

**Seattle, WA – Vancouver, BC  
Diesel Multiple Unit (DMU)  
Feasibility Study  
#2010-CBRS-1**

**Final Report**

June 30, 2011

*Prepared for the Whatcom Council  
of Governments*



**Whatcom**

COUNCIL OF GOVERNMENTS

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## Table of Contents

<b>Executive Summary</b> .....	<b>1</b>
<b>Task 1</b>	
Review capital and operating costs of high-speed trains and DMUs and create comparison table.....	3
<b>Task 2</b>	
Determine operational characteristics of high-speed trains and DMUs and produce comparison tables.....	14
<b>Task 3</b>	
Determine what capital projects are required to add additional intercity passenger service between Seattle and Vancouver, B.C. and assess the cost and project implications of these .....	23

### List of Tables

Table 1: Amtrak Cascades Capital Improvements Everett to Blaine WA .....	5
Table 2: Cost Estimates for Capacity Improvements between Everett and Vancouver .....	5
Table 3: Assumed Track Improvements for North Sound Commuter Simulations Improvements listed North to South .....	9
Table 4: Projects with Reliability Benefits.....	10
Table 5: Regional Rail Schedules.....	12
Table 6: Assumed Track Improvements for North Sound Regional Rail Simulations.....	26
Table 7: Simulated Performance for 7-Day Period .....	28

### List of Appendices

Appendix 1: North Corridor Improvements Comparison Table, Rail Equipment Operating and Maintenance Cost Comparison Table, Rail Equipment Capital Cost Comparison Table	
Appendix 2: Interviews and Community Outreach	
Appendix 3: Washington State - British Columbia: Framework for Transportation, Competitiveness and Prosperity, Preamble	
Appendix 4: Backgrounder on Gateway Council and Pacific Gateway Initiative of British Columbia and Joint Public Advisory Committee of the Commission on Environmental Cooperation (CEC)	
Appendix 5: Southeast King County Commuter Rail Feasibility Study, 2010	
Appendix 6: Canada Line Case Study	
Appendix 7: List of potential projects for FAST – North Corridor	
Appendix 8: Sustainable Strategies & Solutions, Inc: Recommendations to NSCCP regarding Governing Project, May 31, 2002	
Appendix 9: Connecting Cascadia: A High-Speed Rail Vision for the Pacific Northwest- Workshop 2010	
Appendix 10: Washington State 2010-2030 Freight Rail Plan December 2009 Appendix 3-A: An Introduction of Passenger Rail in Washington State	
Appendix 11: South Lake Union Mobility Plan	
Appendix 12: City of Mukilteo Waterfront- Tank Farm Redevelopment Area, Aerial View	
Appendix 13: Parcels/Rail-line Intercept Map, City of Arlington	
Appendix 14: Overview of the County Connector transit service	
Appendix 15: Map of Metro Vancouver, Connecting Cascadia Workshop 2010	



**SEATTLE, WASHINGTON—VANCOUVER, BRITISH COLUMBIA**  
**DIESEL MULTIPLE UNIT FEASIBILITY STUDY**

*Produced for the Whatcom Council of Governments*

*June 30, 2011*

**CASCADIA CENTER OF DISCOVERY INSTITUTE**

The following study, commissioned by the Whatcom Council of Governments (WCOG) and completed by the Cascadia Center of Discovery Institute, analyzes costs, operational scenarios and other critical questions that will ultimately help the region determine if, how, and to what extent DMUs (Diesel Multiple Units) could be deployed from Seattle to Vancouver. This report is subdivided into contract-specified tasks.

**Executive Summary**

This section of the study had three objectives: analyze and compare the capital and operating cost of differing rail technologies (specifically evaluating DMU technology) that might be used in the Burlington Northern Santa Fe (BNSF) rail corridor from Seattle to Vancouver, B.C.; evaluate the operational characteristics of each technology; and, identify a list of capital projects that would allow expanded service to occur.

The study assumed the adopted 2008 Amtrak *Cascades* Mid Range Plan as the current investment plan of the Washington State Department of Transportation (WSDOT) and BNSF. This plan calls for up to four roundtrips to Vancouver upon the completion of necessary investments, including additional capacity projects by Canadian agencies by 2023.

The modeling done in this study provides recent data on service levels and potential schedules based on existing traffic information provided by BNSF. Any new passenger rail frequencies would depend on state plans and BNSF operational needs.

There is interest in North Sound - and as noted in recent a recent DMU study - in South King County in opportunities to connect to the ST (ST) system by rail. There is also interest among legislators in central and eastern Washington in additional passenger rail services. This type of service falls between international, intercity service provided by the Amtrak *Cascades* and commuter rail provided by ST. We suggest the Legislature and Transportation Commission consider adopting an amendment to the state Rail Plan and allocate resources to determine costs, operational needs and opportunities for public private partnerships (PPPs) for regional rail services as part of any new investment and enhanced revenue proposal.

The report compares existing Amtrak "*Cascades*" Talgo equipment, existing locomotive hauled commuter rail equipment as presently used by both ST "Sounder" service and the TransLink "West Coast Express" and existing or developing (Federal Railroad Administration) FRA compliant DMU equipment. Results show that DMU equipment is

projected to have the lowest initial capital acquisition cost (though only slightly lower than commuter rail), and that operational data is inconclusive as to the less expensive technology to operate. The evaluation concludes that DMU technology would appear to provide the lower operating expense under the scenario identified.

Presently, developing DMU technology has been identified that had very high passenger amenity, speed and comfort characteristics, while having the added bonus of the flexibility to contract and expand the train configuration offered to the passengers with ease. The concluding operating scenario suggests three Amtrak round trips daily, supplemented by two regional rail frequencies between Everett and Bellingham (and possibly Blaine) that coordinate and meet existing Sounder service at Everett could be accommodated with the track improvements anticipated.

Since 2005, elected leaders from Snohomish to Whatcom counties have requested support for additional rail services as well as intercounty transit through the North Sound Connecting Communities Project (Farmhouse Gang). This year, they joined U.S. Representative Rick Larsen in requesting that the state prioritize specific investments in federal rail funding turned away by other states for mobility options to an increasing crowded Interstate 5 corridor and for jobs related to industrially zoned land with excellent transportation access.

In the state rail plan, the need for a PPP between the state, Amtrak, ST and stakeholders on the corridor for a coordinated rail investment strategy was called out. We agree and suggest a “Fast North Corridor” effort in North Puget Sound patterned after the successful Freight Action Strategic (FAST) project led by the Puget Sound Regional Council which involved 26 jurisdictions sharing resources to improve freight mobility.

The Fast North Corridor would involve all modes and would help the region, state and private sector reach their common goals.

**TASK 1**

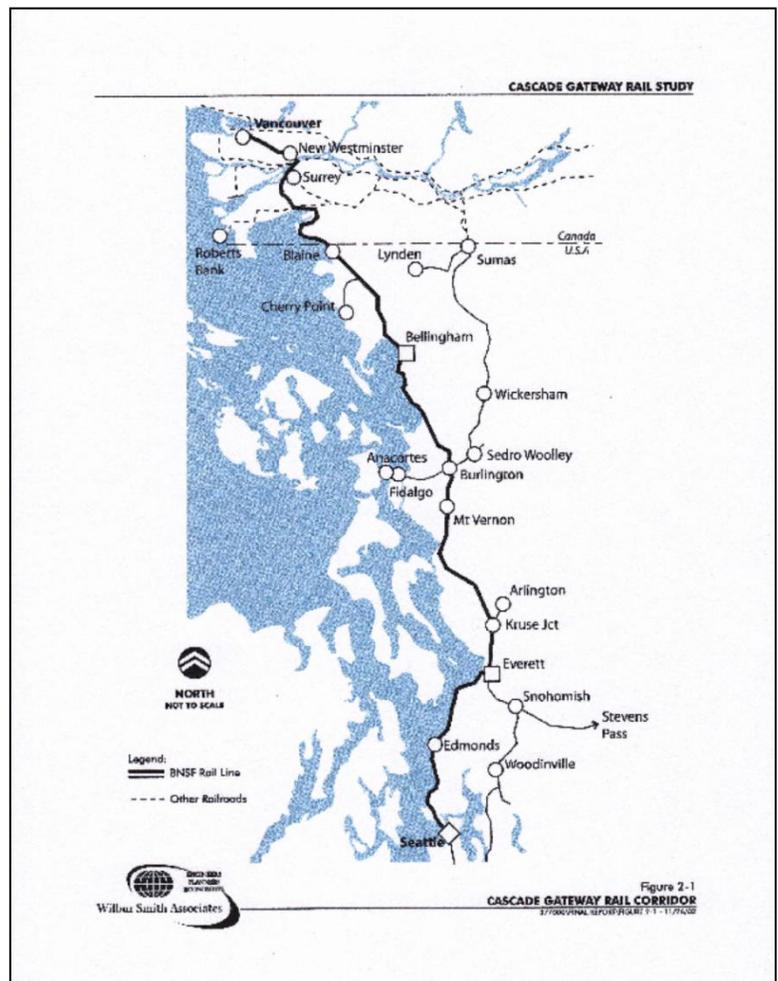
*Review capital and operating costs of high-speed trains and DMUs and create comparison tables.*

**Deliverables:** *Comparison tables and white paper detailing operation scenarios and assumptions.*

Two WSDOT planning studies and three past studies have identified track and system improvements for the corridor from Seattle to Vancouver. In chronological order they are:

1. **Cascade Gateway Rail Study** completed in 2002 for the International Mobility and Trade Corridor Project (IMTC), led by the Whatcom Council of Governments and a team headed by Wilbur Smith Associates.
2. **North Sound Regional Rail Study** completed in 2005 for the North Sound Connecting Communities Study (the “Farmhouse Gang”) managed by the Cascadia Center for Regional Development and a team led by Wilbur Smith Associates.
3. **Washington State Long-Range Plan for Amtrak Cascades** completed in February 2006 by WSDOT’s Freight Systems Division.
4. **North Sound Regional Rail Study Operations Simulation** completed in 2008 for the Skagit Council of Governments and the “Farmhouse Gang,” managed by the Cascadia Center and led by Wilbur Smith Associates.
5. **Washington State Amtrak Cascades Mid-Range Plan** completed in December 2008, and prepared by WSDOT’s Freight Systems Division and State Rail and Marine Office.

The *Cascade Gateway Rail Study* examined rail improvements and their impacts for both freight and increased and/or high-speed passenger rail in the corridor between Seattle and Vancouver. The two subsequent studies focused primarily on passenger service,



supplementing Amtrak service in the corridor. Though Talgo trains were examined (as they provide existing Amtrak service), DMU-type equipment was examined and assumed for supplemental service in the corridor. The study focused on how rail could divert both passenger and freight traffic from I-5 (the Cascade Gateway highway corridor). The purpose was to identify the following: the truck traffic that could be attracted to the line (and thus diverted from the highway system); the passenger traffic that could be attracted to the line (and thus diverted from the highway system); the minimum capital investments needed to handle the train traffic increases due to highway diversions; and, the economic and societal benefits that would result from the diversions.

The *Cascade Gateway Rail Study* also investigated the potential for a cross-border commuter rail service operating only between Bellingham, Wash., and Vancouver, B.C., and adding an Amtrak station at Scott Road in Surrey to truncate Amtrak service to downtown Vancouver. The latter could provide for a transfer to SkyTrain at Scott Road and thus access to downtown Vancouver. An extensive analysis and cost estimate for the use of a Scott Road station was included in the study. Importantly, the study analyzed the minimum capacity improvements needed to handle the new freight (the truck diversions and the increase in carload business) and passenger rail traffic. Six specific improvements were identified, with a total capital cost of about \$38.6 million. This total included vertical clearance improvements to handle double-stack container freight movement on the route. It was also noted that in addition to low-height tunnel obstruction to double-stack movement, several bridge structures created other vertical clearance obstructions for traffic on corridor.

The *Cascade Gateway Rail Study* analyzed in great detail the freight and passenger traffic existing and projected along the corridor. Though not required as part of this effort, an interesting comparison might be made between those study projections and the existing situation. Freight and passenger volumes can be expected to have changed because of recessionary effects, and the mix of freight traffic is presently different than what was projected.

As mentioned, the study also evaluated possible commuter service between Bellingham and Vancouver, B.C. The two studies that followed expanded the commuter service to include service on the United States' part of the corridor between Everett and Bellingham. At the time of this study, Sounder commuter service had as yet not started between Seattle and Everett. For the service examined (Bellingham to Vancouver) cost projections for rolling stock, stations, and a service facility were derived, but track improvements were not included.

Additionally, the *Cascade Gateway Rail Study* focused on the four rail corridor tunnels between Samish and Bellingham and concluded that in order to accommodate "high" double-stack container trains, the vertical clearance would have to be increased by one foot to 20 feet and 2 inches. A cost of \$1.9 million was estimated for that work.

The study included a map of the corridor (*previous page*). Some improvements listed in the study are those identified as WSDOT estimates that would allow 110 mph passenger service on the corridor. Though the costs in Table 1 are dated (2002), the list of projects or improvements identified remains relevant.

<b>Project</b>	<b>Estimated Cost</b>	<b>Remarks</b>
Everett- Marysville Speed Increases	\$8,500,000	Realignment of curves and bridge improvements reduces current Seattle-Bellingham-Vancouver, BC travel time by 10 minutes.
Track geometry adjustments between Everett and Blaine	\$22,000,000	Cuts another 10 minutes off the travel time.
Bellingham siding extension	\$30,000,000	Capacity improvements to permit RTs 3 and 4. Travel time drops by 1 minute.
English to Mount Vernon second mainline	\$120,000,000	Reaching speeds up to 110-mph. Reduces running time by 4 minutes.
Ferndale to Blaine second mainline	\$120,000,000	Reaching speeds up to 110-mph. Reduces running time by 1.5 minutes.
<b>Total</b>	<b>\$300,500,000</b>	Assumes current realignment into White Rock.

*Note: Accuracy of cost estimates +/- 30% Source: WSDOT, November 2002: Table 5-2.*

“Capacity improvements” were also identified and budgeted in the study (*below*).

1.	A 9,000' controlled siding Colebrook @ \$140/track-foot. (2 controlled No. 20 turnouts @ \$200,000 each).	1.66
2.	CTC 20.5 miles Blaine to Colebrook and Colebrook to Townsend. 4 new control points at \$850,000 each, plus 20.5 miles at \$750,000 per track mile for coded track circuits.	18.78
3.	5,000' support track at Swift for Customs inspection (5,000' @ \$160/track-foot including grading), and place in CTC system (2 Turnouts @ \$250,000 each).	1.30
4.	Construct a 2,000' extension to one existing siding (2,000' @ \$160/track-foot).	0.32
5.	Lower tunnel floors (2,300' @ \$820/ft)	1.90
6.	Electric lock protection on the non-controlled siding at Marysville.	0.15
	<b>TOTAL</b>	<b>24.11</b>
	Contingency @ 40%	9.64
	Engineering @ 20%	4.82
	<b>GRAND TOTAL</b>	<b>38.57</b>

*Source: Washington Infrastructure Services: Table 5-3.*

The *Cascade Gateway Rail Study* also includes citations from a 1998 study and lists improvements then thought necessary to add a second and third Amtrak round trip into Canada. Those improvements were thought to cost \$100 million in 2002. It also evaluates the possibility of diverting BNSF freight traffic through the Sumas line and onto Canadian Pacific (CP) track.

The study includes an extensive analysis of traffic and passenger diversions to be expected from rail improvements outlined, along with environmental benefits and fuel use savings that could be expected. It also evaluates possible expected highway maintenance savings and highway accident reductions. In an appendix to the study, a freight traffic analysis is summarized. Within that analysis is a suggested list of railroad physical improvements from BNSF. Those identified for the corridor north of Seattle include:

1. Increase vertical clearances in the Chuckanut tunnels.
2. Install CTC completely between Vancouver and Everett.
3. Build a better facility for customs clearance at Swift.
4. Install 20 miles of double track between Blaine to Ferndale.
5. Install a siding at North Colebrook.

In 2005, the North Sound Connecting Communities Project (the “Farmhouse Gang”) commissioned a study, the *North Sound Regional Rail Study*, to focus on passenger rail in the corridor between Everett and Bellingham. Amtrak service was providing one round trip per day between Vancouver and Seattle, with a second trip planned. Regional leaders wanted to investigate whether additional regional rail service, acting almost like commuter rail, could be interspersed between the Amtrak trains to better serve the region. They envisioned a peak-oriented Bellingham-Everett rail service connecting with Sounder in Everett by 2007.

The study was to develop a ridership forecast, capital costs, net subsidy requirements, funding concepts, transit integration with existing service, and to suggest an appropriate institutional structure to fund and manage the service. Specifically, it analyzed:

- Rolling stock, including what type and how much equipment needed to operate the service.
- Station improvements, including station location and amenities.
- A maintenance facility for the trains chosen.
- Layover facility locations if necessary.
- A rudimentary list of track improvements necessary for such a service to operate.

Since initial start-up costs were a primary concern, the equipment choice focused on self-propelled or DMU technology. New stations were suggested at Marysville, English and Stanwood, with parking improvements to be added at Mt. Vernon and Bellingham. A maintenance facility location at Bellingham was suggested and a layover facility included at Everett.

At the time of the study, the WSDOT rail program did not include any corridor improvements for future *Cascades* service and was awaiting action on Canadian border crossing and Canadian rail improvement issues. The track and other improvements that were finally selected would allow the envisioned service to operate. Additional sidings were suggested that would create a minimum six-mile distance between all sidings and

included lengthening the siding north of the suggested Stanwood station, a new siding at Burlington and new Samish-Bow siding.

The total capital cost estimate for all track improvements, equipment, stations and facilities was estimated at between \$50.2 and \$57.1 million. Operating costs for the two additional round trips per day was estimated at \$5.2 million annually with fare box revenue estimated at from \$.8 to \$1.2 million each year, meaning that an operating subsidy of over \$4 million or more would be needed. Lastly, the study outlined sources of capital and operating funds. The study scope and budget left a crucial item for further consideration: No one knew if BNSF would or could allow the service to operate on the corridor and if the suggested improvements were sufficient for that to happen. A subsequent study (in 2008) was commissioned to answer that important question.

*The Washington State Long-Range Plan for Amtrak Cascades* covered a broad range of service, system and operating issues. It also identified a list of projects by county for the north part of the corridor in the state to improve both speed and reliability for the service. The study included:

- Swift Customs Facility (rail milepost 114.6 to 118.3), to include sidings and associated track; estimated cost of \$13.8 million.
- Bellingham to Blaine High-Speed Track Improvements (rail milepost 101.5 to 117.1); estimated cost of \$147.8 million.
- Bellingham Siding Extension (rail milepost 92.2 to 97.9); estimated cost of \$102.6 million.
- Bellingham GP Upgrade (rail milepost 96 to 97); estimated cost of \$2.3 million.
- Burlington to Bellingham High-Speed Track Improvement (rail milepost 72.2 to 86.5); estimated cost of \$408.5 million.
- Bow to Samish Siding Extension (rail milepost 82 to 83.5); estimated cost of \$50.6 million.
- Mount Vernon Siding (rail milepost 65.5 to 67.5); estimated cost of \$8.4 million.
- Marysville to Mount Vernon High-Speed Track Improvements (rail milepost 39.19 to 67.5); estimated cost of \$322.5 million.
- Stanwood Siding (rail milepost 55.18 to 57.93); estimated cost of \$9.9 million.
- PA Junction/Delta Junction Improvements (rail milepost 10.9 to 7.8); estimated cost of \$34.4 million.
- Everett Junction to Everett Second Main Track (extension) (rail milepost 1783.6 GNRR to 32); estimated cost of \$9.9 million.

One final improvement (closer to Seattle) that was included, at an estimated cost of \$11.5 million was a speed improvement to the Ballard Bridge.

The three “high speed track improvements and associated facilities” identified for the three areas from Bellingham to Blaine, Burlington to Bellingham and Marysville to Mount Vernon, were expensive to implement—almost \$800 million in 2002 prices. Their stated purpose was to allow the passenger trains to reach 110 mph on these stretches, thus reducing the travel time to Vancouver, B.C.

The 2008 *North Sound Regional Rail Study Operations Simulation* study was undertaken to identify specific improvements to allow the regional rail concept to be functional and to

garner the support of the BNSF. The centerpiece of the study included simulation of railroad operations with and without the proposed commuter trains, in order to determine the scope of capacity improvements that might be necessary to add the commuter service to the current rail traffic.

BNSF provided records of actual train movements for a week long period that were used by Wilbur Smith Associates to create train files representative of current traffic patterns, including time and day of operation, train length and tonnage, and crew change locations. (These train data were used to perform the simulation.) BNSF also requested that the simulations for future service include an assumption of a third Amtrak round trip train between Seattle and Vancouver, B.C., operating on a mid-day schedule as envisioned by WSDOT. The regional commuter runs would operate during the peaks and interconnect with Sounder at Everett. The simulation area included the Bellingham Subdivision from the border to Everett and of the Scenic Subdivision from Wenatchee to Everett and Seattle.

Wilbur Smith Associates utilized Rail Traffic Controller (RTC) software, an industry-standard product that simulates train operations. The RTC is the identical software used as an analysis tool by BNSF. Wilbur Smith Associates used an iterative process with BNSF Capacity Planning staff suggesting several adjustments and improvements to render the simulations more compatible with BNSF's own use of RTC.

The improvements finally selected for analysis also included the package agreed upon by WSDOT, BNSF and ST for the segment between Seattle and Everett for the scheduling of a third Amtrak trip and four Sounder trains. The study also recalculated the cost estimate of those improvements from the 2005 Study. The simulation result was that selected track and facility improvements and the addition of Bellingham- Everett intercity service, including additional Sounder round trips to Everett and the third Amtrak round trip to Vancouver, B.C., would not degrade current freight performance but instead would improve it.

The list of selected improvements was accepted by the BNSF and a letter to that effect was included in the final report. However, the letter pointed out that some of the infrastructure improvements assumed in the simulation as improvements made for increasing Amtrak *Cascades* service were not actually in any funding plan at that time. Those included:

- The extension of yard tracks at Custer.
- The modification of the track alignment at Bellingham.
- The modification of the Burlington Yard.
- The extension of the Stanwood siding to MP 57.6 with crossovers.
- The easing of the mainline curves and related speed improvements at Delta Yard.

The set of capital improvements to the corridor is included as alternative 3, shown in the chart from the report on the table on the next page.

The 2008 simulation also reconfirmed that the improvements selected with DMU equipment continued to fall within the range of \$50 million projected in 2005. The 2005 study projected the start-up capital cost of \$57.1 million, assuming DMU equipment was used. However, the 2008 update projected a lower cost of \$50.9 million. (*Data from 2008 Operations Simulation final report, page 5.*)

<b>Table 3: Assumed Track Improvements for North Sound Commuter Simulations</b> <b>Improvements listed North to South</b>			
<b>Improvement</b>	<b>Simulation 1</b>	<b>Simulation 2</b>	<b>Simulation 3</b>
Freight Service	Current Service	Current Service	Current Service
Amtrak Service	2 Vancouver RT	2 Vancouver RT	3 Vancouver RT
Commuter Service	3 Sounder RT	4 Sounder RT 2 Regional RT	4 Sounder RT 2 Regional RT
Extend Swift between 114.9 to 118.1 with 5 mph freight at north end	Yes	Yes	Yes
Revise Custer and Intalco to provide extended yard track (no siding at this location)	Yes	Yes	Yes
Construct commuter layover track at 94.42	No	Yes	Yes
Extend South Bellingham northerly to 97.0 (does not increase speed Bellingham mp 97)	No	No	Yes
Join Samish and Bow with universal crossover at 81.0	No	No	Yes
Burlington yard revisions and new main line (no siding at this location)	Yes	Yes	Yes
Extend Mt. Vernon southerly to 65.5	Yes	Yes	Yes
Extend Stanwood northerly to 57.6 with 2 single crossovers	No	Yes	Yes
Extend English Siding southerly to 43.9	Yes	Yes	Yes
Ease main line curve at north end of Delta Yard	No	Yes	Yes
New main line around Delta Yard	No	Yes	Yes
Revise yard tracks/leads at Delta Yard	No	Yes	Yes
Extend Lowell siding west to 1783.0	Yes	Yes	Yes
Construct commuter layover yard at Everett	No	Yes	Yes
Incorporate Mukilteo Sounder station	No	Yes	Yes
Double track, 27.0 to 27.8 with universal crossover at 27.8	No	Yes	Yes
Double track 15.8 to 17.8 with universal crossover at 17.8	No	Yes	Yes
Double track 7.3 to 7.8 with universal crossover at 9.0	No	Yes	Yes
Double track through Interbay Yard	No	Yes	Yes
<i>Source: Wilber Smith Associates 2008 North Sound Regional Rail Study Operations Simulations.</i>			

The *Washington State Amtrak Cascades Mid-Range Plan* examined three “groupings” of improvements that were based on possible funding levels that might be available. Within each of those levels project lists were identified. Each group had train equipment improvements, upgrades or new purchases included, and a general category of “Main Line Track Upgrade” (not specifically identified) was also listed. However, no specific track or roadbed improvements were listed between Everett and the border.

Instead, the list of projects was included with a discussion indicating that the projects were either intended for completion by 2009 or completed starting in 2009. The status of these projects will be discussed later and evaluated.

<b>Table 4: Projects with Reliability Benefits</b>			
<b>Project Name</b>	<b>Total Budget</b>	<b>Planned Expenditures Prior to July 1, 2009</b>	<b>Planned Expenditures Starting July 1, 2009</b>
Mt Vernon- Siding Upgrade	\$3,800,000	\$3,800,000	\$0
Everett- Curve Realignment and Storage Tracks	\$14,000,000	\$14,000,000	\$0
Stanwood- Siding Upgrades	\$15,950,000	\$15,950,000	\$0
Blaine- Customs Facility Siding	\$6,000,000	\$6,000,000	\$0
King Street Station- Track Improvements	\$15,000,000	\$13,000,000	\$2,000,000
<i>Cascades</i> Train Sets- Overhaul	\$10,000,000	\$4,000,000	\$6,000,000
Stanwood- New Station	\$5,000,000	\$5,000,000	\$0
<i>Budgets and planned expenditures are passed on the 2008 Supplemental Transportation Budget. Source WSDOT report: Washington State Amtrak Cascades Mid-Range Plan, 2008: Exhibit 4-2.</i>			

See Appendix No. 1 for the **deliverable**, “**North Corridor Improvements Comparison Table**,” which presents the information in this section.

The following, a white paper detailing operation scenarios and assumptions, is another **Task 1 deliverable**.

**WHITE PAPER DETAILING  
OPERATION SCENARIOS AND ASSUMPTIONS**

Present service in the corridor from Everett to Bellingham is provided by the Amtrak *Cascades* service. It is defined as “reserved corridor service” as opposed to “reserved long-distance” Amtrak service, meaning that it is subsidized and directed by the State of Washington. The state owns three of the five Talgo trainsets used to provide the service

and the specific service level provided is subsidized by the state through biennial legislative budget appropriations.

The state's 2006 long-range corridor plan identified that if capital projects scheduled were completed by the mid-point in the 20 year planning timeframe (roughly 2013), that four trains per day would traverse the northern part of the corridor and would cover the 157 mile distance between Seattle and Vancouver, B.C., in two hours and 37 minutes by the end of the planning horizon (2023). Again, this assumed that all infrastructure projects were complete and ridership projections were being accomplished. The plan did comment that the source of funding for such infrastructure improvements was not identified, but that federal and state planning was progressing. Since that writing, the ARRA program has provided the funding for a majority of the planned improvements, even though a few years behind schedule.

Existing scheduled travel times are presently from four hours to a maximum of four hours and forty-five minutes, depending on the time of day. (May 9, 2011 schedule) Northbound, daily, one train departs from Seattle at 7:40 a.m. and arrives in Vancouver at 11:40 a.m., (mid-day). For reference, this train passes thru/departs Everett at 8:31 a.m. and passes thru/departs Bellingham at 9:52 a.m. A second daily train departs Seattle at 6:20 p.m. and arrives in Vancouver at 10:50 p.m. (late night). This second trip is a continuation of the scheduled thru-service From Eugene, Ore. Again, for reference, this service passes thru/departs Everett at 7:20 p.m., and passes thru/departs Bellingham at 9:00 p.m.

Southbound, a daily service leaves Vancouver, B.C., at 6:40 a.m. and arrives in Seattle at 11:25 a.m. (again mid-day). This train continues on to Eugene, Ore. Intermediate stops on the corridor are Bellingham at 8:45 a.m. and 10:02 a.m. at Everett. The second daily train southbound leaves Vancouver, B.C., at 5:45 p.m. and with intermediate stops in Bellingham at 7:45 p.m. and Everett at 9:09 p.m., the service arrives in Seattle at 10:10 p.m. (late evening).

General corridor, track and reliability improvements to bring the travel time down to the two and one-half to three hour range would compete with auto travel, which even with a long border crossing, can usually be accomplished in less than four hours. In addition, with only two trains a day, any arrival and departure time may be inconvenient for all but a specific few. Ridership for the second train has not been high, but it is reasonable to assume that speed improvements and more frequent service would lead to increased ridership across the board.

### **Three Amtrak Trips**

The WSDOT long-range plan for the corridor does call for a third Amtrak trip in the corridor by the mid-point in the planning time frame, (2013?) again assuming that all capital improvements are completed. This third trip would appear most likely valuable during the mid-day. Starting both in Seattle and Vancouver no later than mid morning and arriving at either end by early to mid afternoon. Presently thruway bus service leaves Vancouver southbound at 8:00 a.m. and arrives in Seattle at noon. A train leaving at 9:45 a.m. could arrive in Seattle at 1:30 p.m. connecting with or continuing the existing 507 train leaving Seattle at 2:20 p.m. for Eugene, Ore. Northbound, a third trip could continue the 500 train from Eugene that arrives in Seattle at 12:00 p.m. Present thruway bus service leaves Seattle and arrives in Bellingham at 2:20 p.m., or could continue on the Vancouver for arrival at

approximately 4:00 p.m. Amtrak *Cascades* (Talgo) equipment presently in service for the 507 and 500 trains could continue on in both of these cases. Additional train sets presently on order for Oregon would seem to allow ample equipment to extend and provide this service.

**Three Amtrak Trips plus Two Regional Rail Trips**

This operating option would add two “regional rail trips” using non-Talgo equipment to provide connection from Bellingham (possibly Blaine) south to Everett to connect with Sounder rail service there and allowing connection to-and-from (round trip) Seattle. Two equipment options are possible to provide this service; each will be described separately. These include service provided using commuter rail cars pulled by locomotive and the second using DMUs.

Southbound from Bellingham, the regional rail trips would occur before the Amtrak *Cascades* service reached Bellingham at its daily scheduled arrival time of 8:45 a.m. One train would depart at 5:10 a.m., connecting with the 1705 “Sounder” train at Everett departing at 6:45 (arriving Seattle at 7:44), the second departing Bellingham at 5:40 a.m., connecting with the 1707 “Sounder” train departing Everett at 7:15 a.m. (arriving Seattle at 8:14 a.m.). In similar manner northbound trips would depart after receiving evening connecting passengers from the 1704 and 1706 “Sounder” service, arriving in Bellingham at 7:05 p.m. and 8:05 p.m., respectively.

The full schedule for these two “regional rail” trips is shown below.

<b>NORTHBOUND - PM</b>				<b>SOUTBOUND - AM</b>		
<b>Station</b>	<b>NS 01</b>	<b>NS 03</b>		<b>Station</b>	<b>NS 02</b>	<b>NS 04</b>
Everett	17:45	18:45		Bellingham	5:10	5:40
Marysville	18:06	19:06		Mt. Vernon	5:41	6:11
English	18:12	19:12		Stanwood	5:56	6:26
Stanwood	18:22	19:22		English	6:06	6:36
Mt. Vernon	18:37	19:37		Marysville	6:12	6:42
Bellingham	19:05	20:05		Everett	6:30	7:00
<i>Note:</i>						
<i>(1) Intermediate dwells 30 seconds</i>						
<i>(2) Departure times shown for all stations, with exception of terminals (arrival time)</i>						

These two round trip services, with the additional third Amtrak round-trip, have been modeled as part of the service improvements investigated for the study.

As reviewed in the Capital Cost comparison section elsewhere in this study, either standard commuter rail equipment consisting of a locomotive, a coach car and a coach/cab car (280 seats), or a three car DMU consist (258 seats), could be used to provide this service and would have a capacity similar to a Talgo intercity consist.

A complicating factor in using the DMUs for this service has been discussed elsewhere. The DMUs presently possessing the FRA “crashworthiness” standards are also high floor vehicles. Their use would require platform modifications (ramps or steps) at each station stop. This is a complicating, but not an insurmountable engineering or financial problem.

### **Five trips as regional rail, an All DMU Service for the North Sound**

Another operating scenario would be to utilize DMUs for both the Amtrak intercity trips and the “regional rail” trips until true high-speed operation was achievable on the corridor. Three of the trips or all of the trips could end in Vancouver, B.C.

While high-speed track improvements, crossing improvements, reliability and other physical improvements in the actual track and corridor were being made, uniform new DMU equipment would be acquired and put into service. Existing Amtrak Talgo service would terminate in Seattle and a “new” service would initiate there to Vancouver. The one obvious drawback would be a required passenger transfer in Seattle for passengers traveling and thru Amtrak service north or south.

All equipment would be “higher” speed FRA compliant DMUs, like the Nippon Sharyo vehicles. The Nippon vehicles would maintain the existing high level of amenities including restrooms, service bar, luggage storage, ADA accessibility, comfort and convenience. Service would include five round trips per day. (Mimicking two existing Amtrak trips, plus the additional Amtrak trip, plus two described regional rail trips) Five trips of 258 passenger capacity each would almost double existing service levels, and be spread across a much broader part of the day.

Because of the 90 mph ability of the Nippon cars and their faster acceleration and deceleration, additional station stops might be considered without degradation of travel times. The Metrolink Toronto analysis anticipated lower operating and maintenance costs from DMU equipment. Continuing analysis of the labor component of total cost would have to be conducted. This service might also require a new institutional operating structure, a combination of state, Amtrak, and local jurisdictions along the corridor.

Using the ST Sounder “North Commuter Operating Agreement” with BNSF as a model, BNSF would operate the trains for a new regional entity. Amtrak would not be involved with the service. BNSF would both operate and dispatch service for a new entity.

Existing Talgo trainsets would be utilized on the corridor south from Seattle, providing equipment needed to expand service there. The WSDOT long-range plan did call for nine high-speed trainsets for the corridor sometime during the “mid-point” of the 20-year planning period (2013). (Five existing, two new Oregon Talgo trainsets and one new Washington high-speed set.)

### ***Conclusion***

Our studies and analyses suggest that a possible sensible option is to proceed with three Amtrak trips plus two regional rail trips. The two “regional rail” service trips could be provided by using DMU equipment and modified stations utilizing the high floor vehicles. We believe they would be accepted as modern, “higher speed” vehicles with all the amenities of the existing high-speed (Talgo) equipment, but less expensive to acquire and operate.

**TASK 2**

*Determine operational characteristics of high-speed trains and DMUs and produce comparison tables. Specifically, the elements of this task will include:*

***Deliverables:*** Comparison tables.

###

This section of the report addresses the operating and maintenance costs of various systems and their technologies. The four specific and different systems and their differing rail technologies include:

- Washington State and their Amtrak *Cascades* service that utilizes the Spanish Talgo trainsets (*Note: WSDOT Talgo operating and maintenance costs as presented in Appendix 1 may vary from current WSDOT data.*)<sup>1</sup>
- ST in Seattle that uses locomotive-hauled Bombardier bi-level commuter cars hauled by locomotive to provide “Sounder” service
- Translink in Vancouver, B.C., that also uses the Bombardier bi-level cars pulled by locomotive to provide their West Coast Express (WCE)
- Tri Met in Portland that uses US Railcar DMUs to provide their Westside Express Service (WES)

Presently, there are several systems in the United States that operate DMUs in daily revenue service. Unfortunately, only two of these systems use FRA crash compliant vehicles required by the BNSF railroad. Both systems use vehicles originally manufactured by Colorado Railcar, and its successor, US Railcar. Tri Rail in the Miami, Fla., area has four bi-level DMU coaches, one bi-level unpowered car and one single level DMU. The powered units are frequently used with unpowered bi-level cars to provide service, avoiding the need for a locomotive.

The other system using the US Railcar vehicle is the WES service in Portland, Ore. It uses three, powered single level DMUs and one single level unpowered vehicle. Due to its proximity, the Portland DMU data was used for this study. The WES system received the cars in late 2008, and they went into full revenue service in 2009. Data used for this analysis is for 2010, the first full year of operation. Highly unusual maintenance “retrofits” have been experienced during this first full year of operation. Forty-nine major subsystem “modifications” have been required and added significantly to the operations and maintenance costs reported. Some of these modifications include: replacing the door close monitor, replacing the control cab heaters, rerouting the air conditioning piping, etc. Those items were accomplished with material and overtime labor and have been subtracted from the comparison data used in this analysis. Tri Met reports no ongoing dissatisfaction with the vehicles once the “modifications” were accomplished.

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<sup>1</sup> Substantial discussion with WSDOT Rail Office staff resulted in the data presented in Appendix 1, but current Washington state figures may vary. Data users should confirm Talgo cost figures with WSDOT prior to use.

Reference in this analysis is also made to the new Nippon Sharyo DMU under fabrication for both the SMART system in Sonoma-Marín counties in California and now also procured by the Toronto Metrolinx system. Nippon is a renowned manufacturer of rail vehicles and supplies regular and bi-level railcars to several U.S. systems.

### ***Comparisons***

A difficulty in comparing O&M costs for locomotive-hauled and DMU equipment results from the unique and very different capabilities of the different types of equipment. The expense of locomotive operations can be spread to the costs of operating a “consist” of the locomotive and the coaches it pulls (or pushes). A single DMU is less expensive to operate than a single locomotive because the engine and mechanical parts are simpler, but the longer the DMU train, the more expensive it becomes because each DMU is self-powered. The recent and very thorough Metrolinx (Toronto) study indicated that as a rule of thumb, a DMU consist that has a capacity of over 300 passengers will be more expensive to operate than a locomotive powered consist. The study did not, however, conclude that all DMU consists under that capacity are less expensive to operate.

The fact that a “typical” consist does not exist makes comparisons somewhat challenging. A “typical” locomotive-hauled train (whether a commuter train or intercity service) cannot be fairly compared to a “typical” DMU train, and both are difficult to compare to high-speed train equipment. The problem is multivariate and, therefore, trains of DMUs and locomotive-hauled trains with equivalent passenger capacities must be compared to one another in order for any comparison to be equitable.

For the existing north corridor, the present Amtrak Talgo equipment (13 cars, locomotive and cab locomotive) has a capacity of 284 passengers. A nearly comparable SMART Nippon three car train would have a capacity of 241 passengers. In regular service, however, a six or seven (even 10 car commuter rail train) would have a capacity of 840 to 1,400 passengers. BNSF’s operating rules require all trains to have a minimum of 12 axles to properly activate the railroad’s signal systems. A Nippon or US Railcar configuration would be required to consist of a three-car minimum. A Nippon DMU consist could add another (fourth) interior powered car to the three car layout and increase the total capacity to 324. For reference, a three car US Railcar consist could be composed of a powered “head end unit,” a single level unpowered unit and a trailing powered car, all with a total capacity of 290 passengers.

The existing technologies examined for this comparison also have different speed capabilities and each operates over distances defined by their present service requirements. Within the state of Washington, the Talgo *Cascades* service operates from Vancouver station to Bellingham station (and really beyond to Blaine, though no stop presently exists there) a distance of 253 miles. The ST “Sounder” commuter rail service is presently serving 74 miles, with an additional approximately eight miles of service under construction. Vancouver’s eastside commuter service the, “West Coast Express”, operates a total system of 42 miles. Lastly, the Portland “Westside Express Service” operates only 14.7 miles. This vast difference in service route length makes meaningful comparisons difficult.

The technological potential of the various equipment is also very different. The quality and passenger amenities of the longer traveling Talgo equipment (or any other brand of equipment that might be used in intercity service) includes leather seating, with more

legroom, rest room and food service, and in general, more comfort for the longer time and distance service. Most importantly, the Talgo has the “tilting” function that produces a more comfortable passenger ride on trackbeds that are not up to complete high-speed passenger specifications. However, the present Amtrak *Cascades* service, provided by Talgo equipment, may not exceed the 79 mph limit set for top speed by the FRA due to existing track standards. Even with the track upgrades, realignments and other improvements to be added to the corridor and funded by ARRA funding, that speed will not be increased for the foreseeable future. The 110 mph potential of the existing Talgo equipment has not been, and cannot be utilized. Even discounting the marketing and passenger amenity benefits of “European, visually attractive” equipment, the higher cost of the Talgo trainsets may not have been justified. Recall that all future Talgo equipment will be the “Series 8” passenger cars with a potential of more than 200 mph. It can be hoped that that potential will be utilized at some point in the future.

The existing Bombardier bi-level commuter cars used by both Seattle and Vancouver operate at more than 90 mph over some stretches of southern California. Those trackbeds have been upgraded, but are also relatively level and without the higher elevations found on our Washington corridor. They would not be able to traverse our curves at those speeds and certainly not without passenger discomfort. Because they are double-decked and over 17 feet high, car “sway” would also be expected to be an issue on lower classification track.

Most DMU equipment has a potential speed higher than that at which they currently operate. But because of the type of service provided, they are not called upon to use that capability. The US Railcar equipment in Portland is specified at a top speed of 60 mph, but had been tested at the class 4 track speed of 79 mph. The cars do operate for some stretches on the line at the 60 mph speed. The Nippon equipment for SMART is required to operate at the top federally allowed speed of 79 mph (actually 80 mph in the specification) but the car builder states that the car is capable and will be certified at a 90 mph top speed.

Both the bi-level commuter cars and the DMUs are capable of upgraded seating, increased legroom, different door configurations, and luggage storage racks. Both also provide restroom facilities. The Nippon cars will include a “service bar.” Some of the Sounder and WCE bi-level cars do have that amenity, or could have it added. A possible evaluation that could be explored is using the less expensive commuter and DMU technologies configured to provide the amenities. They initially cost less to acquire and have all the speed that can be accommodated on the corridor.

The WSDOT Rail office has suggested that a “life cycle analysis” be used to compare the systems and their technologies and focus solely on the costs associated with the direct use of each technology. There has been neither the time nor funding to complete such an analysis. Instead, the data for the O&M cost for each system has been reduced by not including cost categories not provided for all systems. Amtrak data provided is only for the State of Washington trains and only for the portion of the service provided within the state. Caution must be used when comparing these system-to-system costs; direct technology-to-technology comparisons are not valid.

***Data Comparison.*** The deliverable “***Rail Equipment Operating and Maintenance Cost Comparison Table***” (see Appendix No. 1) compares the reported operating and maintenance costs of the various technologies used in the region, and also provides some derived comparative measures.

It must again be emphasized that these technologies, operated in very different service configurations, are extremely difficult to compare. Different jurisdictional, institutional and operating structures not only explain some of these differences, but also actually add to the difficulty. Some examples:

- Both ST and Tri Met receive U.S. federal financial assistance and are thus required to report financial and statistical data for inclusion in the National Transit Database and use accounting systems structured for that purpose. The State and Canadian systems do not.
- The Washington State *Cascades* service and the West Coast Express in Vancouver, B.C., have no insurance costs reported in their O&M structure, but both ST and Tri Met include insurance costs. Interestingly, the insurance cost reported by and attributable to Sounder, a 74 mile system that provided 56.8 million passenger miles of service last year, was two thirds of 14 mile WES system in Portland that provided only 2.6 million passenger miles of service. For that reason all insurance costs were removed from the cost data. There was no analysis, however, to determination whether the higher cost at Tri Met was due to the technology being used.
- Tri Met includes all management costs as part of their general salaries and labor, and because of their small system size does not break out or differentiate the costs. ST reports overhead staff/management cost, but the state did not report any such cost associated with the *Cascades* service. WCE includes all such cost in their reporting. These differences are due to the operating structures used. The state pays Amtrak to operate their trains and Talgo to maintain the trainsets. ST uses both BN and Amtrak to actually operate their service, and both Tri Met and TransLink operate and maintain their vehicles wholly within their agencies.
- All four systems operate on existing, privately owned freight rail system track, and all four compensate the actual owner through different means. Typically, the private railroad (here the BNSF Railroad track is used by both the Amtrak and ST) requires track upgrades and improvements (a capital investment) by the operator, in order to permit the use of their track. This “capitalization” of operating cost does not reflect in the data. Some continuing maintenance-of-way costs may still show up in the system maintenance cost of each of the providers. To the extent uncovered, they have been removed.

Focusing on the “Sounder” service costs, the reader will notice that the total costs are the highest of the systems reviewed. This is due to the system also operating the highest total train miles. A comparison between the Vancouver WCE and Sounder reveals that the ridership of the 45-mile WCE service had almost 400,000 more total boardings in 2010, but that the cost per train mile was significantly higher. Again, this could be due to undiscovered differences in reporting. Total boardings for the Amtrak service were only 25 percent that of Sounder, but the nature of the service is that those passengers board the train and ride much longer distances, accounting for the vast difference in passenger train miles for the *Cascades* service when compared to any of the others.

The high cost of the WES service in Portland must again be moderated by the fact that this was the first full year of service, ridership was developing and modifications to the DMU vehicles during the actual period of revenue service was a continuing effort. The recent “Southeast King County Commuter Rail Feasibility Study” completed by the WSDOT evaluated an almost similar short feeder commuter service similar to that operating in

Portland. For their anticipated 13 mile system operating and maintenance annual expenses were projected to be \$4.1M to \$4.8M, with a substantial portion of that attributable to insurance requirements.

### **Conclusion**

There seems to be evidence from other studies that for commuter rail or regional rail service not requiring high capacity service, that DMU technology has the potential for a much lower initial acquisition cost. More actual operating experience will have to be accumulated before a conclusion can be reached about continuing O&M costs. By looking just at the numbers in *Rail Equipment Operating and Maintenance Cost Comparison Table (Appendix No. 1)* the reader might conclude that one system was the least expensive and another was more so. This would not be a correct conclusion. The systems are virtually incomparable and the data supplied vary distinctly from system to system.

### **Comparing Rail Technologies**

*Summary and Assessment of METROLINX (Ontario), Rolling Stock Technology Assessment (December 2010)*

Metrolinx operates a comprehensive transportation system of light rail transit, bus and commuter rail lines in the Greater Toronto and Hamilton Area (GTHA). As part of the organization, GO Transit, a division of Metrolinx, provides commuter rail service on seven corridors in the GTHA, using conventional diesel-electric locomotives and non-powered bi-level coaches in push-pull configuration. For environmental and operational reasons, an investigation was done to ascertain if there was a better equipment choice for the future. As part of that study an appendix evaluated rolling stock technologies that were considered:

- Diesel Locomotives
- Diesel Multiple Units
- Electric Locomotives
- Electric Multiple Units
- Dual-Mode Locomotives
- Dual-Mode Multiple Units
- Alternative Rolling Stock Technologies and Enhancements, including
- Alternative Locomotive Fuels
- Hybrid Drive Trains
- Hydrogen Fuel Cell Drive Trains
- Maglev
- New System Concepts

Assessment criteria included the following related to the technology: if it was proven, commercially viable, compatible with the existing infrastructure, and would provide equal and then better service levels.

The following technologies (all bi-level) received a second level of evaluation for final consideration: Diesel Locomotives, Electric Locomotives, Electric Multiple Units, and Dual-Mode Locomotives. The final suggestion to the Board was that over time two new permanent lines going into downtown Toronto would be electrified including a new line to Pearson Airport.

Conflicting information included that Metrolinx had purchased diesel DMUs for the Pearson line. Cascadia Center contacted the author of the study, Ms. Leslie Woo, Vice President for Policy, Planning and Innovation. She said that *after* a system-wide decision was reached, it was further decided that the new line to the airport would use two-car DMUs to provide service. It turns out that the line is required for service in 2015 when the Pan American games will be held in Toronto, and both construction time and money would not allow completion of both the rail line and the electric supply system in time. The line is slated for electrification in the future.

Additionally Metrolinx justified the decision for interim DMU service for the following reasons; DMUs are more tolerant of low adhesion conditions and moderately steep grades, and they can be lengthened or shortened to meet ridership demand. The combination of multiple engines and drive axles allow DMU consists to accelerate faster than diesel locomotive hauled commuter cars. In addition, multiple, distributed diesel engines allow at least one engine to fail without significantly affecting the train's route performance.

The final study states, "there are currently no suppliers of FRA compliant DMUs." However, that changed with acceptance by SMART of new compliant DMUs, and Toronto is now negotiating with Nippon. The study concludes that DMUs are not likely to directly replace diesel or electric locomotive and bi-level car service, but could be used to extend or feed current routes, provide off-peak service, or replace locomotives in a high-service-frequency operating scenario where shorter, more frequent DMUs can replace longer, less frequent locomotive commuter trains. Lastly, their analysis shows that DMUs are competitive in short consists (of up to four or five cars), and impractical in longer consists.

The study does a comparable, and rigorous, analysis of both electric locomotives and electric multiple units (both requiring overhead or wayside power), but concluded that they may be feasible for future use but that their availability is limited in North America. Similarly, dual powered (diesel and overhead electric) multiply cost and are presently not in extensive use here.

### **Toronto Metrolinx Update**

On February 18, 2011, the Metrolinx Board directed their agency staff to enter into a contract with Sumitomo Corporation of America (Sumitomo) for the purchase of 12 DMUs at a price of approximately \$55 million, (vehicle cost is \$3.8M per car) which includes capital spare parts, special maintenance tools and contingencies for Metrolinx design changes. The design changes include upgraded interiors, installation of above-seat, airline-type, closable luggage bins, upgraded heating and air conditioning systems and the future assured conversion to electric propulsion once the Agency can afford to upgrade the line.

The vehicles will be used for the Air Rail Link (ARL) between Union Station and Pearson Airport. The ARL is an express rail link connecting Canada's two busiest transportation hubs. The ARL service will be operational by 2015 and will offer a critical transit alternative to the five million car trips that take place every year between these destinations. The ARL vehicle contract would also include an option to purchase an additional six vehicles. If the option is exercised, the total contract is \$75 million. By following a competitively tendered process used by Sonoma-Marín County in California, Metrolinx was able to achieve significant cost per vehicle savings. The vehicles will be manufactured in the United States.

These vehicles will be Tier 4 clean diesel, but will be convertible to electric propulsion as part of the purchase price. Metrolinx has received approval from the Province of Ontario to begin the environmental assessment on converting the Air Rail Link to an electric service.

### **Analysis of Equipment Options for the Corridor**

This evaluation and analysis will focus on the capital, operations and maintenance cost comparisons of various rail equipment options that are available for use on the corridor. Additionally, if significant operating differences exist that would materially affect the service, they will be highlighted. Existing Talgo “tilting” equipment, traditional “push-pull” bi-level commuter train units, and currently available DMU technology will be compared and evaluated. BNSF has indicated their requirement for FRA compatible DMU equipment on their system. As of this writing there are two manufacturers that are building such equipment. This analysis is separated into two sections. The first is a comparison of the capital cost of these differing technologies. The second is a comparison of the operating and maintenance costs of the equipment options.

It should be noted that each of the equipment options have different operating characteristics and are specifically suited for the type of service they provide. That does not mean that they could not be used interchangeably under the right circumstances. The Talgo high-speed train set is fully capable of 110 mph service, but is limited both by existing track geometry and condition, and federal regulation, to 79 mph. All new Talgo equipment that will be purchased in the United States will be Series 8 cars with a capability of over 200 mph operation. It should be noted that any future Washington State procurement of high-speed rail equipment will be open to all bidders, not just Talgo, and the U.S. FRA may require that all new equipment be both capable of speeds greater than 200 mph and meet U.S. crashworthy standards.

Bi-level commuter cars manufactured by Bombardier Inc. are in service with ST’s “Sounder” in the Seattle region and with TransLink’s “West Coast Express” in Vancouver, B.C. Though they are in commuter rail service, these cars with appropriate locomotive power, have an almost 100 mph capability and operate daily at over 90 mph in southern California. Both the Talgo intercity equipment and the Bombardier commuter rail cars are “lower floor” vehicles and use low platform boarding.

The two manufacturers of DMUs that will be examined in this effort are both manufacturing “FRA compliant” vehicles, and both indicate that their vehicles are capable of 90 mph service, but both are also currently “high floor” vehicles. Nippon Sharyo does have DMUs in other countries that are both low floor vehicles and are operating at 120 mph and higher. With the proper track improvements all of these vehicles could exceed the present 79 mph limitation and provide higher speed than existing service.

### **Rail Capital Costs**

**Talgo Built Tilting trainsets.** Talgo is an acronym for a Spanish company that has been in the business of manufacturing high-speed passenger equipment for the last 50 years. Talgo trains are different from typical passenger trains used in the U.S. and Canada because they are “articulated.” Adjacent cars share one set of wheels and the cars function as a single, complete unit. In addition, the single pair of wheels is not joined by an axle underneath the coaches. The train cars tilt naturally when going around curves making it more comfortable

for the passengers by cancelling out some of the effects of lateral force. This allows the passenger service to use higher speeds on existing freight rail tracks.

The State of Washington and Amtrak bought four Talgo trainsets, and leased a fifth, while starting service in January 1999. Presently, five sets provide intercity Amtrak *Cascades* service from Eugene, Ore., to Vancouver, B.C., using primarily the Talgo equipment. The capital acquisition costs for Talgo trainsets shown on the accompanying table are from recent purchases by the states of Oregon and Wisconsin. The estimated cost of a possible additional set by Washington State is what is anticipated at this writing. The approximate cost does not include locomotive. The power listed is also what is assumed by various sources. The cost for a fully operational Talgo passenger train set ranges from \$24-36 million depending on the locomotive used. In order to achieve the potential 110 mph service, it is estimated that each set will have to have a powered locomotive at each end. That cost is only shown for the future Washington train configuration that may be added to the fleet in the 2015 time frame.

Capital cost per seat provided for service for the Talgo trainsets, depending on configuration, ranges from \$62,469 per seat to possibly as high as \$126,761 per seat.

**Bi-level commuter coaches.** Both ST's "Sounder" in the Seattle region and TransLink's "West Coast Express" in Vancouver, B.C., use conventional diesel locomotives that both push and pull Bombardier two-level (bi-level) commuter cars and cab cars in standard "commuter rail" service. These bi-level coaches can each carry 140 passengers, and thus each train can provide a great number of seats. An additional comparative calculation is provided in the table for the commuter system technology. In addition to providing a capital cost per seat provided, the table attempts to equalize the comparisons by also pricing commuter rail consists with only one coach and cab car, thus pricing a total of 280 seats, a similar number to both the Talgo and DMU consists.

Diesel locomotives are self-sufficient power units that are controlled in the locomotive cab or from the cab car control booth in the end car when travelling in the opposite direction. The locomotives presently used by both agencies are now F59 PH1 locomotives, built by Electro-Motive Diesel, Inc., between 1989 and 1990. The F59 locomotives provide reliable service and achieve moderate performance for both agencies. U.S. federal regulations will be requiring an upgraded power source with cleaner functioning engines. Sounder is in the process of acquiring the first of new Motive Power MPXpress locomotives to initiate the eventual upgrading of their fleet. The plan of using locomotive hauled bi-level cars has typically provided the lowest risk, lowest capital cost, quickest delivery and most flexible approach for commuter rail operators. As can be noted in the comparison table, the capital cost per seat in a full commuter rail consist is the lowest of all technologies compared. This is because of the large number of seats the service can provide. Comparatively, diesel locomotives are the heaviest motive power units that can be used for urban or intercity transport. They generate relatively high wheel/rail forces. This leads to increased track and infrastructure maintenance costs, particularly as speeds increase. High axle loads are not necessarily disadvantageous, as the tractive effort or drawbar force is influenced by the available adhesion level (friction between wheel and rail), and the total weight on drivers (driven axles). For low speed operations, especially at low to moderate adhesion levels, locomotives are "adhesion-limited" rather than "horsepower-limited. The only way to increase tractive effort is to modify friction through the use of sanders or to increase axle load DMU (Diesel Multiple Unit).

Few DMU vehicles are in revenue service in this country, and even fewer are FRA compatible. U.S. Railcar has four vehicles in active service on the Portland WES and seven other vehicles in service at other locations spread around the country. Nippon has been selected to provide nine two-car sets of vehicles to the SMART system in California and presently has delivered a total of 302 DMUs to 12 different clients in four countries.

Both DMUs are high floor entry, flat floor vehicles with propulsion under the floor. U.S. Railcar advertises a top speed of 60 mph—though capable of slightly higher top speed—while Nippon must meet SMART’s top speed of 80 mph. Both manufacturers, and most DMUs possess faster acceleration and deceleration than locomotive-hauled trains (both Talgo and bi-level cars). This means that when limited by track conditions, as in the present north corridor situation, DMUs could be able to attain a slightly higher average speed. This may be important if more stops are added in the corridor.

Both the U.S. Railcar and Nippon vehicles can be connected in an almost infinite multiple car trains. The Nippon three-car consist, depending on interior configuration, can carry up to 258 passengers and includes a service bar and two restrooms. It also has ADA specified capacity for wheelchair users and bicycle carriage.

The Nippon winning bid came in at \$3.2 million per single unit. The U.S. Railcar single unit price was \$5.5 million. An additional benefit to the selection of Nippon is that it has agreed that other systems may purchase the same car at the same price, up to a total of an additional 146 cars, for a period of up to 5 more years. Metrolink in Toronto, Canada has purchased cars from this procurement, and Houston Texas is negotiating procurement as of this writing. The \$3.2 million cost is comparable to an unpowered bi-level commuter car.

**Highlighting the Comparison Table.** Referring to the *deliverable “Rail Equipment Capital Cost Comparison Table”* in Appendix No. 1, this analysis has attempted to find a method to compare the capital costs of the differing technologies. The last row in the table provides the calculation of “Capital Cost per seat provided” for each of the alternatives.

Recognizing the advantage of the Talgo equipment’s ability to use its lower center of gravity and tilting ability to achieve higher speeds on lower level track conditions, and its potential for ultimately the highest overall speed, it still is projected as the highest cost alternative. Talgo equipment costs range from \$63,469 per seat to \$126,761 per seat provided.

Per seat cost for the commuter rail options range from \$19,650 per seat for the Translink 10-car trainset using existing power, to \$37,857 per seat for a two car consist using the newer Tier 4, higher speed locomotives. This analysis has not investigated the single level commuter car consist (though no north American manufacturer presently offers one), but this would be the type of equipment and service presently offered by Amtrak across the nation. A four-car, single level passenger train (roughly seating 320 passengers) might prove to be the least cost alternative.

Capital cost per seat provided for the DMU examples range from \$51,809 at Tri Met to the projected \$37,209 per seat for the proposed SMART/ Nippon Sharyo vehicles. (Note: The three-car, 258 passenger Nippon consist is almost the identical cost per seat of a two car (280 passenger) new generation locomotive hauled commuter rail trainset—more than \$37,000.)

**TASK 3**

*Determine what capital projects are required to add additional intercity passenger service between Seattle and Vancouver, B.C., and assess the cost and project implications of these. Specifically, the elements of this task will include:*

- A. Research metropolitan and regional planning organization land use and environmental policies to account for implications of passenger rail initiatives.
- B. Conduct interviews concerning expanded rail operations with local governments, First Nation and tribal leaders, as well as tourism and economic development leaders to determine level of support and potentials for partnership.
- C. Consult with corridor transit agencies, state and provincial transportation departments, Amtrak and private transportation providers to ensure integration of expanded passenger rail service with local, inter-county and bi-national transit, intercity coach and ferry services
- D. Research bi-national governance, interlocal agreement and financial models for public private partnerships to develop additional funding sources and marketing partnerships for expansion of intercity rail passenger service.
- E. Share the results and scenarios with WSDOT, Amtrak, BNSF Railway and appropriate BC leaders to determine whether additional modeling is necessary (and how much it would cost) to accommodate any future DMU service.

*Deliverables:*

- Compilation of projects including cost-estimates and project implications.
- White paper on detailing results on Task 3 item D: Bi-national governance, interlocal agreements, financial models for Public Private partnerships for expansion of service.
- White paper summarizing land use and environmental policies that account for implications of passenger rail initiatives.
- White paper summarizing integration of transportation modes from Task 3 C.

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**COMPILATION OF PROJECTS INCLUDING  
COST-ESTIMATES AND PROJECT IMPLICATIONS**

*Operations Simulation 2011<sup>2</sup>*

**Introduction**

The purpose of this task is to determine what capital projects are required to add additional intercity passenger service between Seattle and Vancouver, B.C., and assess the cost and

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<sup>2</sup> This deliverable prepared by Wilbur Smith Associates

project implications of these. The work scope included a computer-based simulation of railroad operations with and without the proposed regional rail trains. This work effort is an update to the 2008 *North Sound Regional Rail Study Operations Simulation*. The study area is the same as in the earlier study: Wenatchee to Everett, Seattle to Everett, and Everett to Bellingham and Blaine.

BNSF provided records of actual train movements for a month-long period that were used by the study team to create train files representative of current traffic patterns, including time and day of operation, train length and tonnage, and crew change locations. (Train files are used to perform the simulation.) The current study took into account the current Sounder, Amtrak Empire Builder and Cascade trains, plus a third Cascade round trip between Seattle and Vancouver, BC. This train was assigned a mid-day schedule as envisioned by WSDOT

WSA (Wilbur Smith Associates) utilized Rail Traffic Controller (RTC) software, an industry-standard product that simulates train operations. RTC is also used as an analysis tool by BNSF. All simulations were performed with RTC Version 2.70 L59E.

The regional rail service plan assumed in the simulation would have two morning trains departing Bellingham and continuing to Everett, with intermediate stops at Mt. Vernon-Burlington, Stanwood, English and Marysville. At Everett, the trains would connect with Sounder commuter service between Everett, Mukilteo, Edmonds, and Seattle King Street. Two corresponding afternoon trains would leave Everett after arrival of connecting Sounder trains, and return to Bellingham. In order to include the collateral effects of freight service outside the immediate Bellingham- Everett service area, the simulation area included trackage of the Bellingham Subdivision from the Canadian border south to Everett, and trackage of the Scenic Subdivision from Wenatchee west to Everett and Seattle.

The regional rail schedules assumed appear in **Table 5**.

### **Network Simulations**

The rail network for the simulations was drawn using current BNSF track charts and timetables (variously dated between 2007 and 2010), provided by BNSF simulation modelers. Centralized Traffic Control (CTC) signalization (whereby a dispatcher in a remote location directs the progress of trains over a section of track by wayside signals) was added to the simulation cases except in yard areas. Assumptions regarding the track and capacity improvements for each simulation case were taken from the 2008 study, which were based on diagrams of conceptual improvement plans prepared for WSDOT by Transit Safety Management and HDR Engineering. The improvements represent a package of track improvements that WSDOT and BNSF had accepted as requirements for extension of the second Amtrak round trip to Vancouver, B.C., the addition of a third Amtrak round trip, as well as for increasing Sounder service to four round trips between Seattle and Everett. Some of the improvements assumed in the 2008 study have since been realized. Others are scheduled to be completed with ARRA funding or other funds in the near future. Thus, assumed for the base case (Simulation 1) were:

- Double track through Interbay Yard
- Double track from Milepost (MP) 7.3 to MP 7.8, with universal crossover at MP 9.0
- Incorporation of Mukilteo Sounder station

- Extension of Lowell siding west to MP 1783.0
- Extension of English siding southerly to MP 43.9
- Extension of Stanwood northerly to MP 57.6
- Extension of Mt. Vernon siding southerly to MP 65.5
- Burlington yard revisions and new main line (no siding at this location)
- Revision of Custer and Intalco sidings to provide extended yard track (no siding at this location)
- Extension of Swift siding between MP 114.9 and MP 118.1 with 5 mph freight speed limit at north end

Improvements in the vicinity of Delta Yard, identified and modeled during the previous study, were not included in the current effort. Specifically:

- Ease of main line curve at north end of the yard
- New main line around the yard
- Revision of yard tracks/leads

However, by means of distance equations, WSA modelers coded longer receiving and departure tracks at Delta Yard to avoid long freight trains blocking yard approaches during crew change layovers or switching operations.

Train files, as noted, were based on BNSF records of actual movements during the peak week of October 2010. Based on train type, thresholds for early or late departure were included, and the RTC random feature was used to simulate different departure times for each day of operation. RTC was also set to permit variations in dwell time. The simulations were run for a 7-day statistical period, with 24-hour warm-up and cool-down periods<sup>3</sup>. Statistical performances were calculated by averaging 10 simulation runs for each simulation case.

WSA provided BNSF with draft final RTC simulation and summary files. After addressing all comments by BNSF staff, cases were re-run, obtaining the results summarized in this report.

Four cases were simulated:

- **Simulation 1** represents existing track configuration, plus near term track improvements, and existing trains, including the fourth Sounder round trip between Seattle and Everett, two Cascade round trips between Seattle and Vancouver, the Empire Builder, and BNSF trains.
- **Simulation 2** has the same track configuration and freight trains as Simulation 1. However, with respect to passenger trains, it adds the two Bellingham- Everett

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<sup>3</sup> These periods are a programming feature that is to assure steady state of operations for the simulation. While a simulation may start at a specific time, e.g. 8:00 a.m. on a Monday, in reality trains are moving on the line before the start time and dealing with conflicts from opposing trains. A warm-up period accounts for train operations before the start time of a simulation and thus helps to ensure a steady state of operations by the time the simulation actually begins. The function of a cool-down period is the same, only pertaining to the end of a simulation.

weekday regional rail trains and a third Cascade Seattle-Vancouver round trip on a mid-day schedule.

- **Simulation 3** adds a set (Set 1) of capacity improvements, which include double tracking two sections between Everett and Seattle (MP 27.0 to MP 27.8 and MP 15.8 to MP 17.8), and implementing two universal crossovers (at MP 27.8 and MP 17.8).
- **Simulation 4** adds a further set (Set 2) of track improvements by extending the siding at South Bellingham, joining Samish and Bow sidings, and implementing a universal crossover at MP 81.0.

**Table 6** shows the list of track improvements, while the statistical performance measures produced by RTC are compared in **Table 7**. Table 6 focuses on improvements and trains operating between Everett and Bellingham.

<b>Table 6: Assumed Track Improvements for North Sound Regional Rail Simulations</b>				
<b>Improvement</b>	<b>Simulation 1</b>	<b>Simulation 2</b>	<b>Simulation 3</b>	<b>Simulation 4</b>
Freight Service	Current Service	Current Service	Current Service	Current Service
Cascade Service and Amtrak	2 Vancouver RT	3 Vancouver RT	3 Vancouver RT	3 Vancouver RT
Empire Builder	1 Em. Bldr. RT	1 Em. Bldr.	1 Em. Bldr. RT	1 Em. Bldr. RT
Commuter and Regional Rail Service	4 Sounder RT	4 Sounder RT	4 Sounder RT	4 Sounder RT
		2 Regional RT	2 Regional RT	2 Regional RT
Construct regional rail layover tracks at Bellingham (MP 94.4) and Everett (MP 1782.7)	No	Yes	Yes	Yes
Double track, MP 27.0 to MP 27.8 with universal crossover at 27.8	No	No	Yes	Yes
Double track MP 15.8 to MP 17.8 with universal crossover at MP 17.8	No	No	Yes	Yes
Extend South Bellingham northerly to MP 97.0	No	No	No	Yes
Join Samish and Bow with universal crossover at MP 81.0	No	No	No	Yes
<i>Source: Wilbur Smith Associates 2011 Operations Simulation.</i>				

### **Analysis of Simulated Performance**

Shown in Table 7, the statistical performance measures, by which the simulation cases can be compared, are defined below.

**Average Train Speed:** Average passenger train speed increases with the introduction of the new regional rail service; that is, due to more trains running on the Bellingham Subdivision, which has higher speed limits than most sections in the Scenic Subdivision

(especially along the mountainous line between Everett and Wenatchee), speeds on average increase. Capacity improvements do not significantly influence passenger trains' average speed, which stays consistent at about 36 miles per hour.

The average speed of expedited freight trains (those with highest operating priority) slightly decreases with the added passenger trains operating over the network. However, when both set of capacity improvements are implemented, average speed returns to the level seen in the base case. The same pattern and results apply to general freight trains.

Overall, the average speed parameter increases throughout each simulation case.

**Delay Percent:** This is delay time as a percent of pure run time. Compared to Simulation 1 values, this parameter increases across all train types when new passenger services are introduced

In Simulation 2, the highest increase is experienced by general freight. Track enhancements under Simulation 3 and 4 do appear to mitigate delay percent, but at different degrees: passenger trains' delay decreases from 4.7 percent down to 4.2 percent which is still higher than in the base case. On the other hand both expedited and general freight ultimately experience better than base case performances; the same result is also reflected in the overall parameter.

**Delay per 100 Train Miles:** This measure of system performance shows a trend similar to Delay Percent with respect to train types. Again, passenger trains experience higher minutes of delay once new services commence; and even if track improvements mitigate delays, performances do not improve or equate to original conditions. On the other hand, freight trains show better than base case performances under future build scenarios. In terms of overall delay per 100 train miles for freight and passenger trains combined, the results are better than the base case.

<b>Table 7: Simulated Performance for 7-Day Period</b>				
<b>Measure</b>	<b>Simulation 1</b>	<b>Simulation 2</b>	<b>Simulation 3</b>	<b>Simulation 4</b>
	<b>Base Case</b>	<b>Base Case + New Service</b>	<b>Base Case + New Service + Improvements Set 1</b>	<b>Base Case + New Service + Improvements Sets 1 and 2</b>
<b>Passenger Train Count</b>	82	116	116	116
<b>Expedited Train Count</b>	72	72	72	72
<b>Freight Train Count</b>	240	240	240	240
<b>Total Train Count</b>	394	428	428	428
<b>Passenger Train Miles</b>	14,096	16,696	16,726	16,774
<b>Expedited Train Miles</b>	117,775	117,801	117,711	117,748
<b>Freight Train Miles</b>	195,890	195,793	195,327	195,699
<b>Total Train Miles</b>	327,761	330,290	329,764	330,222
<b>Average Passenger Speed</b>	35.6 mph	36.5 mph	36.6 mph	36.6 mph
<b>Average Expedited Speed</b>	22.8 mph	22.7 mph	22.7 mph	22.8 mph
<b>Average Freight Speed</b>	14.9 mph	14.6 mph	14.7 mph	14.9 mph
<b>Overall Average Speed</b>	19.2 mph	19.7 mph	19.8 mph	19.9 mph
<b>Passenger Delay Percent</b>	3.8%	4.7%	4.4%	4.2%
<b>Expedited Delay Percent</b>	18.6%	18.9%	18.9%	18.2%
<b>Freight Delay Percent</b>	33.6%	36.8%	35.6%	33.4%
<b>Overall Delay Percent</b>	24.7%	25.6%	24.9%	23.6%
<b>Passenger Delay per 100 TM</b>	5.4 minutes	6.4 minutes	6.0 minutes	5.7 minutes
<b>Expedited Delay per 100 TM</b>	35.9 minutes	36.7 minutes	36.6 minutes	35.4 minutes
<b>Freight Delay per 100 TM</b>	74.0 minutes	81.1 minutes	78.6 minutes	73.8 minutes
<b>Overall Delay per 100 TM</b>	48.6 minutes	49.1 minutes	47.8 minutes	45.2 minutes

*Source: Wilbur Smith Associates 2011 Operations Simulation.*

**Summary:** In line with previous simulation efforts, this study shows that the addition of Bellingham-Everett regional rail service, plus the operation of one additional Cascade round trip Seattle-Vancouver, will not degrade current freight performance, but instead will improve it, assuming concurrent track capacity improvements. This round of simulations confirms the validity of the improvement package, whether or not the Bellingham-Everett regional rail service is established. The results do indicate minor increases in delay to passenger trains in Simulation 4 versus the base case Simulation 1. Mitigation of such delay may require operational changes or track capacity enhancements. However, as the 2008 study, this round of simulations did **not** test any potential increased levels of freight service

in combination with the added passenger trains. These increase service levels could include in coal and grain traffic to the proposed Cherry Point export terminal.

#### **Comment from BNSF**

The simulation findings were shared with BNSF. On April 1, 2011 BNSF submitted its comments on this simulation. Specifically, BNSF suggested: longer simulation warm-up and cool-down periods than were assumed; different diesel exhaust flush times for the Cascade tunnels<sup>4</sup>; more elevation detail track segment<sup>5</sup>; and grain trains of 100 cars rather than 85 cars<sup>6</sup>. Apart from these, BNSF indicated that it had no issues with the technical aspects of the RTC operations simulation effort.

BNSF advised that its review and comment on the RTC simulation does not constitute BNSF agreement to plans to implement a regional rail service between Bellingham and Everett. BNSF explained that its traffic patterns change over time, so base line conditions will change. If the regional rail service were to materialize, BNSF said it would perform an independent operations simulation of the line to confirm system performance.

#### **Conceptual cost estimates**

This section discusses conceptual cost estimates for implementation of regional rail service between Bellingham and Everett. Costs are stated in 2011 dollars.

**Rolling Stock:** As discussed elsewhere in this report, the estimated cost of a three-car DMU (diesel multiple unit) train set is \$9.3 million. The service would need three sets: two for regular weekday service and the third as a spare. Accordingly, the cost for rolling stock estimated here is \$27.9 million, before delivery and any applicable taxes.

**Stations:** This study assumes two new intermediate stations at English and Maryville. Lump sum conceptual cost estimates are \$2 million for the former and \$3 million for the latter<sup>7</sup>. Costs would include a platform, a small shelter, and parking. Ridership is likely to be higher at Marysville, and thus the need for parking there would be greater, triggering a higher cost.

**Layover Facility and Car Shop:** The simulation assumed a daytime layover facility in Everett and a maintenance shop in Bellingham. Lump sum conceptual cost estimates for these support facilities are \$3 million for the former and \$10 million for the latter<sup>8</sup>.

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<sup>4</sup> Flush times are the times required to rid a tunnel of dangerous levels of diesel smoke after one train leaves and before another train enters. Flush times at Cascade Tunnel are higher for eastbound trains than for westbound trains. WSA made the appropriate changes.

<sup>5</sup> While the WSA simulation included some elevation detail, it was not to the degree that BNSF typically includes. Where elevation really matters is on the Wenatchee leg of the Scenic Subdivision running to the Cascade Mountains. The Wenatchee leg was included in the simulation, but it was not its focus, which was between Bellingham and Everett. This is a fairly flat segment where changes in elevations are comparatively slight and not important for the analysis.

<sup>6</sup> The key input is train length, not car number, and the assumed train length was consistent with 100-car grain trains. Nevertheless, WSA corrected the car number from 85 to 100.

<sup>7</sup> Based on an estimate for a similar station design quoted to Trinity Railway Express, Dallas.

<sup>8</sup> Assumes a 7,000 square foot structure, storage tracks, a maintenance pit, a small crane and lifts. Estimate verified with Trinity Railway Express. Wheel truing would be contracted for and performed elsewhere.

**Track Improvements:** While this analysis included double track improvements on the Scenic Subdivision south of Everett, these do not directly pertain to regional rail service. Those track improvements that do are (1) extending South Bellingham northerly from MP 93.5 to MP 97 and (2) joining the north end of Bow siding (MP 80.9) with the south end of Samish siding (MP 82.8) with a universal crossover at MP 81. This analysis assumes a conceptual unit cost of \$3 million per mile<sup>9</sup>, including CTC signaling, track, switches, and crossovers. Thus, the former is estimated to cost \$10.5 million and the latter \$5.7 million. It is important to note that mitigation for construction impacts to environmentally sensitive areas may push these costs higher.

**Operating Costs:** The assumed operating and maintenance cost per train mile<sup>10</sup> for a DMU is \$50<sup>11</sup>. This estimate would include the cost of the crews, dispatching, access payments to BNSF, maintenance of equipment, insurance, security, and general and administrative costs, etc., for the regional rail service. As the service would generate 61,976 train miles in revenue service over 254 weekdays (excluding holidays) per year, operating costs per year will total over \$3.1 million annually. This cost will be reduced by fare revenue.

**WHITE PAPER ON DETAILING RESULTS ON TASK 3 ITEM D: BI-NATIONAL GOVERNANCE, INTERLOCAL AGREEMENTS, FINANCIAL MODELS FOR PUBLIC PRIVATE PARTNERSHIPS FOR EXPANSION OF SERVICE.**

*“Canadian policies toward intercity rail are contradictory...the Great Vancouver region has invested and strategized for a transportation policy that reduces greenhouse gases by investing in transit, compacting growth and preserving farmland. Our TransLink plan envisions the majority of travelers arriving in downtown Vancouver in means other than a single occupant vehicle. The federal government however, wants to charge (\$1500 per train) the Amtrak Cascades service...if we were to charge a fee at the border, it should be on the single occupant vehicle and use those funds to subsidize the train and buses”*

**Professor Anthony Perl, Simon Fraser University**

*“It is time for our partners in Oregon and British Columbia to step up their commitment to the program. The people want that third roundtrip to Canada to better connect our entire corridor.”* **Washington State Senator Mary Margaret Haugen.**<sup>12</sup>

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<sup>9</sup> Based on a \$2.4 million per mile estimate done for the Midwest Regional Rail Initiative in 2004, and updated here to account for inflation. See: <http://www.cato.org/pubs/pas/pa-625.pdf>

<sup>10</sup> A train moving one mile generates one train mile.

<sup>11</sup> Figure based on recent year operating costs per train mile for California commuter rail services, adjusted downward to reflect DMU service, which typically has a lower cost profile than locomotive-hauled trains of two to three cars long.

<sup>12</sup> Cascadia Center conducted extensive interviews with regional stakeholders as part of this report. Many of the quotes from this section of the report forward are from those interviews. *Appendix 2, “Interviews and Community Outreach,”* provides more details of those interviews.

## Overview

The Pacific Coast Collaborative, an effort of the California, Oregon and Washington governors and British Columbia premier, was formalized in 2008 with the signing of the Pacific Coast Collaborative Agreement, which declares their intentions to collaborate on a common future in the “Pacific Century.” Their priorities include: clean energy, high-speed rail linking British Columbia and California, emergency management, regional transportation, research and innovation, and sustainable regional economy.

At a 2010 *Connecting Cascadia* workshop at Portland’s Metro, and facilitated by the Regional Planning Association (RPA) of New York and the Cascadia Center, the challenge of building and operating high-speed rail (or even increased intercity passenger rail) across two states and two nations was predicted to test the limits of cross-border collaboration.

Despite the challenge, there are few investments besides faster, more frequent rail with the potential to realize the promise of greater economic integration for the Cascadia megaregion - one of 11 identified by RPA that contain over 70 percent of U.S. population and employment. These networks of metropolitan areas, connected by business travel, urbanization, tourism, economic relationships, and natural systems, are also the perfect size (at approximately 500 - 700 miles across) to be served by higher speed rail.

The workshop found that increased investment in intercity rail could help megaregions realize the productivity benefits of their metropolitan economies acting as integrated units by (partial list):

- Boosting productivity for service-based businesses through time savings and increased mobility
- Expanding the scope of labor markets accessed by major employment centers
- Connecting smaller cities to major employment centers
- Focusing development and real estate opportunities around stations
- Making more efficient use of existing infrastructure by shifting short-haul air trips and intercity automobile trips to rail
- Reducing highway congestion and overall greenhouse gases

The workshop summed up the governance conundrum.

Given the multi-state, multi-national character of the Cascadia Corridor, the creation of an effective governance structure to design, build and manage capital improvements and service is paramount to its long-term success. In Cascadia, and across the United States, intercity passenger corridors traverse many jurisdictions. They require planning and input from dozens, if not hundreds of different municipal and state entities, and they are subject to the concerns and requirements of numerous stakeholders and interest groups. The efficacy of these new governance structures in managing all of these stakeholders will make a difference in the success or failure of high-speed rail in the United States.

Choosing the right governance structure for high-speed rail has everything to do with what we will call “political-contextual” factors in the region. In other words, we must understand how large-scale transportation projects have historically been chartered in this area of the country, and we must be careful not to assume that just because one type of authority or charter works in another region that it will work for Cascadia.

*“[A]n appropriate historical model to follow is the St. Lawrence Seaway. This multi-state binational compact followed a bold vision, but it was carried forward by the individual actions of states and provinces combined with federal funding. The governing body for such an agreement, tentatively titled the “Cascadia Compact,” could be used to encompass all future efforts for research, financing, and so on.” - Connecting Cascadia Workshop, Metro, Portland July 9-10, 2010.*

In the current Oregon legislative session, Rep. Nathanson from Eugene introduced a measure to explore a bi-state rail advisory committee that did not include Canada. It failed to clear the House, however. Newly elected Oregon Governor John Kitzhaber has appointed former Clackamas County Commissioner Lynn Peterson as his transportation advisor and she has been meeting with Washington state leaders to advise the Governor on expanding cooperation on the Amtrak *Cascades* service. He has also established a regional committee to work with Oregon DOT to oversee the environmental process to select a high-speed line among three candidates and a statewide committee to examine permanent funding sources for rail.

As noted in the 2008 Amtrak *Cascades* Mid Range Plan (page 10-2), “Projects needed to improve Amtrak *Cascades* service in British Columbia would be funded by the Province of British Columbia, the Canadian federal government, and regional transportation agencies.”

In 2007, the Province of British Columbia contribute \$4.5 million toward the \$7 million, 11,000 foot rail siding or “passing track” at Colebrook in partnership with BNSF Railway and Amtrak. As then-Transportation Minister Kevin Falcon announced, “This project will boost tourism dollars reduce traffic congestion, and ease vehicle emissions on our major transportation corridors” (B.C. news release, March 2007).

Since 2006, the Asia Pacific Gateway Initiative and TransLink capital investments geared toward economic development, mobility and the 2010 Olympics have been the focus of provincial and Lower Mainland political leaders. No firm commitment from any Canadian government for track improvements to allow a third Amtrak *Cascades* roundtrip exists.

Included in this report are examples of multi-jurisdictional and bi-national governance structures. Of the many governance structures examined, the St. Lawrence Seaway referenced in the next section is by far the most complicated and difficult to execute – requiring years of negotiation and treaty discussion.

In the past six years, Governor Gregoire and former B.C. Premier Campbell have dramatically transformed their working relationship. Those changes have included: the capability of the state and province to coordinate policies, to develop and execute joint initiatives, to plan international joint marketing efforts, and to jointly coordinate suggested actions to their respective federal governments.

In October 2009, they signed The Framework for Transportation, Competitiveness and Prosperity (*the full text of the agreement can be found in Appendix No. 3*) to co-operate on transportation and other initiatives, including developing a shared vision for high-speed rail service. WSDOT Secretary Paula Hammond and B.C. Transport Minister Shirley Bond have met on several occasions to review progress on the Framework.

### **A new partnership with a renewed commitment.**

Washington State Governor Chris Gregoire and current B.C. Premier Christy Clark met for the first time on May 20, 2011, to discuss how the state and province could continue to work together to support job growth and continue to reduce greenhouse gases – a commitment between Washington and British Columbia dating back to 2007. The following is from a May 19, 2011, media release from the Office of Governor Christine Gregoire.

*“The people of British Columbia are our neighbours, friends and partners in the global economy. We will continue to work together to protect our shared coastline, secure our border and create jobs.” – Governor Christine Gregoire*

*“British Columbia and Washington state share a common green agenda that includes a strong economy and job creation....”—Premier Christy Clark*

*“In 2010, trade between the two totaled \$7.6 billion, making Washington B.C.’s largest trading partner in the U.S. An estimated 23,000 vehicles cross the Washington-B.C.’s border every day. The state and province jointly pioneered the Enhanced Drivers License to help simplify travel between the state and province. They have also joined together to promote mass transit across the border.”*

### **A more formal structure?**

Writing in the November 25, 2010, *Seattle Times*, Professor Don Alper, director of the Border Policy Research Institute (BPRI) at Western Washington University (WWU) and a well-regarded expert on Canadian affairs, praised that cooperation between Governor Gregoire and Premier Campbell (and now Premier Clark) but suggested a more formal, permanent structure:

*“What happens when these two cross-border “champions” depart from the scene? Campbell announced earlier this month that he was stepping down as Premier . . . Why not create a Washington-B.C. University Institute to link the region’s universities and think tanks? The institute, perhaps modeled after the European University Institute, and funded by companies with a strong interest in strengthened business and cultural ties, would bring together the best students and researchers on both sides of the border to support innovation, address regional issues and consider how the region as a whole can confront global challenges.*

*Washington’s connections with Canada and the rest of the world have been essential to the state’s economy and culture. It is important that those connections continue to be revitalized with new ideas and strategies that fit emerging realities in our region and the world.”*

The Annual Summit and Joint Cabinet Meetings of the Washington Governor and British Columbia Premier have been limited to government leaders only and without any mechanism to engage the expertise and support of the private sector or other key stakeholders. To ensure continuity of purpose beyond terms of office, we suggested a bi-national public advisory organization be commissioned by the Governor and Premier to assist them.

*In Appendix No. 4, we examined two models of public/private sector advisory organizations, the Gateway Council in B.C. (which led to the Pacific Gateway Initiative), and the Joint Public*

Advisory Committee of the North American Commission on the Environment (established through NAFTA).

The form and structure of a WA/BC Joint Public Advisory Committee should be supportive of and add advice and information from the private sector and non-government organizations on those subject areas that require private sector engagement and investment.

The Joint Advisory Committee would be selected by the Governor and the Premier and should include representation from leaders and operators experienced in the transportation, tourism, trade, energy and clean/green technology sectors. Once the a Joint Public Advisory Committee has been established and is working, the momentum and broad public support for the Summit agenda should grow and the numerous exiting agreements that have been undertaken, will become a permanent fixture in political decision making and planning in Washington and British Columbia.

### **Interlocal Agreements and the Joint Advisory Committee**

To execute these partnerships in the areas covered in this study, we suggest a series of interlocal agreements between governments and private sector.

First, for cross border rail involving the Cascade Gateway, Fraser River and greater Vancouver region, the International Mobility and Trade Corridor (IMTC) and WSDOT Rail and Marine Office would be commissioned and funded to expand their consultative process to address issues identified in this report,

Specifically, one possible option could be additional modeling in Canada with BNSF Railway for a third Amtrak *Cascades* service on an expedited schedule from the 2008 Mid-Range Amtrak *Cascades* plan as well as capital investments necessary for the additional service and potential alternative routing and trackage rights. Expanded commodity cross border rail trade data to help guide joint infrastructure investments and operational scenarios would be incorporated into the scope of future work.

We envision the Premier and Governor sanctioning an interlocal agreement with an expanded stakeholder group. That expanded group would include: Canadian National, Canadian Pacific and Southern Railways; Western Transportation Advisory Council in Vancouver, B.C.; and, First Nations and BC Universities, such as UBC Sauder School of Business, joining existing IMTC stakeholders with an expanded mandate.

Coordination with the current bus, high capacity transit and regional rail initiatives of TransLink and the Fraser Valley Regional District to ensure the greatest opportunity to leverage resources for “greening the border” through mass transit initiatives would be included in the expanded mandate.

The IMTC is the premier U.S./Canada planning and implementation forum that includes representation from both U.S. and Canadian officials for border security enforcement, infrastructure, data and technology investment.<sup>13</sup>

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<sup>13</sup> “Since 1999, IMTC participants have together funded projects totaling nearly\$38 million (USD) for Cascade Gateway initiatives. Funding partners include U.S. Federal Highway Administration,

Second, for cross-border rail from Blaine to Seattle, we envision an interlocal agreement similar to the Freight Action Strategy for the Everett-Seattle-Tacoma Corridor (FAST Corridor). According to corridor coordinator, the Puget Sound Regional Council:

*“(FAST) is a partnership of 26 local cities, counties, ports, federal, state and regional transportation agencies, railroads and trucking interests intent on solving freight mobility problems with coordinated solutions. FAST partners have shared information and funding resources — sometimes shifting funds from projects that were delayed to those that were ready to begin — to benefit the program as a whole. Since 1998, the partners have identified and assembled \$568 million of public and private funding to build nine strategic infrastructure improvements and start four more.”*

For a “FAST North” interlocal we would suggest resources to empower the North Sound Connecting Communities Project (Farmhouse Gang) to expand their consultative reach to include WSDOT Rail and Marine Office (in addition to the WSDOT NW region’s current participation), BNSF Railway, Indian tribes, North Sound ports, freight shippers and economic alliances, civic and environmental organizations, Puget Sound Regional Council and ST.

Through interlocal agreement, they would support local initiatives and PPPs for investment in freight mobility projects (rail, highway and port) from federal, state, local and private sector sources. The interlocal would also work with private sector transportation providers, multi-county transit initiatives and transit oriented station development including the County Connector and potential regional rail passenger service between Everett and Bellingham/Blaine to connect with Sounder and supplement Amtrak *Cascades* service.

The interlocal would address public-private financing options (including those spelled out in this report), share technical data and assistance, and pool resources when appropriate – lessons learned from the initial FAST project. The interlocal would coordinate with the IMTC interlocal to ensure a complete investment and operational strategy for the Seattle to Vancouver, B.C., rail system.

These first two interlocals would explore underground electrical transmission lines, telecommunications and railroad rights-of-way. Class One Railroads, public and private utilities from B.C. Hydro to California, the Bonneville Power Administration, independent energy operators, telecommunications interests, federal and state regulators, and other stakeholders would explore buried electrical transmission lines and telecommunications in railroad rights-of-way for opportunities in cooperative investment in the corridor.

The third proposed interlocal would be more of a partnership between the Amtrak *Cascades* service and private sector tourism associations operating between British Columbia and Washington to boost ridership through expanded partnerships.

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Transport Canada, B.C. Province, Washington State, TransLink, Port of Bellingham, Western Washington University, Whatcom Council of Governments, U.S. Department of Transportation Office of the Secretary, the Bill & Melinda Gates Foundation, the Cascadia Project, and lastly, regional municipalities (Abbotsford, Langley, White Rock, and Surrey in B.C., and Sumas, Blaine, and Lynden in WA State).” <http://www.wcog.org/Border/Funding/61.aspx>

The Amtrak *Cascades* marketing team has raised the profile of the service through a highly successful marketing campaign despite a limited advertising budget. WSDOT and Amtrak professional staff regularly brief stakeholders on new partnerships along the corridor and media campaigns and seek their advice and counsel in special planning sessions.

The overall state commitment to tourism promotion has suffered this year, however. Budget constraints caused the elimination of the state tourism office. A new private sector Washington Tourism Alliance (WTA) was launched on March 31, 2011, after 500 tourism professionals attended their summit.

In British Columbia, the Tourism Industry Association of British Columbia (TIABC) assumed the role of the Council of Tourism Associations of B.C., as an association of tourism-related organizations and businesses representatives that serves as the voice of the \$13 billion B.C., tourism sector.

During the 2010 Olympic Games in Vancouver, B.C., Premier Campbell and Governor Gregoire called out for more emphasis on the “two-nation vacation” as a bi-national, PPP. In the last several years, over 100 tourism partners have actively invested in the two-nation vacation marketing effort sponsored primarily by Victoria Clipper Vacations. The Amtrak *Cascades* is an active partner.

In 2010, tourism leaders in B.C., and Washington led the active private sector campaign to convince Canadian leaders to waive the proposed cost recovery fee which - if implemented - would have forced the cancellation of the second Amtrak train to Vancouver, B.C.

Based on several cross-border sessions with WSDOT, Amtrak and tourism leaders including a special session with Rep. Judy Clibborn and Senator Mary Margaret Haugen in Vancouver B.C. We believe ridership could be positively impacted through consultation with a cross-border industry panel, particularly with expertise and resources to access international markets beyond what the state budget will allow. Private sector tourism representatives also have greater latitude to promote special excursion trips than public employees.

A budget supplement to the WSDOT Rail and Marine office may be necessary to implement the suggestions of the industry panel. If the partnerships result in increase ridership, continuation of the cost recovery fee waiver and reduced state operating subsidy, the investment will be cost effective.

### **Governance models beyond the region**

**An International Model -The St. Lawrence Seaway Authority.** The St. Lawrence Seaway Authority was established by an Act of Parliament in 1954, with the mandate to acquire lands for, construct, operate and maintain a deep draft waterway between the port of Montreal and Lake Erie. The United States joined Canada on the development of the St. Lawrence Seaway that year with the passage of the Wiley-Donder Act (or Seaway Act) that created the U.S. Saint Lawrence Seaway Development Corporation (SLSDC). The St. Lawrence Seaway Authority was charged with construction and maintenance of required facilities in Canada; the St. Lawrence Seaway Development Corporation was responsible for facilities in the United States. An International Joint Commission coordinates the project. The three entities collaborate closely in the seaway's daily operations.

Thus, the Great Lakes St. Lawrence Seaway System provides an example of a bi-national cooperative between the United States and Canada to facilitate the joint operation and protection of the locks and waterways between the Port of Montreal and Lake Erie.

Such a cooperative, while interesting, may not be the best model for the Cascade region's emerging intercity passenger rail corridor. In the case of the rail corridor, the need will be to oversee quality passenger service and capital projects primarily on private rights of way and at the same time address complex entry and exit harmonization. There are no such requirements on the Seaway. Further, it seems inefficient and cumbersome to have three different entities become a part of a Governance Team that manages a premier rail corridor.

**An International Model – The Pacific Coast Collaborative.** The Pacific Coast Collaborative was created by an agreement signed by five different jurisdictions on June 30, 2008. It was created without the approval of the national legislative bodies. It represents an agreement of states within the United States and provinces within Canada to collaborate on important issues facing the entire Pacific Coast. The agreement includes the governors of California, Oregon, Washington, Alaska and the Premier of British Columbia." The Pacific Coast Collaborative acts as a forum for the sharing of ideas and as a basis for future cooperative action, possibly on a larger scale. A similar entity was created in 1992 between Washington and British Columbia called the British Columbia/Washington Environmental Cooperation Council.

**A State Model – The Illinois High-speed Rail Commission.** Illinois' HSR Commission is tasked with suggesting the best governmental structure for a PPP to design, build, operate, maintain, and finance a high-speed rail system for Illinois and the Midwest. The Illinois state legislature created this commission in March 2010.

The 12-member commission is charged with issuing a road map by on how best to structure a PPP to design, build and operate a high-speed rail system at speeds of 150 miles per hour and greater. It also would issue suggestions on how to fund the network and integrate the new bullet trains with airports, Amtrak service and public transportation systems throughout the Midwest.

The ultimate goal is commercial rail service at speeds of 220 miles per hour such as those that operate in Asia and Europe. The Commission works closely with the Midwest High-speed Rail Association. An expert economic impact study by the Midwest High-speed Rail Association found that a 220-mph high-speed rail link between Chicago and St. Louis via Kankakee, Champaign, Decatur and Springfield would create 40,000 jobs and grow downstate economies by 1 to 3 percent. The project also is estimated to take 200 million pounds of CO2 out of the atmosphere each year.

**A States Model -- The Midwest Interstate Passenger Rail Commission (MIPRC).** The MIPRC brings together state leaders from across the region to advocate for passenger rail improvements. Formed by compact agreement in 2000, the MIPRC's current members are Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio and Wisconsin. The main purposes of the compact are:

- Promote, coordinate and support regional improvements to passenger rail service:

- Promote both current improvements and long-range plans for intercity passenger rail service in the Midwest.
- Coordinate interaction among Midwest state officials, and between the public and private sector at all levels (federal, state and local).

Both the MIPRC and Illinois Commission offer “best practice” models that should be reviewed in developing governance plan for the Cascadia Corridor. Again, the PNWRC Commission would need to be international. Thus, “best practices” would need to be merged in from the bi-national organizations that exist.

**A State Model -- The Florida Rail Enterprise.** In 2009, the Florida legislature established the Florida Rail Enterprise (FRE) within Florida Department of Transportation (FDOT) to oversee the development of passenger rail in Florida. It has a small staff headed an Executive Director and Chief Operating Officer both appointed by the FDOT Secretary. FRE is supported by FDOT staff throughout Florida and has on contract a number of professional consulting firms retained to assist with the high-speed rail project. The current high-speed rail program team includes: HNTB and Wilbur Smith Associates (general consultants), with legal and financial consultants on board. The FRE suffered a serious blow when Florida’s governor essentially closed the Florida High-speed Rail Phase I program from Tampa to Orlando by returning \$2.4 billion in federal grant money for construction.

Nevertheless, the FRE is a strong governance model. Whether it could be adapted to an international model would take additional analysis. It is probably better adapted to a single state, but a coordinating international commission would be a possibility at a corridor level.

**California Intercity Passenger Rail.** California has the most aggressive passenger rail program of any state in the nation with a mixture of interconnecting commuter and intercity service. It provides a good backdrop for discussion of a mixture of DMU commuter and intercity passenger service between Seattle and Vancouver.

The California High-Speed Rail Authority was created in 1996 and made permanent in the state code in 2002. The Florida Rail Enterprise was largely patterned after the California High-Speed Rail Authority. It has substantial power including a license to build, operate and maintain high-speed rail service on a 500-800 mile corridor between Anaheim, Los Angeles, and San Francisco and potentially other major metropolitan areas.

California passed a \$9 billion bond for HSR. In addition, it received \$2.5 billion in federal stimulus grant funding. When the Governors of Wisconsin and Ohio turned back their HSR funds, California received an additional \$616 million. The Authority has come under enormous criticism for mismanagement of its funds. Further, the entire HSR program is under serious political attack from conservative forces.

A Joint Powers Authority, or JPA, is an entity permitted under some laws of various states and municipalities that allows for cooperation and collective action between public authorities, utilities, or local governments. California, in particular, makes significant use of these governance structures. JPAs work like standard authorities in that they are generally expected to generate their own financing for the projects they undertake. Much of the California rail service operates under Joint Powers Authorities.

Caltrans provides operating funding for three intercity California routes: the Pacific Surfliners (San Diego to San Luis Obispo), the San Joaquins (Bay Area/Sacramento to Bakersfield), and the Capitol Corridor (San Jose to Auburn) These routes are operated by Amtrak under the authority of Joint Powers Boards. There are also several Joint Powers Authorities operating commuter service.

Examples from California follow:

***The Capitol Corridor Joint Powers Authority:*** The Capitol Corridor Joint Powers Authority is a partnership between six different transit agencies in eight different California counties, with additional support provided by Amtrak, Union Pacific Railroad, Caltrans and others. The authority operates rail service on a 170-mile corridor and provides connecting bus services for increased transit access. The boards and several commuter authorities have the flexibility to contract directly with Amtrak or to hold competitions to select alternative operators.

***Altamont Joint Powers Authority:*** In 1989, the San Joaquin Council of Governments, the Stockton Chamber of Commerce and the Building Industry Association of the Delta began the development of a 20-year transportation plan for a future sales tax vote in San Joaquin County. Measure K, the half-cent sales tax for transportation was strongly supported by voters in 1990, and the number one project identified for funding was Altamont passenger rail service.

In 1995, the seven cities and the county of San Joaquin formed a joint powers agreement that created the San Joaquin Regional Rail Commission composed of a five-member board of directors appointed by the San Joaquin Council of Governments. To date, through Measure K, the taxpayers of San Joaquin County have contributed over \$50 million in funding for this nationally acclaimed commuter rail service.

In May 1997, the San Joaquin Regional Rail Commission (SJRRC) was transformed into the Altamont Commuter Express (ACE) Joint Powers Authority (JPA). The Agreement stipulated the JPA membership and powers, specifies financial commitments of each member agency, and details other administrative procedures. On June 30, 2003 the ACE JPA was dissolved and a Cooperative Services Agreement was entered into with San Joaquin Regional Rail Commission (SJRRC). In 1997 rather than go to a sole source contract with Amtrak, ACE chose to go to competitive bid. The contract was awarded to Herzog Transit Services that has been operating the trains since.

***North Coast Transit District:*** The NCTD is responsible for public transit in North San Diego County, California. Besides bus service it operates the Sprinter light rail service between Oceanside and Escondido, and manages the San Diego Coaster, a commuter rail service between Oceanside and Downtown San Diego.

NCTD originally entered into a direct contract with Amtrak to operate the Coaster trains. Subsequently, NCTCC held an open competition and on July 1, 2006, Herzog Transit Services won the contract.

The Coaster carried 700,000 passengers during its first year of operation. By 2004, it was carrying 1.4 million passengers annually.

Herzog also operates the NCTD's SPRINTER light-rail line, which runs between Oceanside and Escondido, Calif., about 30 miles north of San Diego. For this service, NCTD will operate 12 DMUs built by Siemens Transportation Systems on the line.

***Peninsula Corridor Joint Powers Board Caltrain:*** The Caltrain territory has a long history of passenger rail service dating back to 1863. From 1980 until mid-year 1992, Caltrans contracted with the Southern Pacific (now Union Pacific) to provide passenger service in the corridor. The state assumed sole responsibility for station acquisitions and other capital improvements until the service resulted in formation of the Peninsula Corridor Joint Powers Board in 1987. The JPB agreed to assume operating responsibilities for Caltrain effective July 1, 1992, and to shoulder 100 percent of the operating subsidy a year later.

In December 1991, the JPB purchased the rail right of way from San Francisco to San Jose. The JPB secured trackage rights to Gilroy for another \$4 million, with an option to acquire half the right of way in the future. UP retains rights to operate freight service in the corridor.

To replace Union Pacific as the commute operator, the JPB signed Amtrak to a three-year agreement. Amtrak has continued as the operator through a series of contract extensions. The contract expires in 2011. The Board put the service out to competitive contract. It awarded a contract for DMU equipment to Sumitomo of Japan. For operations it received five proposals from the following firms:

- Keolis Rail Services America
- Peninsula Corridor Rail Services (a joint venture between Amtrak and Bombardier)
- Peninsula Rail Services (a joint venture between Rail America and RATP-Dev)
- Transit America Services, Inc. (a subsidiary of Herzog)
- Veolia

*Conclusion on California Governance Models:* The Joint Powers Authority is a muscular form of passenger governance. As seen in California, the JPA has the option of passenger service design, management, operation and maintenance through a PPP.

### **Commuter/Regional Rail**

The North Sound Regional Rail Study of 2005 and Operational Simulation of 2008 prepared by the Cascadia Center and Wilbur Smith Associates for the Whatcom Council of Governments and North Sound Connecting Communities Project provided a detailed capital, operating and maintenance plan for "regional rail" operations to connect with Sounder commuter rail in Everett and supplement Amtrak *Cascades* international service. The report assumed the "service will be sponsored by a public agency created for this purpose."

Subsequent sessions of the North Sound Connecting Communities Project expressed no interest in forming a new multi-county rail district. The preference was to contract with

WSDOT's Rail and Marine office and BNSF to operate the service if sufficient operating, maintenance and capital funds could be identified.

However, WSDOT and Amtrak policy is to provide intercity passenger services such as the Amtrak *Cascades* service, not commuter rail. ST is a special purpose district specifically created to provide high-capacity transit services and would need to annex communities north of their taxing boundary in order to provide service.

To examine updated financing options for commuter rail, we took an excerpt from the more recent 2010 Southeast King County Commuter Rail Feasibility Study Pages 13-18. The details of the excerpt can be found in *Appendix No. 5*.

## **New Public Private Partnerships**

### **Overview**

Any discussion of PPPs for rail in British Columbia and Washington must recognize that the two have a fundamentally different approach.

The following is excerpted from the Washington Transportation Plan 2010 (page 14):

#### *How to Stretch Transportation Revenue*

*Given the difficulty of raising new transportation revenue, the Legislature should consider providing WSDOT and local governments with more options to use efficient proven construction management and finance techniques to stretch limited resources.*

*In previous years, the Commission has made the following suggestions to more efficiently use transportation dollars:*

*Design-build. WSDOT already uses design build contracting extensively with great success.*

*Expand opportunities to use contracting approaches that secure design flexibility, improve price certainty allocate risk and complete projects faster.*

*Alliance contracting. This approach expands on design build by making contractor and the government "partners" sharing project risks and benefits.*

*Streamline the state's public private partnership law to make it attractive to private equity investors especially for non-highway projects.*

*Extend finance terms on large, long-term projects. Since the lifespan of many large projects exceeds bond repayment terms the Legislature should consider giving the state the same authority cities and counties have to issue 35-40 year bonds.*

In B.C., the Province has formed a company, Partnerships British Columbia, to handle all PPPs.

The following is excerpted from the Partnerships British Columbia Web site:

*Partnerships British Columbia is a company responsible for bringing together ministries, agencies and the private sector to develop projects through public-private partnerships. As a company registered under the Business Corporations Act, Partnerships BC is wholly owned by the Province of British Columbia and reports to its shareholder the Minister of Finance. Our mission at Partnerships BC is to structure and implement partnership solutions which serve the public interest. We are committed to transparent operations and achieving wide recognition for our innovation, leadership and expertise in public procurement. Partnerships BC's core business is to:*

- *Provide specialized services, ranging from advice to project leadership/management, to government and its agencies with respect to identifying opportunities for maximizing the value of public capital assets and developing public private partnerships;*
- *Foster a business and policy environment for successful public private partnerships and related activities by offering a centralized source of knowledge, understanding, expertise and practical experience in these areas; and*
- *Manage an efficient and leading edge organization that meets or exceeds performance expectations.*

The company's clients are public sector agencies, including ministries and Crown corporations. To serve these clients effectively, Partnerships BC collaborates with private sector partners such as businesses, investors and the financial services sector. The company's organization, staffing and governance reflect and support this meshing of public and private sector interests. Partnerships BC has offices based in both Vancouver and Victoria. (Please see *Appendix No. 6* for a one-page overview of the Canada Line.)

### **FAST – North Corridor**

Port of Everett director John Mohr has suggested to the Cascadia consultant team the formation of a "FAST – North Corridor," which would prioritize bottlenecks from Seattle to Bellingham that impede rail and vehicle travel. The FAST – North Corridor would be patterned after the Freight Action Strategy for the Everett-Seattle-Tacoma Corridor (FAST Corridor), which brought together 26 local cities, counties, ports, federal, state and regional transportation agencies, railroads and trucking interests. FAST invested nearly \$600 million since 1998—sometimes shifting funds from delayed projects to those ready to go.

A FAST North Corridor project for transportation infrastructure could be a candidate for the new Snohomish County Economic Alliance directed by Troy McClelland for collaboration with neighbors to the north and south. Economic alliances are also being consolidated in Bellingham and Whatcom counties and would serve on the proposed consortium.

The idea of the FAST – North Corridor was discussed at the North Snohomish County Community Partners Economic Development Summit at the Tulalip Conference Center May 25, 2011. The Puget Sound Regional Council currently staffs the FAST project.

In *Appendix No. 7*, there is a list of potential projects for FAST – North Corridor as suggested by community leaders as part of the research for this report.

## North Sound Connecting Community Project

**The International Mobility and Trade Corridor Project**<sup>14</sup>. The International Mobility and Trade Corridor Project (IMTC) is a U.S.—Canadian coalition of business and government entities that identifies and promotes improvements to mobility and security for the four border crossings that connect Whatcom County, Washington State and the Lower Mainland of British Columbia. Together, these four crossings are called the Cascade Gateway. The goals of the IMTC project are to: Facilitate a forum for ongoing communication between agencies that affect regional, cross-border transportation, safety, and security; coordinate planning of the Cascade Gateway as a transportation and inspection system rather than as individual border crossings; improve and distribute traffic data and information; and, identify and pursue improvements to infrastructure, operations, and information technology.

Since 1997, IMTC has served as a model of regional coordination on border issues and has helped secure over \$38 million (USD) from U.S. and Canadian partners to pursue the goals listed above. Over 50 organizations participate in IMTC. IMTC is led by the Whatcom Council of Governments.

**The Farmhouse Gang**<sup>15</sup>. The North Sound Connecting Communities project, also known as the "Farmhouse Gang," is a loose coalition of elected, agency, and citizen representatives from five northwest Washington counties: Whatcom, Skagit, Island, San Juan, and Snohomish. The goal of the Farmhouse Gang is to develop better ways to move people through the region by using all available modes in an effective and smoothly functioning network that does not rely solely on the automobile.

Realization of North Sound Connecting Communities (NSCC) goals will be accomplished by:

- Identifying solutions to transportation challenges
- Seeking innovative funding sources
- Emplacing and improving transportation systems capable of supporting travel demand through regional partnerships.

The NSCC is not sanctioned by any political or other entity and carries no force of law, but rather is a consortium of interests focused on avoiding the pitfalls of inadequate planning for mobility as this region grows in population and productivity.

The NSCC membership includes state legislators, local lawmakers, and managers as well as transportation planning organizations and providers. The NSCC generally meets monthly.

In 2001 the Washington State Governor's Blue Ribbon Commission on Transportation identified regional governance of transportation as an area in which improvements were necessary. Following up on these suggestions, in 2001 the Washington State Legislature considered a number of legislative proposals regarding regional governance and regional financial mechanisms. The NSCC requested and received funding from the State Legislature to conduct its own study of regional transportation governance models, and to develop alternatives that would build upon the positive working relationships developed through

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<sup>14</sup> From the description of the Whatcom Council of Governments, [www.wcog.org](http://www.wcog.org)

<sup>15</sup> From the description of the Farmhouse Gang, [www.wcog.org](http://www.wcog.org)

the Farmhouse Gang. In 2002 the NSCCP completed its final report, prepared by Whatcom Council of Governments and the Cascadia Project of the Discovery Institute.

In 2002, Sustainable Strategies and Solutions, Inc. provided a series of suggestions to the NSCCP regarding the governing project. That document and those suggestions are found in *Appendix No. 8*.

### **Suggestions Regarding Governance**

The governance study found no compelling need or interest in changing fundamental attributes of the Farmhouse Gang, but suggested opportunities for improvement, including clarification of the coalition's purpose, mission, and goals. It was suggested that ways to identify overall performance are needed and that clearer goals would assist with this. It was also determined that support of existing constituents should be strengthened.

Recently, the Farmhouse Gang has considered emulating the IMTC project as a governance model. IMTC has a steering committee, core group and General Assembly. The Skagit Council of Governments currently staffs it.

### **Public Private Partnerships: An Overview**

Large, centrally controlled multi-billion dollar projects with a multitude of contracts administered directly by a government agency are cumbersome and frequently troublesome. These large public works projects often experience inordinate delays and large cost over runs. What more commonly has been missing in the United States is the involvement of the private sector in PPPs. While not without controversy, more and more states and public agencies are beginning to look to the PPP option.

PPPs engage the private sector through an open and competitive process and are being used around the world. They are essentially contractual agreements between a public agency (federal, state or local) and a private-sector entity. Through PPPs, the skills and assets of each sector (public and private) are shared in delivering a service or facility for use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards. Under this process, teams of multiple contractors work together under a prime contractor to bid proposals to undertake large projects. To restrain costs and meet deadlines, the winning team controls all aspects of the project from planning through construction to franchise operation. The generally take all risk or share risk for cost overruns and time delays. This type of PPP commonly is called Design, Build, Operate and Maintain Alternatives (DBOM-A). The private teams are responsible for bringing the project to completion on time and within budget.

There are many variations on the DBOM-A theme. For example, a private financial contribution to the project may be a part. If finance is a part, this is called DBOMF, the "F" representing finance. The responsible authority may bid one package or two. Generally, a one-package bid will pull together a team responsible for everything from design to a multi-year operating contract. (The DesertXpress consortium for a passenger line between Las Vegas and Southern California is using the "one package" DBOMF approach.) Alternatively, a public authority may offer "two package" bidding. The first package or contract will be for design and construction of the infrastructure. The second contract will be for passenger operation and maintenance of the infrastructure.

Regardless of the specific DBOM-A variation used, the PPP approach resolves many of the problems with the old way of doing business in public works contracting. The use of PPPs, and DBOM-A, specifically, will be crucial to the development of High Speed and Intercity Passenger Rail (HSIPR) as a connecting network for emerging intercity passenger corridors. As in the interstate highway system, the federal government will create standards and will provide basic infrastructure funding. The states through PPP mechanisms will have principal authority to oversee, maintain and operate the corridors.

In a national HSIPR corridor development plan, only DBOM-A with maximum use of the private sector will succeed. Involvement of the private sector will enable the system of corridor development to be accountable to established benchmarks for faster project delivery. It also will allow for a competition for construction projects and passenger operations. And it will enable a solution to the liability issue through federally sponsored insurance pooling.

There is every indication that Congress will enact a series of reforms that will incentivize the use of PPPs in the development of rail corridors. Stakeholders in the Pacific Northwest Rail Corridor should prepare for this possibility.

There is no reason why smaller projects that are a part of an HSR corridor cannot explore PPP options. In the Cascade Corridor and similar corridors, any project must be at the least public-private cooperation since a private company owns the rights of way. In most cases that company (primarily BNSF in the instance the Cascades) will be a partner in the design, construction and maintenance of the many infrastructure projects. As will be seen, if freight benefit does not arise from the project, the railroad does not need to be on the hook financially-but it does need to be a full cooperating partner. It may be possible to use RRIF financing to link a number of projects together that would have both freight and passenger benefits.

New thinking will be required to apply a PPP model to the Cascades Corridor. The nature of PPPs is frequently misunderstood. First, as is sometimes the case with highway PPPs, they are not a mechanism to transfer the responsibility for rail corridor service from public hands to private hands. While there may be private operators and maintenance in the mix, the ultimate control will always be with a public authority. Second, they are not primarily a mechanism for raising additional finance, although that should be a part of the plan. They are primarily a mechanism for guaranteed on time within budget delivery. Private partners are rewarded but they take risks and introduce private sector spirit and efficiencies into operations.

Generally, a governing body should be established to oversee the design, management, operation and maintenance of the world-class corridor passenger service that operates primarily over tracks owned by the BNSF. In an ideal world, BNSF would be a partner in the governing PPP. This is complex in the best of circumstances, and more so in this case because the governing body will need to have an international component.

### **Available Innovative Finance Options: An Overview**

**The American Recovery and Reinvestment Act of 2009 (ARRA).** The American Recovery and Reinvestment Act of 2009 (Recovery Act) was signed into law by President Obama on February 17, 2009. It was an unprecedented effort to jumpstart our economy and create

jobs. The basic ARRA Act covered a broad range of activity including modernizing our nation's infrastructure, enhancing energy independence, expanding educational opportunities, funding health care as well as programs to rehire teachers, policemen and firemen and to extend various social benefits. President Obama personally inserted a request for High Speed Rail funds and \$8 billion was included. The Act was subjected to intense partisan debate and the results of ARRA are a matter of great controversy today.

Until very recently intercity passenger rail was basically a two party arrangement with the Federal Railroad Administration making grants to Amtrak. That changed in 2008 with a bill signed by President Bush to create a program of capital infrastructure grants to the states for intercity passenger rail corridors. It was the first time such a program had been set up that gave states a program through which to build intercity passenger corridors. About \$100 million was appropriated in the first year for the new High Speed and Intercity Passenger Rail (HSIPR) program. The ARRA fund essentially allocated \$8 billion in stimulus funds into that program for development of regional and HSR corridors. This was the first major federal investment in corridor projects outside the Northeast Corridor. Up to this point support was generally bipartisan in the Congress. Unfortunately, the widespread distribution of stimulus funds appeared political, and generated opposition from conservatives and the press.

Today there is a major controversy in Congress as to whether the program should continue. Conservatives in the House of Representatives have called for the remaining stimulus funds to be rescinded and propose to "Zero Out" the appropriation for the HSIPR Corridor program for the remainder of fiscal year 2011. With this risk, the HSR Corridors around the country must look for alternative sources of funding projects.

In fact, the State of Washington has done very well in securing federal funding for the Cascades Corridor. The Pacific Northwest Rail Corridor (PNWRC) is one of 11 federally designated HSR Corridors. With its sleek Talgo trains it has established a fine reputation. The failure of proposed HSR programs in Wisconsin, Ohio and Florida was due to the concern of incoming governors that operating subsidies and ongoing capital would be required. Those states were not willing to step up to that plate. The State of Washington, on the other hand, has budgeted and spent nearly \$230 million for operating subsidies between 1994 and 2011. The state has committed about \$280 million to capital since 1994.

When the ARRA funds became available, Washington applied for nearly \$1.3 billion. In January of last year it was awarded a \$598 million grant. This was the fifth highest amount in the country. Washington also received \$38.7 million award from a fiscal year 2009 PRIIA appropriation. This included a grant to complete track and signaling improvements along the Seattle-Vancouver segment. Then in December 2010, Washington received up to \$161.5 million in additional ARRA funds originally designated for high-speed intercity passenger rail projects in Wisconsin and Ohio where the governors returned the funds. It is apply for returned funds to be reallocated from Florida. This brings Washington's total to about \$782 million ARRA funding with the hope that additional reprogrammed funds will arrive. The new funding will most likely be applied to eligible projects from WSDOT's original ARRA application package in 2009.

**The Outlook for PRIIA and ARRA HSIPR Grant Funding.** President Obama has established high-speed rail as a national goal comparable to the creating of the Interstate Highway System in the 1950s. In fact HSR was one of the few program initiatives

highlighted during his State of the Union Address. He called for HSR to be available to 80 percent of Americans within 25 years. In his budget he called for a \$51 billion program over six years. His budget for fiscal year 2012 doubles the request for high speed and intercity rail funding from \$4 billion to more than \$8 billion.

House Transportation Chairman John Mica has called for a robust rail title in the next six-year Surface Transportation bill. But Mica claims, “we need to do more with less” and is calling for substantial reforms. The House Railroad Subcommittee Bill Shuster stated:

“Two and a half years ago, President George W. Bush signed the Passenger Rail Investment and Improvement Act, the first rail authorization bill in 11 years. That bill included important reforms in the operations of Amtrak, America’s intercity passenger railroad. The Act also opened the door for the private sector to participate in providing passenger rail service in a number of important new ways. For the first time, rail capital investment programs were established that give states primary control to improve and expand intercity passenger rail services.”  
*Congressman Bill Shuster, House Railroad Subcommittee Hearing, March 11, 2011*

It is possible that the House Republicans led by Mica and Shuster will press for substantial legislative reform that will permit maximum use of PPPs and RRIF type financing. The Administration supports greater rail funding to the states. RRIF could eventually become a larger element in passenger financing.

There are a number of legislative ideas are in the development stage. One concept is to create a Rail Investment Bank that would combine an expanded modernized RRIF (a program of over \$100 billion is being discussed) with a modest grant program. The grants would subsidize the loans. The higher the public interest benefits the deeper the subsidy. These funds would be made available to PPP borrowers in officially blessed PPPs that, under a state authority control the design, management and operation of corridor passenger rail service.

There is no question that creation of a number of high-speed railways scattered across the U.S., much less one system connecting the coasts, will require an enormous investment with key infrastructure and technology commitments and will take many years. But in the near term funding will be very tight. There are good tools in current law that permit embracing PPPs and offering creative financing. These tools to encourage P3s and streamline loan funding are likely to be expanded. These will be explored in this task.

### **Railroad Rehabilitation & Improvement Financing: An Overview**

The RRIF Program was enacted in 1998 as part of the Transportation Equity Act for the 21st Century (TEA-21). The program was the evolution of a previous government program referred to as the Section 511 Loan Guarantee Program, the name originating from the section number of the US Code that governed the program.

The Sec. 511 program was created in 1976 as part of the Railroad Revitalization & Regulatory Reform Act (4-R Act). The program was one of numerous provisions enacted to address the financial collapse of the northeast and Midwest railroads. The program provided freight railroads hundreds of millions of dollars in loans and loan guarantees. It was in many respects similar to today's RRIF program. It ended for two reasons. First, the 4-R Act and subsequently the Staggers Act of 1980 deregulated and restructured the national

freight rail industry and largely succeeded in bringing it back to profitability. By 1990 the Class I railroads did not need the loan guarantee program. Second, the Credit Reform Act of 1990 imposed much stricter accounting standards on the Federal budget process, particularly with regard to accounting for the true cost and potential liability of government loan programs. As soon as that "cost" had to be paid for with a federal appropriation, securing 511 loans became more problematic and soon ended altogether.

There remained a clientele for 511-type rail loans among short lines and some rail passenger providers, but they were unable to secure federal appropriations to pay the cost 511 of the program. As a result the American Shortline and Regional Railroad Association developed a proposal to meet the terms of the Credit Act by requiring a the so-called "credit risk premium" which allowed the applicant or any third party to pay the "cost" of the loan in place of a federal appropriation. That provision and others were added to the existing 511 statutes in the 1998 TEA-21 bill and it was largely this provision that reignited interest in using the loan program. Under TEA-21, the program was limited to a total of \$3.5 billion with a set aside amount of \$1 billion for Class 2 and 3 railroads. When TEA-21 was reauthorized in 2005 (SAFETEA-LU) the authorization was increased to \$35 billion with \$7 billion set aside for short lines.

The new legislation also added units of government and government authorities as eligible applicants. To date, the program has executed loans totaling almost \$1 billion. In recent years loans have gone out to public passenger authorities. One of those loans went to the Virginia Railway Express commuter service, one is for Amtrak and two are for passenger excursion trains. The remaining loans were for 17 short lines and 1 Class I railroad. As of this writing not a single applicant has missed a single quarterly payment to the Federal Government and two of the loans have been paid off early. Amtrak is the only loan that did not meet its repayment schedule, but was subsequently repaid when appropriations were available.

The Bush administration made an unsuccessful attempt in its proposed 2007 budget to terminate RRIF. On June 9, 2008, FRA proposed new rules that would have established more onerous application and eligibility requirements under RRIF, making federal funds under the program even more difficult to obtain.

On March 30, 2009, FRA took the rare step of completely withdrawing their previously proposed rule, ensuring that RRIF's application and eligibility requirements will remain intact. DOT officials in the Obama administration apparently view RRIF in a better light than their predecessors. And the pace of loans has accelerated somewhat. Eligible borrowers under RRIF include a broader range of entities, including state and local governments, joint ventures including at least one railroad, and limited option freight shippers who intend to construct a new rail connection.

With capital markets in disarray and credit difficult to obtain, many transportation industry stakeholders other than short line operators are now taking a fresh look at the loan opportunities available through RRIF. RRIF loans and loan guarantees can fund up to 100 percent of a railroad project with a maximum repayment period of 35 years and interest rates equal to the rate of Treasury securities of a similar term. FRA may require RRIF applicants to pay an "investigation charge" of up to one-half of one percent of the principal amount of the direct loan or portion of the loan guaranteed under RRIF. FRA calculates a credit risk premium for the loan based on the creditworthiness of the borrower.

FRA uses the following criteria and standards to determine whether to approve an RRIF loan or loan guarantee for a particular project: (1) creditworthiness; (2) safety enhancements; (3) generation of economic benefits; (4) environmental improvements; and (5) improvements in service or capacity in the railroad transportation system, especially in small communities or rural areas.

The benefits of the RRIF Program are clear: the program provides applicants with the opportunity to acquire loans at very competitive rates, with up to 35 year repayment terms and without the need of any state or local matching funds. In addition, FRA is authorized to issue up to \$35 billion in loans and loan guarantees under the RRIF Program. One downside is that many potential borrowers are beginning to discover the benefits of this program, which has led to increased competition for these funds in recent months.

The DesertXpress application for \$5 billion filed on December 17, 2010 is the primary example. However, \$34 billion remains uncommitted. To date, the current Chair of the House Transportation and Infrastructure Committee and the Chair of the T&I Railroad Subcommittee has pushed hard for faster drawdown on the program. They have also promised a bipartisan effort to reform RRIF and increase the efficiency of the program.

Eligible borrowers include railroads, state and local governments, government-sponsored authorities and corporations, joint ventures that include at least one railroad, and limited option freight shippers who intend to construct a new rail connection.

### **The Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA)**

The Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA) established a loan program that is administered by the Federal Highway Administration (FHWA) for transportation projects. The TIFIA program provides Federal credit assistance in the form of direct loans, loan guarantees, and standby lines of credit to finance surface transportation projects of national and regional significance. TIFIA credit assistance provides improved access to capital markets, flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments. TIFIA can help advance qualified, large-scale projects that otherwise might be delayed or deferred because of size, complexity, or uncertainty over the timing of revenues. Many surface transportation projects - highway, transit, railroad, intermodal freight, and port access - are eligible for assistance. Each dollar of Federal funds can provide up to \$10 in TIFIA credit assistance - and leverage \$30 in transportation infrastructure investment.

Any type of project that is eligible for Federal assistance through existing surface transportation programs (highway projects and transit capital projects) is eligible for the TIFIA credit program, including intelligent transportation systems (ITS). In addition, the following types of projects are eligible: international bridges and tunnels; intercity passenger bus and rail facilities and vehicles; publicly owned freight rail facilities; private facilities providing public benefit for highway users; intermodal freight transfer facilities; projects that provide access to such facilities; service improvements on or adjacent to the National Highway System; and projects located within the boundary of a port terminal under certain conditions.

An eligible project must be included in the applicable State Transportation Improvement Program. Major requirements include a capital cost of at least \$50 million (or 33.3 percent

of a state's annual apportionment of Federal-aid funds, whichever is less) or \$15 million in the case of ITS. TIFIA credit assistance is limited to a maximum of 33 percent of the total eligible project costs. Senior debt must be rated investment grade. The project also must be supported in whole or in part from user charges or other non-Federal dedicated funding sources and be included in the state's transportation plan. Applicable Federal requirements include, but are not limited to Titles 23 and 49 of the U.S. Code, NEPA, Buy America provisions, and the Civil Rights and Uniform Relocation Acts.

Qualified projects are evaluated by the Secretary against eight statutory criteria, including among others, impact on the environment, significance to the national transportation system, and the extent to which they generate economic benefits, leverage private capital, and promote innovative technologies.

While the application process is similar to the RRIF process, including a review by the Credit Counsel, there are significant differences in the requirements of the two programs. Unlike RRIF, the TIFIA program requires applicants to secure a credit rating of at least investment grade in order to receive funding. Proof of such a rating must be included in the application. In addition, projects seeking funding must be included in the applicable states' long-range plans and identified in the State Transportation Improvement Program (STIP). Finally, similar to RRIF, the requirements of the program include the description of a dedicated revenue source that will serve as the funding stream to repay the loan.

Like RRIF, TIFIA interest rates are set at a rate that approximates a U.S. Treasury security of equal maturity. Like RRIF, the maximum TIFIA term is 35 years. Unlike RRIF, TIFIA loans can include provisions to defer payments on the loan up to five years after the project is deemed substantially complete. Additionally, the amortization schedules used for the repayment can take into account the projected cash flows of the project, thereby allowing for smaller payments initially and larger subsequent payments. Once approved, TIFIA debt is subordinate to all other private debt.

Finally, and possibly most importantly, TIFIA does not require the payment of a Credit Risk Premium. While both programs are subject to the same statute requiring the government to establish reserves to offset the expected losses of credit programs, the TIFIA program funds this reserve through government budget authority as opposed to applicant funds. In other words, federal taxpayers pay for the Credit Risk Subsidy of TIFIA where the RRIF Credit Risk Premium is paid for privately or by non-federal sources. In recent years, this subsidy amount has been limited to \$122 million per year, which is said to support roughly \$2 billion in loans.

Unlike the RRIF program that typically has minimal reporting requirements as long as the borrower stays current with payments, the TIFIA program includes significant reporting requirements. In addition to providing an annually updated credit rating that reflects investment grade, the borrower is required to submit financial reports. Beyond financial and credit disclosures, the borrower is subject to site visits, other status meetings, and independent reviews (at no cost to the government) by engineers and consultants. All of these requirements should be considered when estimating the borrowing costs associated with the program.

### **Private Activity Bonds: An Overview**

Private Activity Bonds (PAB's) are issued by or on behalf of local or state government for the purpose of financing the project of a private user. The private concern services the debt and generally pays a fee to the issuing unit of government to cover the cost of issuing. The bonds are exempt from federal income tax (except for exposure to the AMT) and may be free from state tax if purchased by that state's buyers. PAB's are essentially the same as municipal bonds where the interest rate is lower because of the tax treatment. Like municipal bonds the marketplace determines the interest rate depending on risk. Presumably the rate would be 1 to 1.5 percent less than taxables with the private concern receiving the benefit from the difference. The benefits of PAB's are largely dependent on the willingness of your local or state government to issue such debt and on the interest rate that the marketplace places on the issue. One of the factors that will influence local or state government's decision is their need to stay within their allowable bonding cap.

There is one section of federal law that addresses that issue and which may make PAB's a possible funding alternative. Section 11143 of Title XI of SAFETEA-LU amended Section 142 of the Internal Revenue Code to add highway and freight transfer facilities to the types of privately developed and operated projects for which PAB's may be issued. The law also provides that any transportation project that receives Federal assistance under Title 23, use is eligible. Because projects that receive TIFIA credit assistance are Title 23 projects, this means that TIFIA projects are also eligible to receive this tax-exempt bonding authority.

To date, approximately \$5 billion has been allocated for eight projects and only \$600 million has been issued. One project that issued such bonds is for the Capitol Beltway HOT Lanes in Washington, D.C., which involved 40-year tax-exempt bonds that averaged interest rates of 4.97 percent when the transaction closed in June 2008. All funds generated by the issuance of the bonds must be expended within five years of the closing. While the DOT has not established a formal application process for this program administered by FHWA, the government suggests that interested parties submit information that includes a bond counsel letter, identification of the key elements of the financial plan, and project descriptions and timelines.

### **Finance Options: Funding and Reforms Being Considered in Congress**

In his 2011 State of the Union Address, President Obama stated, "Within 25 years, our goal is to give 80 percent of Americans access to high-speed rail, which could allow you to go places in half the time it takes to travel by car. His budget, released on February 14, 2011, called for a six-year \$556 billion surface transportation program to pave the way for economic growth. This is a 60 percent increase over current spending levels. It expands the mandatory spending Trust Fund to encompass rail. Within the new Transportation Trust Fund, it provides \$53 billion over six years a passenger rail system that features high speed. The budget proposes \$8 billion for fiscal year 2011 for high speed and intercity passenger rail. It includes \$30 billion for a national infrastructure bank for projects of regional or national significance. It consolidates 55 trust fund programs to five. In one of the surprising and innovative features, Amtrak would compete with the state for its operating and capital subsidy grants.

### **RRIF Reforms in the next Surface Transportation Act?**

RRIF itself is in drastic need of reform. It has had a troubled history. It was originally a product of the House Transportation and Infrastructure Committee in 1997 and was harshly opposed by the Office of Management and Budget at the time. While the Federal

Railroad Administration administers the program, OMB has a veto over loan applications through the Credit Risk Premium process. No loan was approved during the Clinton Administration or the first two years of the Bush Administration. Since then, 24 loans were approved by the Bush Administration, mostly to short line railroads and four have been approved by the Obama Administration. With \$35 billion in authorized spending authority, less than \$1 billion is obligated today.

In 1997, RRIF was a Republican House initiative under the leadership of Congressman Tom Petri of Wisconsin. The current Republican Leadership of the House Transportation and Infrastructure Committee has made clear their support for RRIF and expressed their frustration over the administration of the program. On October 15, 2010, T&I Chairman Mica and Railroad Subcommittee Chairman Shuster wrote DOT Secretary LaHood. They noted the “slow and cumbersome RRIF loan consideration and approval process” and described the program as “woefully undersubscribed.” The first formal Rail Subcommittee hearing was entitled “Sitting on our Assets: Rehabilitating and Improving our Nation’s Rail Infrastructure.” The hearing was on RRIF Reform.

Like the House Republicans, the Obama Administration now sees RRIF as a way of promoting infrastructure development that will create jobs. In testimony before the House Railroad Subcommittee on February 17, 2011, DOT Deputy Secretary John Porcari made clear that intercity passenger corridors and high-speed rail projects are welcome. He noted that the DesertXpress has a RRIF application in for between \$4 to \$6 billion.

Several reforms were suggested. We believe these should be closely followed because there is a high likelihood of enactment.

*Proposed Reforms to the Existing RRIF Program.* The RRIF loan process is very long, collateral requirements can be onerous and the “credit risk premium” can kill the deal. To cure these problems, a proposal was put forward by Mr. Tom Loftus on behalf of the American High Speed Rail Alliance. Essentially those reforms would provide RRIF with a federal subsidy that allows the Secretary to modify loan terms or defer payments and/or defer interest rates. Loftus called it, “TIFIAizing” the program. The Credit Risk Premium could be paid by grant funding, just as the Credit Risk Subsidy is paid in TIFIA and all other federal loan and loan guarantee programs. Interest rates could be reduced and early year payment deferrals could be made possible to permit the project to ramp up and to generate sufficient revenues for repayment. Another option that has been discussed is to use a grant to establish a “Loss Reserve Fund”. The grant would be applied for by the State and loaned to a Qualified PPP Project. The Fund would be drawn-down only in the event of a shortfall in projected revenues. This would provide protection in the early years of a project guaranteeing RRIF loan repayment and would provide incentive to attract private investors into public projects by limiting risk in the most vulnerable years of a public project. If successful the grant would become a revolving loan fund. It has also been suggested grant funding and RRIF loan funding might be combined into a Rail Infrastructure Bank to achieve maximum leverage.

These reforms, if enacted, would work well for projects in the Cascades Corridor that have marginal financial returns but high social returns such as lowering congestion or creating good jobs by building basic infrastructure and expanding rail freight and passenger train service.

*Increase the RRIF authorization level.* High-speed, regional and urban rail passenger network may become a key element in the RRIF program. It is broadly understood that massive funding will be required—which will be difficult in the current political environment. The RRIF loan program is deficit neutral and is an excellent vehicle for attracting public private partnership financing. There has been discussion of making RRIF a centerpiece of the Rail Title and expanding the authorization level from the current \$35 billion to as much as \$150 billion.

### **Study Example – Skagit River Bridge & In depth Analysis of RRIF**

Given deep government deficits, traditional grants will not likely be available in large sums in the near future. To finance projects of this magnitude will require creative solutions. It may be possible that a solution will be to combine RRIF soft loan financing with grants with the principal of PPPs to create a vastly increased pool of funding.

There are a number of infrastructure projects that must be funded to upgrade existing passenger service. The range from storage tracks in Everett to acquisition of a new Amtrak train sets to sidings, track upgrades and advanced signal systems. One project on the list is the replacement and double tracking of the Skagit River Bridge.

We suggest that in a next phase of study, these projects be analyzed individually and in groups to determine whether the PPP alternative is possible and what types of alternative financing could be brought to the project. The key, as stated earlier, will be to organize a PPP around the projects that can take “ownership” of the project, organize, manage and provide fast delivery. It would be necessary to determine who those beneficiaries will be, what the stream of revenue will be to provide payback, who the applicant will be and how to share in the risk.

This Case Study is by way of example. It proposes taking one project, in this case the replacement of the BNSF Skagit River Bridge. It then takes a detailed look at the RRIF loan program and how it might be applied to the Skagit River bridge replacement project.

*Skagit River Bridge.* In 2009 the Skagit Metropolitan Planning and the Skagit sub-Regional Planning Organization requested the state to list the replacement of the BNSF Skagit River Bridge in their priority list of Proposed Washington State High Speed Rail Projects. (Skagit Council of Governments letter to the Honorable Mary Margaret Haugen, June 19, 2009)

This Skagit project has possible benefit for multiple parties. The improvements could increase the reliability of the rail infrastructure, reduce the number of track closures during flooding as well as have a direct impact on the flooding. The replacement of the bridge could certainly remove a bottleneck to improving intercity passenger service along the Seattle to Vancouver, B.C., rail corridor.

With the lack of infrastructure grant funding available from the federal government, it is not at all clear how the project could be financed with all of other project priorities piling up. RRIF loan funding might be an option. This becomes tricky in that BNSF has made clear that they consider the Skagit River Bridge adequate for existing freight service and would not want to participate financially.

To apply for a RRIF loan, a Bridge Authority could be established. Under such circumstances, the Authority would then form a PPP for purposes of the bridge design, build

and maintenance (DBM). The PPP, under the Authority would be the applicant. BNSF would be a critical partner in the PPP. Within the PPP consortium, BNSF would have lead responsibility for carrying out the DBM, but cannot be expected to participate financially. The RRIF law stipulates that, in addition to railroads, units of government and government authorities are eligible applicants. Railroads need not be on the actual application. Therefore, if determined that there is no benefit to the BNSF commercial business, they need not take any responsibility for the repayment of the RRIF loan. An application would undoubtedly require a combined commitment from the state, in conjunction with its growing high speed and intercity passenger rail responsibility, and the Authority. A variety of payback mechanisms such as a special assessment on the beneficiaries would be a possibility.

It is not clear whether or not under the existing statute a RRIF or RRIF/TIFIA model that works can be developed for Skagit or other projects. This will take additional analysis and an outreach discussion with stakeholders. This could prove to be a worthwhile endeavor, even if the pieces cannot be fit to file a RRIF application now. As indicated earlier, there is discussion in Congress about creating a Rail Infrastructure Bank that would allow RRIF loans to be further subsidized by HSR grants. This could make the program more feasible.

In anticipation of legislative change, there is an additional possibility. The State could explore the feasibility of reprogramming existing HSR funding to match with RRIF loans in order to expand up front financing for a range of projects on the Seattle to Vancouver, B.C., corridor including the Skagit River Bridge replacement or other projects. It is not clear this is a legal option under current law, thus might require a statutory change. We suggest that they meet with stakeholders in the Skagit area in the near term to explore the feasibility of these options.

### **Seattle—Vancouver Rail Study on the Railroad Rehabilitation and Improvement Financing Program Administered by the U.S. Federal Railroad Administration**

This section provides a detailed analysis of the issues and challenges associated with utilizing the Railroad Rehabilitation and Improvement Financing (RRIF) Program to fund projects along the Cascadia High Speed Passenger Rail Corridor.

The report concludes that the RRIF program offers significant advantages over private debt, particularly given today's market conditions. RRIF offers a long 35-year term and a low interest rate that is locked in for the life of the loan. There is no prepayment penalty. While the approval process is lengthy and at times overly bureaucratic, the government's interest is not purely financial. The loan program was established to further certain congressionally approved public policies.

As seen in the last section providing a RRIF overview, the RRIF loans have primarily gone to freight projects of relatively small size, but that appears to be changing. Previous loans have gone to the Virginia Railway Express commuter service, one is for Amtrak and two are for passenger excursion trains. DesertXpress is a private consortium that plans to construct a true high-speed rail line between Las Vegas and Victorville, California and then on to Palmdale where it will intersect with MetroLink and the planned California north-south HSR network. DXE filed a breakthrough RRIF application on December 17, 2010, for a loan in excess of \$5 billion. They have asked to guarantee repayment with "going concern value." They have also asked to delay repayment for a few years until the project is constructed and operations begin. In the history of the program, neither "going concern" nor "delay on

repayment” been previously approved. However, law permits both. The DXE loan application should be watched as an indication as to whether the government is truly prepared to extend the RRIF loan program to high speed and intercity rail projects. The remainder of this paper will deal with the existing RRIF program as it might apply to projects on the Cascadia Corridor.

*Collateral and the Credit Risk Premium.* Historically the FRA has required a first position on collateral that is equal to 120 percent of the loan value. It will be important to see whether this policy will be put aside in the DesertXpress case. In fact the law does not specify the level of coverage required for the loan. It leaves that issue up to a relatively subjective decision by the government. Certainly the FRA can accept collateral with a value of less than 120 percent. However, this can have a negative impact causing the Credit Risk Premium to go up.

The Credit Risk Premium is paid at closing and remains in a government escrow account for the life of the loan. The Credit Risk Premium is expressed as a percentage of the loan and reflects the government's assumptions about the risk of default over the 35-year repayment period. It is calculated at the Office of Management and Budget in a “black box” formula that has never been released. The applicant or any other third party must pay this “Credit Risk Premium.” Current Credit Risk Premiums have ranged anywhere from one to 10 percent of the loan amount. There is some room for negotiation on both the collateral and Credit Risk.

Premium issues and some of that negotiation can take place prior to embarking on the time and expense associated with putting together an application. In the case of the Skagit River Bridge or other Seattle-Vancouver projects, government guarantees and a dedicated stream of revenue could bring the Credit Risk Premium down to zero.

*Uses of Funding.* The funding may be used to:

- Acquire, improve, or rehabilitate intermodal or rail equipment or facilities, including track, components of track, bridges, yards, buildings and shops;
- Refinance outstanding debt incurred for the purposes listed above; and
- Develop or establish new intermodal or railroad facilities

Direct loans can fund up to 100 percent of a railroad project with repayment periods of up to 35 years and interest rates equal to the cost of borrowing to the government.

Eligible borrowers include railroads, state and local governments, government-sponsored authorities and corporations, joint ventures that include at least one railroad, and limited option freight shippers who intend to construct a new rail connection.

*Current Requirements of the RRIF Program.* The RRIF program is governed by statute (45 USC 822) and by a set of regulations (49 CFR 260). Taken together these identify eligibility, allowable uses, application requirements, and policy objectives. As previously stated, eligible entities include railroads, state and local government, government sponsored authorities and corporations, and joint ventures that include a railroad. The rules also allow rail customers that have only one rail connection to apply for a loan for purposes of building a second connection to a competing railroad operation. RRIF funds can be used to acquire or improve intermodal or rail equipment and facilities, to refinance debt related to such

activities, and to develop or establish new intermodal or railroad facilities. RRIF funds may not be used for operating expenses.

While all projects that meet the eligibility requirements will be considered for funding under the program, some projects receive priority if they fall within certain categories. Taken directly from the U.S. Code, projects receive priority if they:

- Enhance public safety
- Enhance the environment
- Promote economic development
- Enable United States companies to be more competitive in International markets
- Are endorsed by the plans prepared under section 135 of title 23 by the State or States in which they are located
- Preserve or enhance rail or intermodal service to small communities or rural areas
- Enhance service and capacity in the national rail system
- Would materially alleviate rail capacity problems which degrade the provision of service to shippers and would fulfill a need in the national transportation system

Notwithstanding these policy pronouncements, the government's highest priority is to satisfy itself that the loan can be repaid and that it has control of collateral to cover at least 100 percent of the loan value in the event of default. None of the social objectives described above trump that requirement. FRA has created an application template that is publicly available. The application requires a variety of information regarding both the applicant and the project, including project descriptions, funding requirements, timeline for completion, anticipated operating costs, future capital requirements, and the parties involved with the loan. For applicants that do not have a credit rating from a recognized institution, the regulations require the submission of additional information. The information is similar in nature to that which would be collected and analyzed by a rating agency, including business plans, historic and projected financial statements and traffic data, capital spending plans, and information on the company's management team. To the best of our knowledge, only one of the applications approved to date had a formal credit rating and thus each has had to make the finding that it is able to repay the loan based on a combination of historical financial performance and the strength and reliability of its business plan.

Beyond the application requirements, the RRIF program includes provisions that place certain burdens on the borrower that may not exist in private lending situations. Certain labor protections exist for contractors and employees of the operation, including the requirement of paying prevailing wages for purposes of construction. All projects must be considered in light of the National Environmental Policy Act (NEPA). As already discussed, applicants are required to pay a Credit Risk Premium. The CRP is kept in a government escrow account for the life of the loan. Finally, during the repayment period, borrowers are required to submit financial reports and data to the FRA that demonstrates that the assets purchased with the funds are being maintained to predetermined standards.

*The RRIF Application & Review Process.* The RRIF application process can be separated into four distinct segments: pre-application, application preparation, the government's analysis, and the Credit Council approval process. During the pre-application phase, the applicant meets representatives of the FRA to discuss the project and the application process. This

meeting is a valuable opportunity for the applicant to present the proposed project and gather a sense of the FRA's potential reaction. Applicants should take advantage of this opportunity to seek feedback from the FRA personnel, as this meeting is conducted prior to the point in which payment to FRA to review the application is required. If FRA expresses serious concerns regarding the viability of a project at this point, it is almost a certainty that it will not stand up to the ensuing review process and it is in the applicant's best interest to try and rework the project to meet the government's reservations. It is at this point that the applicant will need to reach some mutual understanding with FRA on the value of the collateral and the reasonableness of the Credit Risk Premium.

If the FRA signals that the project has significant merit and is potentially viable from a funding standpoint, the applicant then assembles the application. While not precluded from having the application prepared prior to the pre-application meeting, most applicants do not have all of the documentation assembled for this initial meeting. The application requirements are clearly outlined in the application template. While all of the required information must be included, the items the government scrutinizes the most carefully are as follows:

- The reliability of and support for revenue and expense projections the future operation
- The value of and ability to cash in adequate collateral in the event of a default
- The construction cost estimates

Depending on the scope of the project, these applications are substantial documents that can number in the hundreds of pages. While applications will not be rejected if information is not initially included, it will delay the process. Upon submission of the application, the applicant is required to submit one half of the investigation fee associated with reviewing the application. This fee is established by FRA and is limited to no more than one half of one percent of the principal loan amount. Part of the use of this fee is to cover the cost of third parties that, for all but the smallest applications, are hired to provide an independent review of the project. These entities are known as Independent Financial Analysts (IFA's). For a large loan request, it is assumed that a lower flat fee rather than the loan percentage calculation would be used. This amount can most likely be negotiated in the preapplication meeting. In the case of Skagit River Bridge or other HSIPR projects it can be asserted that much of the analysis has already been paid for through the environmental assessment process and traffic projections and other studies that relate to the passenger corridor development. This could serve to lower the administrative fee substantially. Following receipt of the fee, the application is assigned to an in-house FRA analyst who will manage the review process. This individual will conduct an initial review of the application to determine if all required information is included. If key items are missing, the analyst will contact the applicant to collect the relevant information and documentation. If an IFA review is required, the analyst also begins the task of bidding out that contract.

The IFA's are a group of companies that are under contract to FRA to provide financial analysis on RRIF applications. From the time of delivery, the IFA has seven days to review the application and submit to the FRA a list of additional information that is required to begin the review of the application. The IFA may identify specific items and require additional information. Once this additional information is transmitted to and approved as adequate by the IFA, the formal 90-day clock required by the statute begins. Typically, the IFA has 45 days to complete his review. As the name implies the IFA concerns himself with

the reliability of the numbers, the soundness of the assumptions, and the value of the collateral. They do not generally deal with any policy or environmental matters.

In addition to the historical review, the IFA is tasked with examining the adequacy and appropriateness of the investment being made through the use of RRIF funds. In this phase of the analysis, the IFA will determine if the level of investment is sufficient to achieve the objectives identified by the applicant. For example, the IFA will examine the capital expenditures to examine if applicants are either overestimating or underestimating the expenses associated with purchasing equipment or building infrastructure. The goal of such analysis is to prevent applicants from seeking too much in funding or from not securing enough funding that could impact the financial health of the organization. Unless the amount requested is significantly different from what could be reasonably expected, the IFA and FRA usually accept the applicant's figures. The IFA will then review the projected revenue stream. Given the critical impact this data has on the applicant's ability to repay the loan, it dominates the IFA's time during the review. The starting point of the analysis is typically the applicant's projections of revenues to repay the loan.

Upon completion of the review, the IFA submits its final report to FRA. FRA then conducts its review of the IFA report and then make a suggestion as to whether the loan should be approved.

*The Credit Council.* The Credit Council is composed of nine members including the DOT Assistant Secretary for Budget and Programs, the DOT Undersecretary of Transportation for Policy, the DOT General Counsel, the DOT Assistant Secretary for Transportation Policy, the DOT Director of the Office of Small and Disadvantaged Business Utilization and the Administrators of the FRA, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Maritime Administration (MARAD).

Based on the information presented to it, the Credit Council can decide to grant the loan at the requested amount, reject the loan application, or grant a loan for a different amount than what was requested by the applicant. This decision is then communicated to the applicant and marks the end of the application process. At some point during or after the Credit Council process, the FRA consults with the Office of Management and Budget (OMB) on the level of the Credit Risk Premium. The Premium is expressed as a percentage of the loan and is largely dependent on OMB's view of the risk of default and the value of the collateral. Determining the Credit Risk Premium is a completely closed process. At least to date it also appears to be impervious to appeal. While FRA is in charge of the analysis process, OMB dictates the amount of the Credit Risk Premium, based on a formula it developed in concert with a number of Treasury Officials. While not an official member of the Credit Council, OMB has an extremely influential role in the review process. To date, Credit Risk Premiums have ranged between one and ten percent. The lower the value of the collateral the higher the Credit Risk Premium.

In addition, the loan documents will specify a very detailed drawdown schedule for the funds. The drawdown process works as follows. Each quarter the applicant submits a draw down request for that quarter's work. The specifics of the drawdown (materials cost, labor costs, units installed, equipment lease cost, etc.) must generally track the loan document schedule. Once the drawdown is approved and the funds are dispersed that drawdown becomes a separate note with its own 35-year (or whatever your specific term is) amortization schedule. Repayment begins immediately on that note with principal and

interest paid quarterly. The second quarter drawdown request reconciles any differences between the first quarter request and first quarter actual spending and requests the scheduled second quarter amount. This then becomes a separate note with its own amortization schedule. This is the method FRA uses to audit the loan on a continuing basis.

*Benefits and Challenges Associated with the RRIF Program.* Among the benefits associated with the RRIF Program is that loan terms are highly attractive when compared to private sector borrowing. The interest rate is equal to the rate on a government security of comparable term, and the rate is locked in for the life of the loan. The term can be up to 35 years. While there is no 35-year Treasury security, the interest rate on the 30-year bond has recently hovered at 3 percent. If that rate is blended with a five-year note, the blended rate would be even lower. The RRIF lender is a rail friendly and rail knowledgeable lender. Unlike some private sources, the FRA has a substantial understanding of all aspects of the railroad industry, both its challenges and its potential. Because they have significant railroad engineering and costing expertise they may have to spend less time analyzing those aspects of the project. While the primary purpose of the FRA analysis is to satisfy the government that the loan can be repaid, the government is in the loan business to support good public policy, not to make money. While ensuring the ability to repay and properly pricing the Credit Risk Premium are primary considerations, public policy goals could make the difference in a close call. Further, the government's interest in promoting certain policy goals allows the FRA to work hard to cure a default.

Among the challenges is that the RRIF loan process is very long. Historically, FRA has a reputation of delaying, sometimes indefinitely, final decisions on RRIF loans. Some of this delay has been associated with a lack of resources. As a result of this record, Congress mandated that decisions must be made within 90 days of the submission of a completed application. While this requirement has helped speed up the application process, the deadline has yet to be met and there is no penalty for not meeting it. House T&I Chair John Mica and Railroad Subcommittee Chair Bill Shuster are pressing FRA hard to streamline and speed up the RRIF approval process. However, under the best of circumstances it would probably take a minimum of six months from date of submission to approval.

**WHITE PAPER SUMMARIZING LAND USE AND ENVIRONMENTAL POLICIES THAT  
ACCOUNT FOR IMPLICATIONS OF PASSENGER RAIL INITIATIVES**

**Overview<sup>16</sup>**

**Washington State Amtrak *Cascades* Mid Range Plan 2008 Executive Summary**

“Washington State faces both challenges and opportunities resulting from the fundamental changes in our economy and society. Challenges within the macroeconomic policy environment include economic globalization, population growth, increases in I-5 corridor congestion, higher fossil fuel prices, global climate changes, and increases in natural and man-made disasters. Passenger rail, once used as means to address only mobility problems, is increasingly viewed and used as an integrated part of macro solutions to achieve multiple ends. These macro solutions include economic viability, societal mobility, environmental sustainability, public safety, and transportation system redundancy and resiliency.

As directed in RCW 47.82, WSDOT has been monitoring and analyzing socioeconomic and technical conditions that affect intercity passenger rail development. These conditions are directly aligned with state and national policy priorities of transportation, economy, energy, and environment.

In response to these driving factors, and given our competing needs for limited resources (capital and land), Washington State is increasing its policy efforts to address greenhouse gas emissions, congestion, and health and safety improvements, and to develop a more sustainable economy.

WSDOT is seeking policies to increase efficiency, relieve highway congestion, and develop robust and resilient transportation systems.”

Sound Transit plans for Sounder and the Amtrak *Cascades* were developed in coordination with Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs), and other state, regional, tribal, and local stakeholders within their respective planning areas.

The purpose of this white paper is to examine – through interviews with stakeholders – how expanded passenger rail could integrate with the latest in significant land use developments.

The observations and suggestions are based on interviews with a broad range of the Washington and British Columbia communities, elected officials and Tribal and First Nation leaders as well as significant events such as the 2010 Olympic Games in British Columbia.

In considering land use, planning, partnerships, and the interface between passenger rail and local transit services, we can divide the Seattle-Vancouver, B.C., rail corridor and its catchment areas into four sections: the Puget Sound region, which within the study area

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<sup>16</sup>For a related study of these issues, see the Connecting Cascadia report in *Appendix No. 9*.

encompasses the metropolitan counties of Snohomish and King; the more rural Skagit and Island counties; Whatcom County, with its own metropolitan area of Bellingham; and, the Canadian segment of the route, corresponding to the Vancouver BC/Fraser River metropolitan area.

#### **WHAT ARE MPOs and RTPOs?**

LAND USE AND TRANSPORTATION DECISIONS between Seattle and the Canadian border are made by federally mandated metropolitan planning organizations (MPO) of elected officials in urbanized regions with a population of 50,000 or over (23 U.S.C. chapter 1). An MPO provides a forum for local decision-making on transportation issues of a regional nature. As a condition for receipt of federal capital or operating assistance, MPOs must have a “continuing, cooperative and comprehensive transportation planning process. MPOs cooperate with the state in developing transportation plans and programs for urbanized areas. The transportation planning process is to result in plans and programs consistent with the urbanized areas comprehensive plan development. In addition, the plans are to provide for the development of transportation facilities and serve as an intermodal system for the state and nation. (WSDOT)

In 1990, the Washington State Legislature passed the Growth Management Act (ESHB 2929) authorizing the Regional Transportation Planning Program and the formation of Regional Transportation Planning Organizations (RTPOs). They develop regional plans and policies for transportation, growth management, environmental quality and data to support local and regional decision-making. RTPOs also build community consensus on regional plans, policies and issues and advocate local implementation.

#### **Puget Sound Region (Snohomish and King counties)**

*“The plans were all developed in coordination with Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Organizations (RTPOs), and other state, regional, tribal, and local stakeholders within their respective planning areas.” – From the Amtrak Cascades Mid-Range Plan 2008*

According to estimates published by the State of Washington, Snohomish County’s population is expected to reach 969,000 by 2030, while, at the center of the Puget Sound region, the population of King County, which includes Seattle, will have then reached almost 2.2 million. Total employment within the entire region – which also includes Kitsap and Pierce counties – is expected to grow from 1.8 million to 3 million by 2040, according to the Puget Sound Regional Council (PSRC). Such drastic changes in population and employment will require significant adjustments in land use policy, and a greater coordination of public transportation functions than currently exists, but the Puget Sound region fortunately has a robust framework to build upon.

Large sections of Washington’s Growth Management Act expire in 2011, and counties may begin to reexamine their land designations as they prepare to accommodate the next 20 to 30 years of growth. In the largely built-out urban areas in King and Snohomish counties, the implications are especially relevant. The PSRC is encouraging the state legislature to pass

updated rules and guidelines, outlined in the PSRC's Vision 2040 plan, which casts considerable light on the issues in this study. Vision 2040 includes an emphasis on multi-county planning coordination, mixed density urban development with access to forms of transportation other than the automobile, and protection of natural resource areas and critical habitats.

The Puget Sound region has experienced an explosion of auto-dependent development. Lack of affordable housing has forced many workers to live far away from their places of employment. However, transit-oriented development has gained increasing momentum, and public-transportation functions enjoy broad popular support. Voters in the Central Puget Sound Regional Transit Authority (ST) district, which corresponds to the urban growth boundaries in King, Snohomish, and Pierce counties, approved \$18 billion in new spending in 2008 for increased light-rail, express bus, streetcar, and commuter-rail capacity. In addition, the PSRC has adopted guidelines for the designation of high-capacity transit centers and regional growth centers through Vision 2040 and Transportation 2040.

In Transportation 2040, all of the plan's alternatives "include investments in Sounder commuter rail service, including tracks, crossings, and other facilities. These improvements would have positive impacts on Amtrak service through the central Puget Sound region." The 2040 Plan also specifically highlights improvements to intercity rail as consistent with the goals of the Metropolitan Transportation System.

Funding for improvements to the King Street Station was listed in the Long Range Plan for Amtrak *Cascades* as well as Transportation 2040. King Street station was also awarded funding from the WSDOT ARRA funding program application.

The Station is the region's major intercity rail terminal serving 2.7 million passengers annually. It is located within the Downtown Seattle Regional Growth Center and provides pedestrian connections to the Washington State Ferry, Link light rail, and the regionally funded future First Hill/Capitol Hill Streetcar. Former Seattle Mayor Greg Nickels designated King Street station in the City of Seattle's transportation plan as one of three urban transportation hubs - along with Westlake Center and Colman Dock.

The total cost of the King Street Station project is \$48 million with multiple funding partners. In October 2010, WSDOT was awarded a federal grant of \$18.2 million for station renovation and seismic upgrades.

## **Snohomish County**

### **Edmonds**

Land use planning for downtown Edmonds revolves around the traditional and expanding role as a transportation hub. As a result of Sound Transit's successful November 2008 ST2 election, funding for a permanent Sounder commuter platform and parking lot adjacent to the current Amtrak station was secured. The project will be completed in early 2011.

Edmonds Mayor Mike Cooper laments the lack of grade separation between the railroad and ferry that characterizes Mukilteo, but notes that BNSF and ST are negotiating a double track along the waterfront in the downtown area which would reduce the conflicts downtown with ferry traffic. He is seeking a pedestrian overpass to facilitate transfers

between the Amtrak station, Sounder platform and the Community Transit stop on the other side of the tracks at the Edmonds Senior Center.

Consistent with comments from community leaders along the corridor and recognizing budget shortfalls in local government financing, Mayor Copper spoke of legislative action need to promote PPPs. He said: "Our Port is moving ahead on the Harbor Square Master Plan, and we are considering acquiring the Antique Mall adjacent to the train station for a mixed use development and farmers market that would be compatible with Harbor Square. We need the Legislature to grant us tax increment financing capabilities to move this project forward."

### **The great winter of slides**

The interface between land use and improvements to passenger rail service comes to the fore with respect to the mudslide problems that have increasingly affected service in the Amtrak *Cascades* corridor. Among points on the route under study, the unincorporated area in southwestern Snohomish County between Edmonds and Mukilteo, around Picnic Point, has witnessed by far the highest number of slides this past winter (2010-2011).

The slides are inextricably related to the pattern of land use, at least in the primary problem area in southwestern Snohomish County. Clearing of timber and construction of homes on the bluffs overlooking the shoreline that the tracks follow has destabilized soils, leaving the slopes prone to movement.

After a slide, BNSF crews clear away the debris from the tracks. Freight trains are then allowed to proceed through, albeit slowly at first, but another 48 hours must pass before BNSF, per its internal policy, will allow passenger trains to use the tracks. The result has been the complete cancellation of several Seattle-Vancouver route departures to date (March 25) in 2011 – meaning that that many trains have never left Vancouver for Seattle, or vice versa. This has translated, for example, into a year-over-year decline in ridership between January 2010 and January 2011 (rebounding strongly through April 2011 after the reduction in slide delays) even as annual ridership since 1995 was climbing.

All Aboard Washington director Lloyd Flem has called for elected state leaders to "praise and push" BNSF officials to allow more flexibility in reopening rail lines for passenger use – noting "*the 48 hour stoppage is internal BNSF policy -- not federal law -- and freight trains are allowed to operate soon after the tracks are cleared.*"

In 2010, WSDOT sought \$7.7 million in federal HSR funds to stabilize slopes at 40 locations along the *Cascades* route in Washington State. That application (which was subject to a 20 percent state match) was denied, but Andrew Wood, Deputy Director, Operations at WSDOT's Rail and Marine Office has stated that the department has applied for funding from the \$2.4 billion pool of federal money redirected from the now cancelled Florida High Speed Rail project.

### **From a WSDOT media release, Monday, April 4, 2011:**

"Washington State applied today for approximately \$120 million in federal high-speed-rail stimulus money, part of \$2.4 billion returned by Florida.... Projects in WSDOT's application are primarily for environmental and engineering work to stabilize hillsides, add capacity to reduce conflicts with freight, and replace an aging

trestle. All projects funded by the ARRA rail grants must be completed by September 2017.

“We’re working hard to improve reliability for passenger service along this route,” said Washington Transportation Secretary Paula Hammond. “In partnership with BNSF, this funding allows us to address those problem areas and ensure that trains get to their destinations and get there on time.”

UPDATE: WSDOT received \$15 million from the Federal Railroad Administration for the Port of Vancouver, Wash., Westside Access project in May from the redirected Florida funds.

### **Mukilteo**

Land use in Mukilteo is also driven by the role of the city as a transportation crossroads – dominated by the Washington State ferry system. State leaders have dropped plans to move the Washington State ferry terminal to Edmonds or Everett, and are now moving forward on three options to upgrade the Mukilteo terminal that was constructed in the 1950s. The options will be taken to public hearings later this year.

An Everett Herald story from April 14, 2011, noted the estimated costs of the option were \$100 to \$150 million range and that a final selection would be made in 2012. The Port of Everett was trying to secure ownership of the Mukilteo Tank Farm for use as a ferry pier. The Port of South Whidbey is also interested in acquiring land in Mukilteo for commuter parking.<sup>17</sup>

In an interview, Mayor Joe Marine noted that Mukilteo has a rich history in transportation from the ferry dock to Paine Field and new businesses are locating there because of the quality of life. He would like to see more midday stops by Sounder or the Amtrak *Cascades* that he noted is not part of the state plan. “We are anxious to develop the old Air Force Tank Farm and provide a parking garage for our Sounder, bus and ferry riders,” he told us. “The tracks around Mukilteo are highly congested and the city has worked with BNSF to install a quiet zone to stop a portion of the trains from sounding their horns as they pass through town. With increased freight traffic, there may be more trains idling and the noise and vibration bothers the adjoining neighborhoods.”

Noting an excellent relationship between BNSF Railway and Mukilteo, he nevertheless wondered whether the “constant heavy freight rail activity along the corridor contributes to the bank instability.”

### **Everett**

Everett Mayor Ray Stephanson chaired the Puget Sound Regional Council in 2010 and is strongly in favor of expanding rail service in the Cascadia Corridor for both freight and passenger rail noting that Everett, and Snohomish County have experienced a greater influx of commuters as people begin to travel farther distances for work, he explained: “Boeing is the largest employer in both Snohomish and Skagit counties and has added 11,000 new jobs with the recent \$35 billion Air Force tanker contract which means alternatives for people commuting in single occupant vehicles (SOVs) is a huge plus.”

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<sup>17</sup> *Appendix No. 12* includes a visual depiction of Mukilteo’s ferry terminal.

“Everett Transit and Everett Station have had “great success connecting lots of different counties and cities across Puget Sound,” he told us. The agreement with Washington State University and Everett Community College for a University Center will bring more commuters to Everett and underscores the critical role the Everett Station plays as a multi-modal hub in the region and a significant driver of an expanded master plan of redevelopment, said Stephanson. Also in the interview, Everett Transit director Tom Hingson noted that operationally, the County Connector from Whatcom, Skagit and Snohomish counties were working well and wondered if the travel demand from the north could be handled by buses rather than a rail.

## **North Snohomish County**

### **Tulalip Tribes**

The Tulalip Tribes are the successors in interest to the Snohomish, Snoqualmie, Skykomish and other allied tribes and bands signatory to the 1855 Treaty of Point Elliott. The tribal population 4,000 and growing, with 2,500 members residing on the 22,000 acre Tulalip Indian Reservation located north of Everett and the Snohomish River and west of Marysville, Wash., with a mile of frontage on I-5.

On May 25, 2011, the Tulalip Tribes hosted a North County economic development forum with the cities of Arlington and Maysville.

“The Tulalip Tribes economic strength continues to grow as it matures as a business entity, particularly with the strength of the Quil Ceda Village,” tribal chairman Mel Sheldon noted in conference remarks. Tribal leaders indicated incorporated Quil Ceda Village is a “federal city,” one of only two in the country (the other is Washington, D.C.) and have invested heavily into the infrastructure.

State Representative John McCoy (former manager of Quil Ceda Village):

“We need expanded passenger rail to serve the Tulalip and North County areas as part of the Seattle to Vancouver, BC corridor and our local land use plans. We also need to better balance what is on the road and rail to promote personal mobility and freight distribution. McCoy, chair of the House Energy, Technology and Communications committee recommended a comprehensive study be conducted by the state on our current energy grid and opportunities to use road and rail rights of way for ‘High Voltage Direct Current’ electrical transmission lines from British Columbia to California”

McCoy has long championed expansion of community broadband networks.

### **Future Marysville/Tulalip train station as part of downtown redevelopment?**

Mayor Nehring also noted that the BNSF rail line traverses the city and long delays due to increased rail traffic cause commuter backups and hinders emergency response. He would like to see a train station for passengers constructed at the site of the old depot at 4<sup>th</sup> and State Street to tie into downtown redevelopment. “Marysville needs to develop our waterfront and marina into a family destination and children’s water park, kayak rental location and - in the future - restaurants, condos and a small hotel,” he said.

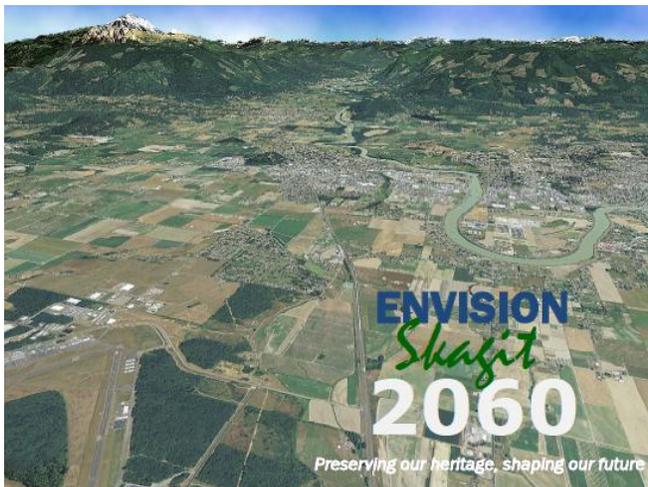
### North County Crossroads

Arlington and Marysville have rezoned nearly 1000 acres at Smokey Point adjacent to I-5 and both the main BNSF line and Arlington spur from Kruse Junction to industry in hopes of retaining and expanding manufacturing companies. As outlined in the North County Economic Development conference referenced above, the cities have also coordinated a series of local arterial and I-5 enhancements with WSDOT to attract large manufacturing plants (such as Boeing and its subcontractors) that require good road, rail and air access – through the Arlington Airport. Several manufacturing and industrial companies interviewed expressed support for the supportive land use, permitting and utility policies of the region.

Mayor Margaret Larsen also referenced strong community support for passenger rail service eventually to Arlington. She noted the town’s rich legacy as a “rail crossroads” for north-south and east-west connections to Darrington, and the mining and timber areas of Darrington for freight and people.

### Skagit County

According to the Skagit County Planning Office, Skagit County’s population has more than doubled since 1960 from 51,000 to 120,000 and is expected to increase another 100,000 in 2060.



The Cascadia consultant team attended “**Envision Skagit 2060**,” a special event on the “Cascadia Mega Region” and implications of corridor growth to Skagit County’s future. In a subsequent interview with Envision Skagit director Kirk Johnson from the Skagit County Planning Office he indicated that several members were interested in enhancing transit and passenger rail as well as recreational trail opportunities with neighbors on the Cascadia corridor.

“The Envision Skagit 2060 project seeks to develop and implement a broadly-supported, 50-year plan to protect the Skagit and Samish River watersheds’ many environmental values, maintain our highly productive natural resource industries, and accommodate population growth in livable, walkable, and economically vibrant communities. The project is a partnership among Skagit County and numerous local and regional organizations, including conservation groups, tribes, local farmers and foresters, cities, economic development interests and universities. The effort is funded with a grant from the Environmental Protection Agency with substantial in-kind contributions from Skagit County and its partners.” – Quoted from Envision Skagit 2060 Web site

Envision Skagit planners indicated that in a recent community meeting in Bow, people overwhelmingly wanted to preserve farmland and natural resources, retain downtown businesses and keep the sense of community.

“Most of us won’t be around a half a century from now. But our children, grandchildren and their children will be. If we don’t try to shape a future in which they can thrive, we will be leaving too much to chance... Envision Skagit is the beginning of a community conversation about our values and quality of life as we would wish to preserve and enhance it 50 years into the future.”- Skagit Valley Herald editorial, May 8, 2011

### **Flood Control Concerns**

Mt. Vernon Mayor Bud Norris warned that flood protection is a limitation on the city’s future development as outlined in the Envision Skagit 2060 as a major transportation hub around the Skagit Station.

The Army Corps of Engineers is currently conducting a General Investigation Study of the lower Skagit Valley area regarding flood protection measures. “We need \$75 million to fund the second phase of the project which will protect not only the downtown area but also the I-5 corridor and BNSF rail line,” said Norris who added that if a flood were to take the BNSF rail bridge down other bridges would be endangered.

The city has plans for 300-350 condominium units for downtown and is planning a 25 foot wide “river walk” and corridor between Skagit Station and the Skagit River for future farmers market to attract new residents.

### **Whatcom County**

Whatcom County is home to about 180,000 people, 73,000 of whom live in Bellingham, which is the county’s seat and largest city, as well as the location of the county’s only Amtrak station. Bellingham’s population is projected to reach 104,000 residents by 2022. The county’s population is expected to reach 257,000 by 2030. The city is the home of Western Washington University (WWU), with approximately 14,500 students and 2000 faculty members.

Recognizing the need to avoid future problems of congestion and sprawl, Bellingham has turned to an emphasis on development for livability in its transportation plan. This means that affordable housing will be located closer to the city’s employment centers, and that individuals will have more transportation options. The city plans on increasing the use of modes other than single-occupancy vehicles substantially over the next decade.



The future of rail service in Bellingham is also closely intertwined with plans for the Bellingham Waterfront District, within which the Fairhaven Transportation Center – the Amtrak station - is situated. The entire district is expected to take 30 to 40 years to build-out. Plans call for up to 6 million square feet of residential, commercial, marine-trades, hospitality and educational uses.

Under the plan, advanced by the Port of Bellingham as lead agency, the public would gain new access to restored shorelines. The port would deed 33 acres of land to the city for

waterfront parks and trails. The city has agreed to put in streets and utility infrastructure. The project will be developed in phases, to be gradually absorbed into the city's life, and as funding becomes available.

The port plans to sell much of the land to developers so it can recoup its cleanup costs. Public investment by the port, city and state in cleanup, shoreline restoration, roads, utilities, parks and other infrastructure is estimated at well over \$200 million, with half the funding coming from federal and state grants. This public sector investment is intended to attract the much larger private investment upon which the success of the project ultimately depends.

Cost of the full build-out is estimated at \$2-3 billion. Over the coming years, this PPP will provide the community with an exciting urban waterfront with excellent public access that is pedestrian and bicycle oriented. The district -- seen by its proponents as a neighborhood of the future -- will feature far more than the average amount of open space for a development of this size, say nothing of advanced energy-conservation features and compact urban design.

**Whatcom County Comprehensive Plan** The waterfront project is consistent with Whatcom County's clear support for the improvement of transportation infrastructure. With respect to passenger rail, the county's comprehensive plan of May 2009 states, "It is recognized that with greater service, ridership would increase significantly. The state's twenty year goal is to increase Whatcom County/cross border passenger rail service."

Under the heading of transportation, the plan's Policy 6L-4 reads, "support passenger rail service," while Policy 6N-1 calls on the county to "support public transit system design that encourages frequent and convenient access points, and that integrates various transportation modes into the transit services, such as bus systems, park-and-ride lots for cars and bicycles, and bus, railroad and airline terminal facilities." The plan also recognizes the need to consolidate functions compactly along rail corridors. Specifically, Policy 6P-4 suggests "support[ing] commercial and industrial development adjacent to existing transportation corridors, including I-5 and rail and air facilities."

A planning and land use debate has arisen recently in the wake of a proposal to build the Pacific Gateway Terminal, primarily for coal and grain shipments arriving by train north of Bellingham at Cherry Point. The proposal has achieved broad based political support from the Governor and Second District Congressman Rick Larsen to local leaders and labor unions. An umbrella of community groups oppose the development based on the increase in carbon emissions from the eventual burning of the coal that the terminal would export to Asia, and the impact of many more coal trains per day moving through Bellingham on the way to the shipping terminal.

### **Blaine**

The Blaine Wharf District Master Plan is the City of Blaine and Port of Bellingham coordinated strategy for the future of the waterfront. It establishes public



policy and development standards for all new public and private development in the Wharf District that will create a lively mixed-use district for living, working, and playing.  
(Waterfront District rendering courtesy of City of Blaine.)

**In the August 2010 edition of the Northwest Business Monthly, potential Blaine developer Ken Imus explained his enthusiasm for Blaine.**

“First, ‘Vancouver is growing south,’ he observes. Surrey, B.C., just across the border, has become a city of more than 400,000, second only to Vancouver in British Columbia. White Rock is also booming. Imus believes that the geographical constraints imposed on Vancouver by mountains and sea will fuel growth to the south.

Second, he’s enthusiastic about Blaine’s natural beauty and prime location on the water. ‘Semiahmoo and Birch Bay are great neighbors,’ he says. And last is the developer-friendly approach recently adopted by Blaine’s civic leaders, who have eliminated general facility fees (water and sewer) on new development for five years to instigate growth.

...Fellow developer Fred Bovenkamp’s Horizon at Semiahmoo project envisions a 500-home ‘sustainable’ private community. Imus recognizes the way complimentary development efforts benefit everyone. For example, he believes that the nearby Semiahmoo Resort complex will benefit from a revitalized Blaine.”

## **Vancouver BC Metropolitan Area<sup>18</sup>**

### **Overview**

#### **Vancouver Metropolitan Area**

The Vancouver metropolitan area’s population is expected to grow from 2.2 to 3.4 million by 2041, by which time the region’s total employment is expected to grow from 1.15 to 1.75 million. Metro Vancouver is the regional governing body charged with responsibility for planning for this rapid growth. Translink is the regional transportation agency and in interviews with local agency leaders there was strong support for better integrating and supporting expanded Amtrak *Cascades* service in the upcoming long range planning effort.

The first community in British Columbia on the rail corridor is the Semiahmoo First Nation, the band government of the Semiahmoo people, a Coast Salish subgroup. The band’s reserve is south of White Rock, British Columbia and near the Canada-United States boundary and Peace Arch Provincial Park. It includes the area around Semiahmoo Spit and Birch Bay.

The Reserve is administered by the Semiahmoo First Nation. According to Indian and Northern Affairs Canada, there were a total of 81 Semiahmoo registered with the Canadian government in June 2009, with 49 living on the Semiahmoo Reserve.

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<sup>18</sup> See *Appendix No 15*, for a Vancouver Metro map from the 2010 “Connecting Cascadia” workshop.

The consultant team interviewed Councilwoman Joanne Charles and Chief Willard Clark. The First Nation is currently engaged in an effort to consolidate their land ownership on the Reserve. They traced the history of the Semiahmoo around traditional fishing areas on the bay and expressed concerns over water quality degradation and overfishing. They spoke of a bond with all Salish peoples on the coast.

“We are proud to work closely with the Lummi Tribe on our common resource issues as well as our interest to maintain our cultures,” said Charles. Concerns were raised about trespassing and vandalism on the beach and at the rail trestle on the beach, particularly in the summer months. “The train speeds and vibrations from increased freight rail activity is an ongoing issue,” said Charles.

Current practice is for northbound freight trains to be inspected by the Canadian Border Services Administration on the Reserve.

### **White Rock**

White Rock is a city on Semiahmoo Bay and is bordered by South Surrey. With the construction of the Great Northern Line Railway in the 1900s, tourism boomed in the City of White Rock and led to the construction of the White Rock border crossing in 1908 well as the Peace Arch Border Crossing in the 1920s.

This resort town is a popular summer destination with a long promenade along the shorefront, beautiful views of the White Rock hillside, and warm, shallow waters. Marine Drive runs along the narrow waterfront with shops and dense housing units.

Doug Hart, director of the South Surrey/White Rock Chamber said: “We have a rich history here in this community and our population is active and engaged recreation and civic life.”

In an interview with Mr. Hart and Bill Reid, director of the Cloverdale District Chamber of Commerce, both agreed that connecting the South Surrey White/Rock to the region north and south by passenger rail would be an important step for economic development, land use support and tourism and greatly supported by the business community.

They noted an historic community debate however, over relocation of the rail line to an interior location because of safety and slide issues. Long time community advocate Ken Jones in a subsequent interview reviewed an engineering plan he has advocated for an inland rail route with a tunnel roughly following the Pacific Highway route.

White Rock Mayor Cathy Ferguson has an interest in leveraging the seaside community’s unique geography to make White Rock the nexus of the cross-border tourism. “We are renovating the White Rock Museum, expanding our culinary attractions and extending the wonderful promenade to Crescent Beach under regional provisions of the in the Metro Vancouver Regional Growth Strategy,” said Mayor Ferguson.

Mayor Ferguson also pointed to White Rock’s long held interest in having an Amtrak stop in their city. The Council has adopted a resolution establishing an Amtrak task force, with former Mayor Harry Staub (who had negotiated a 2000 memorandum with Amtrak) as chair.

“Residents of White Rock really would like to see an Amtrak stop on the corridor to promote tourism,” said City Councilor Grant Meyer.

WSDOT, Amtrak, the Canada Border Services Agency (CBSA), the provincial Ministry of Transportation and Infrastructure, and U.S. Customs and Border Protection (USCBP) have met on several occasions to discuss the possibility of an Amtrak *Cascades* stop at White Rock. WSDOT and Amtrak are concerned that another stop would lengthen the all-important travel time between Seattle and Vancouver, B.C. A White Rock stop would also complicate the pending pre-clearance procedures for southbound passengers that would eliminate the need for a boarding by CBP officers at Blaine. The result of the sessions is that there will be no stop for the Amtrak *Cascades* in White Rock.



*Amtrak Cascades train crosses border at Blaine. (Photo: Peace Arch News)*

The village of Crescent Beach is located just south of the mouth of the Nicomekl River with a marina and bridge trestles, and remarkable wildlife including migratory birds and eagles. The community has a small town feel with restaurants and entertainment along a promenade.

Crescent Beach is also an area of continuing landslides that have blocked the BNSF tracks repeatedly causing disruptions in the Amtrak *Cascades*. According to WSDOT, the White Rock slide area has been the third-most active such area this winter along the entire route from the Columbia River to Vancouver, B.C.

Local residents have raised concerns over possible derailments from slides and blockage of emergency vehicles. Gus Melonas, spokesman for BNSF has pointed out the safety record of BNSF and the advanced technology used by the railroad to prevent derailments. The City of Surrey is proceeding with a geotechnical study to determine hillside stability. Surrey Councilor Linda Hepner stressed safety and community access in the Crescent Beach area. “It is important that we make expanded passenger rail work for the communities it passes through...,” said Councilor Hepner.

**WHITE PAPER SUMMARIZING INTEGRATION OF TRANSPORTATION**  
**MODES FROM TASK 3 C.<sup>19</sup>**

This paper will provide an overview of current integration of passenger rail service from Seattle to Vancouver as well as opportunities for enhancements as raised through interviews with stakeholders.

**Community Connections – Central Puget Sound**

**Amtrak Cascades.** On the Seattle-Vancouver, B.C., corridor, two *Cascades* trains serve the King and Snohomish county cities of Seattle, Edmonds, Everett and Stanwood daily in either direction. Amtrak also serves Seattle, Edmonds and Everett with its Seattle-Chicago Empire Builder train, while Seattle is the northern terminus of Amtrak’s Coast Starlight, whose southern terminus is Los Angeles. Amtrak also provides contracted motor coaches in the corridor under study. These include four daily Seattle-Vancouver, B.C., services with no stops in the United States except King Street, and one daily afternoon coach that fills a slot not occupied by a train. This coach makes a round-trip between King Street and Bellingham, calling at the stations in Everett and Mount Vernon.

**Ferries.** Washington State Ferries (WSF) operates ferries out of three terminals along the *Cascades* route in the Puget Sound region--downtown Seattle, Edmonds and Mukilteo. The Seattle ferry terminal – the Colman Dock – is located about a half-mile from King Street Station. The so-called waterfront bus links the two. From the dock, WSF ferries sail to Bremerton, Vashon Island, and Bainbridge Island. The Edmonds ferry terminal (for the Edmonds-Kingston ferry) is a short walk from the Edmonds Amtrak/Sound Transit station. The WSF Web site makes no mention of Amtrak connections at Seattle or Edmonds, although it does indicate connections for private cars, local transit and, at Edmonds, Sound Transit’s Sounder trains.

The Colman Dock also handles the King County Department of Transportation’s water taxis, which sail to West Seattle and Vashon Island. The Port of Kingston’s Sound Runner passenger-only ferry service resumes service May 31 between Colman Dock and Kingston. The privately operated Victoria Clipper sails to its namesake city from Seattle’s Pier 69, about a mile and a half from King Street Station.

Washington State Ferries is within a mile of the King Street Station. Metro buses serve the Station with stops close to King Street Station. Regional express buses are nearby. Sound Transit’s Central Link light-rail service began operating in Seattle in 2009. The service now runs from downtown Seattle to Sea-Tac International Airport. The International District light rail station in the Metro Bus Tunnel is one block from King Street Station.

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<sup>19</sup> From Task 3 C: Consult with corridor transit agencies, state and provincial transportation departments, Amtrak and private transportation providers to ensure integration of expanded passenger rail service with local, inter-county and bi-national transit, intercity coach and ferry services

Several private intercity motor coach providers serve Seattle, but connections with *Cascades* trains are limited. Greyhound's Seattle terminal is well over a mile from King Street Station. Northwestern Trailways makes four daily stops at King Street, each of them connecting with the Greyhound terminal. Trailways also serves Everett Station with several daily departures.

Bellair Charters' central Washington airport shuttle stops at King Street five times daily, in both directions, on its route between Sea-Tac International Airport and Yakima. Quick Shuttle serves the Seattle/Vancouver BC market with stops in downtown Seattle near the Space Needle. It also serves Sea-Tac Airport and the Tulalip Casino. CanTrail serves Pacific Central Station in Vancouver, Richmond, and South Surrey/White Rock. Its final stop and turnaround point is the Amtrak Station in downtown Seattle.

**Sounder.** Sound Transit provides *Sounder* commuter rail service in the Puget Sound area. Sounder commuter rail is a regional rail service operated by BNSF on behalf of Sound Transit. Service operates Monday through Friday during peak hours from Seattle, north to Everett and south to Tacoma. As of 2008, schedules serve the traditional peak commutes, with most trains running inbound to Seattle in the morning and outbound in the afternoon. Two daily round trips run the "reverse commute" to and from Tacoma. Additional *Sounder* trains operate on some Saturdays and Sundays for travel to and from Seahawks games at Qwest Field and Mariners games at Safeco Field. Both stadiums are a short walk from King Street Station. *See Appendix No. 10, "Washington State 2010-2030 Freight Rail Plan December 2009, Appendix 3-A: An Introduction of Passenger Rail in Washington State," for more information.*

### **Enhanced Connections**

Seattle's Department of Transportation (SDOT) has designated King Street Station as one of three multi-modal hubs in the downtown areas along with Westlake and Colman Dock. The three hubs are key elements of the Center City transportation system that function as both destinations and transfer points for a variety of transportation users. SDOT has also developed a South Lake Union Plan to guide development of the Mercer Corridor project.

*See Appendix No. 11, the South Lake Union Mobility Plan, for additional context.*

### **Partnership in Mobility, Seattle**

The private sector has also weighed in on city planning working with SDOT to come up with a unique perspective on connections. From the South Lake Union Mobility Plan prepared for Vulcan Northwest, Amazon, the Bill and Melinda Gates Foundation and others several goals were articulated including:

- **Serve Regional Access & Mobility:** Realize all regional and mobility improvements of the Mercer Corridor and North Portal projects for pedestrians, bicycles, transit, freight and cars;
- **Leverage Private Transportation on Investments:** Partner with private businesses, institutions, and developers to leverage privately-funded operational measures such as private shuttles, transit partnerships with King County Metro, and transportation management plans, as well as infrastructure investments in the street frontage, utility upgrades, and street enhancements.

The study is significant from a location and policy perspective for Sounder and Amtrak Cascades.

First, a potential Interbay Sounder station would facilitate Sounder commuters arriving in Seattle from the north faster access to South Lake Union via Nickerson (with enhanced bike lanes) and/or 15<sup>th</sup> Ave NW to West Mercer Street via dedicated Metro Rapid Ride service.

Second, the plan encourages the City of Seattle and all governments to partner with private transportation providers. However, there is an uneasy relationship between private and public providers of transportation services. In King County, charter operator Starline Luxury Coaches has in practice been unable to use King County Metro Park-and-Ride lots to provide service to Mariners and Seahawks games. (The Microsoft Connector also cannot access Metro Park and Ride lots under county statute.)

### **Public Private transit connections**

According to Gladys Gillis, Starline's owner and CEO, WSDOT has been comfortable with her company's use of the lots in question as a matter of state law but, since Metro owns the lots – built with federal aid, and subject to federal statute - it wants a fee of \$20,000 yearly for a season of service to and from the Mariners' 81 home games.

Metro has in the past competed for the Mariners service funded by the Mariners. King County Transportation Department assistant director Ron Posthuma noted in an interview that a \$500 fee is “a standard application fee levied by the County's Facility Management Division for access to any County property.”

Posthuma stated that certain operators wanted access to park-and-rides “without much restraint.” The lots are constructed with public money, he says, and their purpose does not include use by charters. Uncertainty has prevailed as to the standards under which his agency can commit itself to allowing use of the lots by “non-transit operators,” which (citing federal law) he defines to include Starline or Ferndale-based Bellair Charters, for example, as parties operating a bus “for private use.”

He noted that this sort of “incidental” utilization must be fully compensated to the lots' owner at fair market value – which, according to Gillis, translates into the \$20,000 for the Mariners service. The relevant federal statute [FTA Circular 5010.1D, Section IV(2)(i)(2)] says that “proceeds from licensing and leasing of air rights or other real property interest should be based on competitive market rents and rates of return based on the appraised fair market value.” (Of interest here is the non-imperative nature of the word *should*.)

Posthuma underscored that Metro was in principle ready to work with private operators for the utilization of lots not heavily used at the time in question. “If there's capacity, we're happy to share it,” he said. In eastern King County, he noted, Metro and the Microsoft Connector were close to an agreement that will allow the latter to use a large park-and-ride. The agreement is presently under review at the Federal Transit Administration.

Starline's Gillis noted that an analogous problem does not exist with her company's corporate shuttles running between ferry terminals and corporate campus. Those shuttles run on a scheduled basis, and use curbside locations at the terminals in question.

Legislation has been introduced in both houses of the Legislature that should clarify the interface between public and private providers of surface transportation, and accelerate cooperation between the two in cases such as those mentioned above. However, as of this writing, both chambers' bills were stuck in committee, with little prospect of reaching the House or Senate floor for a vote before the close of the session.

A similar thicket of complexities can inhibit cooperation between Amtrak and maritime providers such as Clipper Vacations, which operates the Victoria Clipper ferries between Seattle and Victoria, B.C. (or the Alaska Marine Highway System, discussed in the section on Whatcom County, below). The Victoria Clipper passenger-only ferries provide one to three round-trips daily between Seattle's Pier 69 and Victoria, B.C., the frequency of sailings depending on the season; one round-trip operates on a Seattle-Friday Harbor route during the summer. Amtrak and Victoria Clipper have a very limited marketing arrangement: Amtrak Vacations, a subsidiary, can book a tour that includes Victoria Clipper, but Amtrak's reservation service is not set up to offer the connection. According to Clipper Vacations CEO Darrell Bryan, a pilot project has been proposed for reservations is being developed with the WSDOT Rail Office, Amtrak and his company.

In other cases, cooperation has fared better. Instituted in 2007, the Rail Plus program has allowed holders of Sound Transit monthly passes to ride Amtrak trains at no extra cost between Seattle and Everett. A new real-time information display has allowed air travelers arriving at Sea-Tac to determine train status at the nearest Sound Transit station, in Tukwila. WSDOT and Sound Transit have made only limited progress, however, on more ambitious possibilities for schedule coordination (allowing swifter transfers) and through-ticketing, such as would let travelers purchase one ticket for a trip that uses both Amtrak *Cascades* and *Sounder* between, say, Mukilteo and Portland: technical issues remain unresolved.

### **Interbay**

While not within the scope of this study, there has been much discussion between the Port of Seattle, BNSF Railway, City of Seattle and community groups about future development in the Interbay area as a transportation hub for passenger rail.

“Between a robust cruise ship industry and new facilities at Pier 91 and major increases in cargo passing through our Port we are laser focused to compete with Canadian and other West Coast port”—Interview with Seattle Port Commissioner Bill Bryant

Interbay is also home to Fishermen's Terminal on Salmon Bay and the Port of Seattle's Piers 86, 90, and 91 on Smith Cove. Its main thoroughfares are Elliott Avenue W. and 15th Avenue W. north and southbound. The Port has conducted a recent study on land values for their property and has partnered with King County Metro on a Combined Sewer Outfall project. Major investments have also been made on a new Cruise Ship Terminal at Pier 91.

Recently, the Interbay Neighborhood Association's proposed “Energy District” of transit oriented development at 15th and Dravus. One of the principals to the project, the Freehold Group's David Bollin, has reached out to Seattle, King County and Port of Seattle leaders to explore feasibility of a *Sounder* station adjacent to the site.

Interbay leaders say the site provides easy connections for commuters from points north to Metro's planned Rapid Ride Corridor D along 15th NW to north downtown as well as the transit and bike lanes along Nickerson to South Lake Union's fast growing employment center.

In Sound Transit II, approved by voters in 2008, two potential Sounder commuter rail stations subject to funding were listed in Ballard and at Broad Street.

Sound Transit Board member and King County Councilmember Larry Phillips contacted Sound Transit CEO Joni Earl in July 2010 to "convey my support for considering a Sounder station in the Interbay neighborhood and ask you to keep this potential project in mind for future planning and funding opportunities."

In an interview, Sounder commuter and Sound Transit Board member Paul Roberts also noted the significant ST budget shortfall for any new projects and indicated the more significant concern was to hold on to the four Sounder roundtrips between Seattle and Everett in the face of lower than expected ridership figures from 2010 (2.4 million riders vs. projected 2.9).

The consultant team also met with Dan McGrady and Phil Fujii from Vulcan Northwest concerning how an Interbay stop could fit into their recently completed South Lake Union Mobility Plan. They suggested a group should be formed to explore how an Interbay station for commuters north of Seattle could allow better access to South Lake Union and fit into the elements of their recently completed South Lake Union Mobility Plan, Metro's Rapid Ride plans for the 15<sup>th</sup> Ave NW corridor as well as Seattle Department of Transportation's efforts to bridge the funding gap for completion of West Mercer Way.

### **Snohomish County**

The Amtrak *Cascades* connects with Community Transit service at all the Snohomish County stations and with Everett Transit at the Everett Station (Everett Station master plan was detailed in another section of report). Transit connections could be affected by recent budget cuts due to lower revenues from the economic downturn.

"According to Community Transit's chief executive officer, Joyce Eleanor, the agency will cut bus service by 20 percent in 2012 – mostly weekend service... No significant cuts are planned anytime soon at either of the other two public transportation agencies that serve Snohomish County, Sound Transit and Everett Transit, officials said...Sound Transit spokesman Bruce Gray gave a similar answer. "We're in the early stages of service and budget planning for 2012, but at this point we don't foresee any reductions in overall service level," he said. "We'll be keeping a close eye on the bottom line moving forward, though." — "Community Transit says it must cut bus service 20% next year," **The Daily Herald**, Everett, April 7, 2011

### **Marysville/Tulalip**

In the 2011 North Snohomish County Economic Development Conference, the Tulalip Tribes outlined their new venture to provide "Tulalip Transit" to supplement Community Transit service between the Tulalip Reservation, Everett and neighboring communities. Marysville and the Tulalip Tribes have discussed a potential new passenger rail station as part of their future transit initiatives. Marysville also reviewed joint plans with the Tulalip

Tribes, Arlington, WSDOT, and Snohomish County for a coordinated transportation plan for upgraded I-5 interchanges and connecting state highways.

Marysville recently launched an effort to build a new I-5 overpass (currently without on/off ramps to I-5) at 156<sup>th</sup> ST to better serve the Lakewood Crossing retail center at 172<sup>nd</sup> and I-5. The \$17 million project represents a combination of city funds and a Local Improvement District (LID). Mayor Jon Nehring noted the city has plans to improve the connectivity on either side of I-5 by exploring the construction of overpasses at city choke points.

### **Arlington: Historic Rail Crossroads**

“1910- The Arlington – Snohomish segment of the Northern Pacific line (now the Centennial Trail) was an important nexus for the Seattle Lake Shore and Eastern Railroad incorporated in 1885 connecting Seattle north with Canada at Sumas and linked to Everett east. The line also provided international mail, freight, passengers and tourists service with connections to Monte Cristo, Darrington and the Big Four Inn.” —David Dilgard, Everett Library

Arlington city leaders expressed strong support for future passenger and increased freight rail service to the city and airport – noting the city’s long rich history as a railroad hub since the late 1800s.

“Arlington is pleased to partner with WSDOT, Snohomish County, Tulalip Tribes and Snohomish County to jointly invest in our infrastructure. Our proximity to I-5 and the BNSF rail line and spur make us an ideal ‘rail port’ which links us to our rich history as a rail town,” said Mayor Margaret Larson. Mayor Larsen also said the “small town feel” of Arlington attracted residents to the area and hoped commuter or regional rail would eventually connect the city.

“Our commuter traffic is predominately single occupancy vehicles so there would be a great demand for commuter rail service and it would most definitely factor in the city’s long range plans.”- Arlington City Councilwoman Linda Byrnes

For additional perspective, please see *Appendix No. 13, the “Parcels/Rail-line intercept, City of Arlington.”*

### **Stanwood: gateway and crossroads**



“Public transit services such as buses, trains and ferries need to be connective for people to use the system. Our County Connector (Whatcom, Island and Skagit Transit) has been the model for multi-county transit services, My constituents also want a third Amtrak Cascades roundtrip which would help the tourism partnership we have with British Columbia...We need to have a formalized agreement with our partners in Canada because all the communities want more service.”— Senator Mary Margaret Haugen, Camano Island

Senator Haugen also noted that the success of the Amtrak *Cascades* was due to “bipartisan support” and strong delivery of projects by WSDOT.

According to Mayor Diane White community leaders worked for the construction of the Amtrak *Cascades* route’s newest station in 2009 in the rapidly growing community of 6,200, which straddles the Burlington Northern Santa Fe Railway (BNSF) track.

WSDOT opened a basic station consisting of a long concrete platform and two attractive waiting shelters. The facility stands on the site of the train station that served the Pacific International that was operated by Amtrak from 1972 to 1981. The station was constructed for approximately \$5 million. In conjunction with the project, a 9,000-foot passing track was built to ensure that passenger trains at the station would not delay BNSF trains.

Design Stanwood, a citizen’s organization concerned with esthetics, historic preservation, and growth management in the semi-rural community, led the campaign for the station. Note: A similar effort by All Aboard Washington volunteers in Olympia resulted in construction of the Centennial Station with donated materials and architecture services. The station has an operating budget of approximately \$70,000 per year that is provided by eleven agencies and is staffed year round by volunteers.

In a detailed interview, Island Transit director Martha Rose said they provide connecting bus service from Camano Island as part of the County Connector and it has been a great success. Rose expressed concern over reduced resources for transit from dedicated funding sources noting that her employees must work in a sub - par maintenance facility with limited restroom facilities. “The basics of maintenance and operations of a transit system get lost in the appeal of capital projects – we need both to make the system work,” Rose said.

### **Mt. Vernon**

By 2030 Skagit County’s population is expected to reach 172,000. Mount Vernon, the only *Cascades* stop in the county, is the central city and the transit hub for a region that also includes Island and San Juan counties.

Mt. Vernon Mayor Bud Norris says expanded passenger rail service would receive “widespread support” from local and regional residents. “Increasing the connectivity to both Vancouver and Seattle is critical for our area’s business and tourism,” he said.

### **Skagit Valley Tulip Festival**

Mayor Norris also suggested chartered or excursion trains for special events such as the Tulip Festival and Highland Games to supplement scheduled service.

Cindy Verge is the director of the Skagit Valley Tulip Festival, the largest festival in Northwest Washington State with over 1 million visitors. “We used to have the Tulip Transit to shuttle people to the fields but funding was restricted and the cost per rider was too high”. Additional passenger rail service could add more demand and allow us to bring the service back,” Verge said.



## **Swinomish Tribe**

In 1855, the Treaty of Point Elliot established the Swinomish Indian Tribal Community (Tribe), located near present-day La Conner, Washington. Today, the Reservation has 900 members and one of the top five employers in Skagit County. The Swinomish Nation is also using casino profits to expand into other businesses. There are plans for a gas station, a hotel and conference center, and the tribe has acquired 350 acres of land to build a marina.

Brian Cladoosby is chair of the Swinomish Indian Senate for the Swinomish Indian Tribal Community. Cladoosby supports a dedicated Anacortes Ferry/Tribal Casino shuttle connecting the Skagit Station, Northern Lights Casino and the Anacortes Ferry Terminal. "It would be great to be able to run special excursion trains on the Anacortes spur (off BNSF mainline) to access our new hotel and entertainment complex."

This possibility, Cladoosby said, "ties right into economic development [goals] for Skagit County." He clarified that the reservation currently had no freight rail service but the Tribal Community is planning on building an industrial and a business park in the next few years, as well as an interpretive center south of SR 20.



THE SWINOMISH TRIBE HAS A MAJOR CASINO NEARBY ON HIGHWAY 20 AND HAS PLANS FOR A MAJOR HOTEL AND CONFERENCE CENTER COMPLEX.

The Swinomish Indian Tribal community, Cladoosby pointed out, is a significant component in the Skagit County economy, contributing \$83M annually before taxes, and has demonstrated their integral role in the local community and state matters by their recent acquisition of Kiket Island and subsequent co-management of the state park with the Washington State Parks and Recreation Commission. With the Swinomish Tribal Community's plans for growth, Cladoosby anticipates the expansion of rail into the area would mean a guarantee of further job creation and economic development for citizens and local businesses.

## **March Point Park and Ride lot and Anacortes Trail Connection**



TOMMY THOMPSON TRAIL NEAR MARCH POINT PARK AND RIDE.

"Tommy Thompson Trail...This former Burlington Northern railway was paved and opened to the public in 2005. It is named after the late Tommy Thompson, a narrow gauge railway creator who dreamed of running his train along the Fidalgo Island shoreline. Parts of his narrow gauge track can still be seen on the trail...you are rewarded with a trail that hugs the shoreline with expansive views to Mount Baker and the sparkling water of Fidalgo Bay. The highlight of the trail is the .75 long former railway trestle spanning the bay."— TrailLink.com (Rails to Trails Conservancy)

In an interview with Skagit County Commissioner Ken Dahlstedt and Anacortes Mayor Dean Maxwell the consultant team asked about passenger rail service, both leaders expressed support for more frequent service as part of Skagit County’s economic future. They pointed to plans for the expansion of the March Point Park and Ride lot and indicated that if excursion trains were able to the Swinomish entertainment complex, an expanded March Point facility would allow easy access to the Tommy Thompson Trail which connects to downtown Anacortes and eventually the WSF Terminal as the city advances plans for a complete trail system in addition to the extensive trails in the Community Forest Lands. Mayor Maxwell said a rail and trail connection would boost tourism for their gateway city.

**The Success of the County Connector**

“Our ridership has been incredible and our people love the service. They want more!”— Martha Rose, Director of Island Transit

This section of the route under study has seen a remarkable transit planning success in the form of the County Connector, a multi-county express bus service with routes radiating from Mount Vernon’s Skagit Station hub. The County Connector grew out of efforts by the North Sound Connecting Communities Project, or Farmhouse Gang – an informal association of government agencies and interested citizens working on behalf of better transportation connections. The providing agencies are SKAT, with its Mount Vernon hub; the Whatcom Transportation Authority (WTA), based in Bellingham; and Island Transit, based in Oak Harbor. Launched in 2005 with the Bellingham-Mount Vernon 80X express route, the network now also includes limited-stop service from Mount Vernon to Everett, Oak Harbor, and Camano Island. (The last-mentioned route passes through Stanwood, as noted in the previous section.)

Since its inception, annual ridership on the four routes has risen to approximately 250,000. SKAT reports that its best farebox recovery is on the 90X (Everett-Mount Vernon) County Connector (*pictured below*). WTA’s Rick Nicholson has noted this sort of longer-distance bus route also produces the greatest fuel- and carbon-efficiency. The County Connector is a success on which further success can be modeled.



As noted, Skagit Station is very much a hub for the region’s three counties. Tucked in between I-5 and Mount Vernon’s downtown, with a wide range of consumer services and retail outlets within walking distance, the station, completed in 2004, gives Mount Vernon enhanced public accessibility – the Amtrak station was formerly located at a hard-to-find and unattractive outlying location near College Avenue – and has unquestionably made downtown Mount Vernon a more attractive place.

**COUNTY CONNECTOR BUS SERVICE DEPARTING EVERETT STATION TOWARD MT. VERNON**

For the *Cascades* service, Skagit County also presents its own

distinctive opportunities for partnerships. A key connection will be improved if plans for

redevelopment of the Anacortes ferry terminal on the basis of a PPP are fully realized. . A bus stop for both SKAT and Airporter needs to be built directly next to the main terminal to be attractive and obvious to ferry travelers. As of this writing, WSF is requesting proposals for the PPP.

**Skagit Transit.** SKAT operates 14 bus routes covering a wide geographical area. The routes range from strictly urban routes in Mount Vernon and Burlington to five daily round trips reaching up the Skagit Valley as far as Concrete. The provider also operates pocket service, paratransit service, and a vanpool program.

Service between Skagit Station and the WSF terminal in Anacortes presents some inadequacies, particularly for potential patrons arriving at Skagit Station via train or intercity motor coach. While service is laudably frequent – once an hour through most of the day – the trip requires a midway transfer, at March’s Point, between SKAT and Island Transit buses. Both providers’ buses have bike racks, but luggage space is lacking. The service thus becomes a weak link in the transit chain for some travelers, who therefore use their cars to make the connection, for example when vacationing in the San Juan Islands.

**Island Transit.** Island Transit operates three regional-connector routes, including two County Connector buses (Mount Vernon-Stanwood-Camano Island and Mount Vernon-Oak Harbor) as well as a commuter-oriented service between Camano Island and Everett via Stanwood. It operates 16 other routes, primarily on Whidbey and Camano islands.

**County Connector**<sup>20</sup>. The County Connector, mentioned in other contexts, consists of Island Transit’s Mount Vernon-Oak Harbor and Mount Vernon-Camano Island buses, SKAT’s Mount Vernon-Everett bus, and a Bellingham-Everett bus operated jointly by SKAT and WTA. Skagit Station serves as the pivot point for the routes.

**Ferries.** While its nearest terminal is far from the Amtrak *Cascades* stop at Skagit Station, the WSF ferries serving Skagit County at Anacortes loom large in the connective transit system whose spine is the Cascades corridor. WSF operates daily, year-round service from the terminal at Anacortes to the San Juan Islands. It also offers daily service to Sidney, B.C., near Victoria, but only from late March until about New Year’s Day. SKAT and Island Transit provide connecting service between the ferry and Skagit Station.

**Private intercity motor coaches.** Greyhound service is available at Skagit Station. There are four departures daily southbound to Seattle and five daily northbound to Vancouver. Bellair Charters’ Airporter has many daily frequencies on the I-5 corridor in Skagit County, with a small depot in Burlington, where the Airporter serving the WSF Anacortes terminal connects with each I-5 frequency. Quick Shuttle goes through Skagit County without stopping, as does Island Airporter, which runs between San Juan Island and Sea-Tac.

**Amtrak.** The *Cascades* stop at Skagit Station in the morning and evening en route northbound to Vancouver, and likewise southbound en route to Seattle. In the afternoon Amtrak runs a coach from Seattle via Mount Vernon to Bellingham, from which it returns to Seattle.

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<sup>20</sup> See *Appendix No. 14* for a map and visual depiction of the “county connector.”

### **Enhancing connectivity – a detailed look at PPPs in Skagit Co.**

While both Skagit Transit (SKAT) and Bellair Charters' Airporter serve WSF's Anacortes terminal, the lack of coordination between them is clear. SKAT's stop consists of a bus shelter with SKAT schedules posted, while Airporter's "stop" is a traffic sign (to which Airporter's service information is affixed) a few yards away, exposed to inclement weather. The shelter stands some distance from the WSF terminal, and there is no signage guiding ferry passengers to the location.

Schedule coordination with WSF timetables is rendered almost irrelevant, unfortunately, by the ferries' quarterly changes in schedule, and of course by the susceptibility of the ferries' on-time performance to fog, high seas, and, at times, heavy tourist traffic.

The Airporter takes a somewhat circuitous route, from the ferry terminal to Burlington and then south – skipping Mount Vernon on its way to Sea-Tac. SKAT and Island County's Island Transit meanwhile combine to serve a more direct WSF-Mount Vernon route, with a transfer at March Point.

One solution would be for Airporter coaches to serve the entire WSF-Skagit Station route with a one-seat ride, i.e. without any transfer at March Point. The Airporter coaches also have the advantage of adequate room for baggage, a consideration for many vacationers heading to or from the ferries. While serving the general population, the Airporter would be more oriented towards pleasure travel, perhaps also making a stop at the Swinomish Casino, which lies near the route but is not directly served at present. Richard Johnson, general manager for Bellair Charters indicated that although the Airporter coaches do not have bike racks, they could be retrofitted if there was a demand.

A contract between SKAT granting Airporter a concession for this route could also allow SKAT to redeploy equipment currently devoted to its March's Point-ferry terminal bus, but the interface between the public and private providers is by no means problem-free. SKAT has never granted Airporter access to Skagit Station, Questions may also arise as to how to subsidize a private contractor operating as part of a public system, and whether the SKAT drivers' union would accept the idea. The goal, however, would not be to deprive union drivers of work, since whatever resources SKAT saved by contracting out the WSF route could fill transit needs elsewhere in the county.

While Skagit Station is otherwise ideally situated, parking is an issue. For this reason SKAT has completed a park-and-ride lot at the southern edge of its service area, in South Mount Vernon, and is developing another park-and-ride lot near the northern edge of its service area, on the north side of Burlington. The former location would serve well as a stop on the regional rail route for commuters. The site it has plenty of parking, and a station track or passing siding could be constructed.

Car Free Travel in North Puget Sound Whatcom COG and the Farmhouse Gang created a large-print map of Northwest Washington indicating what providers' services were available at key points in the entire region. This map was last updated in about 2007 or 2008. These maps were then posted at kiosks in locations like the Anacortes ferry terminal, but are now somewhat dated. Whatcom COG has also financed a useful pocket guide to car-free travel, with sample schedules, for the region. A full-scale web-based trip planner

remains a goal for the corridor's providers, but efforts have come far in approaching that goal.

Whatcom COG has developed a website, [www.northsoundconnections.com](http://www.northsoundconnections.com), which handles trip itineraries by linking the user to current provider websites, where the user still however faces the task of wading through timetables to finalize an actual itinerary. Still, the website is an excellent tool that warrants further development.

As a result of a student initiative, and with the support of the university's administration, WWU issues students transportation passes on WTA buses as part of the institution's fee package. The program has proven successful in encouraging a great reduction in student car ownership.

Relations between Western Washington University and Amtrak *Cascades*, while informal, have been productively cooperative. Amtrak and WSDOT have worked laudably in encouraging rail and transit use among the university's students. The Sunday night *Cascades* arrival from the Seattle area is very popular with students, and recently an Amtrak representative approached WWU's Sustainable Transportation Office with a promotion granting students free companion-fare tickets. The office distributed these on campus, to an enthusiastic response. In an interview, Carol Berry, who manages the sustainable transportation program, hoped that more such promotions would be forthcoming. "We need train more cars," she added, referring to cars on the Sunday night train.

An Amtrak ticket agent at Fairhaven has also approached the program informally with an offer of materials or staff for student orientation activities. The office is currently negotiating the implementation.

### **More Passenger Rail for Bellingham?**

"Bellingham citizens, tourism and business travelers are frustrated with the limited passenger rail options for day trips to Seattle and Vancouver, B.C.," said Bellingham Mayor Dan Pike who suggested a third midday Amtrak *Cascades* as well as a "regional rail" system as proposed by the North Sound Connecting Communities project (Farmhouse Gang) in 2008 could help fill the rail capacity need.

Mayor Pike also pointed out that people would vote for tax increases if they want the service. "Our folks taxed themselves a new .2 % sales tax for the Transportation Benefit District (TBD) which is not dependent on state or federal allotment. The funding will be used for street repaving, expansion of pedestrian and bicycle facilities and partial restoration of Sunday transit service from Whatcom Transit Authority."

Pike suggested that other communities along the Cascades corridor consider adoption of TBD for better "regional connectivity" and noted that the sales tax increase was the most equitable option for the city because 20 percent of retail sales in Bellingham were from Canada and non-Bellingham residents paid the majority of the sales tax.

Adjacent to the fast growing Greater Vancouver and Fraser Valley regions, Bellingham and Whatcom County sit in a unique position for economic development and tourism, said Ken Oplinger, CEO of the Bellingham Chamber. "Fresh from the great success of the 2010 Olympics, improving our transportation infrastructure - particularly our rail system for more passenger trains and capacity improvements for the proposed Pacific Gateway

Terminal at Cherry Point is our top priority. Vancouver showed us what infrastructure investment can do for business and tourism. The Bellingham Waterfront District also needs transportation investments to make it work to attract jobs,” Oplinger said.

Oplinger has led a cross-border session of chambers of commerce recently to open a dialogue on economic cooperation and credited the new passenger air service at Bellingham Airport with increased cross-border tourism. “Another example of the two-nation vacation increasingly utilizing multiple international gateways for affordable vacations,” Oplinger said.

Fresh from the glow of the recent Olympics and the opportunities for a lasting legacy for the Two-Nation Vacation initiative was high on the list of priorities for Loni Rahm, director of the Bellingham Whatcom Tourism office. “Our North Puget Sound tourism leaders have been cooperating on promotions and opportunities to leverage each other’s resources for some time now. We have such wonderful outdoor adventures and expanding passenger rail to Bellingham and along the corridor will help us attract that key recreational market,” said Rahm who was proud to have Bellingham host in April the Northwest Outdoor Writers Association. This group was targeted in an effort to expose writers to the attributes of our county and myriad of outdoor recreation opportunities.

### **Current transit connections**

The Whatcom Transportation Authority (WTA) operates 40 bus routes throughout Bellingham and outlying communities. Buses serve the Fairhaven Transportation Center frequently, but a downtown location, three miles away, serves as the system’s hub.

In September 2010 WTA canceled all Sunday service and cut back significantly on weekday and Saturday service in the wake of the defeat of a referendum seeking an increase in the sales tax component that funds the system. However, voters in Bellingham subsequently voted for a city levy creating a citywide transportation benefit district that has allowed WTA to reinstitute some Sunday service (which had always been limited to the city). WTA expects the restored service to begin in June 2011.

*Private intercity motor coaches.* Greyhound serves the Fairhaven Transportation Center with four southbound and five northbound departures daily. Quick Shuttle serves the Bellingham International Airport, but no other Whatcom County points. Bellair Charters’ Airporter serves Bellingham with frequent service to and from Sea-Tac, but stops at the airport and a motel elsewhere in the city rather than Fairhaven. The Airporter runs as far north as two outlying Whatcom County communities, Birch Bay and Lynden. It also calls at the Bellingham Cruise Terminal (see below), but only on days when the Alaska ferry is departing or arriving.

*Ferries and private maritime companies.* The Fairhaven facility is adjacent to the Bellingham Cruise Terminal, from which ferries sail once weekly to a northern terminus at Skagway, Alaska, on the Alaska Marine Highway. The Bellingham connection is exceptionally advantageous from the standpoint of marine-oriented leisure travel. In the past, Victoria San Juan Lines has provided a seasonal ferry service to the San Juan Islands and Vancouver Island from the Bellingham terminal, but operator Drew Schmidt in 2011 began a new day cruise to Friday Harbor that follows the whale watching route.

*Amtrak Cascades*. Discontinued in 1981, passenger rail returned to Bellingham in 1995 with a single Seattle-Vancouver round-trip daily. In 1999 Amtrak expanded the service to two trains daily with a new Bellingham-Seattle train. The latter train's terminus was moved north to Vancouver in 2009. The trains depart for Vancouver in the morning and evening; departures to Seattle are timed for somewhat earlier in the morning evening. Amtrak also provides a contractually operated coach that comes up from Seattle in mid-afternoon and returns to Seattle half an hour later.

## **Enhancing connectivity**

### **New Airport Connections**

The Bellingham International Airport, four miles from downtown Bellingham and seven from the Fairhaven Transportation Center, has assumed greater importance in recent years with the introduction of service by Alaska, Allegiant and Horizon airlines. No transit connections exist between the airport and the Fairhaven Transportation Center. In an interview, Rick Nicholson, WTA's director of service development, explained that WTA had twice tried running a bus to the airport, but that the low ridership did not justify continuing the trials. The steady increase in the local population has however made the airport an increasingly busy place. As the aforementioned airlines add more flights, a link between the airport and Fairhaven will warrant reconsideration. Increased rail ridership would likewise encourage inauguration of a Fairhaven-Airport bus link, which would logically also serve downtown Bellingham and thus improve connectivity and public transportation's appeal for WTA as well as air and rail travelers.

Informally local taxi drivers told the consultant team that they are experiencing a steady stream of business from air crews, tourists, business and academic interests attending local conferences or transiting to long distance flights to Hawaii and West Coast getaways.

### **Alaska ferry**

Expansion of service on the Alaska Marine Highway presents an excellent opportunity for partnership with *Cascades* service. As of May 2011, the Alaska Marine Highway System (AMHS) will initiate a Bellingham-to-Whittier, Alaska, ferry that will also call at Ketchikan, Juneau and Yakutat, Alaska. There will be one sailing in May, and two per month thereafter through September, after which plans for the trial service are as yet uncertain. Much as the connection with the train in Bellingham is a matter of a few hundred feet, the Alaska Railroad depot in Whittier is a short walk from the passenger harbor, meaning that tourists will be able to connect easily with the rail service to Anchorage and onward via Denali National Park to Fairbanks (although this will involve a full-day layover in Whittier and a night in Anchorage). The marketing opportunity here is obvious.



### **Future Rail Station at Blaine?**

“Blaine’s unique location adjacent to Canada puts us in a good position to grow as a connector for the Cascadia corridor. I think it is fantastic the railroad is right here – and a chance focus to explore a potential future station at the old BNSF rail building as part of our waterfront master plan and adjacent to the Port of Bellingham’s

development's initiative. The building was built in 1913 and can be rehabilitated although BNSF has concerns over its safety. Someday it could be used for border clearances for the train as close as it is to the new Customs and Border Protection Port of Entry. We could attract a lot of Canadians who live in the fast growing Surrey and Fraser Valley to connect to the greater Seattle area by rail," Mayor Bonnie Onyon, City of Blaine



A Blaine station (*left*) is not in the 2008 Mid Range Plan for Amtrak *Cascades*. And the North Sound Regional Rail study in 2008 assumed a regional rail system connecting Bellingham to Everett and conducted rail modeling for capacity based on that assumption. In many of the interviews however, with local leaders in the border region and among tourism professionals, a consistent theme continued to be raised. Specifically the belief that ridership on the Amtrak *Cascades* would be greatly enhanced

if there was a stop south of the Fraser River where the cities of Surrey and the Fraser Valley are growing in a spectacular manner. The difficulty for these residents to double back to downtown Vancouver to catch the train was noted.

### **Transit Connections**

White Rock is part of the Translink regional transit system. Buses provide service to White Rock from the Surrey Central Expo Line Skytrain and from the Bridgeport Canada Line station in Richmond. Community leaders have pushed for a direct express service to Langley and TransLink officials have agreed to prioritize it with when a new revenue package currently under discussion between regional mayors and the province is finalized.

### **Greater Vancouver Transit**

“The Amtrak Cascades service needs to be brought into the policy discussions more directly if we are to reach our goal of 50% of trips into downtown be achieved by transit.” —TransLink vice president Bob Padden

Metro Vancouver, TransLink, Port Metro Vancouver and other authorities have worked in concert to draft the region's transportation plan, Transport 2040. The emphasis is on transit growth around urban centers and designated frequent-transit development corridors. Among the goals of Transport 2040 is the reduction of the number of single-occupant vehicles traveling into downtown Vancouver by 50 percent. TransLink's plan includes the promotion of bicycling and walking, and the reduction of emissions, commute times, and traffic fatalities by increasing transit options.

TransLink, regional mayors and the Province are engaged in negotiations to find new revenue sources to construct the Evergreen Line is a new rapid transit line that will connect Coquitlam to Vancouver via Port Moody and Burnaby and a proposed rapid transit line along the Broadway corridor to the University of B.C.

Last December Mayors rejected a TransLink plan to raise property taxes to expand the system as an interim step while other revenue options were explored. Previously, regional mayors had asked the Province to use the B.C. carbon tax for TransLink expansion. The new government of Premier Clark has expressed a willingness to review.

In an interview with the consultant team, Surrey Councilor Linda Hepner noted that an Amtrak stop at Scott Road would provide better transit connections to the region. She pointed to the contribution of \$160 million from Surrey citizens to TransLink but a poor return of hours of service.

(NOTE: Wilbur Smith and Associates previously considered an Amtrak stop in the IMTC Cascade Gateway Study in 2002)

“Surrey is thrilled with the idea of expanded passenger rail service to Vancouver for the positive effect on tourism and economic development,” said Councilor Hepner. As a Metro Vancouver director Councilor Hepner noted that expansion of facilities in Surrey to accommodate intercity rail is subject to the parameters outlined in Metro Vancouver’s Livable Region’s Strategic Plan (LRSP).

Meanwhile, Surrey Mayor Dianne Watts has called for a light rail system rather than SkyTrain extensions as a model for Surrey and the South Fraser area.

“Surrey Mayor Dianne Watts said Tuesday the city will actively advocate for TransLink to build light rail across the city and is already investigating three routes...Watts argued the city, which gives \$164 million a year — \$44 million of those in property taxes — to transportation each year, hasn't seen any transit expansion in the past 17 years despite growing from a population of less than 250,000 back then to nearly 400,000 in 2006. It still has only four SkyTrain stops after the Expo line ended at King George Station...

As Surrey develops into the region's second downtown, she added, the city needs a cost effective and efficient transportation system to accommodate the growth. Another one million people are expected to move to Metro Vancouver in the next 30 years with 70 per cent of those settling south of the Fraser River...TransLink spokesman Ken Hardie said Watts' comments mirror what's been heard in the community so far. More public consultation sessions on rapid transit in Surrey will be held in the next month-and-a-half, with a feasibility plan likely expected by the end of the year. 'It's very productive to have those concepts on the table,' Hardie said.... Light rail is the only option for Surrey and Langley, (Watts) insists, adding that White Rock Mayor Catherine Ferguson and Langley City Mayor Peter Fassbender agree. Unlike Vancouver and Burnaby, which are tight-knit communities with no more land base, Surrey is so vast and open that it needs more inter-modal types of transit, she said.” **Vancouver Sun, April 13, 2011.**

The Surrey Build program involves \$2.8 billion in construction and is being funded through a variety of infrastructure fees, gaming revenue grant monies and other public and private sources.

### **Transit and the Fraser Valley**

In December 2010, the Province released a study (Strategic Review of Transit in the Fraser Valley, December 2010) in partnership with the Fraser Valley Regional District, BC Transit and TransLink to help guide transit investments in the next 25 years.

The study suggested an express coach bus network to improve connections between Mission, Abbotsford, and Chilliwack and Vancouver, Langley, Surrey and Maple Ridge as well as community based

The study also includes analysis for two options for commuter rail service: extending West Coast Express to Abbotsford and adding commuter rail service on the inter-urban line from Chilliwack to Surrey. The study found that commuter rail might be a long-term option in the future, but that “both projects require significant investment and both have lower projected ridership than other transit options in the study.

“South of the Fraser River communities are growing tremendously and we can better reconnect our communities and our universities by rail in a cost effective way” counters Langley Township Mayor Rick Green who chairs a new committee promoting a South Fraser Community Rail Demonstration Project. Their goal is to reactivate a inter-urban line referenced in the provincial study along the old BC Electric line owned by BC Hydro from Surrey to Chiliwack with Diesel Multiple Unit trains like the Bombadier Talent trains operating in Ottawa. The line is currently used by Southern Railway and Canadian Pacific railroad for freight service. Mayor Green led efforts to successfully convinced BC Hydro to renew passenger rail easements on a section of line that were scheduled to lapse in 2009.

### **Vancouver, B.C.**

The last stop on the corridor is Vancouver, B.C., a worldwide leader in sustainable transportation. Vancouver Mayor Gregor Robertson has taken the lead in securing the support from Mayor Mike McGinn and Portland Mayor Sam Adams for a Cascadia Mayors Accord to support the expansion of passenger rail service and development of a future high-speed rail system.

Robertson has appointed Councilor Geoff Meggs to take the lead for the city in *Cascades* expansion.

“Rail passengers arriving from the U.S. will find a remarkable non-single occupant vehicle system using SkyTrain, express and local buses, SeaBus, cruise ships, float planes and a waterfront trail that encircles downtown. The Olympic Games allowed us to move 30% of the trips to downtown by transit and - post Olympics - we want to expand that commitment to transit,” said Councilor Meggs.

Meggs cautioned that on the administrative side, greater cooperation between U.S. and Canadian officials for faster border clearances were necessary. And on the infrastructure side, modest infrastructure investments on the track should be the focus to reduce travel before we can address the very tough and costly question of rebuilding the century old New Westminster Bridge on the Fraser River.

“Vancouver can not be at the forefront of community leadership in B.C., but rather share the knowledge gained through successfully funding regional transit and linking transportation investments with sustainability...People in the region were exhilarated by the possibility of

higher speed trains that even at speeds of 90 mph ‘would be transformative’ for the Cascadia mega-region,” said Meggs.

He cautioned that passenger rail is linked to freight rail and Canadians have an “inborn belief in rail” due to the integral role it played in development of the country. “We need to engage the freight mobility sector to find common ground on investments in the Gateway.”

### **Current transit connections**

The Millennium and Expo lines of the SkyTrain (at 30.8 miles the world’s longest automated light-rail system) serve Pacific Central Station. There are no commuter rail connections at Pacific Central. At Waterfront Station, the West Coast Express operates from Monday to Friday excluding holidays, with five trains per day running from Mission to Vancouver in the morning peak hours and returning to Mission in the evening peak.

Pacific Central is served by several buses, which, like the light-rail and commuter-rail systems, are operated by TransLink. Again, however, bus service is naturally concentrated at and immediately around Waterfront Station.

Pacific Coach Lines operates a coach service from Pacific Central to Victoria (via a ferry “bridge”). Pacific Central is also Greyhound Canada’s Vancouver terminal and the northern terminus of its U.S. affiliate’s Seattle-Vancouver service, mentioned elsewhere in this report. Quick Shuttle, while it serves multiple Vancouver stops, does not call at Pacific Central. *Amtrak and Via Rail Canada.* In addition to being the northern terminus of Amtrak’s *Cascades* service, and the most northerly point served by Amtrak, Pacific Central is the Vancouver terminus for Via’s thrice-weekly *Canadian*, whose other terminus is Toronto. Cantrails operates coaches between Pacific Central and Seattle’s King Street Station as part of Amtrak’s Thruway system. Service times are coordinated to some extent with those of the *Cascades* in Seattle. The bus calls at suburban Vancouver points but makes no stops south of the border except for King Street.

### **Enhancing connections**

TransLink is replacing all the transit cards and passes in use with a new “Compass” Card in 2013. Transit customers will be able to load their cards with money to pay for trips and tap the cards on special readers to pass through fare gates.

City of Vancouver planners have had longer term discussions over whether the *Cascades’* northern terminus should be moved from Pacific Central Station to Waterfront Station, where travelers could connect to West Coast Express, Vancouver’s cruise ship terminal, the SeaBus passenger-only ferry to North Vancouver, a new harbor seaplane center, Pacific Coach Lines’ service to Squamish and the major resort at Whistler, Quick Shuttle and Canada Line, which goes to Vancouver International Airport.

In the meantime, costly retrofits of Pacific Central Station have been undertaken to accommodate historic preservation needs and expanded space for pre-clearance inspections.



# DMU Appendices

## Table of Contents

1. North Corridor Improvements Comparison Table, Rail Equipment Operating and Maintenance Cost Comparison Table, Rail Equipment Capital Cost Comparison Table
2. Interviews and Community Outreach
3. Washington State - British Columbia: Framework for Transportation, Competitiveness and Prosperity, Preamble
4. Backgrounder on Gateway Council and Pacific Gateway Initiative of British Columbia and Joint Public Advisory Committee of the Commission on Environmental Cooperation (CEC)
5. Southeast King County Commuter Rail Feasibility Study, 2010 pages 13-18
6. Canada Line Case Study
7. List of potential projects for FAST – North Corridor
8. Sustainable Strategies & Solutions, Inc: Recommendations to NSCCP regarding Governing Project, May 31, 2002
9. Connecting Cascadia: A High-Speed Rail Vision for the Pacific Northwest- Workshop 2010
10. Washington State 2010-2030 Freight Rail Plan December 2009 Appendix 3-A: An Introduction of Passenger Rail in Washington State
11. South Lake Union Mobility Plan
12. City of Mukilteo Waterfront- Tank Farm Redevelopment Area, Aerial View
13. Parcels/Rail-line Intercept Map, City of Arlington
14. Overview of the County Connector transit service
15. Map of Metro Vancouver, Connecting Cascadia Workshop 2010



## DMU Appendix 1

- North Corridor Improvements Comparison Table
- Rail Equipment Operating and Maintenance Cost Comparison Table
- Rail Equipment Capital Cost Comparison Table



# NORTH CORRIDOR IMPROVEMENTS COMPARISON TABLE

Identified Corridor Improvements	2002 Cascade Gateway Study	2005 North Sound Regional Rail Study	2006 WSDOT Long-Range Plan	2008 WSDOT Mid Range Plan	2008 North Sound Wilbur Smith Operations Simulation	2010 ARRA Program list
		All improvements identified were included in the 2008 simulation		No Improvements scheduled North of Everett		
Everett to Marysville -speed improvement & re-alignment project	\$8.5M		Track improvements to allow 120mph <ul style="list-style-type: none"> <li>• Bellingham to Blaine 15.6 miles for \$147M</li> <li>• Burlington to Bellingham 14.3 miles for \$408M</li> <li>• Marysville to Mt. Vernon 28.3miles for \$322.5M</li> </ul>			
Everett to Blaine selected geometry improvements	\$22M					
Bellingham siding extension	\$30M		Double Tracked from MP 92.2 to 97.9 for \$102M		Siding at MP 97	PE and NEPA funded for \$1.8M
Commuter layover track MP 94.42					Layover track at MP 94.42	
Second main track from English to Mt. Vernon	\$120M				Extend Mt. Vernon Siding to MP 65.5	
Extend Mt. Vernon siding			2miles for \$8.4M		Extend English siding S to MP 43.9	
Second Main track from Ferndale to Blaine	\$120M					
9000 foot siding at Colebrook	\$1.6M					
Cab Train Control (CTC) Blaine to Colebrook and to Townsend	\$19M				Completed	
5000 foot siding at Swift and CTC	\$1.3M		3.7mi & \$13.8M		3.2 miles	\$5.13M
Improve Chuckanut tunnels	\$2M					
Revise Custer and Intalco with extended yard					Included	
Join Samish and Bow sidings			MP 81 to 83.5 for \$50.6M		Additional crossover at MP 81	
Burlington Yard revisions & new main line					Included	Included
Stanwood siding			2.75miles for \$9.9M		Included to MP 57.6 with two single crossovers	
New stations assumed at Stanwood and English					Included	
Marysville						
Delta Yard			Delta yard improvements \$34.4M			
• <i>Curve re-alignment</i>						\$5.3M
• <i>New main line</i>					Included	
• <i>Revised yard tracks</i>						\$3.61M
Extend Lowell siding			1mile for \$9.9M		to GNRR MP 17.83	
New commuter rail yard in Everett						Included
Sound Transit upgrades						
• <i>Double track mp27 to 27.8</i>					Included	
• <i>Double track mp 15.8 to 17.8</i>					Included	
• <i>Double track mp 7.3 to 7.8</i>					Included	
• <i>Double track thru Interbay</i>						

## Rail Equipment Operating and Maintenance Cost Comparison Table

	<b>Talgo</b> Existing service in Washington	<b>Sounder</b> (Sound Transit)	<b>West Coast Express</b> (Translink) Excludes bus service also operated by WES	<b>DMU (FRA Compliant)</b> Tri-Met Westside Express Service ( US Railcar)
Maintenance cost	\$6,290,000		\$3,900,000 (last three yr. aver. excluding "unscheduled maintenance" of \$500K in 2010)	\$3,604,306
Operating cost	\$9,904,000		\$15,001,000	\$2,193,694
Total Operating & Maintenance cost	\$16,194,000 WA portion	\$23,560,931**	\$18,901,000	\$5,278,743*
Boardings (No. of passengers)	581,599	2,364,290	2,708,000	307,406
Train Miles	775,260	1,506,922	779,820 (converted from Km.)	118,248
Passenger miles operated	93,245,950	56,804,431	54,991,350	2,648,156
O&M Cost per Train Mile	\$20.88	\$15.64	\$24.24	\$44.64
O&M Cost per Passenger mile	17.4¢	41.5 ¢	34.4¢	\$1.99

\* Tri-Met reported \$6,125,184 for operating and maintenance costs. This figure was adjusted based on overtime and materials to repair or replace new vehicle systems, and to conform to other systems categories. \*\*Sound Transit reported \$29,422,423 for operating and maintenance costs. This figure was modified to eliminate cost of marketing, maintenance of way, transfer of headquarters administration costs and other costs.

Sources:

All Tri Met data provided by Jeffrey S. Lowe, Director Commuter Rail, TriMet, Westside Express Service

All Sound Transit data provided by Michael Perry, Deputy Executive Director, Operations Department, Operations and Maintenance and Martin J. Young, Program Manager, Sounder Operations Division, Sound Transit

All Translink (West Coast Express Vancouver) data provided by Greg Blasko, Director of Operations, West Coast Express Limited

All AMTRAK *Cascades* data provided by George Xu, Executive Manager Strategic Planning & Research, WSDOT Rail Office

# Rail Equipment Capital Cost Comparison Table

	<b>Talgo</b>			<b>Sounder</b>		<b>West Coast Express</b>	<b>DMU (FRA Compliant)</b>	
	Existing high speed potential; all new Talgos will be 8th generation, compliant & capable of 217mph			(Sound Transit) Bi-level commuter cars, powered by separate locomotive		(TransLink) Bi-level commuter cars, powered by separate locomotive	Tri - Met Westside Express Service (US Railcar) Operates one & two car trains	Sonoma Marin Area Rail Transit (Nippon Sharyo)
	<i>Oregon</i>	<i>Wisconsin</i>	<i>Washington</i>					
<b>Description</b>	Two 13-car sets	Two 14-car sets	One 14-car set	Seven car train to Tacoma	Three car train to Everett	5 car unit 8car unit 10 car unit	Four cars, three powered one un-powered trailer. 2 Budd car spares	Nine 3 car trains
<b>Capacity</b> (passengers per train)	285 / train set	397 / train set	284 / train set	980 / train	420 / train	700, 1120 or 1400 Based on 140 per car	94 / per car 282 / three cars	237 - 258 per train depending on use of bike racks
<b>Indicated Cost</b>	\$18.3 M / train set	\$23.4 M / train set	\$25 M / train set	Coach car \$2.5 M Cab car \$2.6 M	Coach car \$2.5 M Cab car \$2.6 M	Coach car \$2.5 M Cab car \$2.6 M	\$4.87 M per each car	\$3.07 M per each car
<b>Power</b> (Locomotives needed)	New MPX? Decision to AMTRAK	Rebuilt GE GP40 Or P42DC	Existing EMD F59PH1 & F40PH non-powered cab. New power may be Motive Power MPX or HSP	Existing EMD F59PH1; New power may be Motive Power MPX	Existing EMD F59PH1; New power may be Motive Power MPX	Existing EMD F59PH1	NA	NA
<b>Locomotive cost</b>	\$5.5 M per unit	\$1.5 M +/-	\$5.5 M per unit with two locomotives per train to achieve 110 mph	Existing loco - \$2.41 M ; New loco - \$5.5M	Existing loco - \$2.41 M ; New loco - \$5.5M	\$2.41 M	NA	NA
<b>Total cost</b> (per train set)	\$23.8 M	\$24.8 M	\$36 M	\$23.1M with MPX	\$13.1M with MPX	\$15.01 M to \$27.51 M	\$14.61 M	\$9.21 M with built in escalator; \$9.6 M to procurement off SMART bid
<b>Capital cost</b> (per seat provided)	\$83,509 / passenger seat	\$62,469 / passenger seat	\$126,761 / passenger seat (\$107,394 w one loco)	\$23,571 / passenger seat	\$31,190 /passenger seat	\$21,444 per passenger seat per train to \$19,650 per passenger seat per train depending on train length	\$51,809 per passenger seat per train. Based on US Railcar SMART bid price, no esc)	\$37,209 per passenger seat per train. Based on 258 seat passenger train.
<b>Equivalent Capital Cost</b> (2 bi-level cars)				\$26,821 / passenger seat per train (based on existing locomotive power)	\$37,857 / passenger seat per 2 car train (based on existing locomotive power)	\$26,821 / passenger seat per train (based on existing locomotive power)		

Sources:

All Tri Met data provided by Jeffrey S. Lowe, Director Commuter Rail, TriMet, Westside Express Service

All Sound Transit data provided by Michael Perry, Deputy Executive Director, Operations Department, Operations and Maintenance and Martin J. Young, Program Manager, Sounder Operations Division, Sound Transit

All Translink (West Coast Express Vancouver) data provided by Greg Blasko, Director of Operations, West Coast Express Limited

All AMTRAK *Cascades* data provided by George Xu, Executive Manager Strategic Planning & Research, WSDOT Rail Office

SMART data provided by John Lackey, Capital Projects Director, SMART, Sonoma Marin Area Regional Transit



## DMU Appendix 2

# Interviews and Community Outreach

## Cross-Border Rail Study for Whatcom Council of Governments

*\*Recordings of these discussions are available for a portion of the individuals listed. Please enquire at the Cascadia Center for further information.*



# Summary of Interviews

## Public Officials and Tribal Leaders



The **City of Arlington** provided a panel of officials to address possibilities and impacts of expanded passenger and freight rail service to the city. The panelists were **Councilwoman Linda Byrnes, Public Works Director Jim Kelly, Assistant City Administrator and City Clerk Kristin Banfield, Capital Projects Manager Paul Ellis, and Community Development Director David Kuhl**. The message from the panel was that any negative impacts of rail on the city of Arlington are “negligible” and the potential for commuter rail service such as Diesel Multiple Unit (DMU) trains would “most definitely” factor into the city’s long-range plans. The panel described Arlington’s large contingent of commuter traffic as predominantly single-occupancy vehicles (SOV) so “there would be a great demand for commuter rail service if it were to come up into this area.”

As outlined by the panel, the city plans to expand industrial areas accessible by rail around Arlington Airport, which is currently not involved in the shipping of freight, and is planning a 126-acre light industrial park less than a quarter mile from the rail line. The panel explained that the airport is currently serviced by SR531, a 4-lane highway prone to accidents and bottlenecks, which poses critical infrastructure problems for the city’s goals of industrial expansion. Byrnes pointed out that “in some ways that ought to make some of our businesses more eager to go with rail. I would be if I were them.” Arlington has also participated in conversations with the Port of Everett about the possibility of building a Port sub-district near the city’s industrial center that would be used by shipping agencies and industries without current access to rail; an option that the panelists said “looks feasible.” Overall, the panel agreed, “rail into the city for both freight and passenger... is very good for Arlington’s future.”

**Chairman Brian Cladoosby** is chair of the Swinomish Indian Senate for the Swinomish Indian Tribal Community. Cladoosby spoke enthusiastically about possible future passenger rail service to the area, pointing out that such service would provide a much-needed alternative to the current Anacortes Ferry Tribal Casino Shuttle. He went on to explain that the Swinomish Indian Tribal Community has plans to develop their tourism sector further by building a hotel and convention center near in proximity to the Swinomish Casino. This entertainment complex would create a greater demand for public transportation, and the Tribal Community would “definitely” welcome greater commuter services such as passenger rail. This possibility, Cladoosby said, “ties right into economic development [goals] for Skagit County.” He clarified that the reservation currently has no freight rail service but the Tribal Community is planning to build an industrial and a business park in the next few years, as well as an interpretive center south of SR 20.

The Swinomish Indian Tribal Community, Cladoosby pointed out, is a significant component in the Skagit County economy, contributing \$83M annually before taxes, and has demonstrated their integral role in the local community and state matters by their recent acquisition of Kiket Island and subsequent co-management of the state park with the Washington State Parks and Recreation Commission. With the Swinomish Tribal Community’s plans for growth, Cladoosby anticipates the expansion of rail into the area would mean a guarantee of further job creation and economic development for citizens and local businesses.



**Representative Judy Clibborn** is a State Representative for the 41<sup>st</sup> Legislative District in the Washington State Legislature and is the Chair of the House Transportation Committee. Clibborn is supportive of the Washington State Department of Transportation (WSDOT) rail program, and is confident it “is expanding where people want it to expand.” She also highlighted the need to be aware of how decisions about expanding funding for rail means indirectly affecting financial commitments to other sectors. The Ferry Caucus, for example, has already expressed their concern to her, said Clibborn, regarding the issue of allotting state funding to rail that would potentially negatively impact ferry funding and operations. “We need to be aware that the operating side is often what gets pinched because we put the money into the capital side,” she explained.

Regarding the progress of future rail improvement projects, Clibborn believes “we have to balance it and sequence it so that we don’t get at odds” between different sectors such as land use planning, environmental regulations and business interests. Clibborn acknowledged that she is “a little leery” of the possibility of a state-operated regional rail service with Diesel Multiple Unit (DMU) trains, and explained that she would “want Sound Transit or one of the other rail entities do it rather than the state take up a new business model.” Clibborn also encouraged coordination with transportation entities in British Columbia to avoid “trying to beat our heads against a wall,” and suggested looking at the process incrementally to discern the next logical spots for improvements- such as Everett and Bellingham before moving too far forward. The Canadians, said Clibborn, seem most interested in tourism than cross-border passenger rail, which indicates a need to seek more private sector involvement from British Columbia.

Clibborn would like state and provincial decision-makers and private businesses from all along the corridor to work together, and referred to Darrell Bryan’s business Clipper Navigations as a prime example of private entities having a significant effect on tourism in the area and their interest in the improvements process. However, if the state will be providing the majority of the operating subsidies, they should “be the tail that wags the dog [and] should have some say on how the marketing goes,” pointing toward a likely public private partnership in the future.



**Mayor Catherine Ferguson** is mayor for the city of White Rock, B.C.. Ferguson is passionate about expanding passenger rail service in the region between Vancouver, B.C. and Seattle. The White Rock City Council “would like to have an Amtrak stop in the city,” she said, and explained how she believes increasing BNSF and Amtrak traffic across the border “would be extremely beneficial to the growth of our city and [would build] on the economic sustainability of our businesses.” Expanding Amtrak service to the city has long been a subject of interest, Ferguson noted, and referenced the Amtrak Passenger Rail Task Force, which the City Council announced in the beginning of 2011 and whose role it will be to assess the future of Amtrak service in the

White Rock area. Former Mayor Hardy Staub is chairman for the committee, and was appointed in large part due to his “instrumental” role in pursuing the Memorandum of Understanding with Amtrak for a train stop in White Rock and getting that agreement signed, but following the attacks of 9/11 “there have been a lot of ongoing ... Homeland Security issues that have prevented that from carrying on.”

Currently, White Rock is a city of approximately 20,000 residents, most of which are seniors, and sports over 600 businesses within the city proper. Ferguson pointed out that “we as a city are obviously a tourism destination,” with the growth area located south of the Fraser River. A potential Amtrak stop in White Rock would fit ideally into the region’s tourism development plans, she explained. In answer to the query of what some of these attractions may be, Ferguson responded,

“Well I say, look around you,” gesturing at the waters of the bay and the beach near at hand. “It’s pretty obvious to me [what would be the star attraction.]”

The city sports a variety of activities for all visitors- from dining to shopping, arts to recreation- and Ferguson believes White Rock would be an ideal participant in the Two-Nation Vacation initiative. “There [are] an endless amount of things to do [here],” she pointed out. Ferguson described the city and surrounding area as “a seaside community” that offers an “incredible promenade and pier, [and] culinary experiences [...] all the way from England to India. It’s a beautiful community.” She also explained municipal initiatives to improve the tourism experience, such as renovations to the White Rock Museum that are scheduled for completion in the late summer of 2011, and plans for extending the promenade along the water toward the Crescent Beach area under regional provisions in the Metro Vancouver Regional Growth Strategy. Ferguson believes that with a passenger rail station, “once people stop here, I think they [will] want to stay here and hopefully invest in our community.”



**Senator Mary Margaret Haugen** is the State Senator for the 10<sup>th</sup> Legislative District in the Washington State Legislature and is the Chair of the Senate Transportation Committee. Haugen has been a long-time advocate for passenger rail in Puget Sound, and especially the North Sound region. “Rail is much more appealing to a lot of folks” than buses or single-occupancy vehicles (SOV), said Haugen, and described the Washington State Department of Transportation (WSDOT) rail program as “a truly bipartisan effort” that has succeeded at “always [taking] a step forward.” Her experience with championing the construction of the new Stanwood Station has demonstrated that “connectivity... is a real key tool for the future.” Public transit services such as buses, trains and ferries “need to be connective, and people will use

[the] service if there is an easy connector.” She considers Island Transit, Skagit Transit and the Whatcom Transit Authority (WTA) as being very innovative with their connectivity- referencing the Tri-County Connector and San Juan Islands transit and ferry connectors as prime examples. If these agencies can find additional funding, “they will provide this needed service,” which is not only important to residents but also to tourism.

Haugen believes there is a huge need to increase the frequency of round trip passenger rail service between Seattle and Vancouver, B.C.. She pointed out that expansion of passenger rail in the North Sound is long overdue, and noted that “Bellingham is a major part of the Northwest, and Snohomish County is one of the fastest growing counties in our state. People want to have the service.” A possible midday Amtrak *Cascades* train northbound to B.C., suggested Haugen, would give customers better travel options and the greater flexibility would increase access along the corridor and for both students and professionals who are looking for more cost-effective alternatives to driving. “There’s no question that’s what we’re lacking,” she reiterated. “We need that midday train.”

Due to the considerable interest in tourism on both sides of the border, Haugen emphasized that “everyone [cities and communities in B.C. along the border] is saying we need to do more,” and sees the need to cooperate and integrate efforts with Canadian counterparts through a formalized agreement that would facilitate and continue the dialogue surrounding key growth and development issues in the Cascadia corridor. Haugen praised the value of rail access to North Sound communities and businesses by pointing out that these areas “see the value of having another transportation corridor” in their communities and explaining how people view the tracks as more than “just rail spurs, they are transportation corridors just as much as a road is.” She also compared the relationship the state has with Oregon versus the one with B.C., saying Vancouver, B.C. has been “more cooperative than our partners to the south... Oregon has not been that aggressive” about providing ample subsidies for passenger rail service south of Portland. “I think it’s a new era for rail,” said Haugen, “and we need to upgrade... the tracks for passenger and for freight.”



**Councillor Linda Hepner** is a member of the Surrey City Council and a Director at Metro Vancouver in British Columbia. Hepner welcomed the possibility for improved freight rail service to Surrey, B.C., specifically with regards to better movement and connections south of the Fraser River but stressed the safety of communities neighboring the tracks, such as the slide-sensitive areas along Crescent Beach, when planning future expansion. Surrey is “thrilled” to be a part of the discussion, said Hepner, and would strongly favor increased Amtrak *Cascades* passenger service to Vancouver and the surrounding areas because of the “enormous potential for tourism that would benefit local and regional economies.”

While Hepner agreed that a stop at White Rock would align with Surrey’s desires for increased Amtrak service between the border and Vancouver, she advocated strongly for a passenger rail terminus at the Scott Road Sky Train Station instead to better connect Surrey residents and Amtrak passengers to the city center, downtown Vancouver and other rapid transit destinations. Despite Surrey’s \$140M contribution to TransLink in subsidies per year, there are only 0.08 hours of transit service per person available to Surrey residents compared with 2.2 hours of service per person available in Vancouver, B.C..

Hepner explained that any future expansion by Surrey to better accommodate rail is subject to the parameters outlined in Metro Vancouver’s Livable Region Strategic Plan (LRSP), but emphasized that “the longer we delay those discussions with you, as our neighbors, ...the higher the cost gets because the denser we get and the more populous the region becomes.” Above all, Hepner expressed a commitment to increase passenger and freight rail through the corridor but explained the need for Surrey to be informed of the proposed plans before agreeing entirely.



**Mayor Joe Marine** serves as mayor for the City of Mukilteo and Vice Chair for the Community Transit Board of Directors. Marine anticipates a need for Sounder train service to increase the number of trips per day to better serve non-commuter travelers, but he is sympathetic with the current system constraints in the route’s north leg. Marine and the residents of Mukilteo have requested Amtrak consider add a stop in Mukilteo to the Amtrak *Cascades* route, but that is not currently an option in which Amtrak is interested. However, Marine is hopeful that stance will change in the future as the rail system advances, and pointed out that “it would be more convenient than having to drive to Everett or to Edmonds to pick up the Amtrak train.” Marine believes a midday train run by Amtrak *Cascades* would help supplement the morning and evening service that Sounder provides. “If you get the Amtrak *Cascades* to stop and open up some of that afternoon [to more rail options], I know that it would be used- there’s no question,” he added.

The tracks around Mukilteo station are highly congested, Marine pointed out, and he expressed concern that increasing the frequency of service might “start to impact the commuter and some of the other rail systems that are there.” The city has also taken steps to reduce the impact of rail traffic on the surrounding community by installing a rail crossing “quiet zone” (QZ) to stop a portion of the trains from sounding their horns as they pass through town. The noise from the train traffic through the community is very intrusive to those who live in the area, and following the installation of the QZ, Marine heard from “a lot of our residents [who said] ‘I knew it was bad, but I didn’t know how great it would be when the noise stopped.’” In the interest of mitigating the impacts on residents, Marine is concerned that with increased freight traffic, there may be more trains sitting idle along the tracks, “and that is very rough on residents- not only the smell [from] the idling but the noise and vibrations.”

The city has been working with BNSF on other track improvement projects such as better waterfront access for residents to circumvent the frequent road blockages from rail traffic, and a salmon habitat

restoration project to daylight a section of Japanese Creek that connects to the water at the Tank Farm property. The US Air Force currently owns this property but Mukilteo has long been planning to purchase it and relocate the ferry terminal there. The cost for that project is estimated at \$130M, and while the city is looking for possible sources of funding, they are getting a head start on preparing the area surrounding the site for greater traffic, explained Marine. The “portion of daylighting over the Tank Farm property will be part of the ferry terminal project, and [mitigates] some of the work they are going to be doing” by reducing the required buffer zone by approximately 50 percent, he explained.

Marine anticipates the next step for Mukilteo’s development will be the tank farm ferry terminal site with the possible construction of a parking garage to link the future ferry terminal and Sounder Station. By improving the travel experience for passengers, it would increase ridership and help leverage the waterfront area of the property for shops, “so I think there is a lot of opportunity for some public-private [partnerships] and to have some of the leases pay for [basic infrastructure]” to alleviate the strain on federal funds for the project which have not yet been allotted.

Expanding rail service through Mukilteo would be a delicate process to avoid negatively impacting the community, but Marine is confident that because rail service “is used quite a bit by people coming across on the ferry, that walk on and catch a commuter train into points south,” the scenic route along the Sound will continue to be a draw for commuters and day travelers alike “who just enjoy riding it.”



**Representative John McCoy** is a State Representative for the 38<sup>th</sup> Legislative District for the Washington State Legislature and sits on the State Government and Tribal Affairs Committee. McCoy is strongly in favor of expanding rail service in the Everett, Tulalip and Marysville areas as part of a greater Seattle to Vancouver, B.C. rail corridor enhancement. By improving the BNSF rail line, “there would be huge job development, and there would be spin-off opportunities for additional freight mobility all up and down [the Cascadia] corridor.” The Ports of Everett and Vancouver rely heavily on freight movement via trucks, which contributes to traffic congestion on I-5, so McCoy believes a redistribution of freight and transportation mobility is necessary to better “balance what is on the road and what is on the rail.” He recommended a comprehensive study be conducted to investigate the possibilities of combining the current energy grid with federal and state highway systems to consolidate use of rights-of-way by installing high-voltage direct current (HVDC) transmission cables under rail lines and roadways. This would reduce the impacts on communities where the grid currently intrudes on personal lands, said McCoy.

The Naval Station Everett and other big employers such as Boeing, Microsoft and Fluke stand to benefit considerably from increased rail service. He explained that Boeing and the University of Washington have done collaborative research to innovate new uses for carbon fiber technology in aerospace manufacturing, and their discoveries have prompted BMW to move one of their manufacturing plants to Washington State to integrate this technology into future production and design. McCoy sees this outcome as is a perfect example of the potential in the Cascadia region for continued progress. He is adamant that “we can’t sit on our laurels- we have got to grow,” and improving rail capacity is vital to maintain this level of performance.

McCoy also sees enormous potential in tourism and trade benefits from increasing rail service. He pointed out the Quil Ceda Village currently receives up to 5 busloads of Canadian visitors weekly, and has the capacity for up to 12, but would prefer the ease of access to their facilities which a rail connection in the area would bring. McCoy sees potential for professional hockey teams on both sides of the border who would see the benefits of more scheduled trips because the improved connectivity would facilitate travel for fans up and down the corridor who would otherwise be

unable to attend away games. He also agreed that other sporting events in the Seattle area- Sounders, Mariners and Seahawks games- would be positively impacted by more chartered train trips on game days that would attract more people to attend games by avoiding the traffic congestion in downtown Seattle and costly parking fees, as well as those traveling much longer distances from areas like eastern Washington and Portland.

McCoy acknowledged there has been doubt over how the WSDOT rail program funds have been used, but said he was pleased with the successes achieved. "The only problem is," said McCoy, "we haven't had enough [money]" and more funding for improving freight, passenger and commuter rail services needs to be allocated. He would like to see road congestion alleviated in the I-5 corridor, and considers rail expansion the best option for attaining this goal.



**Councillor Geoff Meggs** is a member of the Vancouver City Council and serves on several local and regional committees for economic and civic development. Meggs is a strong supporter of increasing accessibility in the Cascadia region to Vancouver, B.C., noting that public transportation connectivity already in place in the city heightens the tourism experience. He mentioned several alternatives to using a personal vehicle to gain access to the downtown core such as TransLink, SkyTrain, SeaBus, cruise ships and float planes, and pointed out the mass transit service within the heart of the city comes every 10 minutes. Meggs feels "the Olympic Games really emphasized the changes that are possible and the public understanding of those changes was really improved because we shifted 30% of trips into the downtown core from cars to other modes of transportation" which he believes will lead to more bottom-up engagement and bipartisan cooperation on sustainable transportation in B.C..

Regarding the second Amtrak train between Seattle and Vancouver, B.C., he explained "the importance of committing to it as a symbol of our engagement" with the Cascadia corridor, and added that the future of higher speed rail and expanded passenger rail in B.C. "lies south" and not east toward Calgary. However, Meggs outlined two challenges for that expansion to Seattle. On the administrative side, he would like to see collaboration with more senior American level officials to improve border-crossing procedures through increasing speed and safety of the passenger border experience- "We could make significant improvements to service time... just by changing those administrative problems," said Meggs. On the infrastructure side, he pointed out the New Westminster Bridge over Fraser River "is a huge infrastructure investment" and the Greater Vancouver region needs to have several reachable short-term goals to "demonstrate success here before we get to the very tough [and costly] question of updating century-old rail infrastructure."

Vancouver does not wish to be at the forefront of community leadership in B.C., but would rather share the knowledge gained through successfully funding regional transit with other municipalities, Meggs clarified. "We are going to have to step out of our comfort zone and start to talk about transport demand finance measures... that the business community has begun to advocate for... [to] directly link transportation behavior with sustainability," he said. Meggs agreed that local level commitment to the rail agenda along with state and provincial cooperation is very important, calling it "a tremendous upside to [the commitment to rail]." Questions concerning passenger rail are always linked to freight mobility issues, a fact that is largely "invisible to taxpayers," said Meggs, but pointed out that Canadians have the advantage of an inborn belief in rail due to the integral role it played in the country's development and therefore sidestep the task of convincing decision-makers of the need for rail in communities.

"The north-south connection is the only logical one" for Vancouver, he explained, and believes discussions with private rail operators on issues of freight mobility will be a crucial next step for B.C.'s plans for rail expansion. By and large, people are "exhilarated by the possibility of... a higher speed rail connection between Seattle and Vancouver" that, even at speeds of 90 mph, "would be

transformative” for the region. Meggs also encouraged people to consider rail as a reasonable investment, and advised lifting it out of the “climate change” debate if that stands as a point of contention, saying people can agree rail is beneficial for the economy regardless of their opinion on that topic.



**Mayor Jon Nehring** is mayor of the City of Marysville and also sits on the Community Transit Board of Directors. Nehring sees rail expansion into Marysville and beyond as a significant opportunity for economic expansion and regional collaboration. The city has plans to improve connectivity on either side of I-5, which bisects the area, by building an overpass to alleviate stress on roads such as 4<sup>th</sup> Street, 88<sup>th</sup> Street and 172<sup>nd</sup> Street. The overpass would also traverse the rail lines that run through the midst of downtown Marysville and cause long delays for commuters, emergency response teams and law enforcement. Such an infrastructure improvement signals the next stage of development for Marysville, explained Nehring, and referenced additional plans to develop a light industrial area in North Marysville where improving rail access and increasing service would compliment the city’s future plans and “economic development-wise would be huge for us.”

The best location for a train station and transit connection would be near where the old depot was previously located on 4<sup>th</sup> Street, and would tie in well with the city’s interest in revitalizing the downtown core, said Nehring. He would like to see the waterfront and marina be further developed into a family destination with a children’s water park, kayak rentals, and a longer-term possibility of private investment for restaurants, condos and a small hotel. Nehring would also favor a permanently funded inter-county bus service with connections to the Park and Ride on Grove Street and Cedar Avenue, but “it is a tough time for Community Transit right now to talk about expanding anything.” He recognized that customers want more capacity and agreed that increasing connectivity north and south “is going to be of benefit, [...] but the dollars have to be there for that.”

Nehring values the city’s partnership with the Tulalip Tribes on tourism and transportation, saying “we do not view ourselves as competitors with them” and would like to capitalize on the growing tourism market around the Tribes’ resort casino and outlet mall. “I don’t think it is lost on anybody that they have the attraction power right now,” he pointed out. The tourism from regular busloads of Canadian visitors would factor well into Marysville’s economic development plans, “and rail would just be another aspect of that.”

Nehring would like to see I-5 expansion continue northward from Everett up past the 172<sup>nd</sup> St exit that people “need to get through that 116<sup>th</sup> St. exit with a carpool lane at least.” With the long-term plans for the industrial area development and other commercial areas near there, 172<sup>nd</sup> St would be the ideal end goal for any improvement plans, said Nehring. “If [HOV access could be expanded] at least through 116<sup>th</sup> and then push it through to 172<sup>nd</sup> St, I think it would be a big improvement,” he explained.

Nehring’s goal for Marysville is to see it transform from a “bedroom community” into one with a more diverse job market that encourages people to spend their money locally and reduce the volume of single-occupancy vehicle (SOV) commuters. His vision for the city’s future integrates regional connectivity and local economic development, and “the thought of having the potential of a rail stop here... has been a long-term planning vision for several years, and it is exciting to talk about it.”



**Mayor Bud Norris** is mayor of the city of Mount Vernon. Norris is confident that expanded passenger rail service running north and south from Mount Vernon would receive “widespread support” among citizens living in and around the city. “Increasing the connectivity to both Vancouver and Seattle would be a boon for our area, both from a business and residential standpoint but also [in terms of] tourism,” he explained.

A significant portion of Mount Vernon’s short-term growth area is located in and around the downtown core, and Norris pointed out that the city’s “potential [will be] great when we can improve our flood protection of our downtown area. Right now, that [risk] is a limitation.” The Army Corps of Engineers is currently conducting a General Investigation study of the lower Skagit Valley area regarding flood protection measures, and “right now we’re a little bit ahead of the curve” on what they are suggesting, said Norris. He explained that the city has already completed phase one and is ready to begin phase two of one of the measures suggested if they can find the \$7.5M needed to fund the rest of the project. The second phase would not only protect the downtown area, but also the I-5 corridor, BNSF’s rail lines and a “lot of essential services” such as City Hall, the US Post Office, and the Skagit County Courthouse, Norris explained. He also described how the city has pursued further precautions by purchasing 5 out of 7 key structures involved in flood protection and is planning to acquire the remainder in the near future. Mount Vernon is also planning a 25 ft wide river walk to connect trails and paths on both sides of the Skagit River with the hope that it will be “a great draw,” said Norris, and serve as “one of our best sales tools” to demonstrate concretely for people the city’s vision for future development.

The city plans to improve connectivity between the station and the downtown area, and also “to create a corridor to the [Skagit River] and the Skagit Station that will draw people to the river.” “[It] is a tremendous asset for us” said Norris, and mentioned that the city is planning to start a new Farmers Market down by the water. Mount Vernon has “become more of a bedroom community to Everett and Seattle,” he explained, “and there is nothing wrong with that.” While the Port of Skagit County is the driving force for industrial development in the area, the city has focused on commercial expansion to ensure lasting economic stability “to pay for the services that are necessary when you develop those residential areas,” added Norris. Currently there are plans to make the city center more livable, he said, and explained, “a large component of our downtown and waterfront redevelopment is residential opportunities.” Approximately 300-350 condominium units are planned for the downtown and waterfront areas, and Norris experiences people coming to him “on a weekly basis” asking when the housing areas will be completed. This residential interest in Mount Vernon’s downtown core demonstrates how the area is slated to become burgeoning commercial opportunity.

Norris believes that one of the future challenges for Mount Vernon will be the congestion experienced on I-5 near the downtown area. The Everett area freeway improvements have caused bottleneck problems in the Mount Vernon corridor and “in summertime, if you have events in Vancouver or Seattle, I-5 gets really congested,” he explained, “so anything that we can improve from a passenger rail standpoint is going to lessen that problem,” along with improvements to freight rail service to reduce the impact on traffic from shipping via trucks. For that to be achieved, it would require improvements to the BNSF bridge just north of the city. “Burlington Northern is working very hard on [improving the structure and] we are trying to be a cooperative partner in promoting that” because of the local benefits from the construction, explained Norris. He clarified that the BNSF bridge is the area’s first line of defense against flooding, and “if [it] were to ever fail, it would make the rest of our bridges downstream suspect.”

Overall, Norris believes “people that want to connect and go to cultural and sporting events in Seattle would be great users of increased passenger rail service here in Mount Vernon as well.” A charter train service to the city for specific events “would be a great enhancement,” he said, to the Skagit Valley Tulip Festival that occurs in May and the Highland Games in July. Norris described the Mount Vernon area as sitting at “a crossroads here between the San Juan Islands, the Cascade Mountains,

Vancouver and Seattle so it is a great place to draw people to, and therein lies part of our future from an economic standpoint.”



**Mayor Bonnie Onyon** is mayor of the city of Blaine. Onyon believes that due to the unique circumstances of Blaine’s location on the Canada-US border and its role in the larger Cascadia region, the timing is good for expanding rail service in the area. “I think it’s fantastic that we have this railroad here,” she said. “I certainly don’t see it as a negative, I see it as a real opportunity for connecting our two countries [...] in a local sense.” Onyon pointed out that the proximity to I-5 provides Blaine businesses, residents and visitors with “a lot of opportunities” for transportation and makes it “so easy to get into [the city], both north and south[bound].” One challenge she sees in the transportation, however, is the

locations of the Customs clearance facilities near the city. “Unfortunately there was not a dialogue with us prior to placing it where they did,” Onyon explained, “so as a result the long freight trains southbound across the border do block at least two key east-west roads to Blaine.” At times the trains can block traffic for up to 15 minutes, she said, “and that’s really unacceptable when you’re talking about emergency vehicles having to get across and school buses getting kids to school.” The system as it operates currently “is a detriment to our community,” said Onyon, and explained that the city would like to see the facility moved one mile south, which would mean the trains would no longer block those crossings. This problem with the location “is really the main negative when it comes to the railroad, and I am glad they are making improvements,” she added.

When asked whether future developments, such as upgrading the old BNSF depot to a station for regional DMU service, can be factored into Blaine’s long range plans, Onyon sees “no question about it” and is confident those changes would be welcomed by residents. “I know I personally would love to be able to catch the train and go down, even to Bellingham, and further south,” she said, and added, “I would go to Seattle more [myself] if the train were available.” Regarding a possible Customs facility at the depot, Onyon considers it “another natural [next step]” and would consider such a development as a “wonderful” addition. The depot was built in 1913 and remains the original structure. “It’s got a lot of character,” said Onyon. “We’ve been told that it’s certainly worthwhile to refurbish it and turn it into a really nice looking facility.” On the other hand, BNSF would like the depot removed from the site for “safety reasons, [but] I don’t really understand that,” says Onyon. She sees significant potential for ridership from both sides of the border if the depot became functional. “The whole northern part of the county might choose to come up here and get the train down to Bellingham instead of driving [there],” Onyon added. “I think it could really work, and [Blaine] would welcome that.”

When asked if she believes there is a market for a form of recreational rail service such as charter trains for special events, Onyon agrees, saying that “if [people] knew that they could drive over into Blaine, catch a train down to the Tulip Festival or anywhere south of here, and have it come back within a few hours [it] would be a really attractive thing [...] for a lot of our citizens.” A large portion of Blaine’s population consists of retirees and seniors, so that type of service would be a more convenient alternative to a car for the majority of them, she explained. The city is also home to a resort with a world-class golf course that also provides a venue for numerous conferences, so “I would think that that [alone] would be a draw for people,” added Onyon.

An expanded rail service would be beneficial for the city’s plans of boosting tourism in the area as well. Onyon explained that the city and the Port of Bellingham are both seeking to build up that sector with a focus on the city center as a key development area. She described the port’s plans as a “mixed use development” to establish more retail, restaurants and residential spaces in the downtown core. “All the zoning is in place, we are ready to go,” said Onyon. “The city has a fast-track permit system [so] for investors, Blaine is really a great place to come to.”



**Mayor Dan Pike** is mayor of the city of Bellingham. Pike favors greater passenger rail access to and from Bellingham and sees plenty of potential for increased ridership from both the tourism and business sectors. Pike said his constituents have expressed their “frustration with the current level of rail service” limiting travel options. He gave the example of people wishing to take day trips to Seattle and Vancouver, B.C., as well as professionals needing to attend meetings at stops along the corridor. Currently, the infrequent service is “making it difficult,” said Pike, to achieve greater regional connectivity.

Bellingham voters’ approval of a transportation benefits district (TBD) has provided the community with a source of funding for transportation projects that is not dependent on state or federal allotments, explained Pike. The funding, which is represented by 0.2% of the sales tax, will be levied in three areas; specifically the repaving of roads, expansion of cycle and pedestrian infrastructure to better integrate with the motorized transportation network, and partial restoration of Sunday transit service from the Whatcom Transit Authority. Having a TBD in place, said Pike, opens the doors for “struggling local governments” to meet their specific needs with a degree of flexibility. He recommended other communities review the structure of Bellingham’s TBD initiative, saying the sales tax implemented was the most equitable option as it incorporated visitors to the area along with residents. Pike pointed out that 20% of retail sales are from Canadians and the majority of sales tax paid in the city comes from non-Bellingham residents, and the TBD tax increase ensures that people who “come and use our services [contribute to maintenance costs] by paying the cost of keeping our transportation facilities updated.”

With regards to the waterfront rail relocation project, Pike foresees an overall increase of as much as 60% in train frequency and rail capacity from the planned realignment. This is particularly important for the waterfront businesses, he explained, because their location is currently isolated from the city center and can only be accessed by traversing the at-grade crossings between scheduled trains.

According to Pike, trade and shipment of containerized cargo between Seattle and Vancouver, B.C. has increased in recent years. He expects traffic to increase independent of the planned Cherry Point Gateway Pacific terminal and other rail improvements planned for the Bellingham area such as reconstruction of the Cornwall Bridge to accommodate double-stacked freight trains, although their construction would accelerate further trade increases. Overall, Pike indicated that Bellingham would be receptive to rail expansion and has already acted independently by taking farsighted, incremental steps toward improving mobility along the corridor.



**Mayor Ray Stephanson** is mayor of the city of Everett. Stephanson is strongly in favor of expanding rail service in the Cascadia corridor for both freight and passenger rail. Everett, and Snohomish County more generally, have experienced a greater influx of commuters as people begin to travel farther distances for work, he explained. Boeing is the largest employer in both Snohomish and Skagit counties and has added 11,000 new jobs with the recent \$35 B Air Force tanker contract, remarked Stephanson, which means many people are commuting into the Everett area daily in single occupancy vehicles (SOVs) and “any alternative that provides a convenient way for workers to come to Snohomish County and Everett is a huge plus.” As the economies of Whatcom and Skagit counties begin to see job growth, “that growth [will spread] down the I-5 corridor so the opportunity to travel [both north and south] is critically important.”

The Port of Everett is a unique, “boutique port,” said Stephanson, which will experience a much higher demand for their specialized service with the expansion of the Panama Canal. The type of cargo traffic along the West Coast will change significantly, and “it is going to take that kind of competitive advantage [from exceptional rail access] if we are going to maintain the preeminent

position that the ports on the West Coast have had in the past. And we're going to have to do it better, and we're going to have to do it more efficiently than we have done it before" to compete with ships that can more easily access the East Coast.

Stephanson expressed how satisfied he was with the Everett Station and sees unlimited opportunities to increase commuter presence at the facility. Everett Transit and Everett Station have had "great success connecting lots of different counties and cities across Puget Sound" and the station's capacity for expansion plays a significant role in the region's ability to maintain a high level of service. With the arrival of Washington State University at the University Center of North Puget Sound, Everett will be "charged with the responsibility of educating the counties north of Snohomish County," said Stephanson, in which the station and transit services will play a crucial part. He envisions a rail commute for students coming from Bellingham, Mount. Vernon, Stanwood, and Marysville who would be able to access wireless networks to work on schoolwork during the ride to and from class.

Stephanson also sees the potential for broadening tourism opportunities north of Seattle with expanded rail service in the corridor, and congratulated the Tulalip Tribes, saying they "have done a wonderful job... in encouraging tourism into their nation." Widening this emphasis throughout the Puget Sound region, coupled with the cross-border partnership Seattle and Vancouver, B.C. have forged, would make regional tourism "an important part of both our country's economies." Stephanson recognizes that the opportunities for future gas taxes to fund highway and road maintenance and expansion are finite and constantly changing, and therefore "we are going to have to rely on and look for alternative ways to move people and products, and this opportunity [for expanding passenger rail service] seems right in line with that goal."

## Tourism and Economic Development



**Darrell Bryan** is the President and CEO of Clipper Navigations, Incorporated, whose subsidiary companies are Clipper Vacations and the Victoria Clipper Ferry Service. Bryan is a former Amtrak Senior Director of Stations, as well as a longtime customer of Amtrak *Cascades* by way of his company. Bryan pointed out that historically, Clipper Navigations has been Amtrak's top customer for the Seattle to Vancouver, B.C. corridor and by partnering with Amtrak, they can offer "one-stop shopping... for [visitors] who want to see as much of the region as possible." He sees the possibility of additional Amtrak *Cascades* trips to

Vancouver as a valuable asset to the economies along the rail corridor and urged that "increased frequency helps everyone." Travelers have a "reasonable expectation" that they can come and go when they want, said Bryan, and praised the second round trip train to Vancouver as a "great start" to a larger goal of greater connectivity. "We are really bullish on having increased service," said Bryan.

One challenge facing Clipper Navigations is centered on their booking process, explained Bryan. As a wholesaler, the company has the opportunity to purchase resold products, such as hotel rooms, from various businesses at a minimum net rate of 20% lower than the retail price and bundle them into packages for their customers. Amtrak is the only business Clipper Navigations deals with that does not offer a minimum net rate to wholesalers, said Bryan, whose company is therefore forced to delay the purchase of their services by customers until his employees are able to reserve individual seats per party on an Amtrak *Cascades* train. This net rate is "common commercial practice," he pointed out, referring to the success hotels have enjoyed under such agreements where "the gain is in incremental business on a year-round basis." Working with Amtrak on this seat-by-seat basis adds an extra step that "is not attractive to the consumer, [and is] very inefficient and very inconsistent with what commercial practices are."

Regarding the Canada Border Services Agency's (CBSA) fee of \$1,500 for the second train to Vancouver, B.C. which is currently waived until October 2011, Bryan explained that "we have got to get a lot more people riding so CBSA will look upon [the second Amtrak train] favorably." He listed several ways to boost ridership and improve service, including redesigning the travel experience around enhanced onboard service centered on a better dining experience, better planning for uniform platform heights for ease of passenger access, reducing staff requirements and attracting the younger demographic by having forethought on what services most appeal to demand, such as better bicycle accommodations. Bryan does not believe the broader picture will be capable of any large transformations if Amtrak does not make essential changes to its commercial business practices. He underscored that conviction with the admonition that "if you want to get support from the private sector- because I do believe there is a role for public private [partnerships]- you have got to get [the state] to embrace some private sector practices."



**Guy Occhiogrosso** is the Executive Director of the Ferndale Chamber of Commerce in Washington State. Ferndale has a population of about 11,000 people. Occhiogrosso highlighted how tourism in the region has become an integral part of the Ferndale economy. Whatcom County collects approximately \$65,000 dollars from hotel-motel tax annually. The majority of this tax supports The Visitation Center in Ferndale, but some of the tax is directed to organizations that hold a number of different events

Between May and September annually he mentioned three events that draw the most attraction. The Bellingham Scottish Highland Games draws a significant crowd from the Seattle to lower British Columbia region and has a significant impact on hotel occupancy. The second event is the Whatcom Old Settler's Association Pioneer Picnic, which takes place the last weekend of July, and showcases Pioneer Park. Of the 117 annual picnics recorded, this one has the "longest standing membership in the county". People from Whatcom County plan family reunions, high school reunions, and events in preparation for the picnic. Occhiogrosso notes that people return for this event time and again. The third tourist attraction is a street festival, a free event that takes place in downtown Ferndale Friday through Saturdays in the month of August.

An estimated eight to ten thousand Ferndale residents attend, as do a few hundred outside visitors. Occhiogrosso noted that, during times of high frequency visitation, a majority of the visitors to the visitor center are lower mainland Canadians, looking for shopping opportunities. These visitors bring important revenue to the region. Occhiogrosso asserted that, from a traditional tourist perspective, Ferndale relies heavily on advertisements, press releases and agricultural promotions to highlight Ferndale's farms and local events. From a county perspective, Occhiogrosso asserts that there has been a high uptick in club organizational tournaments and the community is seeing a huge increase of people coming to play sports at organized sports events.

In response to a question regarding freight train activity, Occhiogrosso said that it has a "minimal impact on the community in terms of traffic." RDS, a recycling and garbage/waste disposal center serving the greater Whatcom County and direct user of the freight line, relies heavily on rail service and suB.C. contracts a portion of the rail line. When questioned about additional freight capacity Occhiogrosso said "We've seen that level of service on these tracks before, with GP 10 years ago when it was fully operational."



**Cindy Verge** is the Director of the Skagit Valley Tulip Festival. The Festival was officially inaugurated in 1984 by the Mount Vernon Chamber of Commerce. Chamber directors saw that people were coming by the thousands to view the tulips and decided to add events and festivities to enhance the visitors' experience to the Skagit Valley. In 1994 the Tulip Festival split from the Chamber of Commerce and became an entity of its own. In the early years, the festival occurred over a single weekend. To help ensure the Tulip Festival dates coincided with the tulip season, the festival expanded to 17 days, and in 2003, was established as a 30-day event. "Even at 17 days, we could completely miss the bloom of the tulips," explained Cindy Verge, executive director of the Skagit Valley Tulip Festival. "So we lengthened the festival".

Verge noted that there are challenges to planning the event, specifically regarding traffic management and muddy parking lots. "We used to have a Tulip Transit to shuttle people but funding was eliminated due to Initiative 695 and the cost of \$20,000 to hire a bus to transport 2500 visitors was prohibitive."

She was enthusiastic with the idea of expanded passenger rail service from Seattle and Vancouver, B.C. as a way to bring visitors to the Festival and felt they could resurrect a shuttle if there were more demand. The shuttle would make scheduled stops at the two growers that continue to showcase the tulips. The ideal trip for passengers would be to arrive at Skagit Station and 10 AM and leave at 4pm.

While Verge noted that economic impact studies are too expensive to perform on a regular basis, the last study in 2000, funded by the Washington Department of Tourism, found that the 17-day festival brought in an estimated \$14M in sales revenue and 350,000 people from outside Skagit County including 12-15 percent of visitors from Canada. Verge indicated one of the most popular activities for visitors is to pin a map showing where they are from, either in the United States or worldwide. So far 49 of the 50 states are represented.

Verge said the \$14M in sales revenue does not include the additional wages and revenue from the expansion of the Festival to 30 days. Non-profit groups have benefitted as well. Verge mentioned the Kiwanis Club serves between 10,000 to 12,000 meals at their salmon barbeque and has raised nearly \$2M since the festival started.



**Don Wick** is the Director for the Skagit County Economic Development Association. Wick believes there is "no question" about the amount of local support- both commercial and private- for expanded regional passenger rail service to and from Skagit Valley. There are 6.5M people living within a 100 mile radius of the Mount. Vernon area, so "imagine what increased rail service could mean to tourism in our region [and] how important that would be to the future," Wick pointed out. He considers tourism in the Skagit Valley to be at a dependable level currently, "but in some way it is undeveloped. We are not capitalizing on [the proximity of] that 6.5M people... and showcasing to a greater degree this beautiful valley. Rail service would help do that, there's no question." The Skagit Valley serves as part of the Gateway to the San Juan Islands, and Wick envisions visitors "coming up from Portland or Seattle with bicycles and making an easy transfer here at the train depot, out to Anacortes, Fidalgo Island and [...] the rest of the San Juan Island chain."

The prospect of opening up the valley to greater access for visitors can be a sensitive subject for some in the community, and he has noticed that there may "certainly be some natural tension there but [as] land use and growth management [efforts] encourage greater density throughout Washington State, that really shouldn't be an issue." Those living in the Skagit Valley area, Wick assured, "would certainly ride the rail if there were more frequent service here... to do business in

Seattle.” He has personally ridden the Seattle-Portland Amtrak route several times and enjoys the experience of taking the train over the car because of the freedom to multitask while traveling.

The ease of access for freight rail out to the refineries in the valley “is very important to the future of economic development, and of job creation and retention in our community,” said Wick. Industries such as Tesoro, Shell and Sierra Pacific have locations in the area that see “rail [as] a vital part of [their transportation] strategy,” he explained. There exists a concern that Skagit Valley’s frequent flooding during parts of the year inhibit growth, but Wick make it clear that all the industrial development areas are outside flood risk areas, areas that are “important to the future economic development of this community.”

Wick explained that “Skagit Valley is a very special community... [and] preserving this valley is very important to all of us.” Despite a strong local interest, Skagit feels very connected to both the Seattle and Vancouver, B.C. metropolitan areas, he said. “We are the gateway to the North Cascade and to the San Juan Islands,” then added jokingly, “but don’t tell too many people [about our great location].” Wick personally appreciates the special service to Seattle for sporting events, adding that he rides the train to Seattle to see the Mariners play and thinks it is “is a great way to go.”

## Transit Agencies and Transportation



**Councilmember Paul Roberts** is an Everett City Councilmember and sits on the Sound Transit (ST) Board of Directors. Roberts sees potential for further commuter rail expansion north of Seattle and Everett, but warned ST is struggling with rigorous budget restrictions so “it is hard to see, right now, much expansion on anything.” He has had personal experience commuting via the Sounder commuter train and sees the benefit of a stop in downtown core, such like the proposed station at the Interbay Yard. That idea was proposed initially with the Sound Transit 2 Plan (ST2) but was “set aside for a number of reasons,” he explained. One of the major issues of this proposal was how to get adequate funding, Roberts clarified, which is why ST shifted its attention to comparatively higher priority ST2 projects. Another was “a matter of stretching... as far north as we could get, and so things [like plans for Interbay] had to get sacrificed in order to pull the rail service further north into Lynnwood.” However, now that he uses the service daily as a commuter, Roberts finds he would gladly use a stop in the downtown core if one were made available, saying “I have a new bias: I always thought it was a good idea, and now I think it is a great idea,” provided someone other than ST pays for it. While Roberts acknowledges enhancing commuter service north of Everett is important to regional development, he pointed out that ST service is restricted from expanding north of Everett. The Sounder, he explained, provides a basic connection, and “if local communities can find ways to embellish on that, then great- let’s work together.” This could mean commuter bus service, as well as a possible northern regional rail service operated by BNSF to connect with the Sounder at Everett Station, an idea Roberts finds worthy of further exploration.

Tying Marysville into the Sounder and Amtrak rail networks would make a lot of sense, he agreed, but foresees complications with transit service provided directly by ST as it is unable to operate any farther north than Everett’s taxing district. As the next logical step in connectivity northward, Roberts suggested Marysville and the Tulalip Tribes should work jointly to operate a supplementary service and decide where the connection with ST would be located. He highlighted that “both governments [have really] done a great job of working together on a number of things now, so now there is some history in doing that. I think it certainly should be something where the Tribes and the city work together, [along with other relevant organizations].”

Roberts referred to Mayor Stephanson's support of enhancing the rail corridor northward and explained that he and the mayor try to maintain a similar perspective on these issues. Regarding the Everett City Council, he is confident that the Council "would be overwhelmingly, if not unanimously, in favor of this direction" toward greater connectivity, but acknowledged a degree of disagreement over the finer points. From a personal standpoint, Roberts believes the region needs to "constantly look at the 20+ year horizon, and [although] these things take a lot of time to pull together, we are going to wish we had [...] done this."



**Richard Walsh** is the General Manager of the Whatcom Transit Authority (WTA). Walsh praised the passenger rail and commuter services currently available in Whatcom County, referring to the Tri-County Connector (whose funding has been renewed in the latest budget proposals in both the House and Senate) and Amtrak *Cascades* service to and from Fairhaven Station in Bellingham. The Connector, he said, "has been a resounding success by any measure" in large part due to state funding for the program. "I cannot think of a better example of a [more] legitimate role for the state than one which connects communities, whether that connection is by rail or by bus," said Walsh, and explained that he feels it should not be the responsibility of private transit agencies to pay for service to areas far outside their boundaries of service. Walsh recommended making state funding permanent for the Tri-County Connector and other similar programs which would allow "customers to rely on that service dependably" while taking the financial burden off agencies like the WTA, and Skagit and Island Transit systems that, like many transit agencies, "are going through fairly significant financial constraints right now [and] would unlikely be able to come up with the funding to operate that service" on their own.

Walsh sees promise in the possibility for greater coordination and joint efforts with his public transit counterparts in British Columbia, and added that "anytime we are talking about regional transportation, I think what is lacking is some type of regional governance structure to manage it." He suggested "a more formal regional transportation planning organization" to more efficiently manage collective development moving forward. Walsh also commended the passenger rail activity at Fairhaven Station as "a huge success," especially with the large volume of students from Western Washington University (WWU) who use the *Cascades* service to travel home on the weekends. However, he clarified that "any changes in the passenger rail schedule are not a significant issue here locally" due to the frequency of commuter bus service to and from the station that connects travelers with local and regional transit options every 15 minutes. Nevertheless, Walsh believes "that the public is way ahead of us all on high speed passenger service up and down this corridor. I think the public wishes it was in place a long time ago."

## Freight Stakeholders- Shippers and Ports

**Chris Brauner** is a Senior Manager of the Transportation line at Boeing. He emphasized how Boeing is "highly dependent on a good rail system". He noted that at the Everett factory there are three programs that are "dependent upon the rail" service and these are normally overdimensional parts that cannot be transported on a surface road. Brauner highlighted how materials for the Boeing 747, 647 and 777 production lines are shipped from different parts of the country, including southern California; Wichita; Kansas; and Grand Prairie, Texas. He mentioned one area where they have a short dependency on rail is with ocean containers.

In response to a question concerning container shipments through the Mount Baker Terminals and Mukilteo, he emphasized that the Mount Baker terminal provides "a lot of flexibility" for their ocean containers and but that there is "a [very] small dependency" on rail. When asked how the production

rate looks for five years, he said some of the Everett programs are increasing [their production]. Boeing expects monthly shipments for the 777 to increase from five to seven per month. He said that while Boeing doesn't have "that much freight on the rail system, but what we do have would shut down a production line". Brauner further explained that if freight rail transportation were interrupted, Boeing would have to "consider looking at alternate ways of reliable transportation".

When prompted about the Stampede Pass and investing in ports and localized delivery in production scheduling, Brauner responded Boeing utilizes Stevens Pass rather than Stampede Pass for transportation. He noted that the only challenge to Steven Pass would be "if the current route we were taking had some problems." In the product delivery system, Brauner noted that mudslides do not affect the production line since "we are shipping ahead of that" 48-hour window should the rail line be temporarily closed due to landslides along the corridor. Brauner continued on saying that "when we ship products up here we're creating some lead time up there in the event there is an issue. " This policy is in place just in case the cargo needs to be re-routed.



**Lisa Lefebber** is the Public Relations and Communications Administrator for the Port of Everett. Lefebber affirmed the Port's interest in High-Speed Rail (HSR) improvements, saying the Port takes an "holistic approach to our support of this: what is good for passenger movement is good for freight, and anything that can be done to improve train speeds helps freight mobility in the area." With specific regard to the proposed \$161M grant, Lefebber indicated "it is very important" to direct the funding toward improvements northward as the Port is the main terminus for western Burlington Northern Santa Fe (BNSF) freight traffic. The Port, she explained, has already taken large steps to improve efficiency of movement at their facility by constructing the Mount Baker satellite facility in

Mukilteo which handles exclusively oversized aerospace shipments that otherwise shut down Port access to all other traffic.

The Port also supports major oil and gold mining operations in eastern Russia and, Lefebber revealed, hopes to diversify into the wind energy market soon. Up until the recent economic downturn, she said, the Port was also receiving imported cement shipments from China at their Lehigh Cement bulk storage facility, but they are confident shipments will resume once the economy rebounds, referencing the importance of the cement to the area. The cement imports "support the housing and construction in the streets in this area, and as far north as Canada," and are shipped predominately via rail.

Generally speaking, Lefebber concluded that the Port would support additional investment in enhancing throughput for passenger rail, as it would be mutually beneficial for freight as well. "Anything that improves passenger access on rail also improves freight, so we are definitely supportive of that." She underscored the importance of efficiency and reliability of rail movement, saying that "timing is critical to competition and so having a seamless rail connection and quick and efficient movement of rail is very important for Puget Sound maintaining its competitiveness."



**Patsy Martin** is the Executive Director for the Port of Skagit County. Martin explained that the port currently has no rail access to their facilities in Burlington and does not anticipate a need in the future for rail service. The nearest rail link lies south of the property sites and serves industrial businesses in the area, such as Cargill Animal Nutrition, Sierra Pacific, and several refineries. "We [the port] think, overall for the [Skagit] Valley, that rail [stub line] is very, very important," she explained, and pointed out that it is imperative to continue to provide rail access for those key businesses that rely on it.

The port does own a 30-acre piece of property near Conway, which is leased by Bell Lumber & Pole Company (Bell Pole), Martin added. It is positioned on the BNSF rail line and includes a small siding that Bell Pole finds “important to their business future.” The company, which exports peeled and turned logs, is Canadian-owned with head offices in Vernon, B.C., she explained, “and [their continued use of the line] depends on the timber market.”

The port does not anticipate the current rail line south of the main properties to be expanded, “so we don’t see that [as] an important link in the future,” said Martin. What the port finds more important to future expansion is “getting better access to I-5,” which, she pointed out, has now “significantly improved for us” due to the recent work on Hwy 20. They are also working on improving access for their tenants to the Skagit Regional Airport interchanges to improve the efficiency of movement for their cargo.



**Charlie Sheldon** is the Executive Director for the Port of Bellingham. Sheldon expressed the importance of rail in the port’s future development, referring specifically to Bellingham’s Waterfront Rail Relocation Project. Currently, the track alignment runs through key portions of the city, which significantly reduces the speed of the trains, and requires them to sound their horns multiple times due to the number of street crossings, he explained. Sheldon clarified that relocation to the Milwaukee Road rail lines along the bluff would “eliminate a couple of at-grade crossings, straighten the track out and allow for a faster movement [of goods].” It would also provide options for an additional siding, he said, and the existing track “could become an industrial spur siding to

support some light industry or industrial businesses on the south end of the site in the interim as we move forward.” From that point, the port is interested in building out the rail spur to the shipping yard, which would be very expensive but could be easily completed. The spur would encourage future business but “it’s kind of a chicken and egg thing: if you don’t have the rail capacity, you don’t necessarily see the business but it’s hard to get the business without the rail capacity,” Sheldon pointed out. Both the Port of Seattle and the Port of Tacoma need much greater railroad infrastructure capacity because of their grain and container trains, whereas with the Port of Bellingham, he went on, there is only an occasional need for the transport of such goods to and through the city. However, Sheldon stressed, “if the railroad tracks are relocated, and we have that industrial spur, we have something that is terrific for us to be marketing for the future.”

Regarding the proposed Cherry Point terminal, Sheldon feels there is a need to “mitigate some impacts from that project [and that] may be an opportunity for us to get some things done down there that alone the Port or City cannot do.” The collective efforts would facilitate the City’s interest in increasing train frequency and the Port’s rail relocation project, he explained. The Port is interested in the relocation because “that makes the [port] property much more marketable, both for general mixed use development and... the possibility for one or two good industrial spurs that could see some of the rail activity [currently moving through] the city,” said Sheldon.

The port also has plenty of land for future development and is “expanding on the ground as fast as we can,” said Sheldon. This growth includes a 52-acre portion that recently received a permit for development, as well as plenty of space for future parking needs. “We have been working with Blaine” and are very involved in the Port of Bellingham’s marinas in that area, he explained. The port is currently working on a “fairly major development” plan for a portion of property at the bluffs near Blaine “to have some access going over the railroad tracks so that people could get down to [the marina],” said Sheldon. Investment is needed at the marina properties, he explained, and this project would not only fulfill the port’s goals for growth and development, but would also “[to] some degree increase the attractiveness of Blaine as a [visitor] destination.”

With the growing interest in transportation expansion, the Bellingham Airport is currently working to increase its passenger travel services, and Sheldon believes that “in the grand scheme of [the

Bellingham] region, [a few more passenger trains] would be nice but the real traffic is going to come through the airport or over the road.” However, he acknowledged that the more transportation connections an area can provide, the more it becomes attractive to the tourism industry. What Sheldon sees as the next big challenge for rail is “to integrate the higher speed passenger trains with the slower frequency [freight] trains so they can [run efficiently].” He referred to the success of this kind of work on the line closer to Seattle and pointed out that “we just have to do the same kind of thing up here with better sidings [to] manage the interaction. I think if you did that right you could run a lot more freight trains and a lot more passenger trains on the existing infrastructure.”

## Academics



**Dr. Don Alper** is the Director of the Center for Canadian-American Studies and the Border Policy Research Institute at Western Washington University (WWU). Alper is a fervent supporter of increased passenger rail service and spoke about a significant interest on campus for students to take alternative forms of transportation, especially rail, since it is perceived as convenient, efficient, affordable, reliable and predictable. He explained that the university’s students are interested in both northbound and southbound travel as many WWU students are from south of Bellingham, while they also travel to Vancouver, B.C. for recreation. Despite the interest in northbound student travel, Alper suggested that it is a “potential market that just hasn’t really been tapped very well because the border is a huge psychological barrier... and transportation helps to break that down”.

Alper sees Bellingham’s position near the border as being ideally placed to facilitate a more mutually beneficial cross-border relationship between British Columbia and Washington State. This relationship, he suggests, would benefit from a policy advisory group rooted in academia that would address “key regional economic and trade flow dynamics” and act as “an enormous creative force... for new ideas and fresh thinking on how we move this regional economy forward.” In response to the border agreement between President Obama and Prime Minister Harper, Alper believes this commitment from both sides will foster a more regional approach to border issues. “The change is going to come from regional ideas” such as allowing local border enforcement agencies more autonomy on pilot projects, “and the more leeway for that there is, the better.”

# Further consultations and community outreach

*These individuals contributed additional information to the study*

## Public Officials and Tribal Leaders



**Mayor Ed Brunz** of the city of Burlington

**Councillor Joanne Charles** is a councillor for the Semiahmoo First Nation.



**Mayor Mike Cooper** is mayor for the city of Edmonds.

**Chief Willard Cook** is Chief of the Semiahmoo First Nation.



**Commissioner Ken Dahlstedt** is the 2<sup>nd</sup> District Commissioner for Skagit County.



**Mayor Rick Green** is mayor for the township of Langley, B.C.

**Steve Gobin** is the General Manager for the Quil Ceda Village.



**Ambassador David Jacobson** is the US Ambassador to Canada.



**Mayor Margaret Larson** is mayor for the city of Arlington.



**Mayor Dean Maxwell** is mayor for the city of Anacortes.

**Pat McClain** is the Director of Governmental Affairs for the city of Everett.

**Keith McPherson** is the former director of the Vancouver Gateway Council.



**Councillor Grant Meyer** is a member of the City Council for the city of White Rock, B.C. and serves on the Amtrak Passenger Rail Task Force as an Alternate Council Liaison.

**Kevin Nielsen** is the Public Works Director for the city of Marysville.



**Councilmember Larry Phillips** represents District 4 as a member of the King County Council.



**Councilmember Chris Raezer** is an Arlington City Councilmember.



**Mayor Gregor Robertson** is mayor for the city of Vancouver, B.C.

**Gordon Rogers** is the Deputy Director and the Director of Planning for the Whatcom Council of Governments.



**Mel Sheldon** is the Chairman of the Tulalip Tribes.



**Mayor Dianne White** is mayor for the city of Stanwood.

## Tourism and Economic Development



**Rick Antonson** is the President and CEO of Tourism Vancouver.

**Jack Delay** is the Co-Director and Co-Coordinator for Communitywise Bellingham.

**Vic Ericson** is the Economic Development Director for the city of Arlington.



**KC Golden** is the Policy Director for the Seattle branch of Climate Solutions.



**Doug Hart** is the Executive Director of the South Surrey and White Rock Chamber of Commerce in B.C..

**Don Keenan** is the former president of the Sehome Neighborhood Association and current member of the Bellingham City Club.



**Charles Kelly** is the Chairman of the Cascadia Institute.



**Ross Macfarlane** is the Senior Advisor of Business Partnerships for the Seattle branch of Climate Solutions.

**Jeff Margolis** is a community activist and an affiliate with Safeguard the South Fork.



**Ken Oplinger** is the President and CEO of the Bellingham/Whatcom Chamber of Commerce and Industry.

**Jim Phillips** is the Executive Director of the Canadian-American Border Trade Alliance.

**Loni Rahm** is the President and CEO of Bellingham Whatcom County Tourism.

**Bill Reid** is the Executive Director of the Cloverdale District Chamber of Commerce in B.C.

#### Transit Agencies and Transportation

**Steve Abernathy** is the Intercity Bus Program Planner for the Washington State Department of Transportation.

**Danielle Adkins** is the Marketing Manager for the Alaska Marine Highway.

**Andrew Austin** is the Field Director for the Transportation Choices Coalition.

**Carol Berry** is the Sustainable Transportation Coordinator for Western Washington University.

**Phillip Davies** is a private consultant, formerly of Transport Canada.

**Blake Delgaty** is the Director General of the Pacific Region for the Canada Border Services Agency.

**Dennis Digges** is an Operations Supervisor for Skagit Transit.

**Rob Eaton** is the Director of Government Affairs for Amtrak NW.

**Dan Engstrom** is the Marketing and Sales Representative for Amtrak NW.



**Larry Ehl** worked on Federal Relations for Washington State Department of Transportation.



**Mark Freiberger** is the Director of Public Works for the city of Sedro-Wooley.

**Gladys Gillis** is the Executive Director of Starline Luxury Coaches.

**Mike Henderson** is the Regional Director General for the Pacific Region of Transport Canada.



**Tom Hingson** is the director for Everett Transit.

**Sue Hunter** is the Chair of the Transportation Committee for Design Stanwood, Inc.

**Richard Johnson** is the President and owner of Bellair Charters/Airport Shuttle.

**Doug Kelsey** is the Director of Rail Operations for TransLink.

**Kurt Laird** is the District Superintendent for Amtrak NW.



**Chal Martin** is the Director for the Skagit County Public Works Department.

**Rick Nicholson** is the Director of Service Development for the Whatcom Transit Authority.

**Dale O'Brien** is the Executive Director of Skagit Transit.



**Bob Paddon** is the Vice President of TransLink.

**Ron Posthuma** is the Assistant Director for the King County Department of Transportation.

**Andrew Wood** is the Deputy Director of Operations for the Washington State Department of Transportation.

#### Freight Stakeholders- Shippers and Ports

**Todd Arnold** is the Manager of Bulk Road and Rail for Shell Oil.



**Commissioner Bill Bryant** is commissioner for the Port of Seattle.



**Bruce Burrows** is Vice President, Public and Corporate Affairs for the Railway Association of Canada.

**Frank Butzelaar** is the President and CEO of Southern Railway of British Columbia.



**Craig Cole** is a consultant for SSA (Stevedoring Services of America) Marine, a Carrix Enterprise.



**Read Fay** is a railway consultant and the former Chief of Operations for BNSF NW.

**James Dahl** is the Production Operations Manager for the Pacific Northwest District of Cargill Animal Nutrition, formerly Ferndale Grain.

**Mark Hinders** is the Manager of Energy Logistics for the Coleman Oil Company.



**Dan Semsak** is the Sales Manager for the Pacific Woodtech Corporation.

**Eric Shelby** is the Transportation Manager for Sierra Pacific Industries.

**Mike Tamilia** is the Vice President of Customs and Transborder Operations for Canadian National Railway.

#### Academics



**Dr. Anthony Perl** is a professor of Urban Studies at Simon Fraser University

## DMU Appendix 3

Washington State - British Columbia  
Framework for Transportation, Competitiveness  
and Prosperity  
Preamble





## Washington State – British Columbia

# Framework for Transportation, Competitiveness and Prosperity



### PREAMBLE

#### THE STATE OF WASHINGTON AND THE PROVINCE OF BRITISH COLUMBIA,

**Sharing** a common border and a longstanding relationship of friendship and trust;

**Recognizing** that the employment and standard of living of Washingtonians and British Columbians depends significantly on open trade of goods and services;

**Committed** therefore to remaining the leaders in our respective countries in providing and benefiting from open and non-discriminatory access to government procurement processes and to make the most efficient and effective use of taxpayer dollars as well;

**Committed** to maintaining high environmental, consumer, and health protections while at the same time desiring to address unnecessary impediments to an integrated and vibrant Pacific coast regional economy;

**Partners** in leading on climate actions and partnerships at the state and provincial level;

**Recognizing** the economy-wide benefits to be realized with efficient, integrated regional transportation systems;

**Wishing** to examine opportunities to enhance the ability of people in Washington and British Columbia to share their knowledge and skills;

**Committed** to exploring opportunities to coordinate action and establish partnerships aimed at ensuring security and efficiency at the border while promoting legitimate cross border trade and travel;

**Desiring** to strengthen regional planning and coordination to enhance action and results on shared multi-modal transportation priorities, including a shared long-term vision of a Pacific Northwest high-speed rail corridor.

#### NOW THEREFORE HEREBY AGREE AS FOLLOWS:

##### A. Regional Transportation

Washington State and the Province of British Columbia commit to work together to give effect to the *Memorandum on Action on Regional Transportation and Planning* signed at the 2009 Washington-British Columbia Joint Cabinet Meeting, as follows:

### High Speed Passenger Rail Service

1. Recognizing the potential benefits of high speed passenger rail in the Pacific coast region, Washington State and the Province of British Columbia affirm their commitment to:
  - Further develop and advance a shared vision of high-speed rail service as key to the long-term economic development of the Pacific coast region; and,
  - Jointly advocate for the extension of border clearance services without additional cost to accommodate the long-term operation of Amtrak's second daily train between Seattle and Vancouver.

### Harbor-to-Harbor Air Service

2. Recognizing that harbor-to-harbor air service between Seattle and Vancouver has the potential to significantly enhance trade and travel opportunities in the region, Washington State and the Province of British Columbia commit to:
  - Jointly advocate for border clearance services without additional cost to interested air service providers in both jurisdictions in their attempt to implement international harbor to harbor air service; and,
  - Take reasonable steps within the respective authority of Washington State and the Province of British Columbia to support implementation of the proposed service.

### Expediting Cross Border Movements – Border Circulation Analysis

3. Recognizing that the bi-national Border Circulation Analysis was endorsed in the 2006 British Columbia – Washington State Transportation Protocol and subsequently supported by the 2008 British Columbia-Washington State Action Plan on Border Management, Washington State and the Province of British Columbia commit to:
  - Support the completion of the study and engage stakeholders in the review of recommendations, and jointly develop a coordinated Cascade Gateway Strategy and priority actions to improve capacity and efficiency of cross border travel and trade routes.

### Enhancing Regional Transportation – Trans-boundary Freight Regulation and Border Transportation Management

4. Recognizing that land ports-of-entry are key nodes and bottlenecks within the regional transportation system, Washington State and the Province of British Columbia commit to:
  - Cooperate on new and existing border transportation management and trans-boundary freight regulation initiatives, with a view to coordinating efforts by both jurisdictions in conjunction with other agencies towards their advancement.

## Joint Management for Action

5. To facilitate action on shared regional transportation priorities Washington State and the Province of British Columbia commit to:
  - Establish a management structure to cooperate on initiatives of mutual interest related to multi-modal regional transportation planning and coordination, and related bi-national transportation issues;
  - The joint structure will be comprised of an Executive Council (with membership of: Secretary of Transportation; Minister of Transportation; and one Executive member from each agency) and a Working Group of senior representatives from the Washington State Department of Transportation and British Columbia's Ministry of Transportation and Infrastructure and Intergovernmental Relations Secretariat as founding members, and will work to engage other governments, departments and agencies, and business entities, subject to the direction of the Executive Council, on specific transportation issues;
  - The Working Group will be responsible for developing terms of reference and an annual action plan to be approved by the Executive Council. The Working Group will convene periodically to manage the annual action plan and report at least annually on progress to the Executive Council;
  - Initially, the Working Group will focus on opportunities for collaboration in the areas outlined above.

### **B. Competiveness and Prosperity**

Washington State and the Province of British Columbia commit to work together to give effect to the *Memorandum to Enhance Competitiveness and Prosperity in Washington and British Columbia* signed at the 2009 Washington-British Columbia Joint Cabinet Meeting, as follows:

#### Cooperating on government procurement

6. Washington and British Columbia will strive to maintain their leadership in North America in providing and benefiting from open and non-discriminatory access to government procurement, encourage others to adopt similar procurement approaches and continuing to explore other areas for further cooperation.
7. Recognizing that the combined purchasing power of Washington and British Columbia could produce significant savings for governments and taxpayers, and new efficiencies and opportunities for suppliers, Washington and British Columbia will explore opportunities to undertake joint purchasing. Results of this work, with recommendations, will be presented at the 2010 Joint Cabinet Meeting.

Minimizing impediments to a stronger regional economy through effective regulation

8. Having demonstrated through effective regulation that jurisdictions can maintain high environmental, consumer, and health protections while addressing unnecessary burdens on business:
- Washington and British Columbia recognize that significant progress has been made by some regulatory bodies in the United States and Canada in facilitating reciprocal recognition of credentials for regulated trades and professions. Accordingly, they will work with our respective regulatory bodies to explore opportunities to expand reciprocal credential recognition to other regulated trades or professions, including emerging occupations common to both jurisdictions, for consideration not later than at the 2010 Joint Cabinet Meeting.
  - Washington and British Columbia will explore opportunities to identify and minimize unnecessary impediments to a more integrated and competitive regional economy. Results of this work, with recommendations, will be presented at the 2010 Joint Cabinet Meeting.

AGREED as to form and content and signed and dated in two (2) duplicate originals in Seattle, Washington, this 9th day of June, 2009.

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**Christine O. Gregoire**  
Governor of Washington

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**Gordon Campbell**  
Premier of British Columbia

## DMU Appendix 4

Backgrounder

Gateway Council and Pacific Gateway Initiative of  
British Columbia and Joint Public Advisory  
Committee of the Commission on Environmental  
Cooperation (CEC)



#### **A-4. Backgrounder on Gateway Council and Pacific Gateway Initiative of British Columbia and Joint Public Advisory Committee of the Commission on Environmental Cooperation (CEC)**

##### **The Greater Vancouver Gateway Council/Pacific Gateway Initiative**

The Gateway Council began its stakeholder consensus building process in 1994. At that time there were 3 independent ports in Vancouver (Vancouver, Fraser River and Delta) and there was no forum that brought together the collective stakeholder interests of the lower mainland freight and passenger transportation sectors, which included the ports, airport, rail operators, trucking and terminals. Through stakeholder consensus they designed a structure whereby the industry sectors paid a membership and were Voting Members and the public sector/ civil society organizations became Resource Members. The Resource Members included senior representation from the Greater Vancouver Regional District, Translink, Transport Canada, BC Ministry of Transportation, the BC Business Council, The Asia Pacific Foundation and the Vancouver and Greater Vancouver Chambers of Commerce.

The initial driving force was the “lack luster” performance of the BC economy as a whole throughout the 1990’s and that the transportation bottlenecks in greater Vancouver hampered the efficient movement of freight and was therefore directly linked to the economic potential of the region. There was also great concern that the US Government, through federal capital spending on transportation networks on West Coast ports, the Alameda Corridor and the Freight Action Strategy (FAST) for Seattle Tacoma were a threat to the competitiveness of Canadian West Coast port and transportation industries.

Over the next four years the Gateway Council identified and prioritized the list of infrastructure investments, which included 18 major new investments and 34 upgrades and enhancements with an estimated cost of \$6 B. An Economic Impact Analysis of these infrastructure investments was prepared and a major advocacy campaign was undertaken with the Federal Government and the BC Governments.

In 2003, the BC government initiated a \$1.1B transportation plan called “Opening Up BC” to expand local infrastructure over three years to position the province as an economic gateway to global markets.

In 2005, the BC provincial government launched its Asia Pacific Gateway Initiative, which calls for \$12.1B to be invested in new infrastructure.

In October 21, 2005, the federal government unveiled the Pacific Gateway Act (Bill C-68), committing the federal government to \$590M to be invested in transportation infrastructure, as well as the establishment of a Pacific Gateway Council to advise the government on the future allocation of funds. One year later Prime Minister Steven Harper announced a modified version called the Asia Pacific Gateway and Corridor Initiative, which commits \$591M primarily to transportation infrastructure projects in British Columbia and Alberta. In early 2007, the federal government increased its investment in APGCI to \$1B and committed \$2.1B to a national fund for infrastructure for gateways and border crossings. The government also unveiled a National Policy Framework for Strategic Gateways and Corridors to guide future investment and partnership activities.

The vision set out by the Gateway Council in 1995 has now led to about \$ 22B in public and

private investment in Western Canada's transportation networks of ports, rail, road and airports. Of this investment about \$1.5B was from the Government of Canada, about \$4B from the BC Government and additional \$ 16.5B in private investments. The Western Canadian Asia Pacific Gateway is now positioned to be one of the most competitive goods and passenger networks on the North American West Coast.

The Gateway Council still exists today and is largely a forum for future longer-range planning and investment strategies.

### **Joint Public Advisory Committee**

One of the most successful examples of an international public advisory process involving national governments is the tri national Joint Public Advisory Committee (JPAC) of the North American Commission on the Environment (CEC). The governance structure establishing the JPAC is contained in the NAFTA Sub Agreement on the Environment.

The agreement sets out Rules of Procedure, Committee Structure, Sessions, Resolution of Matters, Working Groups, Standards of Conduct and Confidentiality. In essence the JPAC provides advice the Council (Governments) on issues the Council is deliberating on and to provide other information relevant to the work of the Council. They convene at least once a year at the time of the regular Council meetings or at any other times as the Council or JPAC Chair and a majority of its members, may decide. The decision making model is consensus based.

The JPAC has become a remarkably successful public advisory body. They have made a substantial contribution to the continuing relevance of the CEC through the passage of three national administrations in Canada, the United States and Mexico. The JPAC is a transparent organization that now webcasts its meetings, hosts public forums, workshops and panel discussions, to better inform and advise the Council. The governance structure is so successful that Canada now duplicates this model in bi lateral trade agreements with other nations.

## DMU Appendix 5

Washington State Department of Transportation  
Southeast King County Commuter Rail Feasibility  
Study  
Pages 13-18

Excerpt from report published August 2010 by:

**Washington State Department of Transportation  
Strategic Planning and Programming Division  
Urban Planning Office  
401 Second Avenue South, Suite 300  
Seattle, WA 98104-2887**



These cost estimates could be reduced by a significant amount if the Southeast King County service could be contracted through the existing Sounder commuter rail service. If it is, many of the fixed costs could be spread across the larger Sounder system. For example, if this service is contracted through the existing Sounder service, the increase in the existing insurance premium for the \$200 million policy will likely be minimal, and the allocation of the premium to this service will be only a fraction of a standalone policy premium. However, the DMU service is outside of the Sound Transit district, the DMU service would be outside of the ST2 plan and the modal technology is different, ST vs. DMU reducing the potential economies of scale .

The following exhibit (ES-8) demonstrates the effect a sharing of insurance (\$2,000,000), agency administration (\$500,000), and Contractor Management Fee (\$250,000) costs. Assuming a 50% savings in these costs, there would be a net cost reduction of \$1,375,000 resulting in a farebox recovery factor of 30%.

**Exhibit ES-8**  
**Hypothetical cost-reduction from Cost Sharing (50%) of Operating and Maintenance Costs**  
**(Year 2010 Dollars)**

<b>System</b>	<b>Total Costs</b>	<b>Revenue (Remains Constant)</b>	<b>Total Subsidy</b>
Stand Alone System	\$4,700,000	\$765,000	\$3,950,000
Shared System	\$3,325,000	\$765,000	\$2,560,000

An increase of \$1 in the average round-trip fare would generate an additional \$153,000 in revenues. When combined with cost sharing, farebox recovery factor increases to 36%.

All the assumptions on shared service and costs with Sounder are clearly dependent on agreement and negotiations with Sound Transit. All fare policies would have to be determined by the governing body overseeing the service.

### **Federal Funding Options**

There are several Federal Transit Administration (FTA) and Federal Railroad Administration (FRA) programs that could be used to fund portions of commuter rail operating and capital costs. The two most suitable programs are the FTA discretionary Section 5309 New Starts program and the FTA Small Starts program.

The FTA New Starts program typically fund about 50% of project costs and the remaining 50% comes from local sources. A significant local commitment to the project is necessary to receive New Starts funding. There are multiple steps to be taken in obtaining New Start funding and

New Start projects are required to go through a lengthy evaluation process. New Starts candidate projects are evaluated on criteria which include: Mobility improvements, environmental benefits, cost-effectiveness, operating efficiencies, transit supportive land use and future patterns plus other optional factors based upon the nature of the project.

The Small Starts program, a component of the New Starts, is intended to fund projects with a capital cost under \$250 million and with a federal share of under \$75 million in year of expenditure dollars. This program provides a method of funding projects using streamlined criteria and a streamlined approval process. A Small Starts project must meet the definition of a fixed guideway for at least 50 percent of the project length, be a new fixed guideway project or be a new corridor-based bus project with all of these minimum criteria to satisfy. The evaluation criteria are basically the same as for the New Starts program.

Both the New Starts Program and the Small Starts programs are highly competitive. The Southeast King County project would be competing against projects with significantly higher ridership levels and lower costs per passenger mile. Without significant reductions in costs or increases in ridership or both, it is doubtful this project could compete favorably for the limited grant funds available.

### **Potential Governance Structures and Funding Options Available in South East King County**

A review of the existing agencies in King County that provide public transportation services was conducted as part of this study. These agencies included King County Metro, Sound Transit, WSDOT, and Amtrak. However each of these agencies has limited ability to deliver commuter rail services in SE King County. For example, WSDOT and Amtrak policy is to provide intercity passenger services such as the Amtrak *Cascades* service as opposed to short-haul commuter services. Sound Transit is a special purpose district specifically created to provide high-capacity transit services; however, for Sound Transit to adopt this project, it would need to annex significant portions of SE King County outside its current boundary. While King County Metro has the legal ability to provide this service, commuter rail service in any form is not part of its adopted service plan or budget.

This review suggests that while DMU operation by existing agencies may be theoretically possible, there is little reason to expect those agencies to pursue the idea. It is also apparent that the governance structure of the existing agencies along with their funding limitations would not be a good fit for the circumstances in the corridor.

In addition to the four existing agencies discussed above, a thorough review of the RCW identifies at least a dozen other agencies that could provide transportation services. Of these,

four types of public entities were identified that could plausibly manage the operation of DMU commuter rail service under current law.

These entities and their relevant characteristics are as follows:

**Public Transportation Benefit Area Authority (RCW 36.57A).** The PTBA is the most commonly used type of governance structure for public transportation in Washington State. Examples include Pierce Transit, Kitsap Transit and Community Transit. PTBA's have considerable flexibility in setting boundaries, fares, service policies, etc.

1. Created by a transportation improvement conference (RCW 36.57A.020).
2. Governing Board-Nine member Board, consisting of elected officials from the cities and counties within the boundaries of the Area Authority
3. Taxing Possibilities and Limitations:
  - a. B&O and Household Tax (35.95.045)
  - b. Cannot levy sales and use tax in this instance per RCW 81.14.045
  - c. No authority to levy property tax
  - d. No authority to levy motor vehicle tax

**Cities and Towns** though an agreement under the Interlocal Cooperation Act (RCW 39.34). A number of cities including Everett, Yakima, and Pullman operate public transportation services. The Interlocal Cooperation Act gives cities the ability to contract with one another or other agencies for public transportation services including those that cross jurisdictional boundaries.

4. Created by an agreement between the cities and possibly King County
5. Governing Board – Determined by the agreement between the parties to the Interlocal Agreement
6. Taxing Possibilities and Limitations:
  - a. May be able to levy a B&O and household tax per RCW 35.95.040
  - b. Property tax within the city's current authority
  - c. No sales and use tax within King County pursuant to RCW 81.14.045
  - d. No authority for a motor vehicle excise tax

**County Rail District** (RCW Chapter 36.60). It is not entirely clear whether this statute would allow for passenger rail service. RCW 36.60.010 specifies that the boundaries are drawn to include property from which agricultural and other products are shipped. However, in RCW 36.60.010 the statute does refer to passenger service. This statute may need to be amended to clarify that passenger rail service may be allowed.

7. Created by the county council (RCW 36.60.010)
8. Governing Board – The county council (RCW 36.60.010)
9. Taxing Possibilities and Limitations:
  - a. Can levy for one year excess property tax, with a limitation of 1% (RCW 36.60.040)
  - b. Levy property tax, with a 1% limitation, to retire bonds (RCW 36.60.040)
  - c. B&O and household tax probably possible
  - d. Not authorized to levy retail sales and use tax
  - e. Not authorized to levy a motor vehicle excise tax

**Transportation Benefit District** (RCW Chapter 36.73) provides for the creation of a transportation benefit district for the operation of public transit. TBD's were originally enabled to facilitate a cooperative approach to funding transportation capital projects by local jurisdictions.

10. Created agreement through the Interlocal Cooperation Act (RCW 36.73.020 (2)).
11. Governing Board – Determined by the agreement between the parties to the Interlocal Agreement.
12. Taxing Possibilities and Limitation:
  - a. Levy property tax, with a 1% limitation, to retire bonds (RCW 36.73.060)
  - b. Sales and use tax per RCW 36.73.040(3)(a)
  - c. Motor Vehicle Tax per RCW 36.63.040(3)(b)
  - d. B&O and household tax per RCW 35.95.045

Authority for each of these entities was written into the RCW to address specific transportation needs or problems, but none of the entities were put in place to address the particular conditions

found in SE King County. Therefore it should come as no surprise that even though it appears feasible to implement and operate DMU commuter rail service under any of these statutes none of them are a perfect fit for the circumstances in the corridor.

The biggest challenge a new entity must overcome is generation of adequate tax revenue to fund the service. It should be noted that of the four plausible types of entities identified, the first three have very limited taxing ability (see Exhibit ES-9) and may have difficulty raising sufficient revenue from the allowed sources. In contrast, Transportation Benefit Districts are much more generously endowed with taxing authority (but are somewhat less well suited to providing ongoing governance for transit operations). Amendments to the RCW that allow greater flexibility in levying sales and use tax, property tax, or MVET would facilitate development of a commuter rail business plan that is a better fit for SE King County.

**Exhibit ES-9  
Funding Options**

<b>Funding Sources</b>	<b>PTBA</b>	<b>Interlocal Cooperation Act</b>	<b>Country Rail District</b>	<b>Transportation Benefit District</b>
Retail Sales and Use Tax (RCW 82.14.045)	No	No	No	Yes
Business and Occupation Tax (RCW 35.95.040)	Yes	Probably	Probably	Yes
Household Tax (RCW 35.95.040)	No	Probably	Probably	Yes
Property Taxes	No	Yes	Yes	Yes
Motor Vehicle Excise Tax (RCW 36.73.040(3)(b))	No	No	No	Yes

**Agreement and Consent Requirements**

Before any entity operates passenger rail service within either King County or within the boundaries of Sound Transit, that entity would need to have an agreement with either or both King County (RCW 35.58.250) and Sound Transit (RCW 81.112.090). Also, either or both King County (RCW 35.58.260) and Sound Transit (RCW 81.112.110) would need to consent to such rail operations.

Pursuant to RCW Chapter 36.56, King County has assumed all the powers of Seattle Metro which was formed under RCW Chapter 35.58. And, RCW 35.58.250 states, in part, the following in this regard:

*Except in accordance with an agreement made as provided herein, upon the effective date on which the metropolitan municipal corporation commences to perform the metropolitan transportation function, no person or private corporation shall operate a local public passenger transportation service within the metropolitan area with the exception of taxis, buses owned or operated by a school district or private school, and buses owned or operated by any corporation or organization solely for the purposes of the corporation or organization and for the use of which no fee or fare is charged.*

Also, RCW 35.58.260 specifies that the city or cities would need consent of King County to operate the passenger rail service.

## **Enhanced Bus Service Plan**

The enhanced bus scenario has been developed to provide a point of comparison with the DMU commuter rail scenario, to assess how rail and bus service could provide complementary services, and to illustrate the range of possible transit improvements that could accommodate projected demand in the corridor. The Enhanced Bus Service Plan presented here has been designed to complement DMU commuter rail service in the corridor and could be implemented as a “stand alone” option. The enhanced bus scenario consists of increased service on two existing routes (149 and 168) and one new peak-period-only express service (Maple Valley Park-and-Ride to Auburn Sounder station via SR 18).

The service improvements described in the report have been developed in cooperation with King County Metro; however, the improvements have not been put through Metro’s formal service planning process. The service increases would require funding beyond the current Metro budget as well as approval by the County Council. (King County Metro received funding to implement service improvements on the #149 and #168 routes and that schedule improvement has been reflected in Exhibit ES-4. These route enhancements were not included in the study as this was an end of study occurrence. Also, this funding expires in 2013 unless local authorities can develop a funding source. A description of the Southeast King County Connectors Project can be found in Appendix G.)

The bus alternative did not assume any new park-and-ride capacity along the proposed routes; however, it did assume transit signal priority along SR 516 between SR 169 and SR 18 in Covington and between SR 18 and Kent.

Exhibit ES-10 shows bus ridership forecasts with and without DMU commuter rail service operating on the corridor.

## DMU Appendix 6

Partnerships British Columbia  
Canada Line Case Study



## Canada Line



### Project Overview

Canada Line is a \$2 billion, 19.5 kilometre-long rail rapid transit line connecting downtown Vancouver, central Broadway, Richmond and Vancouver International Airport.

The transportation corridor connecting downtown Vancouver with downtown Richmond is one of the busiest in Greater Vancouver and home to one-third of the region's jobs and 20 per cent of its population.

Canada Line provides efficient, fast, reliable transportation, addresses congestion and boosts our cities' livability, sustainability and economic competitiveness.

The projected employment and population growth will further burden existing transportation infrastructure, impacting not only our economy and environment, but also our quality of life.

The Canada Line provides additional transportation capacity equivalent to 10 major road lanes in a dense, developed corridor where expanding roads and bridges is neither practical nor desirable.

The Canada Line project consists of:

- An underground tunnel from Waterfront Station in downtown Vancouver going south under Granville Street, Davie Street, False Creek, and Cambie Street to south of 64th Avenue;
- An elevated guideway climbing from south of 64th Avenue across the Fraser River to Bridgeport Station in Richmond, and continuing west to Sea Island and

*“The Canada Line represents an unprecedented investment by both the public and private sectors, in sustainable transportation and sustainable cities. Given the current economic climate in the Lower Mainland, Canada Line's P3 structure is the right model, in the right place at the right time. It will provide protection for the public from cost overruns and deliver quality rapid transit service when the Line begins operation in 2009.”*

– Jane Bird, CEO, Canada Line Rapid Transit

Vancouver International Airport and south to central Richmond along the east side of No. 3 Road;

- A park-and-ride facility at the Bridgeport Station and bus exchanges at Bridgeport, Marine Drive and Richmond-Brighouse Stations; and
- A total of 16 stations along the 19.5-kilometre route: four in Richmond, three on Sea Island and nine in Vancouver.

### Partnership Highlights

Canada Line is being delivered through a 35-year Design-Build-Finance-Operate public private partnership. InTransitBC designed, constructed, and partially financed the system, owns the train vehicles, and will operate and maintain the Line under an operating license from the Greater Vancouver Transportation Authority through to the end of the agreement.

The Greater Vancouver Transportation Authority owns the line, collects all fare revenues and will continue to set system-wide transportation policies and fare levels.

During the construction period, InTransitBC was paid after achieving identified milestones. During the operating period, payments will be made to InTransitBC for the achievement of performance targets that measure, for example, train frequency, safety, cleanliness and ridership.

The majority of the construction cost, operating cost and maintenance risks have been allocated to InTransitBC.

The Greater Vancouver Transportation Authority retains the majority of ridership revenue risk because it markets the system, sets fares and controls bus service to support the line.

### Expected Benefits

By entering into a partnership between the Government of Canada, the Province, the Greater Vancouver Transportation Authority, the City of Vancouver, the Vancouver International Airport Authority and InTransitBC, Canada Line Rapid Transit Inc. expects to achieve \$92 million (NPV) in savings, compared to a project solely delivered by the public sector.

This project demonstrates value for money because:

- The procurement process was fair and competitive and delivered a good outcome in the form of a Concession Agreement that efficiently and effectively allocated risk;
- The project is expected to have lower net costs than the public sector comparator;
- The project is being delivered through a performance-based contract; and
- This approach ensures that funding agencies and the public benefit from private sector capital, innovation and efficiency as well as from the private sector's interest in a successful system over the long term.

### Public Sector Partners

- Government of Canada
- Ministry of Transportation and Infrastructure, Province of British Columbia
- Greater Vancouver Transportation Authority
- City of Vancouver
- Vancouver International Airport Authority

### Private Sector Partner

InTransitBC, a company owned by:

- SNC-Lavalin Inc.
- B.C. Investment Management Corporation
- Caisse de depot et placement du Quebec

### Partnerships BC's Role

Partnerships BC acted as the business adviser to the Province of British Columbia on this project.



## DMU Appendix 7

### FAST – North Corridor List of potential projects



## **A-7. List of potential projects for FAST – North Corridor**

The following is a list of potential projects for a multi-jurisdictional consortium we have informally called “FAST-North Corridor” whose purpose would be finding solutions to “remove bottlenecks to rail and vehicular traffic.” This list is illustrative only and has not been vetted by any agency. The ideas came from interviews with community leaders and railroad customers:

- extension of Blaine Swift BNSF rail siding to U.S. Canada border for northbound inspections by CBSA
- extension of siding from Swift to Ferndale for operational flexibility into and out of Custer Intalco
- Bellingham Rail Relocation project
- extension of Mt. Vernon siding from South Mt. Vernon through Burlington to Sumas siding (this would involve double tracking a new Skagit River Bridge- new bridge not currently endorsed by BNSF Railway)
- completion of loop bypass to Pacific Woodtech and Skagit Farmers Supply in Burlington (for Pacific Woodtech) this would allow the BNSF local train to access facility without tying up mainline
- extended sidings for operational flexibility between Marysville and Mt. Vernon
- expanded rail capacity in Everett at Delta and Bayside Yards and through Broadway Tunnel
- 116th/I-5 interchange completion at Tulalip Quil Ceda Village
- I-5 ramps to 156th overpass to Lakewood Crossing
- Interbay/North Seattle Sounder station (PPP)
- sustainable funding for County Connector (Whatcom, Island and Skagit)
- rail highway grade separation projects were brought up Edmonds, Marysville and Bellingham
- Highway 9 and Arlington Airport area improvements



## DMU Appendix 8

Sustainable Strategies & Solutions, Inc  
Recommendations to NSCCP regarding Governing  
Project  
Completed May 31, 2002



Recommendations to NSCCP regarding Governing Project

May 31, 2002

Presented by J. Gary Lawrence, Shelly Brown and Tom Jones on behalf of the Discovery Project

1. The fundamental attributes of the existing form of the NSCCP—a voluntary association of institutions that have statutory responsibilities for transportation policy planning and implementation of policy—should not change for the time being.
  - a. There is no compelling need nor interest on the part of NSCCP participants to change
  - b. None of the current barriers to NSCCP success as it has measured in the past require changes in Governance structures
2. A recommendation that there be no fundamental change to the NSCCP structure does not mean that perfection has been achieved. There are a number of opportunities to improve the existing organization. Some of the questions that the consulting team believe need examination are:
  - a. Is the organization's mission and purpose clear and compelling? For many of those that we interviewed the answer might be best characterized as "not really." There is great appreciation for efforts to bring regional perspective (and additional resources) to transportation discussions. Great value is found in those projects that have been undertaken on behalf of the NSCCP. However, for many respondents the goals are not clear enough that they can be used in assessing the success of the NSCCP and justifying value-added through NSCCP participation. Many constituent organizations do not see the NSCCP as a key instrument of their own success. (i.e.; Legislature, counties, cities, interest groups, etc.) Work needs to be done to strengthen the support of existing constituents for the NSCCP process.
  - b. Does the NSCCP add enough value to warrant local financial commitments to organizational continuity and continuance? Given the scarcity of local financial resources and the great competition for the funds that do exist, it has been difficult for many interested institutions to justify contributions to the operation of the organization. However, without funding and a budget that supports both the forum and outreach functions of the group it is unlikely that the NSCCP will be able to add the value that warrants continuing support.

- c. Is the constituency of the NSCCP broad enough? Probably not if the goal is to strengthen and legitimize the voice of NSCCP in regional and statewide transportation policy and resource allocation issues. The issues of importance to the NSCCP are of great importance to many organizations and groups, both public and private, and the opportunity to broaden the constituencies of the NSCCP are many.
3. The existing form should be strengthened as follows:
  - a. Mission, goals, desired outcomes and measures of performance should be clarified and published.
  - b. Dedicate local resources to support the forum, communication and outreach aspects of the NSCCP's mission in order to develop the political validity of regional decisions
  - c. Additional stakeholders—private transport private sector, community-based organizations should be encouraged to participate directly and/or through working groups focused upon on specific aspects of regional transportation issues
  - d. Partnerships with WSDOT and other organizations need to be strengthened
  - e. NSCCP should carry out a communication, outreach and “listen to system users” strategy. Included should be development of a common vernacular regarding transportation and mobility issues.
4. The organization should adopt a service system rather than strict geographical definition of region. The idea of region is a difficult one. Most of those that we talked with who were not representatives of local governments did not view the region as an amalgam of political boundaries. They envisioned the idea “region” as a web of influences and relationships. Where does one live, work, shop, received essential services, visit and recreate within the normal course of their lives. That is their region. When communicating the idea “region” in an attempt to build political support for regional decisions it will be important to recognize that there may be as many different regions as there are people within an area. Some of the service system orientations people had on the question of regions are:
  - a. Healthcare
  - b. Education
  - c. Employment
  - d. Tourism
  - e. Agriculture
5. Stronger partnerships need to be developed with WSDOT and with the State Transportation Commission.

## DMU Appendix 9

Connecting Cascadia

A High-Speed Rail Vision for the Pacific Northwest

Workshop 2010

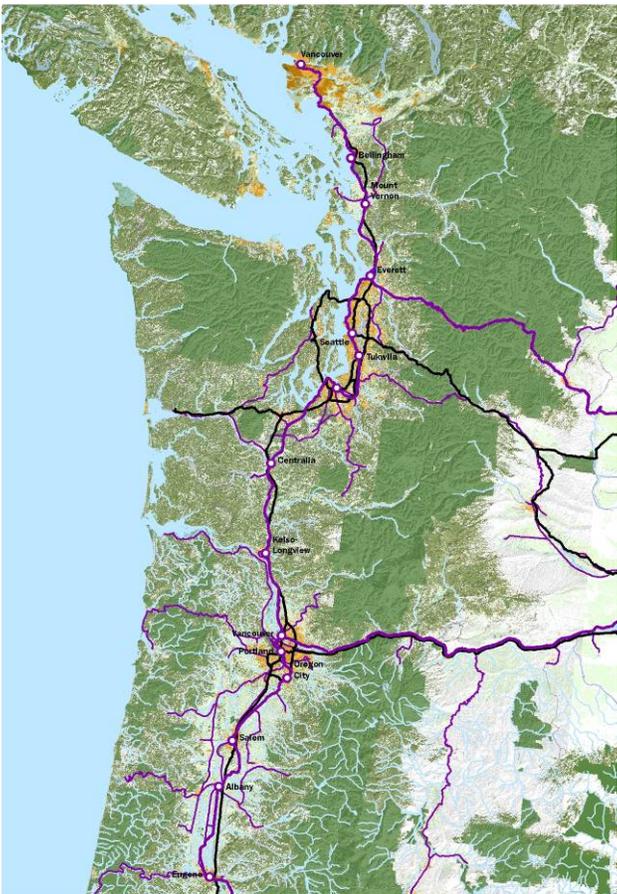




# Connecting Cascadia

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## A High-Speed Rail Vision for the Pacific Northwest



DRAFT Final Report  
Metro, Portland, Oregon • July 8-9, 2010



### **America 2050**

America 2050 is a national initiative to develop a framework for America's future growth and development in face of rapid population growth, demographic change and infrastructure needs in the 21st century. A major focus of America 2050 is the emergence of megaregions – large networks of metropolitan areas, where most of the projected population growth by mid-century will take place – and how to organize governance, infrastructure investments and land use planning at this new urban scale.

[www.America2050.org](http://www.America2050.org)



### **Regional Plan Association**

Regional Plan Association (RPA) is an independent regional planning organization that improves the quality of life and the economic competitiveness of the 31-county, New York-New Jersey-Connecticut region through research, planning, and advocacy. Since 1922, RPA has been shaping transportation systems, protecting open spaces, and promoting better community design for the region's continued growth. We anticipate the challenges the region will face in the years to come, and we mobilize the region's civic, business, and government sectors to take action.

[www.rpa.org](http://www.rpa.org)

# Introduction

## Overview

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On July 8 and 9, a group of regional stakeholders, planners, business leaders, elected and appointed officials from throughout the Cascadia Megaregion gathered at Metro in Portland to test the transportation, economic, land use, climate change, and livability implications of connecting the Cascadia Megaregion with high-speed rail. This document summarizes the key discussion points, principles, and ideas proposed at the Connecting Cascadia planning charrette, and a series of next steps toward making high-speed rail in Cascadia a reality.

This workshop took place at a critical point in planning efforts for passenger rail in the United States and in Cascadia. The \$8 billion provided in the American Recovery and Reinvestment Act, and a subsequent \$2.5 billion appropriated in the 2010 federal budget, signals the most serious financial commitment to passenger rail in America in decades. The selection of the Pacific Northwest Rail Corridor for a grant award of almost \$600 million puts Cascadia in the top five of key national corridors in the United States.

At the same time, the “livability” partnership among US federal agencies for housing, the environment, and transportation (HUD-EPA-DOT) to promote more sustainable land development patterns is consistent with the goals of Cascadia’s metropolitan regions that for decades have led North America in building “livable communities.” There may be no better megaregion in America to bring together the combination of high-speed rail and livability.

In addition to our workshop, many of our partners are hard at work advancing local, state and provincial coordination to successfully implement the ARRA grant and maintain momentum for passenger rail investment and improvement. Beginning in May of 2009, the Cascadia Center of the Discovery Institute has sponsored a series of high profile train rallies and interlocal compacts with Mayors from Eugene, Oregon to Vancouver, BC. Larger regional and national audiences are being enlisted through the meetings of the Pacific Northwest Environmental Region (PNWER) and the binational Pacific Coast Collaborative.

## Workshop Objectives

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The workshop sought to answer the following questions:

- What vision for Cascadia will high-speed rail help to achieve?
- How can high-speed rail promote a more productive and inclusive Cascadian economy?
- How can high-speed rail underpin and help achieve Cascadia’s land use and livability goals?
- How does high-speed rail integrate with and serve the large and smaller transportation networks that exist or are planned for the megaregion?
- What is the Cascadian-scale governance model and financing strategy that can help us achieve this vision?

To understand the opportunities and implications of high-speed rail in Cascadia, the group tested a high-speed rail scenario in Cascadia against the land use and station area development scenarios, economic strategies, and transportation connections required to optimize high-speed rail investment. The high-speed rail scenario was evaluated in the context of a “Cascadia Megaregion Planning Framework,” generated by assembling the regional plans and growth strategies of the major and medium-size cities along the corridor, including plans for natural resource protection and land preservation. The briefing book prepared for the workshop, containing detailed analysis of regional plans, economic trends, and transportation connections in the large and small cities and regions of Cascadia is posted online at: <http://tinyurl.com/cascadiaBB>.

To answer the questions above, participants divided into three working groups:

- **The New Economic Geography:** Ethan Seltzer and Robert Yaro, co-chairs. What are the specific economic implications for large, medium-size and small cities and communities throughout Cascadia? How does high-speed rail promote greater economic productivity, new business relationships, increased tourism, industry clusters and agglomeration in the Cascadia megaregion? What strategies are needed, in addition to the transportation investments to achieve these benefits?
- **Land Use, Climate Change and Livability:** Robert Lane and Pat Condon, co-chairs. How does high-speed rail complement or conflict with existing regional plans and growth strategies for the future of the megaregion? How can we connect high-speed rail investment to other federal programs and goals, such as the HUD-DOT-EPA livability partnership? How can future investment decisions in infrastructure and land development help leverage high-speed rail investment?
- **Network Benefits:** Bruce Agnew and Andy Cotugno, co-chairs. How does high-speed rail integrate with and serve the large and smaller transportation networks that exist or are planned for the megaregion? How can connections among different modes provide greater choice and benefits for passengers and freight?

## Background: A Vision for Cascadia

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Since the early 1990s, regional planners, civic leaders, and politicians have recognized the promise of an interconnected Cascadia Megaregion. The Cascadia Center of the Discovery Institute led by Bruce Agnew launched its Cascadia Transportation Task Force and Economic Council in 1994 with support from major political leaders including then-Vancouver Mayor Gordon Campbell, US Senators Mark Hatfield from Oregon and Patty Murray from Washington. The Council’s charter was to promote “conservation, community and commerce” to address issues related to improving passenger rail, the trade corridor, binational tourism and sustainable communities.

The 2010 Olympic Games in Vancouver rekindled interest in Cascadia. From the special Olympic edition of the *BC Business Magazine* came these thoughts:

Cascadia is deeply interconnected. Proponents of the idea maintain that the region can’t fully achieve its potential, be it

ecological conservation, a strong cultural identity or global economic competitiveness, unless we somehow learn to work together. "Integration of transportation has been hit and miss in the last 15 years, but we've enjoyed an upsurge in the last three or four years," [Cascadia Center's Bruce] Agnew says.

Another proposal in the dreaming stage is to one day build a new rail line for next-generation high-speed trains, which could take passengers from downtown Vancouver to downtown Seattle in about three hours – about an hour faster than the current trains. Vancouver Mayor Gregor Robertson signed a memorandum of understanding with the mayors of Seattle and Portland supporting a high-speed line last spring.

And on the grander issue of Cascadia cooperation and culture, the *BC Business* piece went on to note,

...Vancouver, for example, looks to Portland to learn about streetcars, whereas Seattle is looking at Vancouver to learn about high-rise downtown housing. But perhaps the most valuable lessons that have come out of the relationship have been about how to design sustainable and livable communities.

This will likely give the region a competitive edge as the global economy comes to rely more and more on service-oriented work, [Vancouver's Institute for Sustainable Development's Larry] Beasley says, by drawing valuable creative professionals from around the world. "These people can be anywhere they want to be, and they go to places of quality," he says. "If you look at Vancouver, Seattle and Portland, we are places of quality, and we present ourselves that way; that's our brand..."

Since 2005, Ethan Seltzer has led four graduate planning classes at Portland State University on the Cascadia megaregion, each building upon one another to explore issues of transportation, economic development and specialization, sustainability, and livability. The PSU reports focused on the concept of a Cascadia "Ecolopolis" – a megaregion united not by continuous urbanization, as defines the Boston-Washington Northeast Megaregion, but by a connected network of distinct metropolitan regions and cities separated from each other by working and wild landscapes.

Imagine boarding a high-speed train in downtown Portland. Your coffee steams while you sit down to open your laptop. As the train's speed increases, rivers and snowy volcanic peaks come in and out of view. The city vanishes into a mossy haze of temperate rainforest.

This is Cascadia. It encompasses two states (Oregon and Washington), one province (British Columbia) and an international border (USA/Canada). After just over two hours, the train pulls up amidst the sleek high-rise towers of Vancouver. Roundtrip your travel tops 600 miles, but high-speed rail will allow you to return to Portland after your meeting in time for dinner.

Fact or fiction? For this tale to become true, the fundamental underpinnings of Cascadia, and the identity of the region as a

place, would need to become much stronger and more carefully articulated. From the outside, we are one region. From the inside, it's difficult to get the citizens of the Portland metropolitan region today to embrace the issues (let alone the professional sports teams) of the Seattle and Vancouver, BC metropolitan areas as their own.<sup>1</sup>

The Pacific Coast Collaborative, an effort of the California, Oregon, Washington, Alaska, governors and British Columbia premier, was formalized in 2008 with the signing Pacific Coast Collaborative Agreement which declares their intentions to collaborate on a common future in the "Pacific Century." Their priorities include: clean energy, high speed rail linking British Columbia and California, emergency management, regional transportation, research and innovation, and sustainable regional economy.

While these recent studies and collaborations represent steps in the direction of a more interconnected megaregion, the challenge of building and operating high-speed rail will test the limits of cross-border collaboration. Despite the challenge, there are few investments besides high-speed rail with the potential to realize the promise of greater economic integration for the Cascadia Megaregion.

## Charge to the Group

At the workshop, each working group tested the impact of a "high-speed rail scenario" on their topic area and articulated the changes to *business as usual* this scenario would bring about. Participants were asked to set aside for a moment whether the high-speed rail scenario *will be* or *should be* achieved, for the purpose of understanding the most dramatic effects that high-speed rail would produce in Cascadia. Once the high-end effects are understood, workshop participants worked backwards to articulate the desired vision for passenger rail service and its impacts in the Pacific Northwest Rail Corridor.

Our scenario was constructed by applying average speeds (125 mph) and frequencies of European and Asian-style high-speed rail to the Cascadia Corridor. A frequency of 26 trains per day between Seattle and Portland corresponds to 2 trains per hour during peak hours and 1 per hour during off-peak hours. These trip times and frequencies are presented in the diagram on the next page in the rightmost column, compared to current, ARRA investments, and long-range plans for the Corridor.

The scenario ridership of 4.5 million is not a modeled estimate but is believed to be a plausible number based on overall travel market size and increases in level of service. Increasing the number of trains per day from 4 to 13 (approximately a three-fold increase) is projected to increase ridership to about 3 times the current level. Doubling the frequency again is assumed here to increase this ridership further, though these ridership increases will have diminishing returns as trains are added. Furthermore, while the overall market size for intercity travel is unknown, past estimates place it at around 8 million between the major cities (Portland, Seattle, and Vancouver). The total intercity travel is likely to be significantly higher, but this estimate assumes high-speed rail could capture approximately half of the estimated market.

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<sup>1</sup> Portland State University (2006) "Cascadia Ecolopolis 2.0"

## High-Speed Rail Scenario

	Current Amtrak <i>Cascades</i> Service (round trips; trip time)	With ARRA Investments	Long-Range Plan	High Speed Rail Scenario
Vancouver 157 miles ↑ Seattle	2 / day; 4:25 hrs	2 / day; 3:55 hrs	4 / day; 2:37 hrs	12 / day; 2:00 hrs
Seattle 187 miles ↑ Portland	4 / day; 3:30 hrs	6 / day 3:20 hrs	13 / day; 2:30 hrs	26 / day 1:50 hrs
Portland 124 miles ↑ Eugene	2 / day; 2:35 hrs	2 / day 2:35 hrs	6 / day, 1:55 hrs	12 / day 1:25 hrs
	0.8 million riders	??	3 million riders	4-5 million riders
	Approximate Investment:	\$598 million	\$6,500 million	??

## Workshop Results

High-speed rail presents an opportunity to reshape the economic geography of the Cascadian megaregion. Cities along the corridor share a strong cultural association rooted in a do-it-yourself attitude and an affinity for the natural environment depicted by iconic fir trees and snow-capped mountains. However, despite this common identity, economic ties along the corridor have been limited. In fact, some argue that Cascadia's quality of life has not been matched by a quality economy. The major cities of Seattle, Portland, and Vancouver (BC) have been buoyed by blue-chip companies (e.g. Intel, Microsoft) but Cascadia has struggled with declining manufacturing and resource economies. The region aspires to foster exchange of ideas to create world-class research and development hubs like those present in other U.S. megaregions. As Cascadia grows in the coming years, high-speed rail has the potential to fulfill its economic goals by stitching together the region's knowledge economy while providing a world-class amenity to attract and retain educated workers. High-speed rail could provide global competitiveness by elevating the Cascadian brand through unique tourism. Firms will then be drawn to Cascadia's high quality of life while taking advantage of new efficiencies that emerge from linking specializations in the economies in Seattle and Portland. The rail system also serves as an insurance policy against economic downturn by creating a more resilient network of workers and jobs, and providing some security against an uncertain energy future.

High-speed rail also has the potential to match Cascadian ideals for sustainability through a transportation system less dependent on automobiles and fossil fuels. However, high-speed rail will only fulfill the region's sustainability goals if the system does not contribute to sprawl in outlying communities. Care must be taken regarding potentially negative effects on smaller cities, which could suffer without proper strategies for economic development and land use. Despite these challenges, Cascadia also has many potential synergies with high-speed rail. Strong existing commitments to compact land-use and transit investment give Cascadia an advantage over more sprawled, auto-oriented regions. High-speed rail itself could reinforce these patterns by centering growth in downtowns rather than land outside of urban growth areas. There is growing interest in rail as a form of transportation as evidenced by the success of Amtrak Cascades service. Distances between major population centers in Cascadia are on par with those in high-speed rail systems around the world. And as a major trade gateway to the Pacific, enhancing passenger rail efficiency could also provide systemic benefits to the region's vital freight system. Furthermore, the region seeks to export renewable hydroelectric power, and there may be opportunities to develop rail in conjunction with new transmission lines.

For high-speed rail to be successful in Cascadia, it must first overcome several roadblocks, the first being Cascadia's modest overall population for potential riders. Second, topography makes acquisition of new right-of-way expensive and difficult, though not

impossible. Third, border crossing between the U.S. and Canada is currently problematic and limits movement of people and services. And finally, coordination between two states and one province could make governance a challenge, though not an unprecedented one. If successful, this coordination could enhance future Cascadian collaborations and create a template for further developing the Cascadian identity and joint planning efforts in the future.

Political support for rail in Cascadia appears to be gaining momentum. However there is lack of agreement over whether efforts should be geared towards advancing incrementally higher level of rail service versus developing a bolder vision for true high-speed rail in the region. Consensus around a unified vision needs to be developed quickly over the coming year. This could be aided by continued research and advocacy efforts in the coming year. A desirable outcome may be to have an adaptive model where incremental steps are made along trajectory towards an overarching vision for true high-speed rail.



## Key Conclusions

*Each bullet represents a key conclusion that emerged from discussions during the Connecting Cascadia workshop. Though most conclusions are crosscutting, an attempt was made to organize them according to the breakout groups.*

### Economic Geography

- Cascadia has a high quality of life, but struggles with high rates of unemployment. High-speed rail could serve as an amenity to help Cascadia compete in the global economy, and encourage more firms to locate in the region. "If Cascadia is going to show up in the global knowledge economy, then HSR is the price of admission."
- High-speed rail will alter the dynamic between cities, especially Seattle and Portland. It might help the cities compete less with each other and instead benefit from the efficiencies that emerge from economies of

agglomeration. For example, Portland's specialization in manufacturing may make it an attractive satellite for firms to relocate since Seattle has become expensive and congested. In turn, Portland companies can take better advantage of Seattle's strength in the information industry.

- Companies in Cascadia claim to have great employees but have difficulty finding top-level talent and must recruit out-of-state. These people are often willing to move to the excellent quality of life. High-speed rail may help to elevate top-level talent in Cascadia by providing better connections between academia, industry research, and innovation. In particular, high-speed rail might have an advantage in recruiting sustainability-related businesses desired in Cascadia.
- The difficulty of crossing the U.S.-Canadian border poses a serious threat to high-speed rail and economic development in Cascadia more generally. It is easy enough to move goods across, but very difficult to move people or services. The Cascadian corridor shares a strong cultural identity; however economic activities are typically oriented east to west rather than north to south.
- As a major North American link to the Pacific Rim, and traditionally a resource-based economy, transportation has played an important historic role in Cascadia's economy. I-5 is increasingly congested and has little room for expansion. High-speed rail could help alleviate congestion, and may become a necessity to add capacity. Providing improvements to the passenger system provides systematic benefits that spill over to the freight system as well.
- High-speed rail can help increase tourism, especially for high income-travelers, thereby promoting ties between Cascadian cities and raising its profile among global megaregions, building on the existing "Two-Nation Vacation" marketing campaign.
- BC Hydro and the Province of BC are interested in expanding BC's power grid to Washington, Oregon and California. There may be opportunity for a partnership in a joint rail-power corridor.
- All three cities in Cascadia are port cities and trade gateways to the interior of North America. This makes them especially vulnerable to the widening of the Panama Canal in 2014 and necessitates joint action to sustain Cascadia's trade economy. High-speed rail could contribute to a more resilient, robust, and unified Cascadian economy.



- The Pacific Northwest has made land-use decisions to increase density in urban areas and promote transit-use while curtailing sprawl. This pattern could be advantageous to the success of a high-speed rail system. In turn, high-speed rail could serve as a tool to reinforce the compact, centered development patterns valued by Cascadian residents.
- There is concern over the potential for high-speed rail to add to sprawl if it connects less developed areas to a larger geography. High-speed rail may allow more people to live in smaller cities, thereby increasing Cascadia's overall energy footprint. Meanwhile, new development from high-speed rail may encroach on those who wish to live in less urbanized areas. A continued commitment to land use regulations and simultaneous investments in regional centers are needed to address the connected issues of land use and energy.
- Alternatively, high-speed rail might increase the likelihood that smaller communities are unable to retain population if they become less relevant in the face of metropolitan growth. However, with proactive strategies and incentives, these smaller cities can take advantage of opportunities afforded by high-speed rail to serve as centers for back office operations, conference facilities, etc.
- High-speed rail is seen as an insurance or preparation for future trends including increasing population, aging boomers, and uncertain energy prices. High-speed rail can help increase economic resilience by increasing the labor pool for employers and access to job opportunities for workers.
- Livability, in terms of safety and noise, may be negatively affected near high-speed rail crossings and station areas. Grade separation is a necessity to address these concerns.

### Network Connections

- Acquiring right-of-way may become a more difficult challenge as time goes on. It is essential to take a proactive stance and seek early action to reserve or acquire this land. Cascadia faces particular challenges in acquiring right-of-way due to the presence of mountains and water. Right-of-way used by existing Amtrak Cascades service includes some portions that will never be able to support true high-speed rail service due to engineering constraints.
- Transit connections in major Cascadian cities are excellent and have continued to expand in recent years. Ridership on Amtrak Cascades and inter-city bus services has steadily risen, demonstrating latent demand for public transportation.
- The exact location of high-speed rail stations still needs to be resolved. For example, in Portland, advantages exist for both East Side and West Side stations. In Vancouver, BC, population and jobs in nearby



### Land-Use, Livability, & Climate Change

- Greenhouse gas emission reductions are a unifying regional goal and required by law in Washington, Oregon, and British Columbia alike. High-speed rail could provide a local tool to address this global problem by reducing emissions from long car trips and airplane trips, where emissions are high on a per-trip basis.

Surrey are expected to outstrip the downtown within 20 years and may be an important location for an additional high-speed rail station (perhaps integrated with the transit hub at Simon Fraser University).

- For cities south of Portland, there is lack of consensus about what level of service to recommend. High-speed is viewed as less of a priority than simply increased level of service. High-speed rail development should be prioritized or demonstrated first along the Portland to Seattle leg.
- Cascadia is a center for transportation innovation, for example, FlexCar service began in the Seattle area. Ridership on intercity bus and rail has risen remarkably in recent years showing a willingness of the local populations to embrace new modes of transportation.
- Floods and earthquakes pose risks to large-scale infrastructure projects in the Pacific Northwest, including high-speed rail. However, since the region is primarily served by highways, high-speed rail could provide a critical redundancy to the transportation system in case such a disaster occurs. In fact, portions of I-5 are not currently designed to withstand severe flood events, while a new high-speed rail system could be engineered to do so.
- Cascadia is already characterized by commuters who drive long distances to work, especially in Seattle. For example, the largest employers in Skagit County are Boeing and Microsoft, many miles away. High-speed rail offers an opportunity to improve quality of life for long-distance commuters and opens up new opportunities for those in smaller cities.

#### Implementation, Governance, Finance, and Advocacy

- As the deficit climbs, the era of easy federal financing may be over. For financing high-speed rail, it seems appropriate to develop a business plan that integrates multiple revenue streams over the course of the high-speed rail project. It's important to refrain from "siloe" thinking on the revenue side, and look to many sources, such as value capture at stations, federal grants, public transit taxes, public rail districts, national security funding and so on.
- The fact that Cascadia crosses two states and a province creates a unique challenge for governance. An appropriate historical model to follow is the St. Lawrence Seaway. This multi-state binational compact followed a bold vision, but it was carried forward by the individual actions of states and provinces combined with federal funding. The governing body for such an agreement, tentatively titled the "Cascadia Compact," could be used to encompass all future efforts for research, financing, and so on.
- Recently, U.S. infrastructure projects have been difficult to accomplish in a timely manner due to both regulatory and financial barriers. To improve the prospects for high-speed rail in the region, Cascadians must focus on building political will to make a strong, dedicated push for the project. Stakeholders need to explore options for changing the value proposition, focusing on the idea that new infrastructure creates lasting value and create mechanisms to capture some of that value.
- For advocacy, several additional stakeholders still need to be brought to the table including: environmentalists, BC Hydro & the energy community, ports, freight, commodities such as agriculture and manufacturing, businesses and chambers of commerce, the general public, city councils, and associations of cities.

- There is a general sense that the public is sympathetic to high-speed rail, but they are unfamiliar with the notion of a Cascadia Corridor. This might be remedied with a strong branding, powerful visuals, and general awareness campaigns.



## Statement of Principles

*This statement of principles is a broad set of ideas that stakeholders agree should guide any effort to implement high-speed rail service along the Cascadia Corridor. They are intended to reflect the Cascadian values that were voiced over the course of the workshop.*

Cascadia should strive to build a passenger rail system that:

- Increases global competitiveness by growing a knowledge economy and linking the major metropolitan areas;
- Reduces the region's energy consumption and greenhouse gas emissions;
- Increases resilience through reduced reliance on petroleum and better connections to jobs;
- Takes advantage of unique Cascadian assets such as hydropower and transit networks;
- Provides systemic benefits to Cascadia's freight network;
- Fosters collaboration between stakeholders and solidifies the Cascadian identity;
- Provides a world class amenity for business travelers and tourists alike;
- Fully considers and strives to protect needs of smaller communities;
- Prioritizes electric propulsion over diesel to maximize environmental benefits;
- Works toward a dedicated right of way with grade separation;
- Is governed by an appropriate structure agreed upon by stakeholders in WA, OR, and BC. This governance may be informed by historic efforts like the St. Lawrence Seaway.
- Includes a business plan that takes into account multiple revenue streams including federal funding, value capture near stations, public transportation taxes, public private partnerships, and so on.

- Facilitates border crossings and ease of travel between the U.S. and Canada
- Focuses first and foremost on the critical link between Portland and Seattle, achieving trip times of 1:30 hours by 2030.



## A 2030 Vision

*This fictional storyline is designed to help illustrate what a high-speed rail line would mean for the region, assuming the principles outlined above are maintained.*

The year is 2030. Marta, an engineering consultant, steps out of her house in Bellevue, Washington ready for the workday. It's cloudy in Puget Sound but the sun peeks through the clouds enough for her to catch a glimpse of Mt. Rainier in the distance. She picks up the morning paper and walks down to the light-rail station to catch a ride over to King Street station where she'll board the Cascadia Corridor Express, the new high-speed train service. Knowing the trains come every half hour on the half hour, she didn't even bother to look up the schedule. Marta is headed for a business meeting in Portland to meet with some new clients. The Fortune 100 renewable energy firm Solexant wants her input on hiring more workers in Portland to expand their manufacturing facility. 10 years ago, this trip would have been unthinkable with all the traffic on I-5. Driving down there would have taken at least 3 hours but now she can get there in half the time and get work done on the train. No time wasted in airport security lines either.

Taking a look at the headlines, she notices that BC Hydro is also hiring new workers in Bellingham. Ever since the success of the joint electricity-rail link between Seattle and Portland the company has been looking to upgrade the train service from Seattle to Vancouver to reach 250 miles per hour. She knew from a friend at the company that the big reason for this move was because California needs to purchase more renewable hydropower to meet its climate goals. To do this they were willing to put up some cash to expand capacity on the electricity-rail line. Vancouver sounds nice this time of year, thought Marta. If today's meeting went well, perhaps she could take the kids for day trip there on the train this Saturday to visit Stanley Park and do some shopping.

Life wasn't always this great in Cascadia. Growing up in Tacoma,

Marta's father worked for a shipping company and she remembered how tough it was for him to find a job after the Panama Canal was widened. And after gas spiked permanently to \$8 a gallon, Seattle's economy was hit pretty hard in the late '10s. But that all changed after the new high-speed rail opened for business a few years ago. Now companies are flocking to the region. Everyone wants to be part of the startup scene that straddles Portland and Seattle. Linking universities like OSU, PSU, and UW seemed to be a masterstroke; ever since they have been producing top talent for the thriving clean tech industry. Combined with the ability to ship products directly to consumers in Asian markets, Cascadia has even managed to bring some manufacturing back to the region.

She waved to some wealthy Chinese tourists snapping photos of Mt. St. Helens as the train blazed through Centralia. Once a sleepy little town, Centralia was now highly sought after real estate since it's halfway between Seattle and Portland. A forward-thinking downtown development plan was able to accommodate these new residents without sacrificing Centralia's small-town character. Marta even thought about trying to move there herself – she never thought before that a two-unit home could be so tasteful and appealing. But in the end she decided to stay in Puget Sound since the high-speed rail could more than accommodate her occasional travel down to Portland.



## Next Steps

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*This section charts a potential course of action over the next 1, 5, and 10 years for high-speed rail development.*

### 1 Year Benchmarks

#### Research/Planning

- Identify lead partners to carry out actions described below.
- Develop Cascadia map into a “design brief” -- an iconic proposition that maps out a potential universe of options for high-speed rail in Cascadia.
- Create a university consortium to study the issues of what scenarios look like, what the costs, benefits are etc. (academia: Pat Condon, Ethan Seltzer)
- Study intercity travel demand and potential ridership scenarios for high-speed rail.
- Conduct cost benefit analysis, including various scenarios such as peak oil, Panama Canal, flooding, unemployment, etc.
- Study the potential for high-speed rail to reduce GHG emissions in Cascadia under different population and ridership scenarios.
- Identify station locations and integrate high-speed rail into local land-use planning decisions.
- Identify and take steps to obtain the right of way for a dedicated high-speed rail corridor, while moving ahead with incremental improvements to the existing corridor. Study the cost, and prioritize key segments of the corridor.
- Complete initial engineering cost analysis (The Cascadia Center hopes to complete a study by 2011).
- Research and recommend different governance forms suitable for Cascadia high-speed rail.
- Conduct analysis on existing/planned transmission lines in Cascadia beginning with RPA-generated maps.

### Governance and Organization

- Establish a corridor long entity to own the project, and provide research funding.
- Develop consensus around a common vision and finalize a statement of principles to be signed by stakeholders.
- Develop a business plan for HSR with funding sources identified for 5, 10, 20 years ahead.
- Recruit a client for the work of the collaborative (e.g. state legislature).

### Outreach & Advocacy

- Introduce the concept of combined power/rail corridor to BC Hydro and BC representatives. Develop a working group between hydro-power and transportation officials.
- Reach out to Senator Murray and request that Secretary Clinton address border crossing issue between the U.S. and Canada via rail.
- Reach out to Pacific Coast collaborative to promote a long-term vision through three states and BC.
- Organize a joint public hearing to educate state legislators in Washington and Oregon.
- Encourage city councils to adopt resolutions in support of HSR.
- Reach out to newspapers, chambers of commerce, local governments, and freight rail partners to promote the issue.
- Begin an awareness campaign for the general public.

### 5 years

- Robust public support is established for high-speed rail.
- Priority rights-of-way are purchased.
- A multistate, binational compact is in effect to coordinate the project.
- First phase of corridor is financed and under construction.

### 10 years

- Construction is on track for a 150 mph average speed Seattle to Portland link.

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Ian Burkheimer, Pacific Northwest Economic Region  
Dan Carlson, University of Washington  
Theresa Carr, CH2M Hill  
Carlotta Collette, Metro Council  
Kevin Cook, Consulate General of Canada  
Andy Cotugno, Metro  
Colin Deverell, Metro Council Office  
Katja Dillmann, Office of Mayor Sam Adams  
Mary Fleckenstein, Washington Joint Transportation Committee  
Lloyd Flem, All Aboard Washington  
Hayley Gamble, Washington Senate Transportation Committee staff  
Ray Gastil, Gastilworks Planning & Design  
Mitch Greenlick, Oregon House of Representatives  
Mara Gross, Coalition for a Livable Future  
Jeff Hale, HDR  
Mary Margaret Haugen, Washington State Senate  
Charles Kelly, The Cascadia Center  
George Kloepfel, Lane Council of Governments  
David Knowles, CH2M Hill  
Brian Lawson, Portland State University  
Robert Liberty, Metro Council  
Lloyd Lindley, Landscape Architect  
Anne-Marie Lundberg, Tangent Services  
Mary Kyle McCurdy, 1000 Friends of Oregon  
Geoff Meggs, City Council, Vancouver, BC  
Linda Modrell, Benton County, Oregon  
Sara Morrissey, Portland State University  
Ralph Munro, Talgo  
Nancy Nathanson, Oregon House of Representatives  
Robert Paddon, TransLink  
Brian Painley, CH2M Hill West Transportation  
Jeff Parker, David Evans & Associates  
Brad Perkins, Perkins Realty  
Kitty Piercy, City of Eugene  
Michael Pracht, US Railcar Company  
Chris Rall, Transportation for America  
Victor Salemann, David Evans & Associates  
Sam Seskin, CH2M Hill  
Rosemary Siipola, Cowlitz-Wahkiakum Council of Governments  
Tom Skancke, The Skancke Company  
Elliot Smith, Western Washington University  
Lainie Smith, Oregon DOT  
Dorthy Walker, Office of Representative Nancy Nathanson  
Dave Warner, Parsons  
Brendalee Wilson, City of Eugene  
Andrew Wood, Washington State DOT  
David Wu, U.S. House of Representatives  
Martin Yurth, Amtrak Seattle



## DMU Appendix 10

Washington State 2010-2030 Freight Rail Plan  
Appendix 3-A: An Introduction of Passenger Rail  
in Washington State  
Washington State Department of Transportation, December  
2009





## Appendix 3-A: Passenger Rail Service and Ridership in Washington State – A Brief

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Passenger rail, once used as a means to address only mobility problems, is increasingly viewed and used, at both national and regional levels, as an integrated part of robust and resilient multimodal transportation systems. Such transportation systems will help policymakers achieve multiple policy ends, including economic viability, societal mobility, environmental sustainability, and public safety.

### Amtrak Intercity Passenger Rail

Amtrak, partnered with the states of Washington and Oregon and the Province of British Columbia, provides intercity rail passenger service in the Pacific Northwest. Passenger rail services operate exclusively over rail lines owned by freight railroads. Sound Transit serves the Puget Sound urban area with commuter rail services. Along the I-5 corridor, passenger intercity passenger rail services share track with freight on the BNSF Railway (BNSF) mainline. The Union Pacific Railroad (UP) also has operating rights on this mainline from Vancouver, Washington (WA) to Tacoma. Between Tacoma and Everett, Sound Transit commuter rail operates on the BNSF tracks. Freight, intercity passenger, and commuter operations share common infrastructure to meet their customers' needs. Exhibit 3A-1 shows the ridership of the three intercity passenger rail services in 2008.

### Amtrak *Cascades*

Since 1994 the Washington State Department of Transportation (WSDOT) has partnered with Amtrak, the state of Oregon, the Province of British Columbia, the railroads, and others to provide fast, reliable, and more frequent intercity passenger rail service along the 466-mile Pacific Northwest Rail Corridor (PNWRC). As one of 11 federally designated corridors, the PNWRC extends from Eugene, Oregon (OR) to Vancouver, British Columbia (B.C.). The service, known as Amtrak *Cascades*, provides travelers with a viable transportation alternative for their intercity trips.

**Exhibit 3A-1: Ridership of Intercity Passenger Rail Service –  
Washington State 2008**

<b>Rail Service</b>	<b>Description</b>	<b>Ridership</b>
<b>Amtrak Cascades</b>	Arrive in Washington State from Oregon or Vancouver, B.C.	245,531
	Departure from Washington State to Oregon or Vancouver, B.C.	239,547
	Travel Within Boundaries of Washington State	189,916
	Travel Through Washington State Without Stopping in State	0
	<b>Total Riders</b>	<b>674,994</b>
<b>Coast Starlight</b>	Arrive in Washington State from Oregon or Vancouver, B.C.	51,565
	Departure from Washington State to Oregon or Vancouver, B.C.	62,707
	Travel Within Boundaries of Washington State	9,007
	Travel Through Washington State Without Stopping in State	0
	<b>Total Riders</b>	<b>123,279</b>
<b>Empire Builder</b>	Arrive in Washington State from Oregon or Vancouver, B.C.	68,791
	Departure from Washington State to Oregon or Vancouver, B.C.	70,177
	Travel Within Boundaries of Washington State	37,562
	Travel Through Washington State Without Stopping in State	46,464
	<b>Total Riders</b>	<b>222,994</b>
<b>Total Intercity Passenger Rail Riders</b>		<b>1,021,267</b>

Note: A state intercity passenger rail rider is defined as a passenger rail rider who arrives, departs, travels within and travels through the state using intercity passenger rail services, including *Amtrak Cascades*, *Coast Starlight*, and *Empire Builder*.

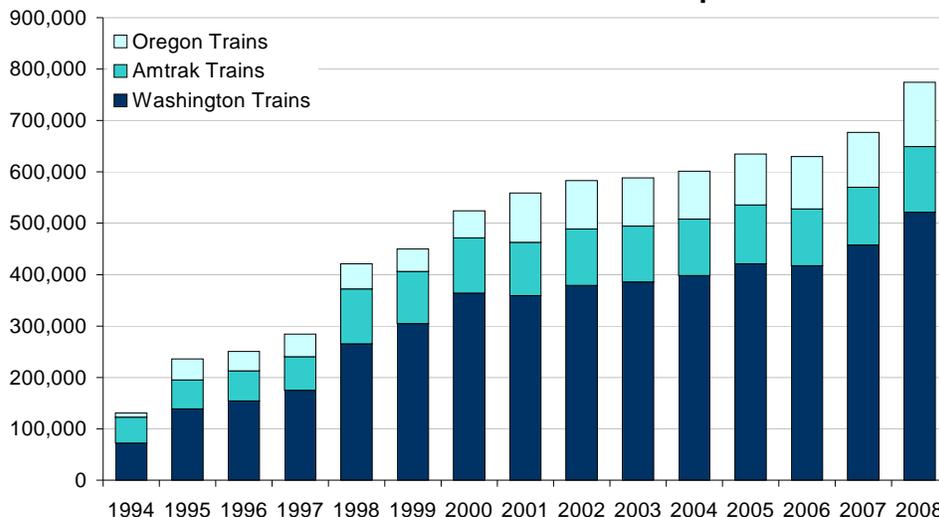
Source: WSDOT State Rail and Marine Office

*Amtrak Cascades* intercity passenger rail service in the state is operated over the BNSF mainline. *Amtrak Cascades* intercity passenger rail service in Oregon is operated over the UP mainline. The alignment roughly parallels Interstate 5 (I-5) and runs through western Washington and western Oregon. The Washington portion includes nine counties: Clark, Cowlitz, Lewis, Thurston, Pierce, King, Snohomish, Skagit, and Whatcom. In addition, a number of cities and towns are also traversed by the rail line, including Vancouver (WA), Kelso/Longview, Centralia, Olympia/Lacey, Tacoma, Tukwila, Seattle, Edmonds, Stanwood, Everett, Mt. Vernon, and Bellingham. In Oregon, the alignment travels through Portland, Oregon City, Salem, Albany, and Eugene. The corridor is diversely populated and contains a mixture of farmlands, small communities, natural habitats, and large metropolitan areas. Corridor development is a cooperative effort between the states of Oregon and Washington, BNSF, UP, Amtrak, Sound Transit, the Province of British Columbia, ports, local communities, passengers, and the general public.

Ridership for Amtrak *Cascades* on the PNWRC has been increasing. The following paragraphs highlight the changes in ridership between 1994 and 2008.

Amtrak *Cascades* ridership has risen steadily on the PNWRC from Eugene, OR to Vancouver, B.C., from less than 200,000 annual passengers in 1994 to 774,536 passengers in 2008. A complete history of the Amtrak *Cascades* annual ridership is shown in Exhibit 3A-2.

**Exhibit 3A-2: Amtrak Cascades Annual Ridership – 1994 to 2008**



Source: WSDOT State Rail and Marine Office

Since 1994 when Washington State began financially supporting Amtrak service, consumers have responded to the increased frequency of daily train service. In every case when or where the supply of passenger train capacity increased higher ridership has quickly followed. Ridership increases are most significant between Seattle and Portland, with four daily Amtrak *Cascades* regional round trips.

## Commuter Rail

Sound Transit provides *Sounder* commuter rail service in the Puget Sound area. *Sounder* commuter rail is a regional rail service operated by BNSF on behalf of Sound Transit. Service operates Monday through Friday during peak hours from Seattle, north to Everett and south to Tacoma. As of 2008, schedules serve the traditional peak commutes, with most trains running inbound to Seattle in the morning and outbound in the afternoon. Two daily round trips run the “reverse commute” to and from Tacoma. Additional *Sounder* trains operate on some Saturdays and Sundays for travel to and from Seahawks games at Qwest Field and Mariners games at Safeco Field. Both stadiums are a short walk from King Street Station.

Ridership has steadily increased year after year with the addition of new service. In 2008 *Sounder's* ridership was 16.13 million, up 17 percent over 2007. One of the key benefits to *Sounder* travel has been the on-time performance of the trains. Performance has reached the level of 99.85 percent in 2008.

## DMU Appendix 11

Heffron Transportation

### South Lake Union / Uptown Triangle Mobility Plan

Sponsored by: Greater Queen Anne Chamber of Commerce,  
South Lake Union Community Council, South Lake Union  
Chamber of Commerce, and Uptown Alliance

Released May 24, 2011



# SOUTH LAKE UNION / UPTOWN TRIANGLE

MAY 24, 2011



# MOBILITY PLAN

May 24, 2011

Dear City of Seattle and King County leaders:

We are proud to present and endorse the South Lake Union/Uptown Triangle Mobility Plan recommendations that will enhance walking, biking and transit usage. Improved access and mobility are critical elements that will support the economic vitality and livability of these two communities. Moreover, the City and region will benefit from enhanced mobility to and through these Urban Centers.

The Plan is intended to lay out the communities' vision for all transportation modes and to integrate past planning recommendations with new major infrastructure projects. The major benefits of this community-led effort include an integrated transportation system that connects South Lake Union and Uptown neighborhoods, enhanced transit service with minimal cost, a vision depicting two mobility hubs, and leveraging private transportation investments. The recommendations have been grouped into 7 key mobility themes:

- Connect Communities
- Increase Transit Service
- Serve Regional Access & Mobility
- Encourage Walking
- Support Biking
- Leverage Private Transportation Investments
- Create Hubs for Mode Transfers

We look forward to working with the Mayor, City Council, and City departments to recognize and adopt the plan recommendations. This Plan is very timely given the City's current efforts to update the Transit Master Plan, the Citizen's Transportation Advisory Committee III process, plus future updates to the Bicycle and Pedestrian Master Plans. We hope that this Plan can guide implementation actions such as design for key nodes and corridors, and recognition for funding priority, including listing key projects on Capital Improvement Programs.

These transportation improvement recommendations are the result of many hours of participation and endorsed by the South Lake Union Community Council, Uptown Alliance, South Lake Union Chamber of Commerce, and the Greater Queen Anne Chamber of Commerce. We would like to give special thanks to the Mayor's Office, Seattle City Council, King County Metro, Washington State Department of Transportation and Seattle Department of Transportation.

We look forward to partner with our leaders and public agencies to recognize and implement the Mobility Plan recommendations.

Sincerely,

Jerry Dinndorf  
South Lake Union Community Council

Damien King  
South Lake Union Chamber of Commerce

John Coney  
Uptown Alliance

Mary Chapman  
Greater Queen Anne Chamber of Commerce

### Working Committee Members

#### South Lake Union Community Council

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Joshua Franklin  
Michael McQuaid  
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#### South Lake Union Chamber of Commerce

Monty Holmes  
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Mary Chapman  
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#### Queen Anne Uptown Alliance

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Nelson Nygaard  
Cascade Bicycle Club

# EXECUTIVE SUMMARY

The South Lake Union and Uptown neighborhoods will undergo a massive transformation in the next decade as the neighborhoods grow to accommodate more than 12,000 new residents and 24,000 new jobs.

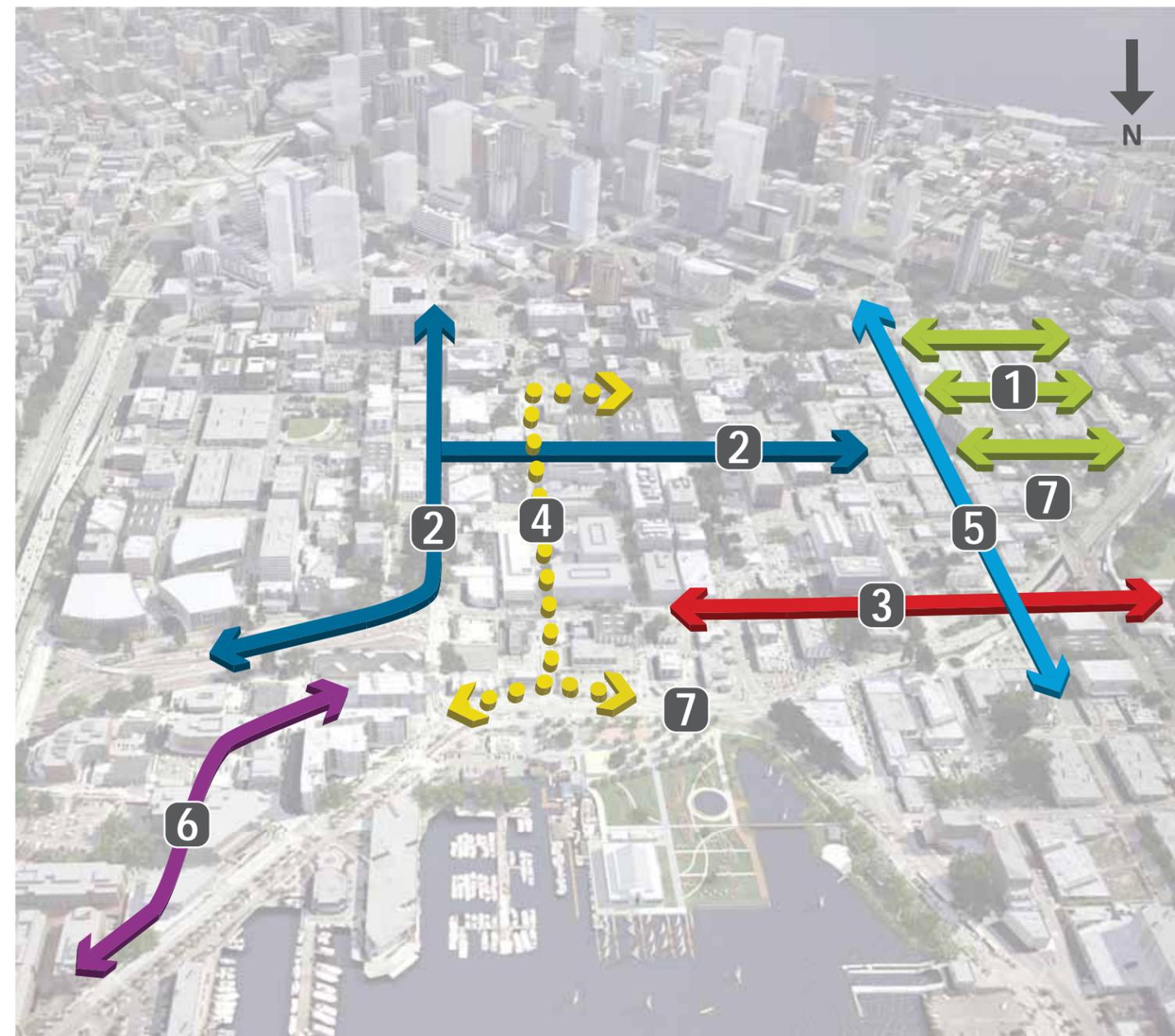
In addition, three major infrastructure projects—the Alaskan Way Viaduct Replacement Project, the Mercer East Project, and the Mercer West Project—will change travel patterns in the area and provide key links between the two neighborhoods for pedestrians, bicycles, and transit.

There have been many independent planning studies performed in the two neighborhoods. This plan seeks to consolidate all of the prior planning efforts and adapt them to account for the major infrastructure projects.

This plan was created with substantial input from neighborhood interest groups, businesses, and various agencies. A detailed analysis and user survey was also performed by the Cascade Bicycle Club as part of this project. All plan recommendations have been vetted through the plan’s advisory committee.

The mobility plan recommendations have been grouped into seven key themes. These themes are further described in subsequent sections and detailed in the matrix at the end of this plan (see page 18):

- 1** **Connect Communities:** Connect South Lake Union, Uptown Triangle, Seattle Center and Uptown by re-establishing the east-west grid across Aurora Avenue at John, Thomas and Harrison Streets with attractive and safe “complete street” designs.
- 2** **Increase Transit Service:** Increase transit service to and through the Urban Centers with rerouted and extended bus routes.
- 3** **Serve Regional Access & Mobility:** Realize all regional and mobility improvements of the Mercer Corridor and North Portal projects for pedestrians, bicycles transit, freight and cars.
- 4** **Encourage Walking:** Create an active and safe pedestrian environment with green streets, active sidewalks, regional trail connections, and clear wayfinding signage.
- 5** **Support Biking:** Provide a safe, clear and convenient network of bike paths, bike lanes, and bicycle support facilities.
- 6** **Leverage Private Transportation Investments:** Partner with private businesses, institutions, and developers to leverage privately-funded operational measures such as private shuttles, transit partnerships with King County Metro, and transportation management plans, as well as infrastructure investments in the street frontage, utility upgrades, and street enhancements.
- 7** **Create Hubs for Mode Transfers:** Create neighborhood transportation hubs—at the Aurora Avenue RapidRide Station and on Valley Street near Lake Union Park—that facilitate transfers between modes of transportation.



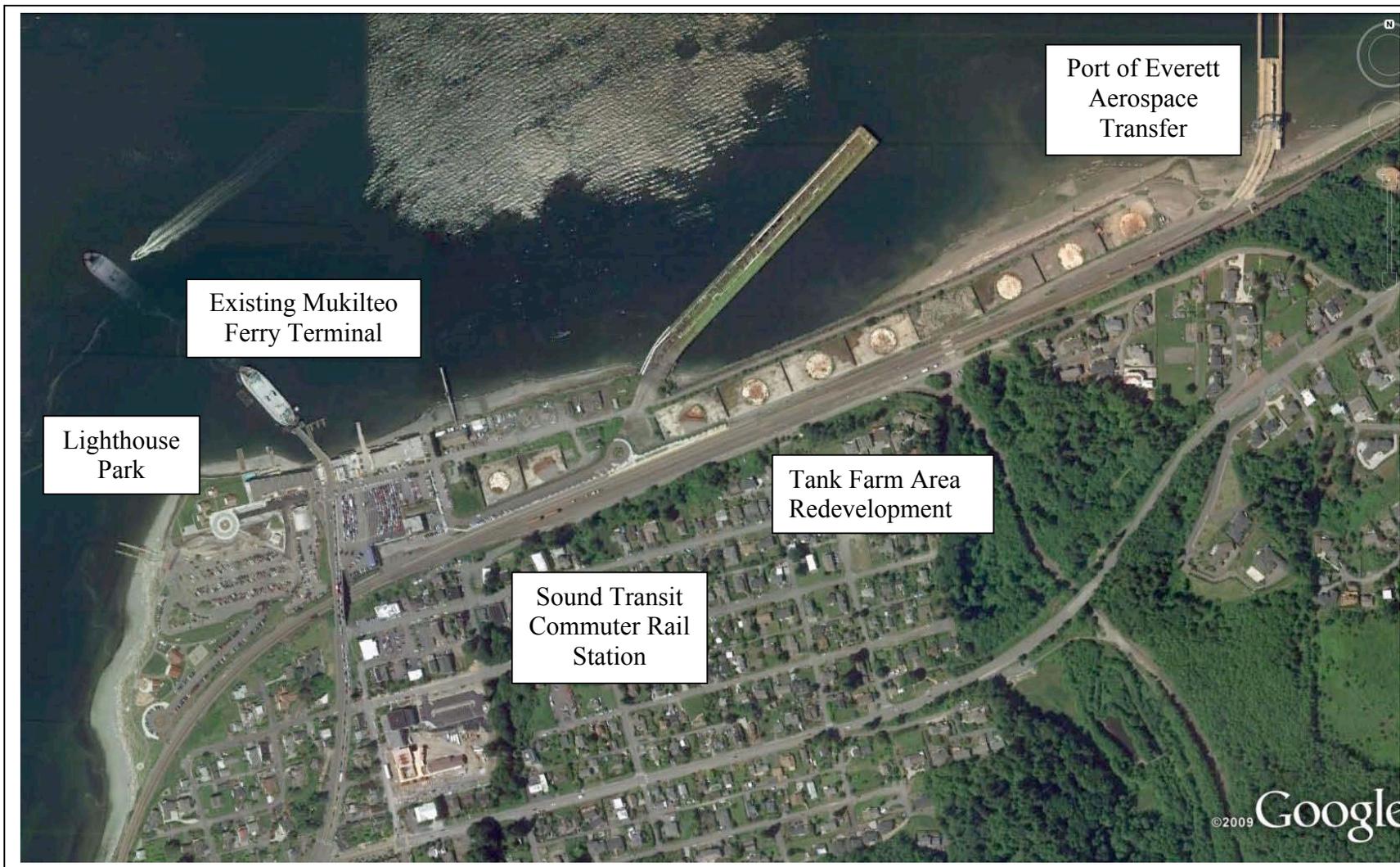


## DMU Appendix 12

### City of Mukilteo Waterfront Tank Farm Redevelopment Area Aerial View

*Source: Photo courtesy of the City of Mukilteo, Department of Planning and Community Development*





Tank Farm Redevelopment Area



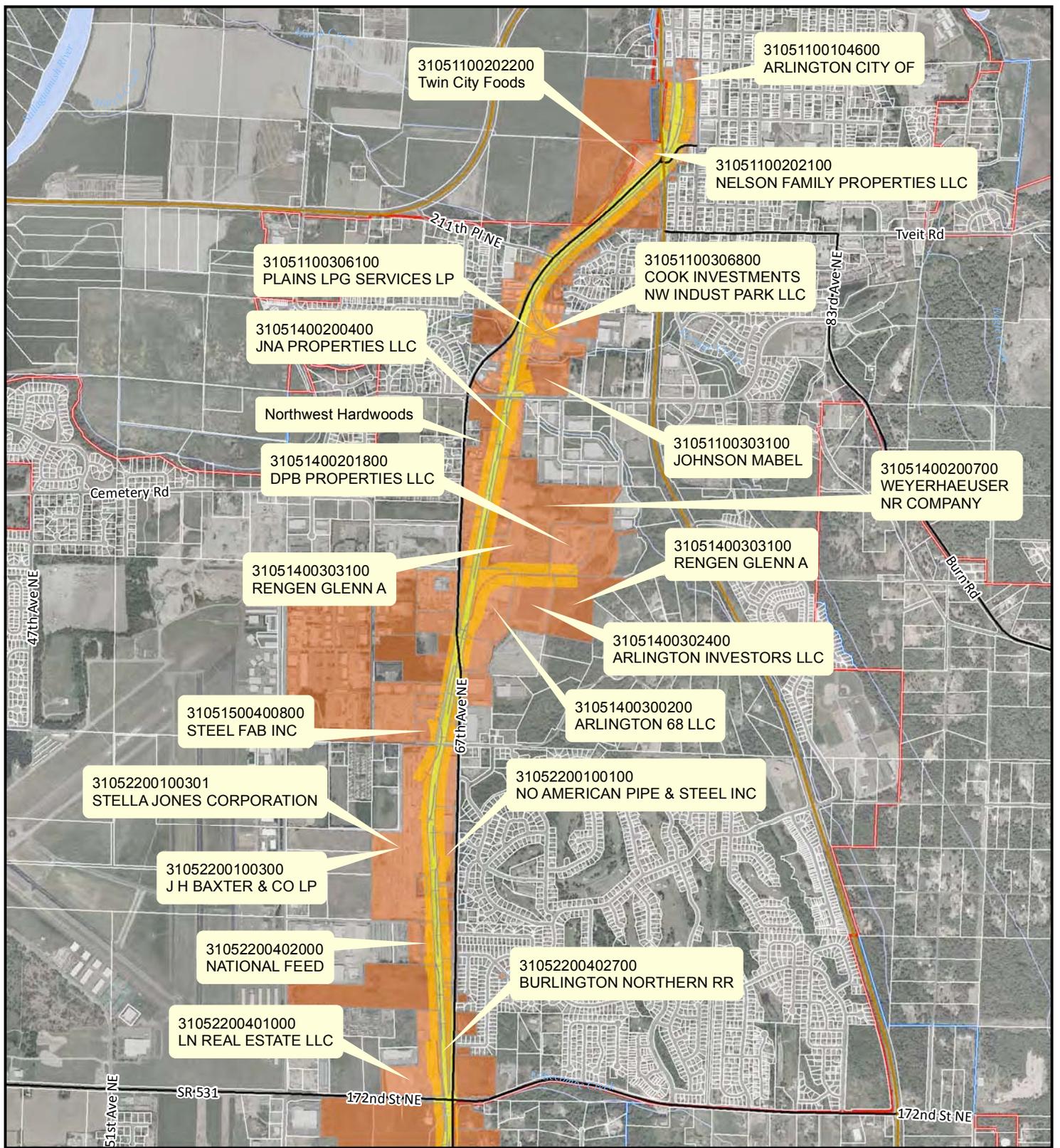
## DMU Appendix 13

### Parcels/Rail-line Intercept Map City of Arlington

*Note: Not a complete map of area businesses. Use as general reference only.*

*Source: Map courtesy of the City of Marysville, Public Works Department.*





**Legend**

- Parcel/Rail-line Intercept
- Airport
- Off ramps
- Rail line
- Rest area
- Interstate
- State Routes
- Major Roads
- Primary Roads
- Streets
- City Limits
- Urban Growth Area



N

*City of Arlington*

## Parcels/Rail-line Intercept

Scale: 1 inch = 2,040 feet	File: RaillinesParcels8.5x11portrait_11
Date: 5/24/2011	Cartographer: akc



## DMU Appendix 14

# Overview of the County Connector transit service Skagit Transit

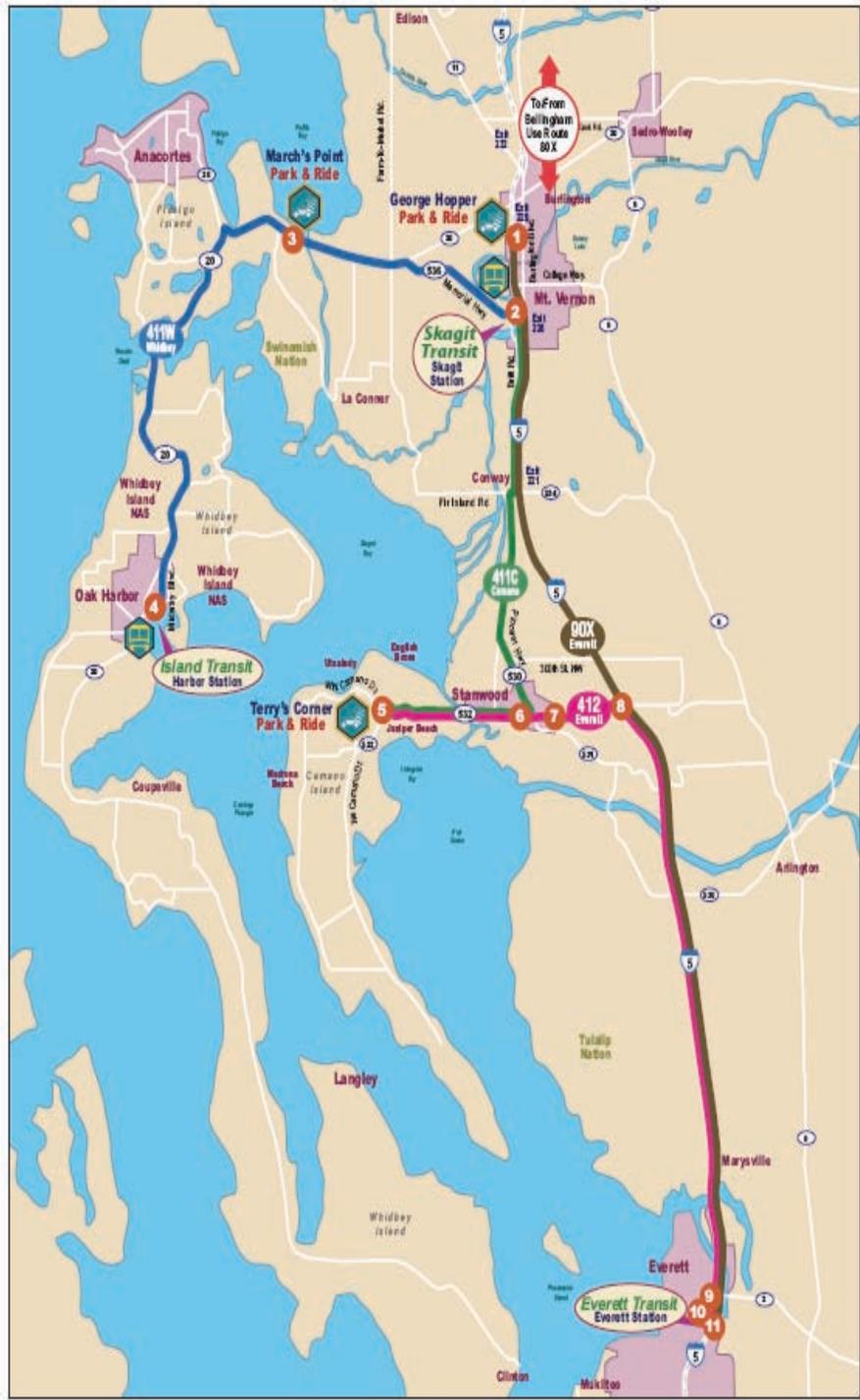
*Source: Summary and map provided by Skagit Transit.*



# County Connector

Three transit agencies, Skagit Transit, Whatcom Transit Authority in Bellingham and Island Transit on Whidbey Island will provide service between the three northwest counties. Whatcom Transit Authority and Skagit Transit will combine to provide eight round trips per day between Skagit Station and Bellingham Transit Station. This will be an express run designed for commuters. Island Transit will provide service between Whidbey Island and Camano Island with stops at March's Point and Skagit Station. The fare for the County Connector will be \$2.00. Fare boxes will accept coins, bills, Whatcom Transit Authority Fare Cards (Route 80X only) and Skagit Transit Local 31-day passes may be used by paying additional fare. Transfers will not be honored or issued. Island Transit will operate fare-free.

Tres agencias de tránsito, Skagit Transit, Whatcom Transit Authority, Island Transit, proporcionarán servicio entre los tres condados del noroeste. Whatcom Transit Authority y Skagit Transit proporcionarán ocho viajes diarios de ida y vuelta entre Skagit Station y Bellingham Transfer Station. Esta ruta será una ruta Express diseñada para pasajeros que viajan esta distancia diariamente. Island Transit proporcionará servicio entre Whidbey Island y Camano Island, con paradas en March's Point y Skagit Station. La tarifa del County Connector es \$2. Si paga en el bus, se aceptará monedas, billetes, y tarjetas de Whatcom Transit Authority (solamente en la ruta 80X). Los pasajes de 31 días de rutas locales de Skagit Transit serán aceptados pagando tarifa adicional. No serán aceptadas las transferencias en estas rutas. Island Transit ofrece servicio gratuito.

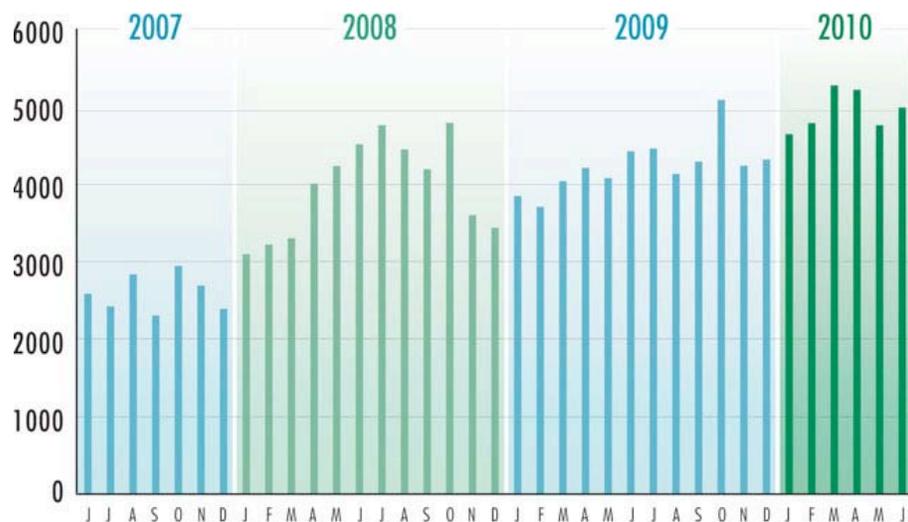


## Example of the County Connector service in operation



County Connector (Skagit Transit bus route 90X) departing Everett Station northbound.

### 90X Riders: June 2007 - June 2010

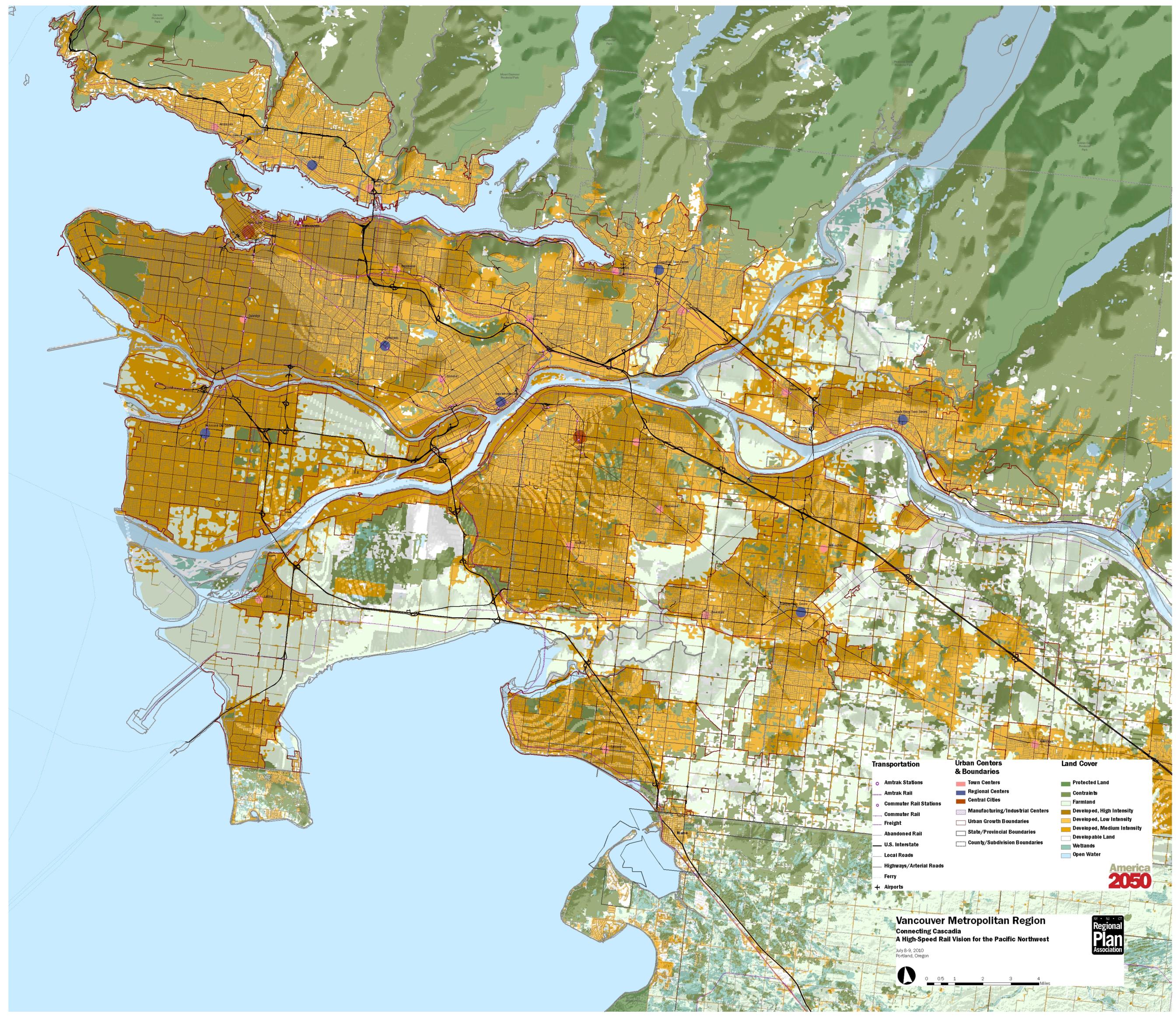


This table illustrates increased ridership numbers of Skagit Transit 90X since its inception as a part of the County Connector commuter transit service. *Source: Skagit Transit, Ridership Information.*

## DMU Appendix 15

Map of Metro Vancouver  
Connecting Cascadia Workshop, 2010





**Transportation**

- Amtrak Stations
- Amtrak Rail
- Commuter Rail Stations
- Commuter Rail
- Freight
- Abandoned Rail
- U.S. Interstate
- Local Roads
- Highways/Arterial Roads
- Ferry
- ✈ Airports

**Urban Centers & Boundaries**

- Town Centers
- Regional Centers
- Central Cities
- Manufacturing/Industrial Centers
- Urban Growth Boundaries
- State/Provincial Boundaries
- County/Subdivision Boundaries

**Land Cover**

- Protected Land
- Contraints
- Farmland
- Developed, High Intensity
- Developed, Low Intensity
- Developed, Medium Intensity
- Developable Land
- Wetlands
- Open Water

**Vancouver Metropolitan Region**  
 Connecting Cascadia  
 A High-Speed Rail Vision for the Pacific Northwest  
 July 8-9, 2010  
 Portland, Oregon

