing on the first three options.

The committee received an overall corridor map along with four segment maps that showed a preliminary assessment of initial opportunities and constraints in the corridor. A full discussion of the methodology for developing the maps, as well as copies of the maps, is included in Chapter 3.

ACTIONS

The committee agreed to defer further analysis of Scenario 4 and Scenario 5 and move them into the long-term timeframe for future planning.

The committee directed staff to focus the further analysis on the remaining scenarios (Scenarios 1, 2, and 3).

JULY 28, 2006 *(Snohomish Public Library)*

The committee was briefed on several topics, which included:

- Washington Transportation Commission Statewide Rail Capacity & Needs Study.
- Interim findings from the interviews with local jurisdictions.
- Local jurisdiction perspectives on the corridor scenario compatibility with local plans.

DISCUSSION

Barb Ivanov, Manager of WSDOT's Freight Rail Division, presented information about the Washington Transportation Commission Statewide Rail Capacity & Needs Study and asked the group to consider the state's role in investing in private sector companies to fund statewide rail capacity needs. Eastern Washington has a strong agribusiness sector, however, freight industry representatives have concerns about the fate of freight transportation in this region because there is a lack of clear policy direction from elected officials. Further details of the WSDOT study are included in Chapter 2.

Committee questions regarding the study included the following (answers in italics):

Is the study reviewing the potential increased freight capacity for moving more freight through these selected corridors? *Yes. For example, the Western Washington ports receive an enormous amount of imported Chinese goods that are shipped via rail to the East Coast. Additionally, a number of specialized industries (steel, waste, agribusiness, containers, medicine, coffee, and food) use Washington State freight rail to ship their products to the east coast. As a result, the mainline rail system is almost currently out of capacity.*

What about public financing and/or matching of BNSF's investments in a political situation that also includes two major gas taxes? *The study is evaluating federal funding, public funding, and also partnerships. The state's role funding to increase rail capacity must be clarified.* It was suggested that the state should co-invest with private railroads for a funding package.

Would investing in this eastside corridor cause it to emerge as a strategic corridor? *Various points are being evaluated in the state study such as the value of the property along the major corridors, how much the dollar amount per square footage is, and also the freight and economic value. However, this eastside corridor is not a strategic statewide corridor for moving freight. Stampede Pass is a far better example of a strategic corridor that warrants investment as improving that corridor [raising height of tunnel to allow double-stack trains] would enable a net increase in movement of regional and state transcontinental rail traffic.*

What is the definition of the strategic corridor? Is the state interested in the corridor for the long or short haul? *The state looks at corridors on a case by case basis. The shortline railroads such as the Tacoma Rail are a huge part of a logistics centered business and promote aggregation of rail cars.*

Is short line traffic increasing or decreasing? *The BNSF representative explained BNSF prefers unit trains over heavy steel and lumber, which is carried by the shortline operators. As an example, the volume for steel products has increased by 10% over the past three years.*

The committee requested a follow up for the strategic shortlines and asked how Boeing and major employers that use the lines will be affected. *The state has a plan in place to assure protecting delivery of the Boeing fuselages. The BNSF representative explained that when using rail, Boeing requires specialized equipment and handling. The Boeing plant in Renton*

has a tremendous interest in the corridor and is using this corridor because Boeing's longer 737 fuselage, the stretch 737-900, can't get around the Cedar River Bridge.

Following this discussion, the committee decided to move forward with the assumption that the state has no strategic plan for freight movement for this corridor.

The committee was then given the results of the jurisdictional interviews and presentations by each of the local jurisdictions on their perspectives on corridor scenario compatibility with local plans. The full text of local jurisdictional briefings can be found earlier in Chapter 4.

At the conclusion of the local jurisdiction perspectives, the committee was asked to communicate this information back to their individual jurisdictions.

A draft of the evaluation criteria for preliminary discussions was reviewed with the BNSF Committee members. The criteria focused on wetlands, transportation, and built environmental issues. When the evaluation is completed, there will be forty-six individual matrices revealing quantitative and qualitative analysis of how many wetlands are in the area, etc. The evaluation criteria are used to evaluate scenarios about the community, transportation, and economic areas in order to make judgments about scenarios.

Committee discussions of the criteria included the following questions, comments and concerns:

- Are the right criteria are being used?
- The two economic criteria did not seem to capture a positive economic sentiment. It was suggested that the economic criteria support existing businesses while focusing on short, medium, and long term trend use.
- There needs to be understandable criteria to balance both economic detriment and benefit, which could be listed as a future option under transportation.
- The environmental benefits to public health, in particular, water and air quality must be taken into consideration. The comprehensive plans of the local jurisdictions must also be taken into consideration.
- Cost should be a criteria for the evaluation. The question of who would upgrade the rail with trail tracks was raised.

The meeting concluded with a reminder that the study is a qualitative assessment which means that the scope of this study did not include nor intend to get into engineering or more specific costs of the scenarios. Unit costs have been prepared but these are to help reveal the comparative magnitude of broad scenario costs.

ACTIONS

No actions were taken at the July 28, 2006, meeting.

SEPTEMBER 29, 2006 *(Renton City Hall)*

The committee was briefed on several topics, which included:

- Proposed BNSF Abandonment of Wilburton Crossing of I-405.
- Overview and Summary Highlights of Evaluation of Corridor Scenario Options.
  - Environmental Assessment.
  - Traffic Impact Analysis.
  - Economic Assessment Analysis.
  - Relative Cost Comparison.

DISCUSSION

Proposed BNSF Abandonment of Wilburton Crossing of I-405.

The Advisory Committee was briefed on BNSF's intent to abandon the roughly 0.6 mile segment of rail line between Renton and Bellevue at the I-405 Wilburton Crossing, which would give the state an opportunity to save a total of about $35 million for the construction expansion of I- 405 in the south Bellevue/Wilburton tunnel area. Additional details of the proposed abandonment are included in Chapter 2.

A question was raised about the tunnel's impact on the other portion of the rail line at Wilburton that crosses the northbound I-405 traffic lanes and how this segment of a possible trail might relate to the trail segment that will later be lost to freeway expansion south of I-90. It was clarified that the tunnel is only a southbound auto tunnel and the rail line is in an open cut beneath a northbound freeway overpass. WSDOT is committed to building and replacing a trail component parallel to I-405 that would run from the southern vicinity near the NE 44th interchange in north Renton to the north along, and then across, I-405 at the Wilburton area.

The committee achieved a general consensus in understanding three important points that support WSDOT's plan to work with BNSF on the abandonment of this short section of rail line crossing I-405 at the Wilburton Tunnel area and impact freight use of the corridor:

- WSDOT would be able to save around $35 million by abandoning the Wilburton Crossing at I-405.
- There are no freight shippers using this portion of the rail line.
- With BNSF and WSDOT proposing to work together to replace the Cedar River Bridge next year, Boeing will be able to ship all its aircraft fuselages, including the larger stretch version 737, into its Renton plant from the south and they will no longer need to use this corridor.

Overview and Summary Highlights of Evaluation of Corridor Scenario Options

The Advisory Committee members were provided with presentations regarding environmental, traffic, economic and comparative cost analysis for the evaluation process. More details and discussion about the *environmental, traffic,* and *economic* assessments can be found in Chapter 3.

Environmental Assessment

Matrices showing the results of the environmental assessment were given to committee members and a series of slides were presented to help explain and summarize the technical findings.

Scenario 1 has the least impact to the natural environment, Scenario 2 does not appear to require additional rail right-of-way (with trail placement analyzed on either the left or right side of the rail line), and Scenario 3 may require additional right-of-way to accommodate a trail, largely due to the need for the five 1.5 mile long rail sidings to enable two-way freight traffic.

The committee asked if numbers provided on the matrix for various analysis categories were absolutely certain. As the statistics used were sensitive to land use, they should be reasonably accurate for this planning level assessment. The numbers in the category reflecting transportation crossings should be quite accurate as they are from BNSF track charts and field observations.

Traffic Impact Analysis

The Traffic Impact Analysis was presented to the committee in an evaluation matrix and summary slides. The underlying assumptions, data sources, and full details of the analysis are described in detail in Chapter 3.

After reviewing the analysis, the committee expressed concern that putting trails into tunnels could result in elevated incidences of crime and affect the safety of trail users. The undercrossing tunnels envisioned at these major intersections would be similar to the one built in the Kenmore/Juanita area where the tunnel is of a more open air nature with gradually sloped walls catching more light (no stairs). That type of tunnel undercrossing has been found to be quite open and convenient for users.

In summary, the traffic impacts of the three scenarios showed that Scenario 1 - Trail-only, had the least impacts on traffic delay. Scenario 2 – Trail with Current Rail, shows the prospects for moderate growth in delay, while Scenario 3 – Trail with Increased Rail, showed the highest levels of traffic delay with significantly negative traffic impacts due to much longer and more frequent freight trains.

Responding to a question about the costs of traffic impacts, it was noted that there were no estimates or impact analysis done for the cost of bike and pedestrian use/delay.

Economic Assessment Analysis

A summary of the analysis was presented to the committee. The parties most likely to be affected by changes associated with uses of the BNSF corridor included BNSF itself, the current rail users, and the Spirit of Washington Dinner Train. Users of the surrounding transportation network that will be most affected include property owners, residential and commercial, trail commuters, trail recreational users, and adjacent or nearby businesses. The more in-depth discussion on the results of this analysis is included in Chapter 3.

The Spirit of Washington Dinner Train representative asked if rail shippers had been consulted for opinions about the economic analysis. While the rail shippers had not been contacted for their opinions, those shippers north of Woodinville could view this as having positive economic results for their operations as they may end up being served by a shortline rail operator. It was noted that shortline rail operations can offer more localized service to small businesses and might enable additional shorter-haul freight rail traffic opportunities.

Relative Cost Comparison

A Relative Order of Cost matrix was reviewed with the committee. The matrix uses single "$" signs to represent a range of estimated construction costs for a given scenario and segment, with one $ sign broadly equating to costs between $1 million and $25 million. The committee was reminded that the costs were only including specific corridor construction costs and did not include such potentially significant ancillary costs as fencing, mitigation, drainage, trailheads, and new local access. It was pointed out that the costs were what one might intuitively expect, i.e., that Scenario 1 (Trail Only) was the least costly and Scenario 3 (Trail with Increased Rail) was uniquely the most costly. Scenario 3 could potentially cost well over $200 million, not including likely needed mitigation, drainage, special rail control signalization, and additional right-of-way costs.

Preliminary Discussion on Developing Potential Corridor Recommendations

The committee was asked if it was ready to begin drafting recommendations. Based on the fairly substantial negative impacts and implications associated with Scenario 3, the committee was asked if they felt this was still a viable option. It was noted that the Renton to Bellevue segment seemed to be eliminated through the earlier discussion about the Wilburton abandonment, at least with regard to Scenario # 3 (Trail with Increased Rail) as it was the only scenario dependent on use of the total corridor. Due to the lack of a strategic freight rail need in this corridor, the committee recognized that it could consider its elimination. The committee then agreed to eliminate Scenario #3.

Next, the committee was asked to consider the two remaining scenario alternatives under consideration. It was suggested that the committee might modify their approach when looking at these scenarios, as they could lend themselves to different treatments in each of the four individual segments. This was suggested in contrast to continuing to look at them as full "all-or-nothing" corridor scenarios.

Further committee discussions noted there appears to be a continuing need for a private operational railroad in the segment north of Woodinville. Since the overall corridor varies a great deal by segment when considering community character and land use and geographic attributes, a hybrid solution could be explored to vary recommendations based on the needs of each given segment. This would allow a mixing and matching of trail and rail plus trail uses in the various segments, and these could vary over time for short, medium and long-term applications. The committee agreed that this was a positive suggestion offering increased flexibility for final recommendations.

The meeting ended with agreement that the committee would digest the information presented and come ready to draft their recommendations at the next meeting.

ACTIONS

The committee agreed to eliminate Scenario 3 – Trail with Increased Rail – from further discussion or consideration for the BNSF Corridor.

The committee agreed to review the two remaining candidate uses of trail-only and trail-with-rail based upon the needs and opportunities of the individual segments.

DECEMBER 1, 2006 *(Bellevue City Hall)*

Public comments were given by seven members of the general public:

- Mr. Rick DeWitt, Mill Creek, advocated passenger rail service from Bellevue to Snohomish.
- Craig Thorpe, with All Aboard Washington, spoke in favor of retaining the rail from Renton to Snohomish to "connect the dots" for traffic flow in the region.
- James Cusick, Edmonds citizen, advocates commuter rail for the Eastside.
- Anthony Trifelleti, also with All Aboard Washington, felt the $35 million saving on the I-405 reconstruction is "pennywise and pound-foolish" and rails and trails could co-exist.
- Stephen Pyeatt, Kirkland, a bicyclist and rail enthusiast, wanted the corridor kept in public control by keeping the rail line intact for now and creating a trail later.
- Al Runte, Consulting Environmental Historian, stated that he felt that if the railroad is lost, the future is lost.
- Jeff Felback, Kirkland, stated a concern that many people are not recognizing that bicycles are a viable commute option.

The committee then had a briefing from the King County Executive's Office and the Port of Seattle regarding the proposal called "Connections for Our Future".

DISCUSSION

"Connections for Our Future" Briefing

The committee was briefed on a creative multimodal "deal" relating directly to the rail and trail corridor, which involves King County, the Port of Seattle, the Governor's Office/WSDOT, and BNSF.

Committee comments and questions included the following (answers in italics):

- It was asked if the rail bank option had been discussed. *The Port of Seattle is operating under the assumption of land acquisition involving provisions of "Rails to Trails legislation".*
- A Bellevue committee member mentioned there are 3 to 4 crossings at key intersections in the city of Bellevue but the city has not had a chance to talk to King County about the long-term effects of these potential trail crossings on these intersections. The City of Bellevue noted it was not prepared to make decisions on the rail to trail concept until further communication is received. Additional concern was expressed that the committee may need more time and should not be rushed into making a decision before having all of the facts. *It was agreed that if better recommendations could result from taking more time and having another meeting then this should be considered.*
- Concern was expressed regarding I-405 being constructed on BNSF land, as the state is using an easement on the land to build a highway, which will cause the rail line to be cut. *The Wilburton Crossing leaves the crossings in place. There is a provision in the plan for rail crossings to be restored at some point in the future. It will be King County's decision to either spend the money now or spend it at a later time in the future when prices have become inflated.*

The committee was reminded that the key message of the committee's decision should be to keep policymaking options and discussions available. If a bridge is ultimately decided upon, then WSDOT will create a bridge. The corridor will not be lost in the process.

Review of Segments

The committee was informed that it is more difficult to put in at-grade diesel rail than elevated transit systems. Elevated rail could minimize congestion impacts in Bellevue, Totem Lake, and Kirkland.

The segments and sub-segments were reviewed with the committee. Segment A is from Renton to the north side of the I-405/520 interchange. Segment B is north of the I-405/520 Interchange and ends near the Woodinville rail junction with the spur. Segment C runs from Woodinville to Snohomish, including the trestle crossing the Snohomish River. Segment D travels from Woodinville to downtown Redmond and as it is already a dead-end spur, could be treated differently than the rest of the line.

The committee was advised that its recommendations were scheduled to be presented to the PSRC Transportation Policy Board in early 2007.

Action on Corridor Segment Recommendations

The committee was reminded that at their September 29, 2006, meeting they voted to recommend flexibility to consider the two remaining corridor uses for best fit by segment and that their positions should carry forward their respective public's interest. Committee members offered the following concerns and comments before beginning discussions on potential actions on each segment:

- City of Bellevue staff is encountering a number of uncertainties about issues such as the nearly six railroad crossings in the city, the Wilburton Tunnel, and the expansion of I-405 and its relationship to issues in this corridor. It was requested that the process be slowed down to allow more time to review the information before making final decisions.
- The Renton City Council feels it wants to pursue the Rail with Trail option for segments A and B to help retain the Spirit of Washington Dinner Train and keep open a second rail access approach in Renton for fuselage delivery to the Boeing plant.
- Puget Sound Energy has over 20 utility crossings along the corridor that need to be preserved. They are also interested in looking at siting overhead electric infrastructure longitudinally along the corridor.
- The corridor should be acquired and protected.
- Concern was expressed that once the rails are abandoned the region will never be able to get them back.

The group then began its more specific review and discussion of each of the rail segments starting with Segment D (the spur), which runs from Woodinville to Redmond. It was agreed that in order to allow a little more time before formally "finalizing" the committee's recommendations these discussions on proposed actions would be considered a "straw vote" to get a sense of each Advisory Committee members' position and would not be final. These were to again be reviewed and reconsidered in early 2007 to allow members more time to consider all perspectives.

Segment D

Discussion started with a broad consensus on the need to get all of the roughly 42 miles of rail corridor into public ownership. This would be essential if the region wanted to preserve the option to consider commuter rail in the future. With regard to Segment D, the committee voted to recommend rail banking this segment.

The committee was informed there is only one rail shipper still using Segment D. Additionally, it was noted that with regard to the northern part of Segment D in the Woodinville area, the Spirit of Washington Dinner Train is having positive discussions with the City of Woodinville to coordinate tours to include the winery district and connect up north to the city of Snohomish.

The committee suggested that the Segment D1 boundary be moved further north to cover the area from downtown Redmond up to around the winery district in Woodinville. Section D2 would then include from the winery district in Woodinville north to the rail junction with the other BNSF eastside line in Woodinville. The group then agreed to designate Segment D1 as "trail only" with rail banking for the short term and to allow HCT (high capacity transit) consideration (still with trail) in the long-term. Segment D2 in Woodinville was agreed to be rail with trail to allow consideration for the Dinner Train.

Segment C

The discussion began with an agreement to pursue joint use trail with rail in Segment C.

It was requested that the committee support retaining rail with trail into the city of Snohomish and to include investigating the feasibility of using the trestle bridge for rail. It was noted that King County is not ready to make a decision on the use of that bridge at this point in time, and that the limitations on the width of the bridge would only allow either train use or trail use, but couldn't accommodate both. It was understood that if rail was capable of using the bridge then a new trail bridge would have to be constructed to link the potential future trail into Snohomish. The committee then agreed to recommend proposing dual rail with trail all along Segment C into Snohomish.

Segment B

It was announced that Kirkland's non-motorized plan allows rail with trail. It was asked if both scenarios could be chosen because removing the rails is complicated when discussing a short term trail-only solution. There was an inquiry regarding the possibility of rail banking for the short term. A concern was expressed about the potential of losing the trail in the long term if there wasn't enough right-of-way to accommodate both uses. The concern was that this could later require additional right of way to be purchased. A caveat was added to the motion on Segment B to reflect Kirkland's option of purchasing future right-of-way. The suggestion was incorporated in the committee recommendation to approve short-term trail use with rail banking for Segment B, enabling the proposal for long-term reconsideration for commuter rail or HCT rail, with the caveat that Kirkland reserves the right to purchase additional right-of-way in the future if necessary.

Segment A

A concern was raised that even if the corridor is in public ownership, improvements to the Stampede Pass line would not likely be in place by the time Segment A might be converted to trail only. It was suggested the "Trail Only" option be delayed until the Stampede Pass improvements are completed.

One committee member stated that implementing the rail with trail option for Segment A would allow Boeing to continue to have easy access for their fuselages to Renton plant and the city would not suffer a negative economic impact from the loss of the Spirit of Washington Dinner Train. Another member disagreed, saying that leaving the rail in place with no real freight use didn't make sense and the trail-only scenario seems to be the only economically viable option."

A motion recommending the rail with trail option for Segment A failed.

ACTIONS

In summary, the Advisory Committee's "straw vote" or preliminary/draft recommendations resulted in:

Segment A: Recommend that trail-only be proposed for the short-term, with rail banking, followed by commuter or HCT rail options to consider for the mid and long-term.

Segment B: Recommend short-term trail use with rail banking followed by commuter or HCT rail options for mid and long-term, with the caveat that Kirkland reserves the right to purchase additional rail right-of-way in the future if necessary to accommodate dual uses.

Segment C: Recommend trail with rail for the full length of Segment C, including rail with trail into Snohomish, which would require exploring the rail bridge feasibility or new trail bridge issue. This is for short, mid and long-term periods.

Segment D The committee agreed to:

1. Include the Woodinville wineries section, from Woodinville junction to southern edge of winery in Woodinville, as dual trail with rail for Segment D2 for short and long-term.
2. Designate Segment D1 as a trail only (with rail banking) for the short term and HCT option for long-term.

JANUARY 19, 2007 *(Redmond Public Library)*

Five members of the general public spoke before the BNSF Corridor Advisory Committee.

- Mr. Rick DeWitt, Mill Creek resident, advocated passenger rail service from Snohomish to Kirkland and requested the committee take action to treat Segment B the same as Segment C *(rail with trail)*.
- Mr. Mel Roberts, member of the Kent Bicycle Advisory Board, expressed excitement about the bicycle trail opportunity as there are excellent connections for commuting along the Eastside.
- Mr. Jim Hunt, Kirkland citizen, urged the BNSF Corridor Advisory Committee to consider the multi-mode option which includes bicycling and transit options, and to preserve the right-of-way for the future.
- Mr. Steven Pyeatt, Kirkland resident, believes commuter rail on the eastside can be set up in less than 2 years for under $200 million.
- Dennis Neuzil, Clyde Hill, commended the committee's efforts.

DISCUSSION

Sound Transit: I-405 Corridor Bus Service

The committee was briefed by Sound Transit to clarify the extent of its existing Express Bus service currently operating in the I-405 corridor (as much as 10 minute peak-period frequencies between Renton and Bellevue) and on their future Bus Rapid Transit (BRT) plans for the I-405 Corridor.

Based on the citizen comments, the committee asked if the recommendations stated that rails must be torn up as part of the action. While the wording in the document suggested that rail removal would be the most cost effective solution, it was noted the decision would fall to King County working with the jurisdictions.

The committee was referred to the memo documenting the results of their December 1, 2006, "straw vote" on each of the four segments or subsections of segments.

Discussion during the Segment A and B reviews resulted in the committee agreeing to remove the word "passenger" from the entire straw vote memo.

Final Discussion on Potential Refinements to Recommended Actions for Corridor Segment Recommendations

The committee was asked to review the summary results memo that was sent out containing their "straw vote" at the December 1, 2006, meeting. Discussion by segment on potential issues/refinements followed:

<u>Segment A</u>

Committee questions and comments about Segment A included the following (with answers to questions in italics):

- When would the Cedar River Bridge replacement be moved during the I-405 widening? *The construction staging will allow the bridge movement timeframe to be short. This move will be coordinated with Boeing and is tentatively targeted to be completed by early fall, 2007.*
- A committee member requested that the word "passenger" be removed from the short term Scenario 2. It was accepted as a friendly amendment to the motion.

- The committee wanted to make sure that the timing recommendations (short-term, medium-term and long-term) would not preclude commuter rail sooner if conditions were to change. It was noted these are recommendations for planning purposes and would not preclude future actions to advance a recommendation if funding and opportunity made such possible.

The committee agreed to accept the recommendations for Segment A as presented in summary memo, with the singular change to delete term "passenger" to allow future passenger or freight considerations.

Segment B

Committee comments regarding Segment B included the following:

- A concern was expressed that the rail with trail may not be possible if the rail tracks were left as is, but there would be adequate right of way if there was an elevated train. It was noted that a trail is a viable transportation option. Others mentioned that some of the at-grade intersections are already extremely constrained, making a future elevated system much more preferable.
- King County's priority is to get the corridor into public ownership.

The committee agreed to accept Segment B as proposed.

Segment C

Committee questions and comments regarding Segment C-1 and C-2 included the following (with answers to questions in italics):

- A concern was voiced about the public's benefit in the northerly Segment C2 that would cross the Snohomish River as it currently has no rail service. It was asked if resolving issues in this section would slow down the southern trail expansion. *This is a collective public decision which would include King County, Snohomish County, the City of Snohomish, and the public. It would also require a feasibility study.*
- A member asked if the Committee was saying that rail use is forever precluded. *The answer is no. The discussion is whether segment C-2 (across the Snohomish River using old rail bridge) would be feasible for an excursion train across the river, and a feasibility study would cover that.*
- It was noted that the segment of the rail corridor that has already been converted to a regional trail in Snohomish, north of C-2, is not rail banked (from northern Snohomish County along the Centennial trail). It was reported that there has been some advocacy for excursion rail purposes and passenger use in this segment, but not freight uses.

The committee agreed to accept the prior recommendations for Segment C-1 (dual rail with trail).

The committee agreed to accept Segment C-2 with the caveats that a new trestle for the trains be added and the term "for a trail crossing" be struck from the Segment.

Segment D

There were no discussions of Segment D-1 and D-2.

The committee agreed to accept the Segment D recommendations.

Conclusion

The committee agreed to accept the findings as written, with the exception of striking the term "passenger" from the entire document.

The following comments and questions were voiced by committee members:

- Concern was expressed about the strategic long-range positioning concerns and that one member felt the issues have been looked at in a vacuum. While not proposing to change the recommendations, it was suggested that some information be added as an individual committee member.
- It was mentioned that in the Wilburton area the freeway widening which would take out the existing rails should anticipate and be designed to accommodate future rail bridge footings and not just include trail bridge footings. Other members did not agree with investing for heavy rail footings for the trail crossing at Wilburton, noting it would be better to wait to design and put in whatever appropriate footings are needed for some future chosen technology.
- It was noted that the Port of Seattle sees no need in the near-term future for the rail line, and supports railbanking for the long-term future.
- It was stated the trail is needed and is a good, not a bad, thing. Citizens want a decision made and moved forward.

The committee agreed to move forward with the recommendations to accept revisions on the report.

FINAL ACTION ON RECOMMENDATIONS

The committee agreed to strike the term “passenger” from the entire straw vote memo.

Segment A and Segment B

The committee agreed to accept the recommendations from the summary memo:

Short-term: Regional trail with preservation of right-of-way under federal rail banking provisions.

Medium and Long-Term: Continue regional trail use and initiate (during the medium-term 11-20 year period) reconsideration of potential technical need and financial feasibility of passenger rail options in this corridor (commuter rail or high capacity transit/HCT, though most compatible for HCT). Based on current experience with corridor planning, assume future planning, environmental analysis and potential recommendations to move to design and construction for future HCT project in all or some portion of this corridor could take as long as 8 to 10 years, thus the recommendation to initiate analysis in medium-term period if anticipating potential implementation in post-20 year long-term period.

Segment C

Subsection C1: Woodinville to Harvey Field. The committee agreed to accept the prior recommendations:

Short, Medium and Long-Term: Potential joint rail-trail use. Assumes continued operation of freight rail to support viable existing freight shipping businesses in Woodinville and Snohomish County.

Subsection C2: Snohomish/Harvey Field to City of Snohomish. The committee agreed to accept the proposed recommendation with the caveats that a new trestle for the trains be added and the language “for a trail crossing” be struck from the Segment.

Short, Medium and Long-Term: Potential joint rail-trail use with the addition of a new trestle for rail use.

Segment D

The committee agreed to accept the prior recommendations:

Subsection D1: Redmond to Unincorporated King County (south of Woodinville).

Short-term: Trail use with rail banking.

Medium and Long-Term: Trail plus consideration for addition of HCT if it is eventually extended from Bellevue to Redmond (HCT potential could enter downtown north of SR520 along Sammamish Parkway and Leary Way to rail junction over Sammamish River to turn south along BNSF spur into downtown Redmond).

Subsection D2: Woodinville.

Short, Medium and Long-Term: Regional trail, with rail consideration for Dinner Train. Propose considering Spirit of Washington Dinner Train to develop operational base in Woodinville, which would be subject to multiparty agreement. Agreement would be between the City of Woodinville, King County (assuming county becomes future land owner) and the Dinner Train.

CHAPTER 5 – RECOMMENDATIONS

FINDINGS FROM BNSF CORRIDOR PRESERVATION STUDY

The final recommendations of the BNSF Corridor Advisory Committee for proposed transportation uses over short, medium and long-term time periods were unanimously approved by PSRC's Transportation Policy Board on February 8, 2007, and also by its Executive Board on February 22. These corridor recommendations were also incorporated as amendments to the region's transportation plan (Destination 2030) at PSRC's General Assembly in April 2007. The recommendations relevant to regional plan amendments modify the planned transportation uses of this rail corridor to reflect candidate projects and uses for the King and Snohomish County segments as noted below over the given time periods.

OVERALL RECOMMENDATIONS

The recommendations presented by the BNSF Corridor Advisory Committee and approved by PSRC were the result of nearly a year's worth of technical analysis that has produced many technical documents and reports for review, deliberation, and action by the Advisory Committee. The findings below have been derived from much of that prior technical work and the Committee's discussions about such work during the meetings in 2006. These findings set the context for the recommendations that follow for the proposed short, medium and long-term transportation uses of the eastside BNSF corridor.

Must Preserve Key Unique Corridor

General intent: This roughly 42-mile corridor***** that has been offered for sale by the Burlington Northern Santa Fe (BNSF) Railway is exceedingly unique in the magnitude of its length as it offers connections to several key regional urban centers and it is unique in its diversity of urban and rural character. It is the unanimous position of the members of the BNSF Corridor Advisory Committee that it should be publicly acquired and preserved for a number of important current and future regional transportation purposes.

*****_Corridor consists of 33 centerline miles between Renton's north Coulon Park and the City of Snohomish limits at the north side of the Snohomish River plus an eight-mile spur running between Redmond and Woodinville._

Specific intent to rail bank to reconsider future passenger rail: There has been much interest expressed by the public and by most members of the BNSF Corridor Advisory Committee to assure that any segments of this corridor that do not continue in freight rail operations be rail banked under federal legal provisions in order to enable the region to reconsider options for rail transportation in the medium to long-term time periods. If a trail is developed in the corridor in the short-term, it is important to preserve this future rail potential by having a given trail development project be accompanied by some form of permanent information (e.g. kiosk, nomenclature of trail, signs, etc.) that clearly communicates that the trail is an initial public use and that the corridor will be undergoing reconsideration for passenger rail in the future. The committee agreed that this "preservation" intent could also be applied to potential future demands/needs for freight rail, should such arise.

Eastside rail corridor is not a strategic regional or state freight rail corridor

Part of BNSF's rationale for selling this corridor was the progressive trend of the last decade for declining freight demand by shippers on this corridor. In fact, BNSF representatives have reported to the Advisory Committee that within no longer than one to two years, there will be no freight rail shipping customers south of this corridor's rail junction in Woodinville (the

junction where the Woodinville-Redmond Road/SR202 meets this corridor in Woodinville). Additionally, even with the decline of local freight, one of the purposes of this study was to examine the opportunity to utilize this corridor as a strategic regional or state rail corridor to serve future projected demands for freight rail traffic and/or to serve as a redundant corridor if unfortunate natural or manmade circumstances rendered the BNSF mainline along Puget Sound (between Seattle and Everett) inoperable for an extended period of time. This study found that this eastside BNSF corridor is not relevant to serve such strategic or redundant needs for the following reasons:

a) Without major investments in reconstruction of this corridor, the current conditions in this corridor preclude it from being capable of handling double-stack freight rail traffic that runs along the Puget Sound mainline.

b) To upgrade this corridor to handle such freight would require an exceedingly costly investment of over several hundred million dollars. And even then, the nature of the geometry of this corridor would still only allow speeds that could reasonably accommodate just over half of the Puget Sound mainline corridor rail traffic.

c) The impacts associated with the types of improvements that would be needed to make this a viable heavy-duty freight rail corridor, such as adding five double-track sections of 1.5 miles each, would have highly negative impacts on the adjacent environment, adjacent local land uses, and on the community population along the corridor.

d) The essential nature of key regional and state freight rail traffic needs is such that we need to expand east-west transcontinental freight rail traffic across the Cascade Mountains. This eastside corridor only feeds the existing rail corridor leading to Stevens Pass, which is already at capacity and thus would not help with any net freight rail expansion.

e) The substantial growth of projected freight rail traffic in the coming years can be far better accommodated through investments in rail corridor improvements through Stampede Pass, which would not only offer additional east-west freight capacity across the Cascade mountains but would also offer a highly effective redundant corridor to meet the needs of the ports of Seattle and Tacoma. This opportunity is currently being explored by the State Transportation Commission and the Governor's Office.

Boeing's Renton plant freight rail access to be preserved through Cedar River Bridge replacement, also enabling WSDOT to save $35 million on I-405 construction project

The Boeing Company currently transports all but one of its 737 aircraft fuselages from its Everett plant to its Renton plant via the Puget Sound mainline rail corridor, which comes into Renton through the Tukwila Black River for access to Renton plant. Its longer stretch version aircraft fuselages for the 737-900 have been shipped along this eastside rail line because a rail curve at the existing Cedar River Bridge, south of the Renton plant, precludes bringing it through that southern access corridor. The WSDOT is working on an agreement with BNSF to provide funding to replace that bridge to eliminate that curvature problem. This is estimated to be accomplished by fall 2007. When that project is complete, Boeing will be able to move all its aircraft fuselages to the Renton plant via the southern rail access corridor. This means there will be no freight rail traffic in this corridor between Renton and Bellevue and, to cooperate with the WSDOT on its I-405 freeway construction expansion project in south Bellevue, BNSF has filed for a abandonment of the Wilburton rail crossing of I-405 in that area. Ceasing rail operations in the Renton-Bellevue section of the rail corridor, where there

are no freight shipping needs, will enable the WSDOT to save approximately $35 million in its I-405 south Bellevue freeway expansion project.

Respect prior regional public transit studies in north-south eastside corridor

The BNSF Corridor Advisory Committee recognized and respects the many years of prior extensive technical and policy analysis and decisions regarding public transit options in the I-405 Corridor Program as part of WSDOT's I-405 Program and Sound Transit's long-range plan. After four to five years of a major public investment in intense studies and public involvement, these studies concluded and approved express buses operating over time as Bus Rapid Transit (BRT) using exclusive freeway lanes in I-405 with dedicated access ramps to major centers as the most cost-effective public transit solution for the I-405 corridor over at least the next 20 years. These actions were subsequently adopted into PSRC's regional plan and many projects and substantial funding has already been secured and expended to allow many segments to begin final design and construction. Also, there is no transportation agency with authority to plan and implement rail transit system components in the Puget Sound region that has any short-term interest in revisiting rail transit in the I-405/BNSF eastside corridor.

Existing transit service levels in the eastside I-405 corridor have been progressively increased over the past few years and there is now peak-period bus service averaging every 10 minutes between Renton and Bellevue.

"Medium-Term" time frame needed to achieve long-term passenger rail objectives

Based upon past experience in region with major corridor planning (whether transit or highway) there has been a consistently long lead time, as much as 8–10 years, before the planning conducted for a major corridor project has been able to move to action/implementation stages and secure necessary funding. This significant amount of time to conduct and complete major corridor planning projects has been due to state and federal requirements for extensive environmental analysis of alternatives and appropriate public involvement. Therefore, the BNSF Advisory Committee feels it is advisable to initiate planning for revisiting future passenger rail options in the "medium term" time period (10–20 years out) in order for a project to be considered for possible implementation in the long-term (20-40 years by this study's definition). Thus one will find "medium-term" recommendations proposed in this report to meet this objective.

Optimize cost-effectiveness of trail development

This study developed cost estimates for multiple scenarios, including dual trail and rail use. It was found that building a multipurpose trail adjacent to the existing rail line could increase the cost of trail development by as much as two to four times higher per mile (e.g., from an average per mile cost for trail development of $400,000 – 800,000 per mile to as high as $1.5 to 3 million per mile). In those segments of the corridor where no freight rail service continues to operate, trail development design and construction should optimize expenditure of public funds in the most cost-effective manner possible, which would typically be to use the reconstructed center rail bed as the foundation for the trail.

SCENARIO RECOMMENDATIONS

King County Rail Corridor Segments (A, B and D). For the rail corridor segments from Renton to Woodinville and from Woodinville to Redmond (i.e., most of the King County portions of this BNSF corridor) the candidate project uses are recommended as "regional multipurpose trail." This will be identified as an "interim use" (specific terminology under

federal rail banking statutes) for the short-term period (next 10 years). Additionally, these same King County regional trail corridor segments will also be requested to be designated as "rail banked" by BNSF as part of eventual abandonment proceedings before the federal Surface Transportation Board (STB) prior to formal sale of the corridor. Employing the federal "rail banking" provisions helps the region assure permanent preservation of these same corridor segments for potential return of rail transportation.

For the medium and long-term time periods (10-20 years and 20-40 years) for these corridor segments in King County, which are also within Sound Transit's boundaries, the regional plan will continue to show them as candidate regional multipurpose trails and add the proposed use and designation as potential candidate high capacity transit (HCT) corridors as defined in state law for dedicated rights-of-way for rail transportation. Consistent with state law, designation of these corridor segments as candidates for future HCT consideration brings in provisions of RCW 81.104.080, which requires the PSRC and Sound Transit to take specific steps to coordinate with local jurisdictions on any future development plans for land along this rail corridor to assure preservation and protection of the rail corridor for future HCT use.

Woodinville to Snohomish Segment (C). The more northerly segment of this BNSF corridor between the rail junction in Woodinville and the City of Snohomish city limits on the north side of the Snohomish River is recommended to show dual "rail-and-trail" uses for short, medium and long-term time periods. Existing freight rail service supporting shippers along this part of the corridor will continue in use as long as those businesses are viable. The additional new use is to explore the potential of adding a regional multipurpose trail along all or portions (where feasible) of the corridor between Woodinville and Snohomish. It is also proposed that a parking lot be developed south of the Snohomish River off of Airport Road with a regional trail section from the parking lot north across the river to serve as a southern trail-head to link up to the Centennial Trail that currently runs from the City of Snohomish to Skagit County.

Short-Term Issues. Minimizing costs for regional trail construction will require removing the deteriorated tracks that are not currently suitable for modern passenger rail nor expanded/heavier freight rail use. It was found that the near-term need for commuter rail is not justified adjacent to the I-405 corridor as Sound Transit already offers high-quality transit service in this corridor, with plans to further improve that service as future I-405 improvements enable more direct access to Renton. It was also noted that passenger rail would not be logical to consider in the near-term as there is no transportation agency with authority for regional rail transit seeking to finance or initiate such service. By fall 2007, all BNSF freight operations for Boeing that transport 737 fuselages between Everett and Renton will be able to operate along the Puget Sound mainline rail corridor because the WSDOT and BNSF are arranging to replace the Cedar River Bridge in Renton.

The design of the trail must be carefully planned with affected local communities. The County is the likely owner but no transaction has been completed, though the County informed the BNSF Corridor Advisory Committee that an agreement for such a transaction could occur in the summer/fall 2007 time period.

RECOMMENDATIONS FOR TRANSPORTATION USES BY CORRIDOR SEGMENT

Segment A - Renton to North Bellevue

This segment begins in the vicinity of the north end of Coulon Park in Renton and continues northerly to an area just northwest of the SR520 and I-405 interchange in north Bellevue.

Proposed Uses and Time Periods

Short-term:

1. Regional Multi-purpose trail.

2. Rail bank corridor under federal legal provisions to assure corridor right-of-way is preserved for future rail transportation uses.

Medium and Long-Term:

1. Continue regional multi-purpose trail.

2. Reconsider high capacity transit (HCT) passenger rail options in this corridor. These options may be similar to Sound Transit's Sounder commuter rail or its LINK LRT system, or may, at such future time, consider other technology.

Segment B - North Bellevue to Woodinville

This corridor segment begins just northwest of the SR520 and I-405 interchange in north Bellevue and continues north through Totem Lake to the Woodinville rail junction with the rail spur coming from Redmond at Woodinville-Redmond Road/SR202.

Proposed Uses and Time Periods

Short-term:

1. Regional Multi-purpose trail.

2. Rail bank corridor under federal legal provisions to assure corridor right-of-way is preserved for future rail transportation uses.

Medium and Long-Term:

1. Continue regional multi-purpose trail.

2. Reconsider high capacity transit (HCT) passenger rail options in this corridor. These options may be similar to Sound Transit's Sounder commuter rail or its LINK LRT system, or may, at such future time, consider other technology.

Segment C – Woodinville to Snohomish

This segment has two subsections, C1 and C2 as described below.

Subsection C1: Woodinville – Harvey Field

This subsection begins at the Woodinville rail junction with spur and goes north to unincorporated Snohomish County area in corridor about ½ mile south of the Snohomish River near Harvey Field. This location is suggested as the northern end of subsection C1 because it is a little south of the rail junction with BNSF's east-west rail mainline called the Scenic Subdivision, which provides mainline BNSF service from Everett through the Cascade Mountains at Stevens Pass.

Proposed Use(s) and Time Periods

Short, Medium and Long-term:

Explore opportunity for joint use in corridor:

1. Continue freight rail use for viable existing freight shipping businesses (currently in Woodinville and south Snohomish County). Continued freight operation allows the opportunity to consider Dinner Train operation between the wineries in Woodinville and City of Snohomish.

2. Explore regional multi-purpose trail feasibility as joint use with rail operation in corridor.

Subsection C2: Snohomish/Harvey Field to City of Snohomish

This is a short section (about ½ mile) of the northerly most part of the BNSF corridor where it intersects with BNSF's Scenic Subdivision (the east-west mainline crossing the Cascades at Stevens Pass noted above). This is an unused single-track portion that begins near Harvey Field going north over the Scenic mainline and on top of a wooden trestle across lumber yard, then across the old rail bridge crossing the Snohomish River into the City of Snohomish.

Proposed Use(s) and Time Periods

Short, Medium and Long-Term:

1. Continue potential multi-purpose trail use.
2. Consider feasibility of allowing the Dinner Train to cross the existing (unused) rail bridge over the Snohomish River into the City of Snohomish. (Explore bridge structural issues and potential need for an additional new bridge as the current bridge's width is inadequate to handle both).

Segment D – Redmond to Woodinville

This segment has two subsections, D1 and D2 described below.

Subsection D1: Redmond to Unincorporated King County (south of Woodinville)

This subsection begins in downtown Redmond and continues north along the corridor to an area just south of the Ste. Michelle Winery (vicinity of Woodinville City limits).

Proposed Use(s) and Time Periods

Short-Term:

1. Regional Multi-purpose trail.
2. Rail bank the corridor under federal legal provisions to assure the corridor right-of-way is preserved for future rail transportation uses (in this case, the HCT potential in the Redmond plan).

Medium and Long-Term:

1. Continue regional multi-purpose trail.
2. Consider addition of HCT if Sound Transit eventually extends such from Bellevue to Redmond.

Subsection D2: Woodinville

This subsection begins in the vicinity of the Ste. Michelle Winery (south of NE 145th St) and continues northerly to the rail junction in Woodinville at Woodinville-Redmond Road/SR202 where the spur meets the main eastside line coming up from Kirkland.

Proposed Use(s) and Time Periods

Short, Medium and Long-Term:

1. Regional multi-purpose trail.
2. Consider the Spirit of Washington Dinner Train's concept to develop of an operational base in Woodinville in order to operate an excursion train from the Woodinville winery district to the City of Snohomish (would be subject to a multiparty agreement between the City of Woodinville, King County - assuming the county becomes the future land owner - and the Dinner Train).