



Final Report

June 30, 2011

*Prepared for the Whatcom Council
of Governments*



Seattle, WA - Vancouver, B.C. Cross-border Freight Rail Improvement Study #2010-CBRS-2



Prepared by:
Cascadia Center for
Regional Development
208 Columbia St.
Seattle, WA 98104
206-292-0401
www.cascadiacenter.org

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CROSS-BORDER FREIGHT RAIL IMPROVEMENT 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, examines border crossing delays for freight trains (at the U.S.-Canada border), route restrictions that prevent double stacking of containers, and offers assessments of how to minimize delays and related cost estimates for that action. This report is subdivided into contract-specified tasks, each answering critical questions about freight operations in the corridor.

###

Executive Summary

We were tasked to examine freight delays at the U.S. Canada border and recommend solutions and costs. The scope of our work did not include operational modeling of the corridor for projected increases in freight volumes and we used current levels of activity. With the exception of the addition of 2-3 unit coal trains by Burlington Northern Santa Fe Railway (BNSF) to the Westshore Terminal at Delta Port in B.C. and an increase in grain shipments to Fraser Surrey Docks, rail activity remains seasonal and steady as indicated in research with shippers and IMTC data.

Based on counsel by BNSF concerning increased congestion on the east west Robert Banks rail corridor, which is requiring the railroad to hold up north bound freight south of Bellingham, our initial recommendation for southbound inspections involved extension of the relatively short Blaine siding to the Swift Customs facility. This would provide operational flexibility in the 45 mile gap between sidings at Swift and Colebrook, north of the border which bisects the Roberts Bank rail corridor to Delta Port and Westshore Terminal, B.C.

Earlier this year, the Washington State Department of Transportation (WSDOT) service was awarded additional federal funding for rail enhancements north of Seattle including additional trackage at the Blaine Customs facility which will provide more flexibility for BNSF and Amtrak *Cascades* at the border. This may resolve the congestion issue.

Rail/highway conflicts in Blaine caused by southbound trains waiting for inspections at Swift are a concern for the community. The Department of Homeland Security and BNSF do not have plans to move the inspection equipment, known as a Vehicle and Cargo Inspection System (VACIS) machine at this time.

Northbound inspections into Canada, which are conducted on the main BNSF line between White Rock and the Semiahmoo First Nation Reserve, remain a challenge for access and operational flexibility. We concur with the previous Cascade Gateway Rail Study of 2002 that recommends an alternative inspection off the main line.

Extending the current Blaine siding to accommodate an entire northbound train would allow Canada Border Services Agency (CBSA) to conduct the inspection at the border and free up the main line. A change of procedure would require extensive consultation among inspection agencies, Semiahmoo First Nation, BNSF and resources to engineer related costs of construction, environmental impacts to, inspection facilities and even joint staffing.

Blaine and the Port of Bellingham have developed long term plans to develop a Board Walk and pedestrian overpass. Community leaders have also envisioned a future passenger rail stop. There may be future opportunities for cost sharing of a facility, parking and open space.

Suggestions

The International Mobility and Trade Corridor (IMTC) Rail subcommittee should seek resources for a specific project to 1) incorporate congestion concerns of Blaine leaders into the planning process for an expanded Blaine/Swift facility and 2) explore the relationship with the Roberts Bank Rail Corridor between an alternative northbound inspection location and expanded siding at Blaine. An initial inquiry to the B.C. / WA Executive Council of the Premier and Governor would be appropriate.

In light of the impact of a potential major increase in rail traffic on this corridor beyond 2015 if the proposed Pacific Gateway Terminal at Cherry Point proceeds as planned and with the interest in Snohomish County to increase investment in rail capacity to attract manufacturing jobs including a potential “supersized” aerospace industrial center, we recommend the region “plan together and plan ahead”. Specifically, we recommend formation of a “FAST North Corridor” patterned after the highly successful Freight Action Strategy (FAST Corridor) in central Puget Sound. As outlined in this report, there are a myriad of regional public private partnership opportunities to leverage federal and state funds. We believe it represents an opportunity we should not turn away from.

TASK 1

Examine delays at both international border crossings to freight trains and determine a range of solutions to minimize these delays and cost estimates.

Deliverable: List of solutions, estimated costs, and a cross-border economic analysis of current and future rail activity.

TASK 1 - DELIVERABLE

Profile of the Corridor

I. Corridor Profile with Branch Lines

In 1981, Great Northern completed the 152-mile corridor spanning the Bellingham, New Westminster and Scenic Subdivisions of the Burlington Northern Santa Fe (BNSF) rail line.

The 34-mile segment of the rail corridor between Everett (PA Junction) and Seattle (King Street Station) is not the focus of this cross-border freight delay analysis. That section of the corridor today hosts double stacked intermodal trains tied in large part to the growth in Seattle and Tacoma port traffic and destined for the Midwest.

According to BNSF an average of 27 freight trains operate on the line daily between Seattle and Everett and 15 run through to Vancouver. Four daily Sounder trains operate between Seattle and Everett and two daily Amtrak *Cascades* trains run between Seattle and Vancouver. The line is primarily double tracked between Seattle and Everett. From Bow to Bellingham, the line follows the shores of Samish and Bellingham Bays, restricting train speed and operating flexibility. BNSF also operates a two-mile stretch of former Milwaukee Road trackage in Bellingham that is owned by the Bellingham International Railroad (BIRR).

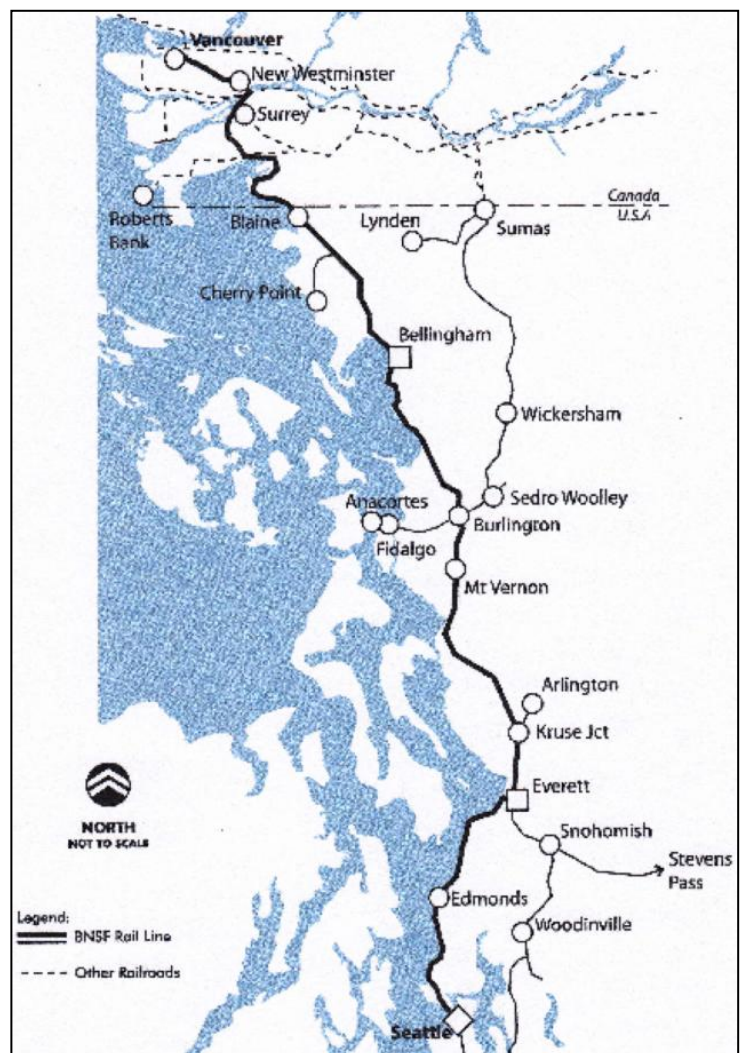


Figure 1: Branch lines on BNSF route

The corridor is single-track Centralized Traffic Control (CTC) from Everett to New Westminster, B.C. (Train movements are controlled by signals, which are in turn controlled by dispatchers at a centralized location.) From New Westminster to downtown Vancouver, the line is double-track CTC. From Everett to Blaine, the maximum freight rail speeds are 60 mph. From Blaine to Vancouver, B.C. the maximum freight speeds are 40-mph. Freight traffic includes intermodal, coal, forest and agricultural products, solid waste, transportation equipment, chemicals and finished automobiles.



Figure 2: Burlington - Sumas Branch Line

BNSF's Sumas Subdivision is 47.4 miles and connects Burlington and Sumas via Sedro-Woolley and served by a daily round-trip road freight forwarding cars to and from Everett, and a local that switches on-line industries.¹

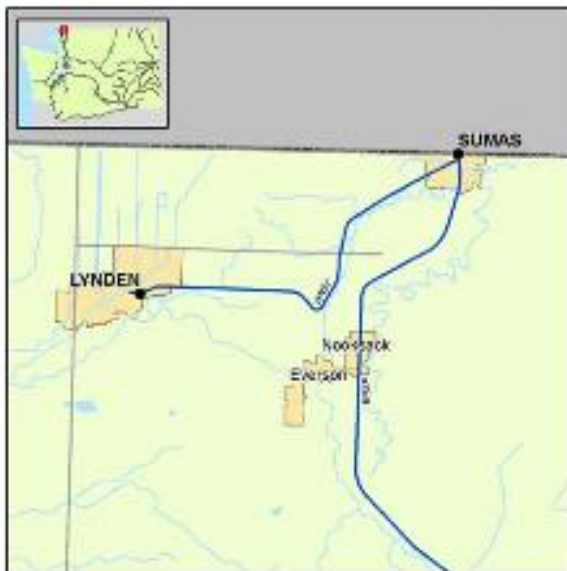


Figure 3: Sumas - Lynden Branch Line

The Sumas-Lynden route is a short stretch served on an as-needed basis.

¹ Washington State Transportation Commission, Statewide Rail Capacity and Systems Study Task 1.1.A – Washington State's Freight Rail System – Technical Memo.
http://www.wstc.wa.gov/Rail/TM1_1_A_WashStateFreightRailsys.pdf



Figure 4: Burlington – Anacortes Branch Line

The Anacortes Spur of BNSF's Bellingham Subdivision extends 12.4 miles west from Burlington to serve refineries at March Point, Sierra Pacific, Cargill and a variety of smaller customers with daily rail service.



Figure 5: Intalco – Cherry Point Branch Line

The Custer Intalco line splits off the Bellingham Subdivision at Intalco, near the town of Custer, and runs southwest to serve a collection of industries at Cherry Point. BNSF operates two daily round trips on the line.



Figure 6: Marysville – Arlington Branch Line

Breaking off the Bellingham Subdivision at Kruse Junction, BNSF's Arlington Spur connects Arlington to the national rail network, and is classified by BNSF as an industrial spur. The line is served twice weekly by service based in Everett. A variety of local businesses are served.

II. Trains And Ports



Figure 7: Double-stacked freight train

Freight railroads provide various services. Intermodal services receive fully-loaded and sealed truck trailers or containers from ships or trucks directly onto railcars for transport. Intermodal shipments are generally higher-value, lower-weight commodities than unit or carload trains. They generally carry lower-volume, higher-weight commodities than intermodal trains. Examples of commodities shipped by carload include farm products, lumber, chemicals, and paper products.

Carload services are those that use a variety of railcar types to carry a range of commodities to a variety of customers. They



Figure 9: Single-unit coal

Unit carload trains are those in which every car in the train is shipped from the same origin to the same destination. They are used for high-volume goods, such as coal, solid waste, wheat, or any other suitable product gathered at one location for shipment.”²

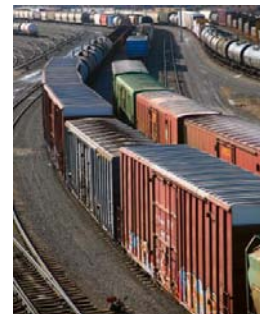


Figure 8: Mixed car freight train

² Washington State Transportation Commission, Statewide Rail Capacity and Systems Needs Study, 2006, p. 14. <http://www.wstc.wa.gov/rail/RailFinalReport.pdf>

Ports play a major role in rail related freight activity on the corridor. The Port of Seattle is a major intermodal container port as well as agricultural and break-bulk facility. The Port of Edmonds is bisected by the BNSF line and is working with the City of Edmonds on a Harbor Square/Downtown redevelopment plan. The Port of Everett has a new on-dock rail line and handles general break-bulk, fruits, logs and limited containers, as well as Boeing equipment through the Mt. Baker Terminal.

The Port of Anacortes exports logs, chemicals, and petroleum coke from the Anacortes oil refinery. The Port of Skagit County has no rail dependent businesses on site but leases land at Conway to Bell Lumber and Pole, which is served by a BNSF spur line. The Port of Bellingham handles break-bulk and liquid-bulk commodities, and is engaged in a major rail relocation initiative and waterfront district redevelopment of the old Georgia Pacific site with the City of Bellingham. It has also partnered with the City of Blaine on a downtown/waterfront development plan at the entrance of its Drayton Harbor facility.

III. Border crossing procedures at Blaine Port of Entry

While data regarding train delays for border clearances is not collected in the comprehensive way that it is for commercial vehicle crossings along the Cascade Gateway, interviews with former BNSF railway employees reveal a greatly improved border clearance procedure in both directions at Blaine since 2002. The last comprehensive cross-border rail study, the 2002 Cascade Gateway Rail Study, was completed for the IMTC project directed by the Whatcom Council of Governments.

Uncertain and sometimes long delays of several hours due to lack of inspection agency personnel was cited as a reason two crews were often needed to be dispatched from the Everett and New Westminster yards in the Vancouver, B.C., area to make the long run. Currently, inspection times average 60 minutes according to railroad operations personnel.

Border crossing inspection issues for BNSF trains vary depending on the direction of travel, whether the train is loaded or empty, and the type of cars and commodity. BNSF trains crossing the Blaine Port of Entry are primarily “unit” trains or “mixed freight”. Mixed freight refers to the movement of multiple car types or commodities within a single train. They are also referred to as “manifest” trains that move through classification yards where they are sorted and put on new trains to continue their trip to their destination.

Cars will generally travel on two or more trains to get from origin to destination. Mixed freight trains can often be identified by the variety of car types on the train. Instead of consisting of all coal or grain cars, a mixed freight train typically has boxcars, covered hoppers, flats, gondolas and other car types.

A unit freight train is composed of cars carrying a single type of commodity that are all bound for the same destination and do not need to switch cars at various intermediate junctions. They can make nonstop runs between two terminals.

Northbound into Canada, freight trains are subject to documentation of loads and inspection of all empty boxcars. If not sealed, the empty cars are visually inspected and then sealed. BNSF does an initial inspection of all northbound cars at either Interbay yard in Seattle or Delta yard in Everett. Seals are applied to the car doors at these locations, and for the most part stay intact during the trip north. If cars are picked up enroute the entire train has to be visually inspected at the border

entering Canada. In 2011, CBSA will require carriers, importers and brokers to submit more detailed data prior to arrival at the border.

Southbound at Blaine, BNSF trains are inspected by U.S. Customs and Border Protection (CBP) personnel as the cars pass through a VACIS machine. Each car is searched for complete load/empty status and carries a template indicating when it was built that must match the template programmed into the VACIS. If there is a difference, the car is visually inspected or set out on a stub track for further review.

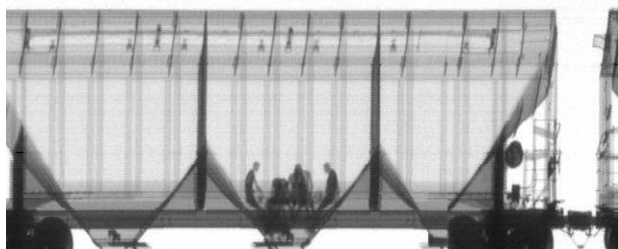
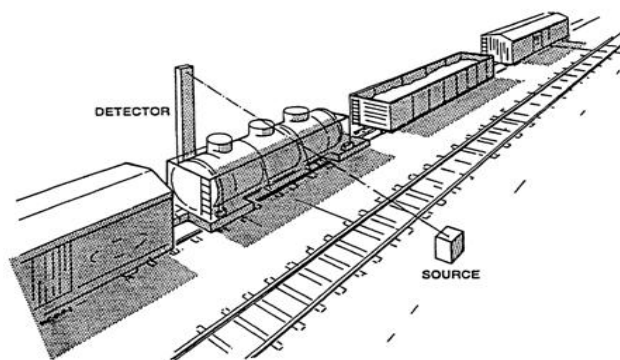


Figure 10: VACIS (Images courtesy of Bruce Burrows, Railway Association of Canada)



For documentation involved with the border inspection process, BNSF personnel located in Topeka, Kansas file a manifest of each train with border services after the train is made up in its originating terminal. This manifest is due approximately two hours prior to the train arriving at the border. In the case of unit grain or coal trains, this paperwork is fairly automatic and consistent, with few exceptions.

Mixed manifest trains are often more difficult for inspectors. The brokers of lumber and wood products are often late getting information to the railroad or the product is sold while enroute, causing different billing procedures.

Most of the crossings proceed without exception. Random exceptions or delays can back up trains. It is during these times that enough trackage is required to move trains that are cleared and do not require additional inspections to proceed and keep the line free flowing.

IV. Delays approaching Blaine rail crossing

Currently, the Colebrook siding is the first siding north of the U.S. - Canada border. A siding is a track parallel to a main track, with switches on both ends, used for meeting and passing trains. A switch is a mechanical installation enabling trains to be guided from one line to another.

The running time for a train to move between Colebrook and the Swift Customs siding is about 45 minutes. Dispatchers must make multiple decisions on train movements that have a number of variables including:

- whether a train is going to pass inspection
- arrivals of faster moving passenger trains (Amtrak *Cascades*)
- shift changes by border inspection services

These variables play into a dispatch decision to keep a train moving or held up in a siding. Stopping a train in a holding pattern with other trains continuing to progress toward the border adds to the congestion by narrowing the operational window.

The inspection process at the border can be greatly enhanced with more trackage at Blaine, giving the dispatcher the ability to make multiple movements when there are passenger trains moving in either direction, coupled with freight trains that require different types of inspections, both visual and electronic.

The randomness of mandated enhanced inspections also clogs the limited siding now being used at Swift. As noted later in the report, WSDOT has secured federal funding for an additional siding at Swift to reduce congestion. Expanded sidings at the border would provide for more inspection flexibility for future growth in addition to the extra siding at Swift.

In interviews with Terry Finn, Government Relations Director for BNSF and Doug Jones, General Manager for Division of BNSF, several issues were raised:

- Most of the corridor from the border to White Rock, B.C., where CBSA conducts the northbound inspection, is through the Semiahmoo First Nation Reserve, and access issues have been raised by the Semiahmoo First Nation. (Note: A Cascadia team held a site visit and interviewed First Nation councillor Joanne Charles and Chief Willard Cook concerning rail access and train speed.)
- Increased congestion on the east-west Roberts Bank rail corridor that BNSF uses to deliver coal to the Westshore Coal Terminal are causing the railroad to hold trains south of Bellingham. Due to the mix of unit and mixed manifest trains, the “randomness” of train times at the border can vary, making consistent and reliable crossing times difficult to predict. This unpredictability can cause backups to freight and passenger trains alike, and depending on the length or number of trains involved, can lead to crew service hours expiring, further clogging both the mainline and border crossing.
- BNSF employees who are Canadian citizens and travel for training sessions to Seattle are questioned at length by CBP personnel concerning their employment, causing delays in arrival. (Note: Cascadia will raise this issue with CBP.)

As referenced earlier, all southbound trains are required to pass through the VACIS system at Swift siding. In addition to the mainline, there is a siding (8,588 feet in length with a set out track on the south end) for any cars deemed to require additional inspection by the border personnel. To the west of the mainline is another set out track for these types of cars. No matter which track is being used, mainline or siding, the mainline is blocked during the inspection or set out process.



Figure 11: Southbound freight train approaching Blaine, WA

V. City of Blaine congestion concerns

In an interview, Blaine mayor Bonnie Onyon commented that the city has complained since 2003 about streets that are continuously blocked by BNSF freight trains passing through the VACIS machine. This can interrupt school schedules and emergency responders on Bell Road and Hughes Avenue/Peace Portal Drive. The roads are connectors between the city center, Semiahmoo and Birch Bay where many retirees reside. The City has requested that the VACIS screening be moved south to open the streets. At this time neither the Department of Homeland Security or BNSF Railway have plans to move the VACIS machine south on the siding.

VI. Inspection procedures: northbound operations

On the operational side, a potential change in inspection procedures could be considered by the IMTC based on our observation of current inspections at White Rock and a previous recommendation from the 2002 Cascade Gateway Rail Study which states:

“To aid in the handling of customs inspections on rail freight cars, a support track could be constructed immediately south of the Customs inspection shed at Swift, most likely on the west side of the existing main track...An additional recommendation is that U.S. and Canadian Customs inspection be performed at Swift. This will require institutional coordination, but the effect would be to free the main line of northbound trains stopped at White Rock for Canadian inspections.”³



Figure 12: Downtown Blaine, WA (For a larger area map, please see Appendix 1)

While the study recommended exploration of CBSA inspections of northbound trains at Swift, we believe that expanding the existing siding at Blaine could be another option. Locating the inspection site physically closer to the border poses fewer operational and legal challenges than at a Swift location.

³ Wilbur Smith Associates. *Cascade Gateway Rail Study: BNSF New Westminster, Bellingham and Scenic Subdivisions*. Rep. 2002. Page 5-6.



Figure 13: Rendering of the proposed Boardwalk in Blaine, WA
(Courtesy of the City of Blaine)

CBSA could physically inspect the train at the border with operating flexibility to remove the train from the mainline. The extended siding could also be constructed in concert with a planned Blaine downtown redevelopment that would include a Boardwalk, pedestrian overpass to the Port of Bellingham marina and potentially a passenger rail station if future service is provided.

U.S. and Canadian inspection agencies have developed some flexibility with border clearance locations for freight rail. Recently, Cascadia Center team members made a site visit during a Can-Am Border Trade Alliance to the Canadian National Sarnia Rail Yard and Tunnel in Ontario. The expanded tunnel opened in 1994 to handle tri-level auto rail cars. CN trains travel through a VACIS machine on the Canadian side of the border staffed by U.S. CBP personnel. Through improved procedures and electronic manifests, inspection times have been reduced from 2.5 hours to 20 minutes.



Figure 14: Blaine Train Depot

The WSDOT Rail Office has raised a concern that any change in the current inspection procedures for northbound trains would have a serious negative impact on travel time and efforts to fully implement pre-clearance procedures between CBP and CBSA for the Amtrak *Cascades* service at Pacific Central Station in Vancouver, B.C.

We agree. Our analysis is strictly limited to freight rail inspections, not passenger. Delays in freight train clearances due to lack of capacity and operational flexibility at the border can also negatively impact the Amtrak *Cascades* schedule (as indicated in earlier comments from BNSF concerning delays on the Roberts Bank rail corridor).

The IMTC rail subcommittee could review with BNSF, CBP, CBSA, Semiahmoo First Nation, WSDOT, B.C. Ministry of Transportation and Infrastructure, South Surrey/White Rock and Blaine the issues outlined above, with specific regard to the VACIS machine placement and northbound inspections at Blaine.

VII. U.S. Canada rail crossings – a broader perspective

The consultant team interviewed leaders in the rail industry for their perspective on current cross-border clearance procedures between the U.S. and Canada.

Cross-border freight frequencies and values at the Cascade Gateway are determined by a number of factors, including the shifting trade patterns within Asia markets and the effect on Midwest grain

fields and Rocky Mountain coal fields, construction industry variablies, and the cross-border energy dependence between Western Canada and Northwest states.

Since September 11, 2001, new supply chain security initiatives have emerged, including Customs Trade Partnership Against Terrorism (C-TPAT) and Partners in Protection (PIP). Rail shippers participate in C-TPAT and PIP as a means of securing their own supply chain and reducing the possibility of border delay. In addition, there have been many new border related IT initiatives, including CBP's Automated Commercial Environment (ACE), CBSA's Automated Commercial Information (ACI) and e-Manifest initiatives through the 2009 Bill S-2 Customs Act Amendment.

6. MEETING THE CHALLENGES: BORDER

- Significant investment in IT since the mid 1990's
- Rail is a leader with automated customs transactions / EDI data interchange
- Vast majority of domestic traffic includes BIG THREE auto companies, petro chemicals, forest products and some bulk—most are C-TPAT companies with low risk cargo
- Bottom line:
 - enhanced security & trade “go hand-in-hand”
 - rail most secure and reliable system
 - No common rules for risk assessment and inspection criteria
 - CBSA interdictions are at origin for U.S. exports; no such protocol yet with CBP



Major capital costs for railroads include infrastructure upgrades to support VACIS, cameras mounted onto locomotives, computer system upgrades, CCTV and other security equipment. Canada does not use the VACIS machine at the border relying on e-manifests and physical inspections.

The Railway Association of Canada displayed the accompanying slide at their May 2, 2011 presentation at the Can/Am Border Trade Alliance conference in Ottawa, Canada.

The consultant team attended the session and interviewed several rail leaders.⁴ Bruce Burrows, vice president of Railway Association of Canada, spoke of the “need for cross border harmonization” in regulations affecting rail. *“Shippers will benefit if federal tax and other policies are implemented to put Canadian railways on a competitive footing with the U.S.”*

Burrows also suggested the following:

- further harmonization with Federal Railroad Administration implementation of Animal, Plant Health Inspection Service (APHIS) fees;
- elimination of expanded passenger services being subjected to CBSA inspection fees (cost recovery)⁵

⁴ Cascadia Center conducted extensive interviews with regional stakeholders as part of this report. Many of the quotes in this report are from those interviews. Appendix 2, “Interviews and Community Outreach,” provides more details of those interviews.

⁵ On August 24, 2011, CBSA, in a media release, announced the extension of CBSA border clearance services to Amtrak's second daily train. The extension was based on a business case submitted by WSDOT. <http://cbsa.gc.ca/media/release-communique/2011/2011-08-24-eng.html>

Burrows noted that the U.S. Department of Agriculture and the Canadian Food Inspection Agency have proposed to remove an exemption that allows wood packing materials (WPM) from the United States to enter Canada without first meeting the same standards that apply to other countries. On a positive note, Burrows applauded the new Border Accord signed by President Obama and Prime Minister Harper, saying “There is now a better political atmosphere to reduce (and prevent new) barriers to cross-border trade and common practices and streamlined procedures that could lead to greater cooperation on border security.”

Mike Tamilia, director of transborder operations for Canadian National made these points at the same conference:

- the rail industry fully supports CBSA’s eManifest initiative and encourages full participation by all modes and carriers;
- minor adjustments for rail are needed to meet ACI requirements;
- electronic rail export manifest and train reporting needed.

Overall, Tamilia called out for a common set of U.S. and Canadian customs rules, risk criteria and inspection protocols. He also suggested expanding existing CBP and CBSA Cargo Security Initiatives (CSI) and Joint Targeting Initiatives (JTI).

United States – Canada Regulatory Cooperation Council

Both Burrows and Tamilia agreed that the opportunity provided by the Declaration on a Shared Vision for Perimeter Security and Economic Competitiveness signed by President Obama and Prime Minister Harper could advance some of these reforms through the “Regulatory Coordinating Council”.

“The accord aims to establish a new long-term partnership aimed at accelerating the legitimate flows of people and goods between both countries, while strengthening security and economic competitiveness.” Media Release, Office of the Prime Minister

On June 13, 2011, the Canada-U.S. Regulatory Cooperation Council announced that it held its first meeting in Washington, D.C., earlier in the month. Members discussed the development of a joint action plan which will outline the work that will be done in the short and long-term to align regulatory approaches in a range of sectors for Canada and the United States. Cross border rail clearance issues are among the list of topics.

The Council also discussed ongoing engagement of stakeholders, establishment of joint Canada-U.S. working groups in priority areas, and broad timelines for the two-year initiative. The next meeting will be held in July. Members agreed to the Terms of Reference for the Regulatory Cooperation Council, which establishes the mandate and principles for this initiative. See Appendix 3 for more information.

The consultant team attended a briefing organized by the Pacific Northwest Economic Region on June 9th in Seattle with David Jacobson, U.S. Ambassador to Canada. He commented:

"Both our countries should seize the moment and move ahead with a historic "perimeter security" agreement and a reduction in the regulations that impede cross border commerce...nothing is going to happen where the Canadians and Americans don't agree. We don't want to give up our sovereignty to Canada, and I'm confident that Canadians don't want to give up their sovereignty to the United States. That's just a non-issue...when it was time to do a deal, you had to do it. This is really very much one of those times. It is a time when we have to seize the moment."

Jacobson said the countries might develop joint facilities and harmonized programs within both countries and in other nations. They might reduce duplication of cargo inspections so goods that pass inspection by a U.S. agent would not require re-inspection by a Canadian agent before crossing the border.

On June 20, 2011, a Perimeter Security and Beyond the Border Dialogue session sponsored by the Consulate General of Canada and the Border Policy Research Center of Western Washington University featured Chris Gregory, senior Canadian representative from the Beyond the Border Working Group. Gregory said great progress was being made on the initiative with a fall completion date.

U.S. CBP Blaine port director Greg Alvarez attended the session and echoed Mr. Gregory's comments on the fast track of the effort. Alvarez was assigned to Washington DC headquarters to work on the Regulatory Coordinating Council and brought a local perspective to the process.

VIII. Shipping patterns near the border

Future cross border shipments of coal and other commodities by BNSF may be greatly influenced by a new facility near the border proposed by SSA Marine. The Pacific Gateway International Terminal at Cherry Point is approximately 17 miles from the border and would provide a major new commodity export facility for the West Coast. The proposal has sparked a significant community debate that came up repeatedly in our interviews. Concerns over noise, coal dust, traffic congestion, and health were raised in community meetings.

In an interview with Steve Bobb, vice president of coal for BNSF, cross-border shipment of coal was reviewed. Currently, 2-3 unit coal trains cross the border daily to deliver product to Westshore Terminal in Vancouver, B.C. Bobb said the proposed Pacific Gateway Terminal at Cherry Point would provide them operating flexibility for coal and other commodities noting that "Westshore Terminals at Roberts Bank has different types of coal from several sources in close proximity and is at capacity."

If the terminal opens in 2015 as planned, there could be a reduction in cross border coal and commodity shipments to Canada. Or, with increasing competition among West Coast ports for commodity traffic, there may be expanded cross-border commodities *from* Canada to the Pacific Gateway Terminal. This is based on a host of future factors including exclusivity of terminal contracts, changing world markets and ocean freight rates, Asia Pacific Gateway investments, fluctuating dollar values and even pilotage rates in Vancouver, B.C., ports.

Expanded facilities for potash at a new Port of Vancouver, WA facility and a proposed Millenium Bulk Facility at the Port of Longview designed for coal and alumina also raise the possibility of expanded Interstate 5 rail corridor rail activity that could be significant, although not as much as

the years 2004 to 2006 which witnessed a significant spike in southbound wood product shipments. A more in depth analysis of cross border commodities appears later in this report.

Access to the proposed Pacific Gateway Terminal is on the BNSF Cherry Point rail spur which splits off the main line at Intalco, near the town of Custer and serves a collection of industries at Cherry Point. BNSF operates two daily round trips on the line built in 1965 to serve the Intalco aluminum smelter, and later a series of petroleum-related industries.

In the "Project Information Document" submitted to regulatory agencies in February 2011 by SSA Marine of Seattle, plans to build two track loops on site to get rail cars to a deep-draft pier were presented. An East Loop would be constructed by 2015 to handle up to 25 million tons of low sulphur coal from the Powder River Basin in Wyoming and Montana. A West Loop for grain as well as calcined petroleum coke, an oil refinery byproduct produced at BP Cherry Point, and potash which is used for fertilizer and sources primarily from Saskatchewan, would be completed in 2017 for 6 million tons of additional capacity.⁶

While the majority of the proposed Terminal is designed for open storage of coal, enclosed elevators would handle the other commodities. With 80 feet of water depth, the facility would be capable of handling "capesize ships" up to 250,000 dead weight tons.

At a local agricultural forum in May 2011 sponsored by SSA Marine, Greg Guthrie from BNSF's marketing department pointed to increased farm production in the Midwest, BNSF's investments to serve export markets and rising Asian demand for grain as reasons for the company's interest in the terminal project.

The entrance to the subdivision at Custer has the potential to create an operational bottleneck if the train frequencies expected by the Terminal materialize. Industry switch engines, slowly moving loaded coal trains and the resulting empties could result in volumes of traffic that would tax the mainline and small yard that is located at Custer. With closeness of the border to the Custer Intalco line, future congestion may result.

Other shippers in the Cherry Point area rely on schedule reliability. To meet current market conditions, Mark Hinders, operations manager at Energy Logistics, which transports petroleum products from the BP refinery, indicated that they were actively pursuing new customers from Canada and the U.S. and would need more predictable rail service. "Deliveries from BNSF Railway are sometimes random and my customers need predictability. Any infrastructure or operational improvement at the border or in Everett terminal would be welcome," said Hinders.



Based on review at the SSA Marine submission (Project Information

⁶ [John Stark, "Documents: Cherry Point initial cargo would focus on coal, produce fewer jobs" Bellingham Herald, May 29, 2011.]

Document) and interviews with local shippers, the IMTC rail subcommittee could consider a future extension of the siding from Custer to Swift, with double crossovers in the middle which would have the effect of creating multiple areas to stage and pass trains trying to access the Cherry Point industrial area. They might also consider extending the current siding at Blaine (approximately 4,000 feet) south to at least 8,000 feet to allow the staging of trains closer to the border. This project would be considered after completion of the new federally funded Blaine double-sided project.

Note: These observations are based on interviews with shippers, and information from SSA Marine documents. No operational modeling was done between Bellingham and Vancouver, B.C., due to a limited budget. An additional \$75,000 would be needed for modeling. Our recommendations were based primarily on interviews with shippers, rail operational personnel and local leaders.

IX. Estimated costs of improvements

Without the previously referenced modeling north of Bellingham, costs of the proposed siding extensions can only be estimated at approximately \$2 to \$4 million per mile based on construction and environmental experiences from other recent WSDOT and BNSF siding projects on the corridor. Information on these projects was derived from WSDOT project reports.

Blaine/Swift siding: \$6 million in state and federal funds to increase rail line capacity at the Swift Customs facility.

Mt. Vernon siding: June 2011 estimate by WSDOT of \$7.1 million with closing of Hickox Road.



Stanwood siding: completed at cost of \$15.95 million primarily because of wetland issues and the need to upgrade two crossings, at Dettling Rd./300th St. and 102nd Ave, with new signals and crossing arms.

Figure 15: The Stanwood Station as it appeared in 2010.

X. Compatibility with Existing Plans

Pulling back from the immediate border area, we examined recent transportation plans in Washington and British Columbia to see how they matched.

From a 2006 state rail capacity study introductory letter from Transportation Commission chairman Dick Ford to Governor Chris Gregoire and members of the Legislature:

“...the study also concludes that the rail system is nearing capacity. Service quality is strained and rail rates are going up for many Washington state businesses. The pressure on the rail system will increase as the Washington State economy grows. The total freight tonnage moved over the Washington state rail system is expected to increase by about 60 percent between 2005 and 2025....The I - 5 BNSF line operates at between 40 and 60 percent of practical capacity in most sections, but is subject to frequent stoppages when trains tie up the mainline to enter and exit the many ports, terminals, and industrial yards along the corridor. Some half dozen sections are chronic choke points, causing delays that ripple across the entire Washington state and Pacific Northwest rail system.”⁷

For an overview of the Washington state rail system average train counts and capacities see Appendix 4. Additionally, choke points in Washington can be viewed in Appendix 5.

In 2009 the WSDOT Freight Rail Plan (2010-2030) reviewed the capacity needs of the I-5 BNSF rail corridor from Portland, Ore. to Vancouver B.C.:

“Currently, BNSF has no public plans, other than those announced to support intercity passenger train volumes, to increase capacity over the route. From a freight perspective, BNSF believes sufficient capacity exists for the foreseeable future. Indeed, BNSF’s planning staff sees nothing in this corridor as “freight driven” with the current volumes at this time. Increased volumes may require capacity improvements.

In the future, it will be very important to monitor the capacity versus demand of this corridor and prepare capacity improvements to meet the growth projections. This will require coordination between all stakeholders and partners to ensure that capacity is available for this corridor and its communities to meet their respective needs. This may require a true public-private partnership including regional agencies (such as metropolitan planning organizations), Sound Transit, Amtrak, rail freight customers, ports, local communities, as well as other stakeholders.

Public funding could include safety improvements, such as grade separations.⁸ Private railroad funding could include improvements, such as longer sidings or additional mainline tracks. BNSF has stated that the funding of these longer sidings and additional mainline tracks should not be the exclusive responsibility of the private railroads, when the need is driven by passenger rail service or the need to preserve freight rail service due to increasing passenger rail service.”⁹

XI. Pinch points for freight

Further perspective from WSDOT Freight Rail Plan:

“There are two additional areas (Everett and Bellingham) along the I-5 rail corridor that may need improvements in the future...The single-track Everett Tunnel, which is located through Everett on the mainline south of the convergence of the Stevens Pass mainline and the mainline to Blaine, is handling an increasing number of passenger trains. The increase of

⁷ State Rail Capacity and Systems Needs Study January 2007 Executive Summary page 3.

⁸ A grade separation is when an at-grade road that crosses a rail line is separated from the rail line by elevating the road as an overpass over the rail line or the rail line on a trestle.

⁹ Washington State 2010-2030 Freight Rail Plan December 2009 Executive Summary ES-15.

passenger traffic impacts freight capacity through the tunnel. A solution to this conflict is the proposed Bayside Bypass that would extend a line from Delta Junction down the Bayside industrial track and connect back into the Seattle mainline at Everett Junction. In the future the BNSF may construct the Bayside Bypass route, but this project is unlikely to cause access problems to port properties...

In Bellingham, the city and Port of Bellingham are developing plans to convert the former Georgia Pacific industrial site into a mixed use waterfront development. As part of this project, a sharp curve in the BNSF mainline track near the site will be removed and the tracks moved further to the east. The relocated tracks will allow passenger and freight trains to travel at a slightly higher speed through this area.”¹⁰

Since the report was issued, WSDOT has completed or will complete two siding projects which will reduce congestion on mainline and will benefit cross-border freight operations.



Stanwood Siding (\$15.95 million): Expansion and upgrading of an existing shorter siding in Stanwood that caused up to 70-minute passenger and freight train delays. More detailed information is available from the project report.¹¹

Mt. Vernon siding (\$7.1 million): WSDOT and BNSF collaborated to develop a two-phased plan to extend the siding for passenger and freight rail use and close Hickox Road. According to WSDOT, “The first phase of construction began in March 2005 to upgrade the siding and is complete. Improvements associated with the closure of Hickox Road may be constructed in 2011. The siding extension work will not begin until late 2011 at current funding levels. The second phase, to extend the siding, is on hold until additional funding from FRA is released.”¹²



¹⁰ Washington State 2010-2030 Freight Rail Plan December 2009 Appendix 5-B: Port Access Projects Appendix 5-B3.

¹¹ Project - Rail - Stanwood Siding Upgrades - Complete February 2011." *Washington State Department of Transportation*. 2011. Web. 29 June 2011. <http://www.wsdot.wa.gov/projects/rail/pnwrc_stanwood/>.

¹² "Project - Rail Project - Mt. Vernon Siding Upgrade." *Washington State Department of Transportation*. June 2011. Web. 29 June 2011. <http://www.wsdot.wa.gov/projects/rail/pnwrc_mtvernon siding/>.

In May 2011 several projects were awarded funding as part of a \$145 million High Speed Intercity Rail Grant (HSIPR) to WSDOT.¹³

- **Everett Storage Track - \$3.6 million**

Train switching activities at Delta Yard frequently cause delays to Amtrak *Cascades* service. New storage tracks long enough to accommodate 7000 ft. long freight trains will reduce congestion on the main line by minimizing the time trains arriving and departing the yard block the main line.

- **Cascades Corridor Reliability Upgrades – North (Everett to Blaine) - \$58.4 million**

This project is located on the BNSF mainline between milepost 8.8 in Everett to milepost 119.1 in Blaine. Specifically, this project would improve track quality, reliability, and passenger ride comfort by increasing track class of track infrastructure.

- **Blaine – Swift Customs Facility Siding - \$5.13 million**

This project provides a second siding track to allow freight trains awaiting customs inspections to move out of the way of oncoming Amtrak *Cascades* trains. The new second siding will allow freight train inspections to occur clear of the main line, helping ensure that passenger trains operate on-time. In addition, the upgrade to the existing active warning devices at the at-grade Loomis Trail Road will improve safety for motorists, rail workers, and passengers.

Other projects included in the August 2009 WSDOT High Speed Intercity Passenger Rail Program (HSIPR) application that are relevant to Seattle to Blaine corridor are excerpted below and include:

- **Bellingham Rail Relocation - \$1.8 million**

This project will relocate and realign the main line through a former industrial area in downtown Bellingham. The new alignment roughly follows an alignment that was abandoned by the Milwaukee Road Railroad. It will allow passenger and freight trains to move through the area about one minute faster and will keep freight trains from slowing before they begin to climb a 1.1 percent grade northward. The bridge at Cornwall Avenue, built to the accommodate 1950's Milwaukee Road clearances, will be replaced with a span that has improved clearances to accommodate modern rail traffic on the new track alignment. The new alignment and the new bridge avoid two at-grade crossings. A third at-grade crossing at Pine Street may also be closed. This will also allow the city and port to redevelop the waterfront area.

- **Everett – Curve Realignment - \$5.3 million**

This project realigns curves and upgrades grade crossings, bridges, and signals, and constructs a new track to improve speeds for passenger trains up to 50 mph, a 15-20 mph increase. Phase II of the project was originally part of the initial scope of the Everett Curve Realignment and Storage Tracks, but the larger project was broken into separate project phases with independent utility in 2006. This project phase extends generally between C-Line Jct. and the Snohomish River Bridge on BNSF Railway's Bellingham Subdivision. It will involve realigning curves near the intersection of Pacific Avenue and Chestnut St. as well as the grade crossing at Railway Avenue and locations along the hills below East Grand Avenue. At a point where the main line is adjacent to the Snohomish River and travels under Interstate

¹³ "Summary of Track 1 Projects – High Speed Intercity Passenger Rail Program Funding Application." Washington State Department of Transportation. Aug 2009.

5, main track would be realigned, which may require some of the river to be filled. A new main track will be built adjacent to the two storage tracks which today sit on the back of the existing main track...This project will reduce the Seattle – Vancouver, B.C. schedule by at least two minutes and greatly improve on-time performance.

- **Seattle – King Street Station Track Upgrades - \$8.4 million**

This project will build on work in the King Street Station – Track Improvements – Phase 1 project currently under way. It will allow access from all main lines to all station tracks and improves on-time performance for trains entering or leaving King Street Station from the north. Improvements include track upgrades, platform upgrades, switches and interlocking signals to allow for Amtrak long distance, Amtrak *Cascades* and *Sounder* commuter trains to move in and out of the station simultaneously both north and south-bound. The extensive track work will also require the existing bridge above the tracks that carries the intersection of Second Avenue Extension and Jackson Street to be rebuilt to relocate bridge supports.

Other significant projects in the corridor include:

Advanced Signal System – Positive Train Control: This project is a legal requirement by the year 2015 and is being built by BNSF to meet those requirements. This application is for the element of the project that is attributable to intercity rail.¹³

XI. Canadian rail related studies

Currently, three Canadian-owned railroads and one U.S.-owned railroad operate within the greater Vancouver area; Canadian National Railway (CN), Canadian Pacific Railways (CPR), Southern Railway of British Columbia Ltd. (SRY), and Burlington Northern Santa Fe Railway (BNSF).¹⁴

| Table 1: Vancouver, B.C., major commercial freight projects | | |
|--|---|-------------------|
| Rail Project | Description of Project (motivation is noted in parentheses) | Trains/Day |
| New Westminster Rail Bridge | Replacement of the existing 100-year-old rail bridge with two-track tunnel. Tunnel preferred because this will avoid conflict with marine traffic. (Capacity of existing bridges causes significant delays, which will worsen in the future.) | 46 |
| Pitt River Rail Bridge | Short-term upgrade and long-term replacement of existing two-track bridge. New bridge to have more efficient swing bridge mechanism (Current swing bridge causes additional marine traffic delays and CP Rail crossing delays.) | 45 |
| Roberts Bank-41B Grade Separation | Construct an overpass at 41B Avenue in Delta to provide separatism between the rail line to Roberts Bank. (To permit unrestricted switching of trains and to permit longer trains at Robert Bank. Increases optional efficiency.) | 22 |
| Mud Bay Area West Leg of the Wye | Construct a connection between the BNSF line and the B.C. Rail Line to Roberts Bank to permit the movement of south to west/east to north. (Relieve congestion on Roberts Bank route-shorter route for southbound trains.) | 13 |
| BN New Yard to Spruce St. Double Track | Provide two tracks between the New Westminster Rail Bridge and the BN Yard. (To provide support for new Fraser River rail crossing because approach track has limited capacity.) | 46 |
| Siding Colebrook North & South | Construct new siding on the BNSF line north of east west B.C. Rail line. (Increase capacity on BNSF line from U.S. Border to NWRB, necessary for proposal increase in Amtrak usage) | 12 |
| Siding & Guide Sep-Colebrook East & West | Extend siding on the B.C. Rail line east of the north section of BNSF line. (Increases capacity on Roberts Bank route. New siding on B.C. Rail line west of the north section of the BNSF line.) | 22 |

Source: National Cooperative Highway Research Program, Report 586: Table 3-2.

¹⁴ “Summary of Track 2 Projects – High Speed Intercity Passenger Rail Program Funding Application.” Washington State Department of Transportation. Sept 2009.

All four railroads have operations on the south shore of Port Metro Vancouver but only CN operates exclusively on the north shore. All CN, BNSF and SRY traffic entering the downtown Vancouver area from the east cross over the New Westminster Bridge on the Fraser River. The two round trip Amtrak *Cascades* trains also cross the bridge. Appendix 6 illustrates the rail lines in the Vancouver, B.C. area.

In 2003, the planning process for the Major Commercial Transportation System (MCTS) for the Vancouver region identified a set of surface transportation projects designed to support a balanced flow of rail and truck movements. The “Current and Planned Infrastructure List” above in Table 1 identified new investments totaling \$6.9 billion to improve the economic health of the Vancouver Gateway.

This list became the foundation of the Asia Pacific Gateway Council initiative more formally launched in 2006 as a partnership between airports and seaports, freight transportation companies (airlines, railroads and trucking), B.C. Ministry of Transportation and TransLink.

The Cascade Gateway study and the MCTS prioritization process identified the replacement of the then 100-year-old New Westminster Bridge as a major priority.

“This bridge is approximately a fifth of a mile long and spans the Fraser River. It is owned by the Canadian government and used by the BNSF, SRY, CN, Amtrak, VIA and Rocky Mountain Rail Tours. The bridge has limited clearance above the Fraser River. Thus, it includes a “swing” span that opens to allow marine traffic to pass up and down the river. The rail line on the bridge is single track, with a severe speed restriction. The current operating speed across the river is only 8 mph or 13 kph. The study estimated that opening of the swing bridge for marine traffic consumes over 30 percent of the overall availability of the bridge.”¹⁵

In the 2008 Mid Range Plan for the Amtrak *Cascades*, WSDOT listed the *Cascades* frequencies between Seattle and Vancouver at two roundtrips. Since then, new federal funding has resulted in several projects referenced above between Seattle and Everett.

In the 2006 Long Range Plan for Amtrak *Cascades*, WSDOT identified a series of projects (as seen in the figure below) including replacement of the New Westminster Bridge that would benefit cross border freight movement and passenger rail. The projects needed to be undertaken by British Columbia to achieve the goal of four roundtrips between Seattle and Vancouver B.C. by 2023. The projects would also reduce the travel time of 3 hours and 55 to 2 hours and 37 minutes.

¹⁵ Cascade Gateway Study, Wilbur Smith Associates, 2002. Page 5-2.

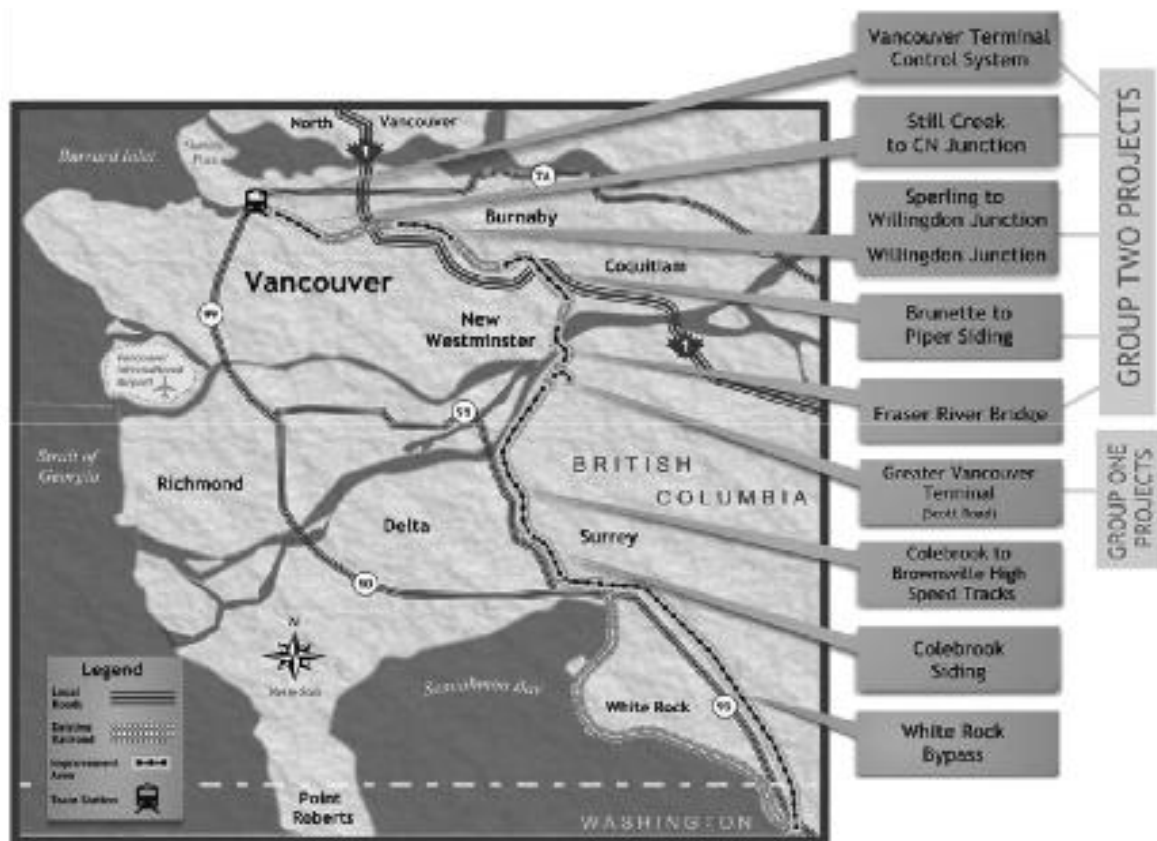


Figure 16: Vancouver, B.C. Project Improvements

Even without expanded Cascades service, congestion exists between Colebrook and New Westminster. Near the New Westminster Bridge is a small switching yard at Brownsville where interchange is handled for Southern Railway (SRY) and dispatch is conducted for arriving and departing BNSF trains. It is also a support yard for rail cars that travel down the Tilbury line where they are loaded onto barges for the trip to Alaska and points north of Vancouver, B.C.

Volumes during certain parts of the year can be quite large. Also located around Brownsville are local shipping yards that handle wood products and raw materials, all of which are served using the Brownsville yard tracks. As these tracks are being accessed, the mainline is used as the switching lead for different train movements. If more than one train is in the area, the backup brings all switching and other train activity to a halt. At the north end of the line, most of the BNSF trains originate and terminate in the Canadian National Railway's Thornton Yard in Surrey, east of the Fraser River Bridge and BNSF's New Westminster Yard.

In 2006, CPR started handling CN trains destined for the south shore while CN operates trains of both railroads destined for the north shore.

XII. Roberts Bank Rail Corridor Project: model for north south rail partnerships

The British Columbia Railway Company (BCRC) is a provincial crown corporation on the rail line extending from Pratt, in the Fraser Valley, to Roberts Bank. This wholly owned subsidiary operates the Port Subdivision, the 24-mile railway line connecting three major railways (CN, CPR and BNSF)

with the port terminals at Roberts Bank. Although it does not operate its own trains on this railway line, BCR Properties maintains the track and manages all train operations, recovering its costs from the three user railways based on their respective share of traffic over the line.¹⁶

BNSF is a partner on the 43-mile Roberts Bank Rail Corridor which connects Canada's largest container facility and a major coal terminal at Roberts Bank (south of Vancouver) with the North American rail network. In February 2007, the Roberts Bank Rail Corridor: Road/Rail Interface Study prioritized the optimal locations for investment in road-rail projects through a partnership of the Government of Canada, the Province of British Columbia, the Vancouver Port Authority, TransLink, the Greater Vancouver Gateway Council, affected municipalities and the railways. The Roberts Bank Rail Corridor consists mostly of single rail track and currently carries up to 18 trains per day ranging from 6,000 to 9,500 feet in length. The volume of train traffic is expected to increase to 28–38 trains per day by 2021, and some train lengths are expected to increase up to 12,000 feet.

The corridor has about 66 road-rail crossings. The partners in the project will contribute a total of \$307 million for the construction of nine road-rail projects. Additionally, the railways will invest in rail infrastructure to increase capacity along the corridor to meet the needs of shippers and improve supply chain efficiencies. Work on the project is expected to begin late this year, and will be substantially completed by the end of 2013.

One of the City of Surrey projects in the Roberts Bank Rail Corridor is closure of street level railway crossings. Colebrook Road will be extended along the north side of the railway. A new street level



railway crossing of the Burlington Northern Santa Fe Railway will be constructed for access to Mud Bay Park; the street-level crossing protection at 144th Street will be upgraded for whistling cessation.


Figure 17: Conceptual rendering of the Roberts Bank grade separation at 192nd St. (Courtesy of Transport Canada)

¹⁶ BCRC's 2009 Annual Report offers more context and perspective. It can be found online at the following Web address: <http://www.bcrco.com/2009report.pdf>

CANADA'S ASIA-PACIFIC **GATEWAY AND CORRIDOR INITIATIVE**
 L'INITIATIVE **DE LA PORTE ET DU CORRIDOR** CANADIENS DE L'ASIE-PACIFIQUE

**Roberts Bank
 Rail Corridor**
**Corridor
 ferroviaire
 Roberts Bank**

Lower Mainland (BC/C.-B.)

 New road-rail grade separations
 Nouveaux sauts-de-mouton route-rail

CN's (red) and CPR's
 (blue) rail networks in
 North America

Réseaux ferroviaires
 du CN (en rouge) et du
 CFCP (en bleu) en
 Amérique du Nord



Source: Transport Canada, 2007.

XIII. Routing options to Canada

Option A. Colebrook Wye, Hydro Wye and connections through Roberts Bank Rail Corridor

We believe an option to expand the Colebrook siding with a wye (used to change the direction of a train), and with an additional wye at the Hydro junction, could allow an alternative routing for BNSF trains bound for Thornton Yard, owned by Canadian National. The IMTC rail subcommittee could propose this option be introduced for consideration in the Roberts Bank rail corridor program.

Today, all Amtrak *Cascades* and BNSF freight trains traveling toward Vancouver are required to utilize the same trackage between Colebrook and New Westminster, whether they are going into Vancouver or Thornton yard, where the majority of trains are bound. Currently, CN segregates trains for BNSF at Thornton (two or three trains a day). With the addition of the wye track, BNSF trains could by-pass 9 miles of single track line between Coebrook (Mud Bay) and New Westminster. The siding is north of the wye.

Trackage rights for BNSF to navigate approximately 15 miles on non-BNSF tracks and the increased mileage that BNSF crews would need to be compensated or would have to be negotiated. This alternative alignment could also enhance southbound access to U.S. ports by CN for commodities such as coke, grain and potash by eliminating the need to handle U.S. bound commodities in Thornton Yard.

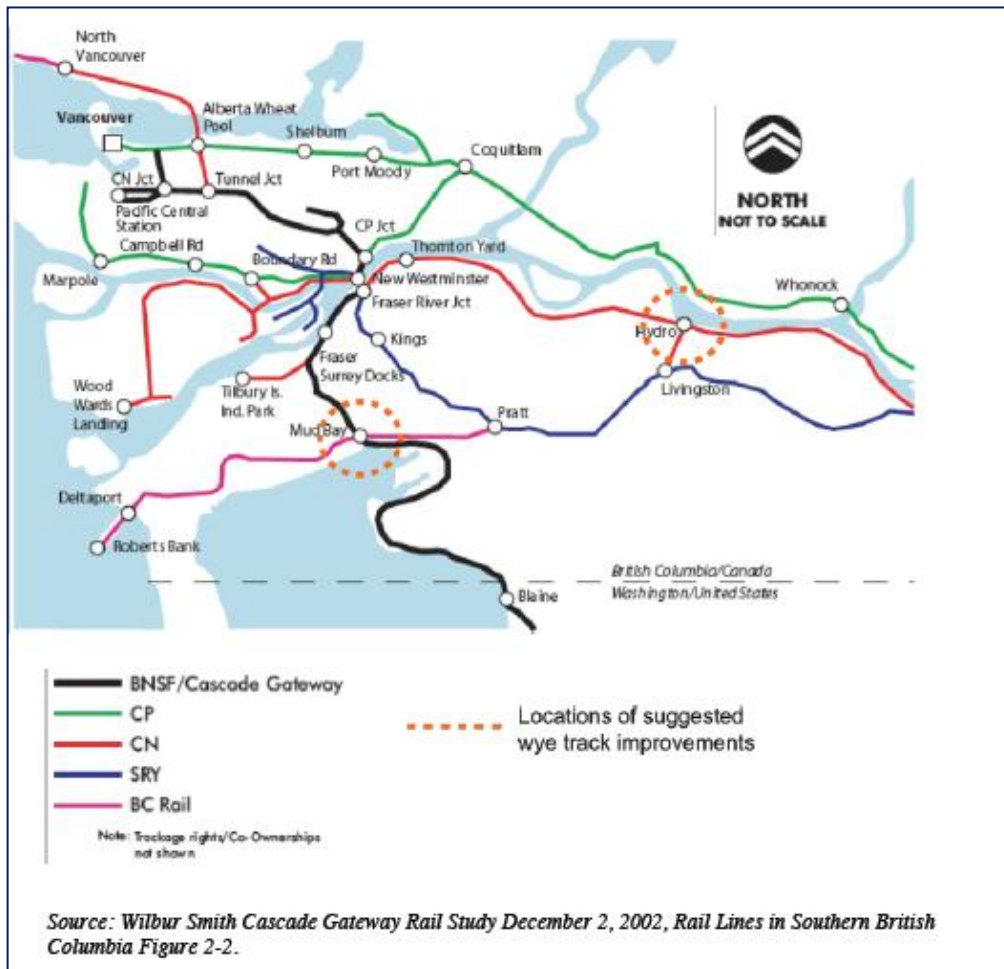


Figure 18: Locations of suggested wye enhancements



Two new wyes at Colebrook and Hydro might offer additional operating flexibility for BNSF and CN. And by providing an eastbound access to Thornton Yard for BNSF it could reduce congestion at the approaches of the New Westminster Bridge and Brownville Yard. This alternative would add BNSF rail traffic to the existing Roberts Bank Rail Corridor.

Figure 19: Colebrook wye suggested improvements (For a more detailed version, please see Appendix 7)

For Canadian support, an alternative routing would have to fit into the overall strategy of the Roberts Bank Rail Corridor and the goals of the Asia Pacific Gateway and Corridor Initiative to enhance global competitiveness while mitigating community impacts from additional freight train frequencies. There is precedent for BNSF and CN west to east service along the Roberts Bank rail corridor.

“Friday, Feb 18 (2011) saw the first train load of Wyoming coal pass through the Vancouver B.C. area on its way to Prince Rupert B.C. for transload to ocean ships. Much has been speculated and written lately on the start up of these shipments and ultimately these loads may cross in to Canada from Sweetgrass Montana, run over CP to Edmonton and CN west to Prince Rupert. For now they will use a BNSF/ CN routing (Roberts Bank Corridor) that is much longer. It is interesting to note trains from/to Vancouver use a directional running agreement which sees all eastbounds use CP for 157 miles from Mission to near Ashcroft with westbounds using CN. However, this new coal train (running as CN train 722) ran against the current of traffic...(primarily because of lesser gradient)”¹⁷

An alternative alignment could also enhance the capacity of the BNSF line from Colebrook to the New Westminster Bridge for additional Amtrak *Cascades* service. In 2007, the Province of British Columbia, Amtrak, and BNSF funded a \$7 million, 11,000-foot siding track near Colebrook Road in Delta, B.C to enable a second Amtrak *Cascades* train to begin service in 2009.

The interface between north/south and east/west freight through a Colebrook Wye has been reviewed before. As previously referenced, the 2003 Major Commercial Transportation System (MCTS) project list included, “Mud Bay Area West Leg of the Wye – to construct a connection between the BNSF line and the B.C. Rail Line to Roberts Bank to permit the movement of south to west/east to north. This would relieve congestion on the Roberts Bank corridor and a shorter route.”¹⁸

¹⁷ West Coast Railway Association. “Powder River Coal to Prince Rupert.” *Railway News* (Apr. 2011): 1.

¹⁸ Economic Impact Analysis of the Major Commercial Transportation System Canada/B.C. Western Economic Partnership Agreement 2003

Option B. Routing some BNSF traffic through Sumas to Thornton Yard

Several freight stakeholders suggested a feasibility analysis should be conducted on routing some freight traffic to Thornton Yard along the Burlington Sumas line to the border with a connection to CPR and SRY to CN at Mission, B.C. The line is 44.7 miles and served by a daily BNSF run. The line has value because of the international crossing. BNSF interchanges with Canadian Pacific Railway and the Southern Railway of British Columbia at Sumas. The line operates at a top speed of 40 mph on jointed rail (track in which the rails are laid in lengths of around 20 meters and bolted to each other end-to-end). The line is restricted to 134-ton railcars from Burlington to Lawrence, but 143-ton cars are permitted from Lawrence to Sumas.

The Sumas route was built by the Bellingham Bay and British Columbia Railroad (BB&BC RR) which eventually joined the Milwaukee Road. It had tracks extending from Bellingham northeast through such places as Van Wyck and Goshen before joining up with the north-south line that linked Sumas to Sedro-Woolley and Burlington. But that link was abandoned when Milwaukee Road shut down after the business of transporting ore to a Bellingham cement factory ceased.

“If the goal is to provide an alternative, less congested route to Thornton, the Burlington Northern Sumas route connecting at Mission with an eastern approach to Thornton could be upgraded to handle the cargo anticipated without having to run on the Roberts Bank rail corridor which will see increased traffic.” - Interview with Frank Butzelaar, CEO Southern Railway.

The use of the Burlington Sumas line for an alternative routing of potential coal traffic to the proposed Pacific Gateway Terminal was advanced by Bellingham Mayor Dan Pike for consideration in the EIS process for a proposed Pacific Gateway Terminal at Cherry Point. In a request to BNSF, Pike stated that “the Burlington to Sumas route instead of the coastal route running through Bellingham should be studied. Requiring use of Burlington Northern’s Sumas route as the primary route for Cherry Point SSA deliveries, as well as for the current deliveries to Robert’s Bank, would actually reduce freight all along the shoreline and through Bellingham while benefiting passenger rail timetables and the ability to expand passenger service...and meet future market conditions for BNSF and SSA.”[City of Bellingham, Mayor’s Office. “Perspective on the proposed SSA Marine Gateway Pacific Terminal at Cherry Point” March 2011]

The most direct routing for coal shipments to Pacific Gateway Terminal would be from Sumas to Lynden on the Burlington Sumas lines and construction of a new rail line along the old Milwaukee line from Lynden to Cherry Point. The idea of a new rail line to bring coal to Cherry Point is not new.

The Bellingham Herald reported in March 1982 that “the Mt. Vernon Terminal Railway applied to the then Interstate Commerce Committee (now Surface Transportation Board) to build a line to serve Asian coal and other commodity markets...Port of Bellingham manager Tom Glenn said the port had explored the idea of extending a Burlington Northern line west from Lynden to Cherry Point...But officials decided that acquiring right of way across farmland and constructing grade crossings would be a bigger headache than moving the trains through Bellingham.”¹⁹

Certainly, an I-5-Lynden-Cherry Point rail interchange would be an overpass or underpass and a costly project. While the Whatcom County Comprehensive Plan includes an “east-west freight rail proposal” as a dotted line from Lynden to Custer and Policy 6P-2 states: “Consider proposals for an

¹⁹ March 5, 1981 Bellingham Herald story. “Mount Vernon railroad wants Cherry Point line”

east/west rail freight corridor” there has been no active discussion among county planners. There has been community led effort to develop a trail along the corridor.²⁰

In an interview, Acme community activist Jeff Margolis said, “SafeGuard the South Fork is organizing our community to address the potential impacts of the proposed Gateway Pacific Terminal and we are concerned over proposals by Bellingham to route trains through our towns...” SafeGuard the South Fork wants the EIS process to include the impacts of coal trains through Whatcom County.

BNSF executives went to Bellingham on Tuesday, May 10, 2011 to discuss these issues with Mayor Dan Pike and later Suann Lundsberg, spokesperson for BNSF, who said the Mayor’s proposed alternative to Bellingham was impractical. In our interviews with BNSF and through a review of previous freight rail studies, the costs of upgrading the line from Burlington to Sumas would be in the hundreds of millions of dollars.

²⁰ Whatcom County Comprehensive Plan, May 2009, Chapter 6 Transportation (pages 6-14 and 23)

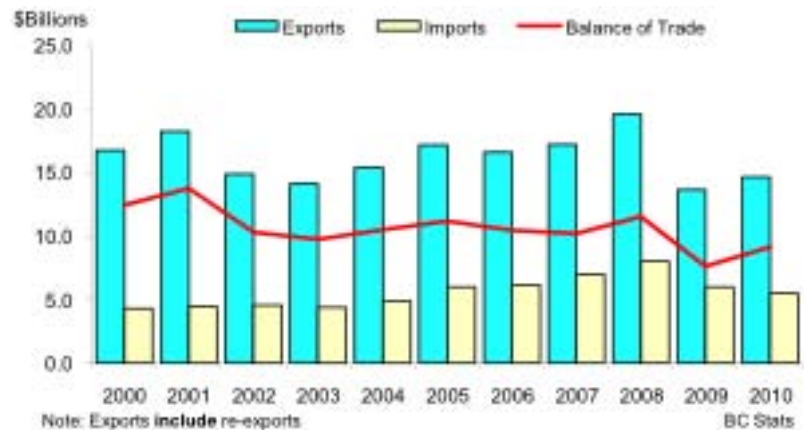
TASK 1 - ECONOMIC ANALYSIS

OVERVIEW OF FREIGHT TRAFFIC PATTERNS

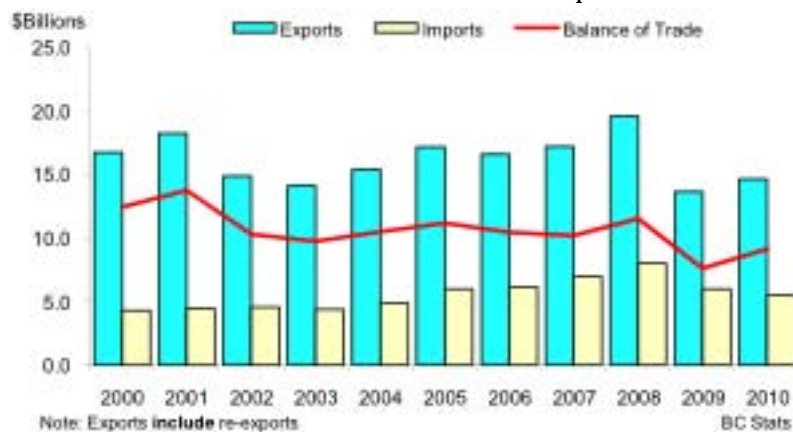
British Columbia – Washington trade for 2010 is on an upward swing

A great variety of merchandise passes through the Blaine Gateway in both directions, along both the BNSF main line and I-5 including lumber, coal, chemicals, fish products, machinery and grain. For this report, we examined data from the U.S. Bureau of Transportation Statistics – North American Transborder Freight Data Base, Statistics Canada and the Railway Association of Canada. Cross border data from the International Mobility and Trade Corridor project and the Border Policy Research Institute of Western Washington University was also useful.

Table 2: B.C. Origin Exports to Washington



The databases reviewed focused only on dollar value of cross border freight providing a limited analysis. During the Transportation Border Working Group Cross Border Peer Exchange session in Burlington, Vermont on May 25, 2011, Bob Leore of Transport Canada stated that other data such as weight and number of railcars crossing the border is necessary to better represent grain and other bulk commodities. He indicated Transport Canada would share that information with Chris



Dingman at Federal Highway Administration (FHWA) who would further refine it. (Note: we have requested the additional data from FHWA).

Mike Tamalia of Canadian National also indicated at the session that the rail freight industry had cross border freight data available and would provide it so a more comprehensive view of the importance of cross border freight flows could be developed.

Table 3: Canada's Balance of Trade in Goods with Washington

Our information was derived from interviews with BNSF railway operational personnel and shippers. We did encounter some reluctance by a few shippers to share proprietary information – a common cross-border challenge. In our interview with Mike Henderson, Director General of the Pacific Region for Transport Canada, he noted that during the 2011 Asia Pacific Gateway stakeholder session with Transport Canada Minister Chuck Strahl, the three Class One Railroads

that serve the Lower Mainland were hesitant to share information on projected cargo volumes and markets due to the competitive nature of the rail business along the entire West Coast.

While not focused specifically on Washington-B.C. rail activity, the aforementioned Washington 2010-2030 Freight Rail Plan was particularly helpful in providing information on port and rail intermodal sites, and economic forecasts for the northern section of the I-5 BNSF Rail corridor. The State Rail Capacity and Systems Needs Study of 2006 also contained excellent data on future freight forecasts.

The Cascade Gateway Study of 2002 by Wilbur Smith Associates included a cross-border freight forecast focused on projected increases based on double stacked intermodal service that was never implemented. IHS Global Insight subsequently acquired the sub-consultant, Reebie Associates.

Expanding data collection on freight rail activity by the IMTC at the Blaine port of entry through a larger bi-national, public private regional partnership would fit into the IMTC mission of enhanced data collection. While the type of commodities shipped from Everett to Vancouver, B.C. – with the exception of projected major increases in coal – are stable and consistent for the last 10 years, they are subject to rapidly changing worldwide market conditions, particularly in Asia.

Projecting rail activity at one port of entry fails to take into account the huge logistics and shipping variables involved in moving product from Midwestern states and prairie provinces to Asia and potentially across the U.S. - Canada border. The perspective needs to switch from a telephoto to a wide-angle lens in order to predict future cross border rail activity based on everchanging world markets.

IHS Global Insight was interviewed at their Toronto office on May 3, 2011. They agreed to prepare a global overview of four of the major commodities of most interest to the Cascade Gateway - grain, coal, potash and wood - for Western Canadian provinces and Northwest states at the Transportation Working Group session of the Pacific Northwest Economic Region Summit in Portland, Oregon on July 20, 2011. The results of their research and the summit responses from Class One Railroads, trade associations and western ports will be incorporated into a legislative primer for Washington state legislators – many of whom will be attending.²¹

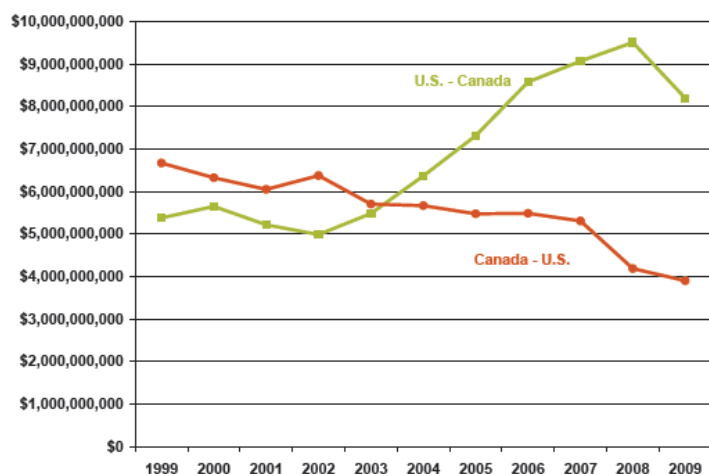


Figure 20: Value of U.S. and Canadian truck exports crossing the Cascade Gateway ports of entry. All Figures are based on declared trade value and are in U.S. dollars. Source: IMTC Resource Manual, www.wcog.org/imtc

²¹ IHS Global Insight quoted a price of \$20,000 for a detailed 10 year commodity forecast for rail at the Blaine port which was beyond our scope and budget.

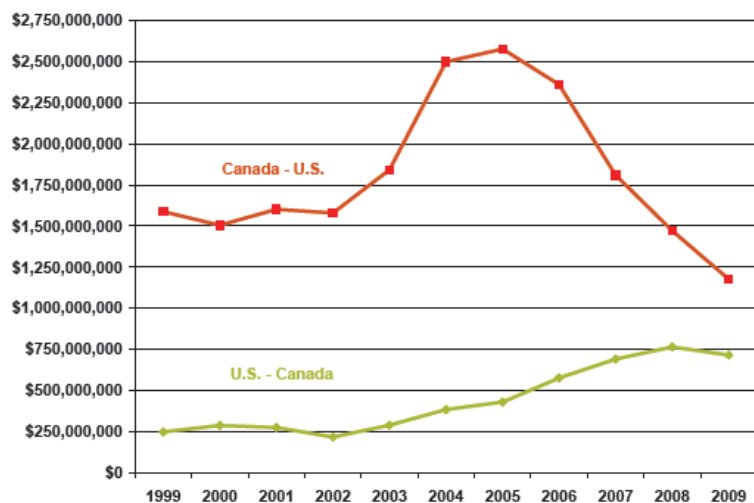
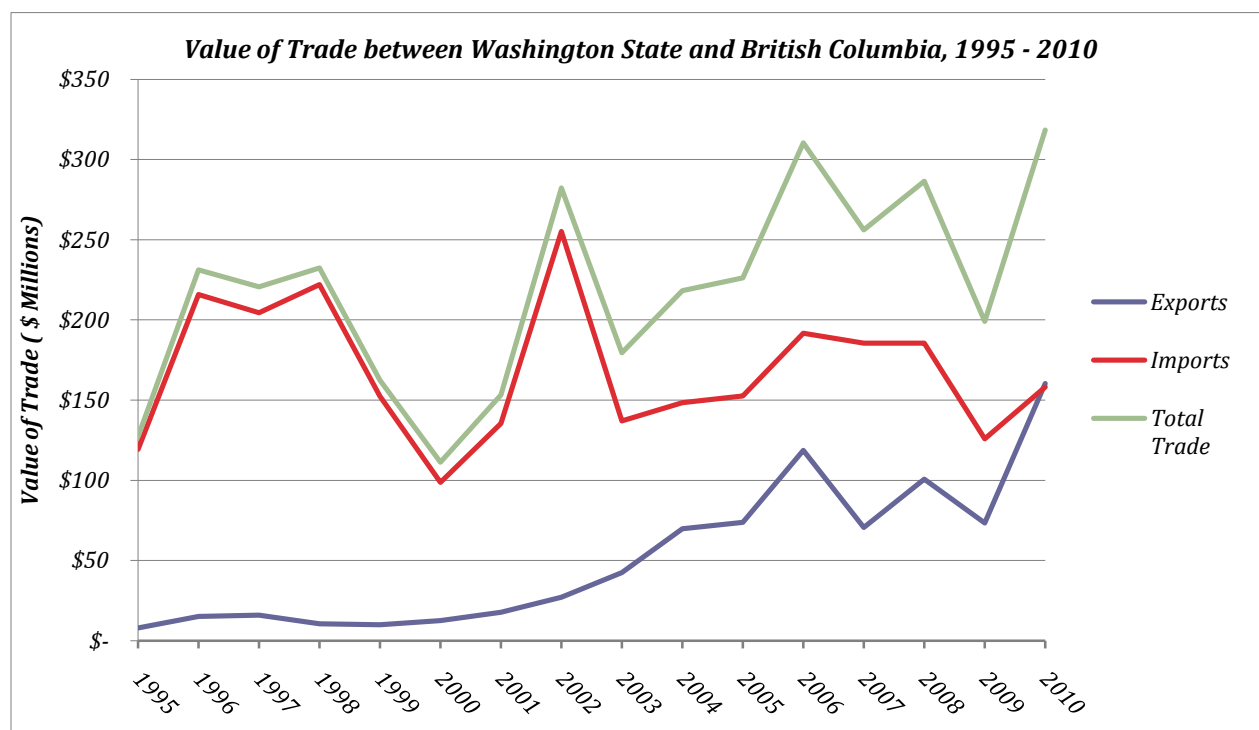


Figure 21: Value of U.S. and Canadian rail exports crossing the Cascade Gateway ports of entry. All Figures are based on declared trade value and are in U.S. dollars. Source: IMTC Resource Manual, www.wcog.org/imtc.

According to the International Mobility and Trade Corridor project, truck-borne trade at the three Whatcom County-British Columbia crossings totaled \$12.1 billion (US) in 2009, while goods moving by rail totaled \$1.9 billion. Rail shipments represented about 14% of the total volume, which compares for example with the 9-10% share rail carriers hold of all intercity freight volume in the United States, again measured by dollar value.

Today's freight rail shipments at the Cascade Gateway all concentrate on high-volume, low-value commodities. Existing data for freight activity at the Port of Blaine reveal a picture of trucks as the dominate mode and rail activity on the upswing.



Note: The value of all surface modes is not equal to the sum of truck rail and pipeline modes. The value of trade for all surface modes includes shipments made by truck, rail, pipeline, mail, etc. Numbers may not add to totals due to rounding if the Actual option is not selected in the Data Display box. Percent changes based on numbers prior to rounding (if applicable). *Source: U.S. Department of Transportation, Bureau of Transportation Statistics TransBorder Freight Data. Report created May 26, 2011.* The data is from the U.S. Bureau of Transportation Statistics and Statistics Canada. Based on the value figures, there was a significant increase in traffic over 2009 and 2010 and since 1995. (See preceding graph)

The data is from the U.S. Bureau of Transportation Statistics and Statistics Canada. Based on the value figures, there was significant increase in traffic over 2009 and 2010 and since 1995.

“Focusing solely upon the truck and rail modes that do traverse the land ports...the U.S. had a 2009 trade surplus of over \$17 billion with Canada. Energy imports via pipeline reverse the overall trade balance, but Canada is clearly a premier export market for the U.S., so an administration focused upon bolstering exports should focus upon trade with Canada. Also evident from the figure is the extent to which trucking is the dominant surface transport mode. Only with respect to imports from Canada does the rail mode accommodate more than about one-sixth of the surface-borne freight. To expedite cross-border freight, it is necessary to expedite the clearance of trucks.”²²

The 2002 Cascade Gateway Rail Study predicted an increase in intermodal double-stack trains, raising the train volumes to 8-10 per day on this line segment if major capacity enhancements were made. Their forecast was for tonnages to rise from 6.03 million tons per year to 9.67 million tons, mostly driven by the increase in import traffic volumes.

In 2006, the Asia Pacific Gateway and Trade Corridor Initiative was launched. Aggressive marketing by British Columbia trumpeted less ocean transit time and congestion-free rail lines to the Mid West. Shippers responded to expansion of the Delta Port and development of Prince Rupert facilities as well as acquisition of U.S. rail lines by CN in Chicago and along the Mississippi River by diverting Asia Pacific cargo from U.S. West Coast ports.

Investments to accommodate double stacked intermodal trains were never made by BNSF based on a healthy and growing commodity trade requiring only single level cars. Freight rail traffic increased significantly from 2004 to 2006, supported by the removal of tariffs on lumber from Canada and unprecedented housing starts in the United States.

These and other growing economic indicators resulted in train traffic running in the 6-8 trains per day levels for these three years. But, as our economy cooled, so did the train volumes. By 2007, train volumes had again slowed to the 2002 levels, 4-5 trains per day. With the closures and consolidations in Canada of the lumber industry, these volumes are unlikely to be seen in the future.

Commodities

Local importers of wood products however, are optimistic that the wood products industry will rebound. Dan Semsak, president of Pacific Wood Tech in Burlington continues to import wood products from Canada to his facility which is served by a stub line from the BNSF mainline. He is in discussion with BNSF to construct a loop track that would allow the BNSF train serving his facility

²² Cross-Border Freight Flows at the Two Land Borders" by David Davidson & Austin Rose February 2011, Border Policy Brief Vol. 6, No. 1.

to leave the main line and free up capacity. "There is strong demand in the southern U.S. and overseas markets like Australia for the type of quality wood product we manufacture and much of the wood comes from Canada. The housing and construction market will rebound and we hope to add another 100 employees (up from the current 200) at our plant," he said.



Figure 22: Aerial view of Pacific Woodtech and rail tracks on-site (Photo courtesy of Pacific Woodtech)

Sierra Pacific in Burlington is an important customer for BNSF on the Anacortes spur line and has also been affected by the downturn in the housing market. They have approximately 80,000 acres of Skagit forest between Sedro-Woolley and Marblemount and use residual slash piles in their co-generation facility.

Interviews with other local companies such as Skagit Valley Farm Supplies, Conway Feed, Cargill Frendale Grain and the Cargill Anacortes facilities, and Bell Lumber and Pole point to a seasonal delivery schedule and steady volumns expected in the near future.

One commodity was constant – solid waste.

"Our Rabanco facility sees a fairly consistent waste stream which we transport across the [U.S. Canada] border to our facility in Klickitat County, [Wash]. Rail is critical to our business in terms of reducing trucks on Highway 99 as well as accessing Eastern Washington on rail instead of a two lane highway." Joe Casalini, Director of Business Development, Allied West Services.

The most dramatic change in cross-border commodities has been the sudden rise in coal shipments, which will be reviewed later in the report. Increases in coal traffic shipments to Roberts Bank are substantial. In 2009, 268,390 short tons of coal went through the Seattle Customs District to the Roberts Bank facility that is nearing capacity. In the first nine months of 2010, the tonnage increased to 2,632,929.²³

In the near term, as gas prices increase, talks are now starting that will make oil extraction from the Bakken Shale in North Dakota more viable. Oil shipments to local refineries could increase.

"Northwest ports account for 25 percent of U.S. grain shipments, with most going to Asia".²⁴ Over 60 percent of U.S. grain exports were shipped to Asia through the Gulf region.²⁵ Northwest trade partners are engaged in expansion efforts to attract a higher percentage of that trade.

The Washington State Freight Rail Plan 2010-2030 references recent marine cargo forecasts to illustrate a comprehensive statewide picture of predicted trends in imports and exports. Of the major exports - wheat, corn, soybeans and DDGS (animal feed) — wheat and soybeans are not expected to make major gains in the next year and the market routes are fluid.

²³ USCBP quarterly report – trade data

²⁴ Floyd McKay, "Will agriculture ease concerns about coal port near Bellingham?", Crosscut, May 23, 2011

²⁵ U.S. Department of Agriculture Agricultural Marketing Service, Feb, 24, 2011.
<http://www.ams.usda.gov/GTR>

According to the February 24, 2010 U.S. Department of Agriculture Grain Transportation Report:

“Ocean freight rates and spread fluctuate and could affect the choice of grain export port and vessel sizes. The United States exports nearly one-quarter of the grain it produces... More than 50 percent of the U.S. grains and oilseeds exports are shipped to Asia—mainly Japan and China. Japan is the largest importer of U.S. corn. China is the largest importer of the U.S. soybeans.”²⁶

On May 19, 2011 SSA Marine sponsored a grain forum with BNSF Railway and several agricultural trade associations. From the perspective of this report the session offered an opportunity to review the impact of future growth in grain exports by rail for the Blaine port of entry and proposed Pacific Gateway Terminal.

The purpose of their session was to showcase the Terminal’s enclosed containers for up to 6 million tons of products like wheat, soybeans and corn and to address any concerns about agricultural products and coal on the same site.

As reported by McKay in a recent Crosscut article, agricultural leaders were satisfied with the response from Bob Watters, director of business development at SSA Marine to their concerns. The larger issue addressed in the Crosscut article was the future of Northwest port capacities for agricultural commodities and the marketing of the Pacific Gateway Terminal.

“Agriculture representatives from regional and national organizations seemed supportive of another option to ship product to Asia, but it was clear from their presentations that most of any added export moving through the prospective Gateway Pacific port would come from east of Washington’s borders. The state is already a major exporter of agriculture products, but its largest export — wheat — is not among the crops expected to experience a marketing boom in Asia, because neither China nor India is a wheat importer...”²⁷

McKay reports in great detail the recent dredging of the Columbia River and expansion of the Ports of Portland, Vancouver, Kalama and Longview, as well as terminal capacities at the Ports of Seattle and Tacoma and quotes terminal operators and grain exporters who believe the region has capacity beyond demand.

BNSF spoke in favor of the Terminal’s potential for future commodity shipment growth. McKay wrote that “Growth of Asian demand coupled with increased farm production in the Midwest, creating a “perfect storm” for exporters, commented Greg Guthrie of BNSF’s marketing department. Products would “roll westward” as a result, he said, seeking the Northwest’s export terminals. Sixty percent of grain exports go to the Gulf Coast, but opening up a deepwater port such as Gateway Pacific would encourage some to be shipped on “cape-size” ships, largest in the world. SSA Marine emphasizes the depth of the Cherry Point location — up to 80 feet — makes it one of the few West Coast ports capable of taking the massive cape-size freighters.”²⁸

Cross border growth in potash

Potash is a water soluble form of potassium, one of the three primary plant nutrients, and is absolutely necessary to global agricultural production. With world population rising, arable land

²⁶ *ibid*

²⁷ Floyd McKay, “Will agriculture ease concerns about coal port near Bellingham?”, Crosscut, May 23, 2011

²⁸ *ibid*

per person diminishing and demand increasing for higher quality diets that include more fruits and vegetables and protein from crop-fed livestock, the need to maximize the efficiency of farmland has never been greater. Every crop harvested removes nutrients from the soil, which must be replaced to keep soil healthy and productive. Responsible for more than 40 percent of the world's total crop yield, fertilizers feed plants, which help to feed animals and people.²⁹

Potash is regularly transported across the Blaine port of entry by BNSF to local suppliers such as Skagit Farmers Supply who use it for fertilizer as well as for transshipment from West Coast ports. Canpotex, the Saskatchewan potash export agency charged with selling potash to markets outside of North America has roughly 35% of international market share. For Canpotex to serve its three largest customers, China, Brazil and India, they must transport the potash by rail to western North American ports. The primary route of Canpotex was through the Port of Vancouver, B.C., but rail strikes during the 1990s forced them to diversify their transport routes and in 1997 they signed a 30-year lease for 100 acres at Terminal 5 at the Port of Portland. Potash exports through Portland grew by 200 percent year from 2009 to 2010. "Over the last 13 years, Canpotex has spent almost \$100 million on Terminal 5."³⁰

BHP Billiton, an Australian mining company recently signed an agreement for potash shipments Port of Vancouver (WA). "As Asian countries grow in population and economic might, their desire for potash and other natural resources will only increase and our region will be an important link in the natural resource chain. As the region attempts to peer into the future for opportunities to grow out of the current economic downturn, we would be well served to examine how the growing worldwide demand for natural resources, those from Oregon itself and those that pass through Oregon, could benefit our economy."³¹

Canadian ports are engaged in active lobbying for expanded market share. Canpotex is set to nearly double potash shipments through two West Coast Canadian ports from 12 to 23 tons per year. Approximately half of this increase will be accommodated by an expansion adjacent to the Port Metro Vancouver's Neptune Bulk Terminals in North Vancouver, B.C. Neptune is also in the midst of an upgrade for its potash facilities, which should increase capacity by 1.5 million tons annually to 10.5 million tons. The remaining tonnage will be shipped through a new terminal planned for Ridley Island near Prince Rupert.

CP Rail has traditionally been the primary shipper of Canadian coal. CN entered the business when CP was unable to meet the demand for cars due to weather delays. CN and BNSF have interline agreements so industry leaders interviewed see an increase in cross border shipments with the increased expansion of Columbia River ports.

A closer look at coal and West Coast export market expansion

"Coal is used primarily for the generation of electricity (thermal or steam coal) and the production of steel (metallurgical or coking coal). Approximately 40% of the world's electricity is generated from coal and 65% of the world's steel production involves the use of coal. Coal is also used as an

²⁹ Michael Gurton, "An Export to Build on." <http://www.oregonbusiness.com/contributed-blogs/4628-an-export-to-build-on>. January 4, 2011

³⁰ *ibid*

³¹ *ibid*

energy source in industrial processes (such as cement manufacture and pulp and paper) and to produce a wide range of products (such as tars and chemicals).”³²

The future of coal shipments on the West Coast is a major issue in the corridor. BNSF has been transporting coal from the Powder River Basin to Westshore Terminal in Vancouver, B.C. Earlier this year, CN and BNSF transported Powder River coal through Vancouver, B.C. to Prince Rupert - the longest coal haulage in North America. There is an agreement between BNSF, CN and CPR to transport coal from the Powder River Basin in Wyoming to Prince Rupert via Sweetgrass, Montana. Most significantly, they have an active interest in the use of the proposed Pacific Gateway Terminal at Cherry Point.

“American producers are at a competitive disadvantage in exporting commodities to Asia because of a lack of a deepwater dry bulk commodities terminal on the West Coast.” Bob Watters, SSA Marine.

In March 2011, Peabody Energy, SSA International, and BNSF Railway announced plans for a Pacific Gateway Terminal that could ship up to 24 million ton of coal to Peabody customers.

“Peabody Energy believes that “cleaner coal” produced in the Powder River Basin of Wyoming and Montana offers a competitive and reliable alternative (to Indonesia coal) for customers in China, South Korea, Japan, India and other Asian nations...”
Peabody Economic Analysis

In China, the majority of power comes from coal. However, Chinese coal is problematic in that it has excessive levels of fluorides, chlorides, sulfur, and heavy metals, and is commonly of lower heat value than imported varieties.³³ Additionally, severe flooding in Australia and Indonesia, as well as production issues in South Africa and Columbia, negatively affects the worldwide supply of coal and adds pressure to increase export levels of U.S. coal.

Interest in coal exports is expected to remain high, especially as the U.S. seeks to lower the trade deficit, which, according to the Department of Commerce, is \$250 billion a year with China alone. President Obama has called for the doubling of U.S. exports to help address the U.S. trade deficit and fluctuating U.S. dollar.

By far the largest impact to freight movement in the Seattle to Vancouver, B.C., BNSF rail corridor is the rise of American coal exports to Asia. BNSF Railway is shipping 2 to 3 unit coal trains from the Powder River Basin in Montana and Wyoming through the Columbia River Gorge, up the I-5 rail corridor, and across the Canadian border to the Westshore Terminal at Delta Port.

Coal in the U.S. has been mostly a domestic market to utilities for energy production. In an interview Steve Bobb, BNSF Railway’s group vice-president for coal, cautioned however, that coal exports are a fraction of the coal shipped by BNSF to domestic markets. *“We believe Pacific Gateway Terminal provides us opportunities to meet customer needs for several export commodities – not just coal,”* he said.

³² Westshore Terminals Income Fund Annual Information Form p. 19

³³ John Laumer, “Planned West Coast Port Expansions Would Enable Asia To Import More US Coal,” Dec 16, 2010 <http://www.treehugger.com/files/2010/12/new-port-will-enable-chinese-import-57-mtpy-powder-river-wy-coal.php>

Major increases in exports to Asia will test the supply chain logistics from the mines to the number of available hopper cars to rail and port terminal capacity. Nevertheless, predictions for a strong export market for coal are widespread.

“In the first nine months of 2010, compared to the same three quarters in 2009, according to data compiled by the Energy Information Administration the United States exported 60 million tons of coal, up from 41 million tons. Exports to Asia were 239 percent higher. Japan’s U.S. coal imports rose 394 percent, and that was before it lost the use of key nuclear power plants in the 2011 earthquake and tsunami. Shipments to China rose by more than ten times in the same period.”³⁴

West Coast Port Comparisons

Located at Roberts Bank, B.C., Westshore Terminal exports more coal than all other Canadian ports put together - 27 million tons of coal in 2010. Westshore handles and loads coal from mines in British Columbia and Alberta, as well as mines located in the Northwestern United States. Highly valuable Canadian coking coal is shipped from Westshore and Neptune terminals. “Coal is delivered to the Terminal in unit trains operated by the Canadian Pacific, CN and BNSF Railways and by Union Pacific Railroad and is then unloaded and either directly transferred onto a ship or stockpiled for future ship loading. Ultimately, the coal is loaded onto ships that are destined for approximately 20 countries worldwide, with the largest volumes presently being shipped to Asia.”³⁵ During 2008, 82% of Westshore’s volume was metallurgical coal, with the remaining 18% being thermal coal.³⁶

Neptune Terminals

Located in North Vancouver, the terminal handles coal and potash and with expansion plans underway. In an interview with North Shore News, Neptune president Jim Belsheim stated that in 2010 Neptune “shipped about six million tons of coal, as markets in Asia have heated up.” The 2010 volume neared their past record of 6.5 million metric tons. ³⁷

“The coal being shipped from Neptune - and most other local terminals - is high-quality metallurgical coal used in steel making. Japan and Korea are major markets, followed by China, where demand is sharply increasing as building booms.”³⁸

“A \$6-million terminal improvement currently underway at Neptune is expected to boost the terminal’s coal-handling capacity to 9.5 million tons annually next year.”³⁹

Ridley Terminals Inc. (RTI)

Located in Prince Rupert, B.C., Ridey Terminals, “a federal crown corporation, owns and operates [an] advanced coal unload and loading terminal, making it a world leader in the efficient and reliable movement of coal from unit trains onto ships. It loads metallurgical and thermal coal,

³⁴ Debating Coal Exports via WA in Energy: Strategies, Policy and Best Practices for the Northwest. <http://blog.seattlepi.com/energy/2011/04/13/debating-coal-exports-via-wa/>

³⁵ Westshore Terminals Investment Corporation Annual Information Form p4 March 30, 2011 <http://www.westshore.com/pdf/finance/2010/aif.pdf>

³⁶ *ibid*

³⁷ Jane Seyd, “North Vancouver exports soar on coal boom,” North Shore News Dec. 2010.

³⁸ *ibid*

³⁹ *ibid*

petroleum coke, wood pellets, and has the potential to ship other products such as sulfur.... RTI's coal port has an annual shipping capacity of 12 million tons. In 2010 Ridley shipped over 8 million tons of coal and can handle Panamax and Capesize⁴⁰ vessels, shippers face however, a long haulage."⁴¹ The terminal plans to expand capacity to 24 million metric tons.

"Volume is expected to grow further after Ridley signed a deal last week with St. Louis-based Arch Coal Inc. to handle up to two million tons of coal in 2011, and up to 2.5 million tons a year between 2012 through 2015. Arch is the second-largest U.S. coal producer with mines in the Powder River Basin in Montana and Wyoming. Ridley also signed smaller contracts with U.S. producers Cloud Peak and Enserco. All three U.S. companies produce low-sulphur coal used in power generation."⁴²

Millenium Bulk Terminals (MBT)

In January 2011 Arch Coal, Inc. announced it had paid \$25 million to acquire 38 percent interest in Millennium Bulk Terminals (MBT) at the Port of Longview, WA.⁴³ The remaining 62 percent of MBT is owned by the U.S. arm of Australian developer Ambre Energy, who plans on acquiring Powder River Basin lands or lignite coal fields of Montana and North Dakota. The MBT facility can handle up to 60 tons of coal a year but cannot be served by Capesize vessels. Earlier this year, MBT withdrew its application for permitting but is expected to resubmit soon.

"With the Millennium Bulk deal, Arch joins Peabody Energy Corp. — both major producers of Powder River Basin coal in Wyoming — in banking on the Asian coal market for growth. Wyoming coal producers Peabody Energy, Arch Coal, Cloud Peak Energy and railroads Union Pacific and BNSF Railway have all expressed interest in boosting coal exports from the West Coast."⁴⁴

Stakeholder Interviews – Themes

U.S. - Canada Port competition

"While our port is having one of its best years with growth in containers and grain shipments, air travel and jobs from the cruise ship industry, we need to invest in our region's transportation infrastructure to answer the challenge British Columbia has laid down. Their ports have a well funded, coordinated strategy to capture Asia Pacific trade to America's heartland and we need to respond." Interview with Bill Bryant, Port of Seattle Commission

⁴⁰ Most "Capesize" vessels hold 1000 railcars' worth of coal

⁴¹ Prince Rupert Port Authority <http://www.rupertport.com/ridleyterminals.htm>

⁴² Brenda Bouw, "Coal producers decry Ridley Terminals decision," *Globe and Mail* Jan 24, 2011 http://investdb1.theglobeandmail.com/servlet/story/GI.20110124.escenic_1881479/GIStory/

⁴³ Arch Coal, Inc. Press Release 12 Jan. 2011 <http://news.archcoal.com/phoenix.zhtml?c=107109&p=irol-newsArticle&ID=1515428&highlight=>

⁴⁴ Dustin Bleizeffer, "Coal industry seeks exports to Asia while U.S. market falters. NewWest Energy Jan. 2011. Viewed online at http://www.newwest.net/topic/article/coal_industry_seeks_exports_to_asia_while_us_market_falters/C618/L618/

“To ensure the continued success of the Asia Pacific Gateway Corridor Initiative we constantly interact with shippers, railway representatives, port authorities and terminal operators as well as provincial and local leaders. To date, over \$3.52 billion worth of projects have been announced and we are competing well to market our Gateway to North America” Interview with Mike Henderson, Director General Pacific Region, Transport Canada.

From a relative trade volume perspective, freight rail activity on the BNSF Rail line at the Cascade Gateway is significantly lighter than the heavier volumes that characterize East-West corridors from the Port Metro Vancouver and Prince Rupert ports (Asia Pacific Gateway), and the Puget Sound Gateway including the Ports of Seattle, Tacoma and Everett. The two gateways are engaged in a fierce competition for Asia import and export trade.

Canada’s Gateway and Corridor initiative has targeted cities in the American midwest in a effort to divert Asian cargo from other West Coast ports. The initial driving force was the stagnant performance of the B.C. economy as a whole throughout the 1990s and the transportation bottlenecks in greater Vancouver that hampered the efficient movement of freight.

The vision set out by the Gateway Council in 1995 has now led to about \$22 billion in public and private investment in Western Canada’s transportation networks of ports, rail, road and airports according to the Asia Pacific Gateway Initiative (Transport Canada). Of this investment, about \$1.5 billion was from the Government of Canada, about \$4 billion from the B.C. government, and an additional \$16.5 billion in private investments.

The Puget Sound Gateway has responded with a campaign to support exporters and importers and jointly invest in common rail and highway infrastructure through a \$15 billion statewide transportation investment package that included Freight Action Strategy for the Everett-Seattle-Tacoma Corridor (FAST Corridor), described by the Puget Sound Regional Council as, “[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.”



Figure 23: Competitive threats to Puget Sound (Courtesy of Ports of Tacoma and Seattle)

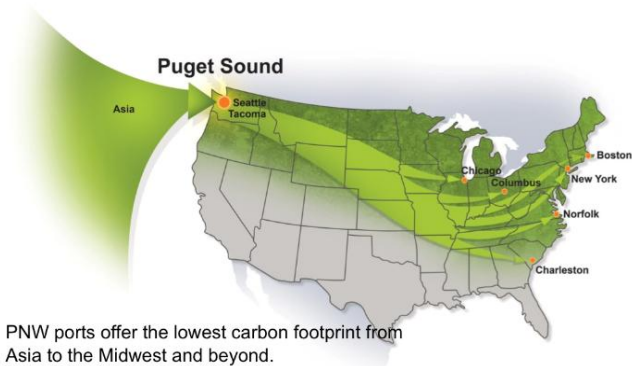


Figure 24: The Green Gateway (Courtesy of Ports of Tacoma and Seattle)

As the “Green Gateway,” the ports of Seattle and Tacoma advertise the lowest carbon footprint for their global logistics chain from Asia to the Midwest and beyond. They have petitioned the federal government for mitigation of fees that put it at a disadvantage in relation to Canadian ports. The Port of Seattle has been successful in securing a robust cruise ship industry from Vancouver, B.C., and brought new airlines to the Puget Sound region.

As part of the West Coast Port Collaborative, the ports have worked to secure a dedicated freight fund in the reauthorization of the federal transportation program and has been encouraged by President Obama’s initiative to double U.S. exports.

BNSF plays a role in both port regions. Port Metro Vancouver (with BNSF, CN and CPR) is the only West Coast port served by three Class One Railroads. BNSF has also made major investments in their Great Northern Corridor.



Figure 25: The Great Northern Corridor (Courtesy of Corridors of Commerce, BNSF)

The Ports of Seattle, Tacoma and Everett are collaborating with WSDOT Rail and Marine Office to develop a “Northern Gateway” initiative to identify rail choke points along the northern tier of states in partnership with BNSF and Union Pacific Railroad. The results of their work will be incorporated into multi-state and federal strategies for enhanced investment.

“The concept of the Northern Corridor is built upon the current routes of the Class I railroads along the Northern Tier from Washington to Illinois. This corridor links the two economic regions of the Pacific Northwest and the Great Lakes...The importance of the Northern Corridor should be recognized as one that connects Asian and North American markets together. This corridor competes with the central and southern U.S. rail corridors. In addition, the Canadian, Mexican, and Panamanian corridors provide effective alternatives for transportation of goods to all U.S. markets.

To achieve this, a coordinated approach between the corridor states and the private sector is needed to ensure that this corridor gets the same attention and funding as other parallel corridors.”⁴⁵

Other corridor issues of significance from stakeholder interviews

Future of 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.

“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 ports” Bill Bryant, Seattle Port Commissioner.

WSDOT’s 2006 and 2010-2030 Freight Rail Plans states that “between Seattle and Everett on BNSF’s Scenic Subdivision there are an average of 40 freight trains per day, with 25 per day operating between Everett and Spokane. Balmer Yard at Interbay is primarily a classification yard for the Portland-Seattle route. Traffic from the south is distributed to local industries or forwarded to Everett for further classification and forwarding. Traffic from the north is classified by destination station between Seattle and Portland and made up onto trains. Traffic processed by Balmer Yard is generally originating and terminating only. Interbay also is a crew change point for through trains that do not originate or terminate in Seattle terminal. The primary commodity at Balmer is grain hauled for Cargill.”

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 West. The Port has a consultant study pending 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 41.



Figure 26: Boeing fuselage on tracks
(Photo courtesy of Dan Bates, The Daily Herald, Everett)

Figure 24 features a Boeing fuselage on the Snohomish BNSF rail line passing under Highway 9 overpass demonstrates that “a good rail system is invaluable for transporting U.S. products for export, as well as to local companies such as Boeing. The aircraft maker uses rail to transport oversized parts, such as the fuselage above, which was aboard a train passing beneath the [SR] 9 bridge in Snohomish.”⁴⁶

“The Boeing Company is dependent on a reliable rail system to keep its production lines going.” - Interview with Chris Brauner, senior VP of transportation, The Boeing Company.

⁴⁵ Washington State 2010-2030 Freight Rail Plan, Washington State Department of Transportation State Rail and Marine Office, 2009, p. 5-35.

⁴⁶ Dan Bates, “All Aboard Together”, The Daily Herald, May 29, 2011

“Efficiency and reliability of rail movement is critical to Puget Sound maintaining its competitive position on the West Coast. Our Mt. Baker satellite facility in Mukilteo has been critical for Boeing and has allowed us to handle oversized aircraft which would otherwise shut down Port access to all other traffic.” - Lisa Lefeber, Public Relations and Communications Administrator, Port of Everett.

The Port of Everett plans to construct 1,000 lineal feet of new railroad track in the deep-water marine terminal area to provide a connection to an existing rail recovery project (see Figure 28). The on-dock rail will benefit truck access to Lehigh Cement Company which has manufacturing plants and terminal facilities in Seattle, Bellingham, Delta and Richmond, B.C. in addition to the Everett terminal.

The primary rail destinations for freight within Everett include the Port of Everett facilities near the downtown core and the Boeing Company plant in the Southwest Industrial Area, which has its own rail spur and receives shipments by barge at the Mt. Baker Terminal.

There are also two rail yards located in North Everett - Delta Yard and Bayside Yard – which provide storage for train make-ups and for loading of local goods. Generally, traffic from south and east of Everett arrives in Bayside yard, where it is switched, and made up into trains for destinations north of Everett. Traffic from north of Everett arrives in Delta Yard, where it is switched and made up into trains for south and east of Everett. A single track Broadway tunnel, represents a convergence of the Stevens Pass mainline and the “secondary” mainline to Blaine.

WSDOT, BNSF, the City of Everett and the Port of Everett agree that the long term solution to rail congestion is the proposed Bayside Bypass that would extend a line from Delta Junction down the Bayside industrial track and connect back to the Seattle mainline at Everett Junction. In the meantime, Everett storage tracks and curve realignment projects have been funded from federal ARRA funds redirected from the Wisconsin and Ohio projects.



Figure 27: Overview - South Terminal intermodal freight shipping facility improvements (Courtesy of the Port of Everett)

Boeing Expansion at Paine Field or North Snohomish County?

“The possibility that Boeing could create an “industrial supersite” in Washington where the plane maker and its parts suppliers would build the successor to the 737 jet has electrified Snohomish County leaders. Marysville City Council members talked about the potential of such a large industrial site March 21, and said they hope Boeing will choose some of the 1000 acres the city has designated for industry about a mile south of the Arlington Municipal Airport. “The ability to be competitive for this kind of site would galvanize the community” - Marysville mayor Jon Nehring.

“Boeing’s talk of creating ‘industrial center’ for new jet sparks land offers.” - Steve Wilhelm, Puget Sound Business Journal, March 25, 2011

The Journal piece also indicated that Paine Field would be another candidate site where Boeing now assembles 747’s, 767’s and 787’s. County Executive Aaron Reardon pointed out that completed 737’s could be delivered out of Paine Field and Arlington’s Municipal Field (Bellingham Airport is another possibility).

No decision by Boeing to build a next generation 737 has been made, however, and there would be major competition from Charleston, South Carolina (787 assembly site) and Wichita, Kansas where Boeing subcontractor Spirit Aerosystems is ramping up to build 38 737 fuselages a month.

Further, the PSBJ article states that:

“Northwest Washington still may have an edge because:

- Proximity to Everett would keep manufacturing close to engineers, an issue that emerged as a result of the 787 problems;
- The region has a strong tradition of aerospace work and training that could support a new plant;
- Snohomish County has become an epicenter of the state’s aerospace supply network, and indeed one of the strongest aerospace hubs in the world;
- Boeing would be highly interested in consolidating assembly north of Seattle’s traffic congestion, which now forces the company to truck components and assemblies between facilities in the middle of the night.”

Snohomish County leaders, led by Snohomish County Executive Aaron Reardon, held a Rail Summit on June 7 in Everett to focus attention on the need for investment in passenger and freight rail projects to improve mobility, reduce greenhouse gases and enhance opportunities for economic expansion.

“The Governor is making an all out effort to secure future Boeing production work including potentially new generation 737 production facility. Having sufficient rail capacity is emerging as an important consideration.” - Tayloe Washburn, Seattle attorney appointed as chair of Governor’s Aerospace Joint Apprenticeship Committee

The county is promoting Paine Field and a large industrially zoned region served by I-5, the BNSF mainline and Arlington spur bordering the Tulalip Tribes, the cities of Arlington and Marysville as potential sites for future Boeing-related production facilities and clusters of subcontractors. Economic development leaders in Snohomish County cite lower land costs and good transportation

access as the primary reasons for businesses currently located in the north county. Arlington Mayor Margaret Larson has touted the area around the Arlington Airport as an ideal “rail port” with easy access to I-5, BNSF rail lines and a growing airport.⁴⁷

The Everett Freight Access and Mobility Study of 2009 indicated 34 BNSF trains per day to Chicago pass through Everett and 21 freight trains per day toward Canada with projections that Boeing and Port of Everett will generate more rail freight.⁴⁸ Some of the trains northbound are serving local shippers.

Based on our interviews with shippers north of Everett, any improvements in Everett to freight rail capacity at the Delta and Bayside yards would provide more operational flexibility for businesses dependent on dispatching of local service along the mainline and spurs to Arlington, Anacortes and Cherry Point.

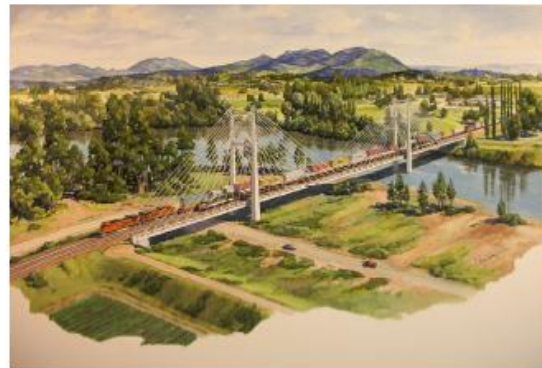
Combined with corridor wide interest to provide more travel options for workers, we believe the proposed Pacific Gateway Terminal in Whatcom County, along with other economic development initiatives based on rail in Whatcom County, Skagit County, and in particular, Snohomish County to expand aerospace, manufacturing and technology companies, points toward the development of a public private partnership - a “FAST North Corridor” type of public private partnership similar to the successful FAST Corridor launched in 1998.

Potential BNSF Skagit River Bridge Replacement

“Replacing the hundred year old Skagit River Bridge with a new double tracked bridge would benefit freight mobility, allow for more passenger trains and relieve pressure on downstream bridges during flooding,” - Burlington Mayor Jerry Brunz (with Chal Martin Director Public Works, City of Burlington)



1995 Skagit River Flood – BNSF Bridge failure



Concept for BNSF Skagit River Bridge replacement

Figure 28: Current and concept images of the Skagit River Bridge⁴⁹

“With support from the Governor’s Office, our state legislators, and the Washington State Department of Transportation’s Rail Office, a 2nd application requesting High Speed Intercity

⁴⁷ Interview at North County Economic Summit, Tulalip Conference Center, May 25, 2011

⁴⁸ City of Everett, “Everett Freight Access and Mobility Study, Executive Summary, July 2009.

⁴⁹ *Burlington Bulletin* 22 (Spring/Summer 2011). City of Burlington. See Appendix 17 for further information. Source: <http://www.ci.burlington.wa.us/imageuploads/Media-3584.pdf>.

Passenger Rail (HISPR) money to fund the preliminary engineering and environmental study needed to replace this old bridge, was submitted (to the Federal Railroad Administration) in April. The application was for \$11.3 million, with the City of Burlington committing \$350,000. Replacing this bridge is critically important to reduce Burlington's flood risk, because if large debris blockages occur upstream of the old bridge (as happened in 1995), water can back up 2-3 feet, making upstream flooding much worse and potentially enabling flood water to enter Burlington from the Sterling area along the Gages Slough corridor."⁵⁰

Bellingham Rail Relocation and Waterfront Development Project

The Bellingham Waterfront District. The future of rail service in Bellingham is also closely intertwined with plans for the Bellingham Waterfront District, through which the BNSF tracks run. 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. Future planning includes relocation of the BNSF rail line to an older right of way closer to the bank and expanded and new overpasses to the waterfront.

Bellingham's waterfront served the region for more than a century as a bustling industrial area, transportation gateway and home to many maritime activities. In 2001, when Georgia-Pacific ceased its pulp and chemical it dealt a blow to the area's employment base, and the closure left the community with a potential legacy of vacant — and contaminated — property.

The economic impacts of the project on the area are significant. It is estimated that for every \$1 million in construction costs, 13 direct jobs and 10 related services jobs would be created. Also, between 2,500 and 4,800 permanent jobs will be created by 2026, according to WWU's Center for Economic Research.

⁵⁰ Burlington Bulletin, Spring/Summer 2011

TASK 2

Examine route restrictions that prevent double stacking of containers, outline costs of eliminating these obstacles.

Deliverable: *A white paper containing a list of restrictions, a map of the restrictions, and costs of removing them.*

In the Executive Summary of the 2002 Cascade Gateway Rail Study by Wilbur Smith Associates the following task was highlighted under “How the Study Was Done”:

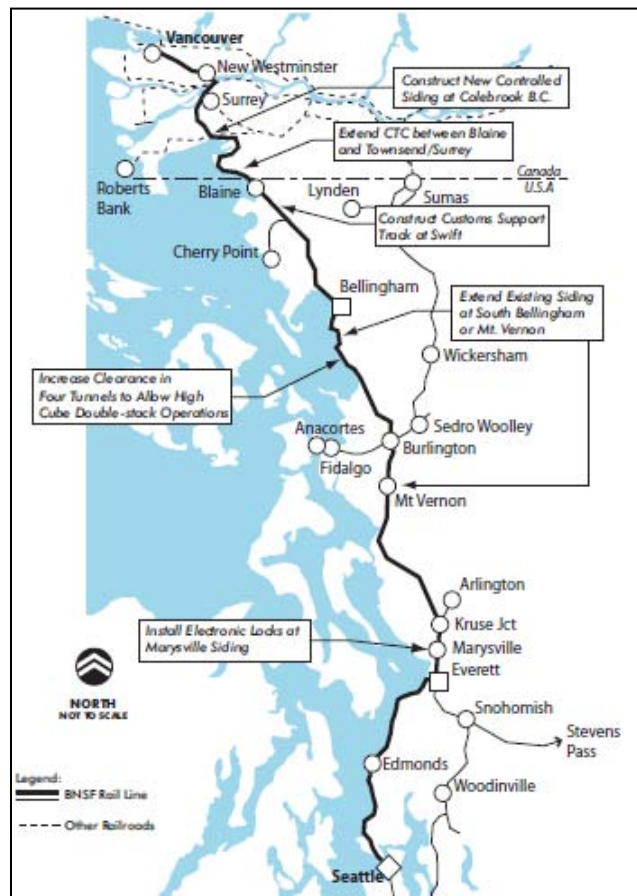


Figure 29: Recommended improvements Everett to Vancouver, B.C. (Cascade Gateway Study, 2002)

Everett and Vancouver, B.C.” from the 2002 Cascade Gateway Rail Study including these key points:

- “Double-stack trains consist of a string of a single car type, i.e. multi-unit articulated cars, in which container boxes are stacked one on top of another.

“Truck diversions and normal rail traffic growth. The team forecasted the cross-border truck traffic on the I-5/Highway 99 corridor at Blaine. The team then estimated the diversions that could be expected for the rail corridor, given assumptions of certain capacity and service enhancements. The key service improvement is initiation of truck competitive “high cube double-stack”¹ intermodal services between Vancouver and Southern California. The diversions totaled about 2 trucks per hour in both the northbound and southbound directions in 2012. At the same time, the team forecasted the normal growth of the line’s traditional carload business. This will increase more than 50 percent to 9.33 million tons in 2012 from 6.03 million tons today.”

This same report under “Recommendations” stated that, “Study the feasibility of eliminating all vertical clearance obstructions for high cube double-stack trains on the BNSF and UP rail lines paralleling I-5 between Seattle and Los Angeles. The cost for doing so is reportedly around \$20 million.”

Appendix 9 is reproduced from Chapter 2.2.2, “Forecast of BNSF through trains between Everett and Vancouver, B.C.” from the 2002 Cascade Gateway Rail Study including these key points:

- Double-stack trains carry “marine” containers between ports and inland destinations, as well as “domestic” containers between load centers that are not connected specifically with any port.”

The report further explains capacity improvements beyond the Cascade Gateway:

“Implementation of double-stack trains on the corridor also assumes two key prerequisites. One is that the double-stacks operate beyond Seattle to other markets on the West Coast, including Southern California. The other is that vertical clearances in tunnels are improved to permit these movements. The latter is because double-stack trains carrying containers 9’6” high (known as high cube containers) require higher clearances than typical carload trains. Currently, there are vertical clearance obstructions for high cube double-stack trains in the Chuckanut tunnels on the Cascade Gateway rail line, as well as on BNSF and UP in southern Oregon and northern California.”

Chapter 5 of the Cascade Gateway Study “Capacity Improvements” is reproduced in Appendix 10 and contains several findings relevant to the Task 2.

Tunnels

“Between Samish and South Bellingham there are four tunnels (Tunnel 18, 1,113 feet long; Tunnel 19, 141 feet long; Tunnel 20, 326 feet long; and Tunnel 21, 751 feet long) with vertical clearance restrictions that prohibit the operations of some double-stack trains. Presently, the clearances are sufficient for two “low cube” (8’6” high) containers atop one another, i.e. a “low- low” combination. This combination requires a vertical clearance of at least 18’2” above the top of the rail, according to BNSF. However, the vertical clearances are insufficient for either of the two following double-stack combinations: a low cube container and a “high cube” (9’6” high) container, i.e. a “low-high” combination; or two high cube containers, i.e. a “high-high” combination. The former requires a vertical clearance of at least 19’2”, and the latter requires a minimum vertical clearance of at least 20’2” for containers 10’6” wide. The current tunnels permit 19’ of vertical clearance for containers that are 10’6” wide”⁵¹

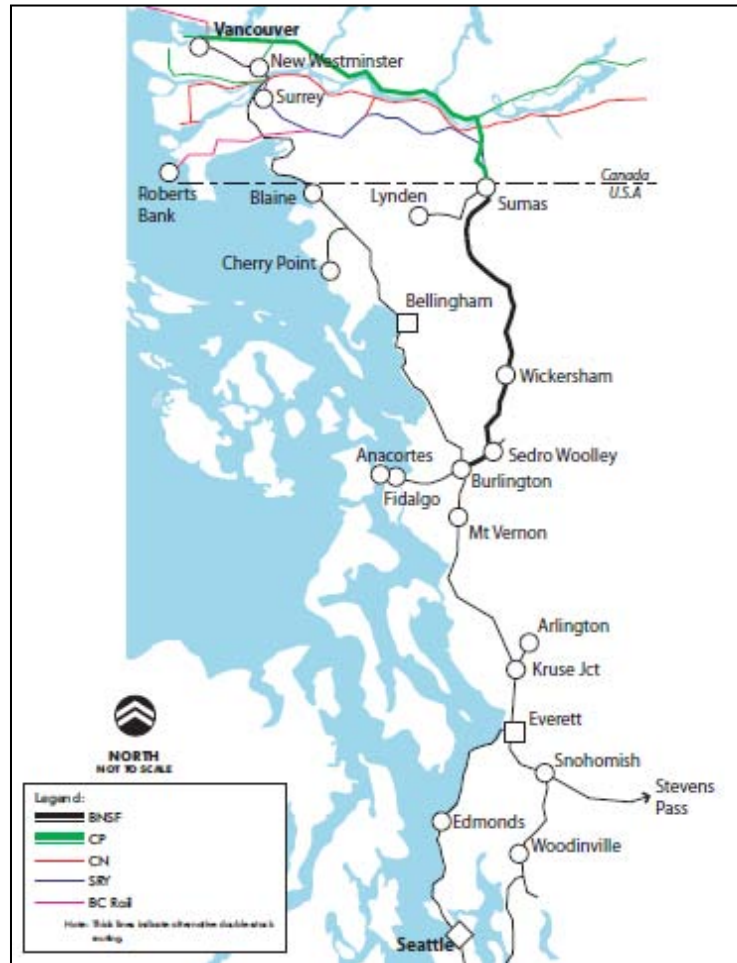


Figure 30: Alternative double-stacking routing via Sumas, WA (Cascade Gateway Study, 2002)

⁵¹ IMTC, “Cascade Gateway Rail Study – BNSF New Westminster, Bellingham and Scenic Subdivision”, 2002

The 2002 report further “explored the potential for double-stack container trains operating on the corridor. However, there are physical challenges to doing this including substandard vertical clearances in four tunnels south of Bellingham. These would need improvement to handle two “high cube” or 9’6”-high containers stacked on top of one another, as well as for a high and a low cube (8’6”- high) container combination. Routing containers through the Sumas Gateway (as discussed below) would mitigate this particular challenge. But other institutional challenges remain, as this movement would imply an agreement sorted out between BNSF and most likely CP, which are competing railroads in many markets. Furthermore, there is the challenge of yet other vertical clearance problems for double-stacks in southern Oregon and northern California, which would have to be addressed to allow double-stacks to flow on the I-5 corridor between the Pacific Northwest and Southern California. These problems exist on both BNSF and UP, which has a right to market services in Vancouver. These improvements on the I-5 corridor between Seattle and Southern California reportedly total about \$10 million for each railroad.”⁵²

The report addresses the idea that trains can avoid the Chuckanut tunnels for double stack intermodal traffic by noting that “one of the larger cost items for improvements on BNSF Cascade Gateway rail corridor is for vertical clearance improvements to the four tunnels south of Bellingham through the Chuckanut range. This might be avoided if double-stacks were routed via Sumas, Washington. Traveling from Everett north to Vancouver, double-stack trains conceivably could use the following routing: BNSF Cascade Gateway main line from Everett to Burlington, thence on BNSF’s Sumas Subdivision from Burlington to Sumas, thence on CP to Vancouver. This routing has vertical clearances that would allow for high cube double-stack trains. The routing is shown on Figure 27 and discussed in the text that follows.”⁵³

The BNSF’s Sumas Subdivision extends for 45 miles from Burlington via Sedro-Woolley to Sumas, where it connects with the Canadian Pacific (CP). The Southern Railway of British Columbia also operates in Sumas, but does not have a direct connection to the BNSF there. The SRY track to Vancouver is accessed off of the CP at Sumas.

The BNSF line, while in very good physical condition, has no passing sidings anywhere between Sumas and Burlington. This segment has no signalization; train operates by track warrant control.

“North of Sumas, the SRY operates a single track line to the Fraser River at New Westminster, where physical connections exist to the other carriers, and therefore to Vancouver. The CP operates a line approximately 8 miles from Sumas to its main line at Mission. From this CP line, there is also a physical connection to the CN main line, on the south bank of the Fraser, opposite Mission, but this connection is in the Northeast quadrant of the CN/CP crossing, and is used as part of a CP/CN directional running arrangement that extends east of Mission through the Fraser River Canyon. It is therefore not practical to operate between points on the CN east or west of Mission, and the Sumas border crossing.”⁵⁴

The study stated that “there are some other physical limitations to this gateway and its supporting rail routes. The SRY line to New Westminster includes a very steep grade, with extremely sharp curves, as it climbs the Fraser Valley escarpment south of the Fraser River rail crossing near Brownsville”. The SRY lines also winds through residential neighborhoods in Surrey. The CP line is maintained to branch line conditions, and would probably need some tie and ballast work if any

⁵² ibid

⁵³ ibid

⁵⁴ Cascade Gateway Rail Study, IMTC, 2002.

substantial increase in traffic were to develop. A routing via Sumas using SRY would be less desirable given the various challenges in the route and alignment noted above.

The final recommendations of the Cascade Gateway Study Chapter 8.3 noted:

“Study the feasibility of eliminating all vertical clearance obstructions for high cube double-stack trains on the BNSF and UP rail lines paralleling I-5 between Seattle and Los Angeles. The cost for doing so is reportedly around \$20 million. (The actual numbers were not available from BNSF and UP for this study.) Part of this study would be a detailed analysis of the benefits from truck diversions in Washington, Oregon, [and] California.”

For further information refer to Appendix 11 which highlights key finding from the 2002 Cascade Gateway Rail Study, Cascade Gateway Freight Demand Analysis by Reebie Associates. Several sections of this appendix were relevant to Task 2 including their key finding:

- It is highly unlikely that the railroads will introduce a new technology to serve demand in this area, as there is insufficient demand to make the risk of such an investment worthwhile. They may invest in a proven technology, such as double-stack intermodal trains, but due to low demand, such investment is only likely to occur as part of an attempt to build up a West Coast intermodal system. Under *Operating Plans for Solid Intermodal Trains* of the Reebie analysis.

The following list is a compilation from BNSF staff (Messrs. Don Fyffe, Roger Jacobsen and Marty Marasco) and indicates the required improvements:

- Increase vertical clearances in the Chuckanut tunnels
- Install CTC completely between Vancouver and Everett
- Build a better facility for customs clearance at Swift
- Install 20 miles of double track between Blaine to Ferndale
- Install a siding at North Colebrook
- Increases in vertical clearance for five tunnels along the Oregon Trunk Line (along the Deschutes River)
- Install a track capable of handling 286,000-pound cars along the Inside Gateway and the Oregon Trunk Line.

The Wilbur Smith capacity analysis, conducted separately from the forecast, revealed that not all of these improvements are necessary to allow double-stack container moving between Everett and Vancouver. Nevertheless, were the required improvements to be made, BNSF would be able to compete for OSB (strand board) and double-stack (FAK) traffic. OSB markets would be in Southern California and Phoenix.

The BNSF personnel added that UP would have a superior route from Portland south, with CTC and track robust enough to handle 286,000 cars. However, UP has its own clearance problems in Southern Oregon and Northern California. UP has the right to market traffic out of Vancouver, which BNSF would haul for them.

In the ‘Double-Stack Potential from the United States to Canada’ section of the Reebie report the consultant uses a table to indicate that up to 330 trucks a week could be diverted from I-5 however:

“In contrast, consider what would be required to achieve this result:

1. BNSF must create sufficient vertical clearance along the entire I-5 corridor and construct intermodal facilities at locations needed to serve it (Vancouver at the very least).
2. BNSF may need to create additional line capacity improvements between Seattle and Vancouver, as discussed earlier.
3. Shippers must be agreeable to some rather long drays, especially in British Columbia.
4. The BNSF must make significant adjustments to its operating plan to ensure that service can be provided to some of the BEAs in the United States. For example, consider shipments bound for Spokane from the non-metropolitan areas of British Columbia. These containers will need to be hauled from a suitable origin yard in British Columbia (likely the Vancouver yard modified to handle intermodal transfers) to Everett in the United States (where a block swap would occur) and finally to Spokane.
5. The demand for the double-stack service must come from current demand for motor carrier service and not from rail carload service."

In conclusion, Reebie noted the unlikelihood of Burlington Northern Santa Fe moving forward with a plan for operating intermodal trains across the U.S. Canada border. In our interviews with BNSF, the report perspectives were borne out. The report stated:

"Private organizations base their investments on the potential return of it as well as its risk, that is, what is the likelihood that a sufficient financial return will be experienced. There are likely to be very significant costs associated with creating a double-stack train service between the western United States and Canada. This analysis shows further that the potential demand for such a service is not large.

These findings need to be coupled with the fact that a railroad is a very risk-averse enterprise. Unless their return on investment is virtually guaranteed, they will not make the investment. In this case, it is hard to see such a guarantee. The efficacy of the investment may be improved if additional demand along the West Coast of the United States were to make these improvements work financially as part of a system of improvements. But it is a virtual certainty that the private railroads would not invest unilaterally in the necessary improvements in the hope that the traffic in this forecast would materialize."

Shipper Interviews

In the study, BST Associates "interviewed a number of shippers on both sides of the border by telephone in May, 2002 to determine what factors are used in deciding which mode of transportation to use. Another goal was to develop a list of improvements that could lead to an increase in the share of border traffic that moves via rail. Shippers contacted in B.C. included Weyerhaeuser, Abitibi, and Molsons. Those in the U.S. included Weyerhaeuser, Fresh Express, and Ash Grove Cement. The interviews revealed the following perceptions:

- Volume is the main consideration for shippers of forest products. In general, rail makes sense if the volume being shipped is relatively large, while smaller shipments tend to move by truck.

- Along with volume is the distance that the product must travel. In general, rail tends to not be economical for distances of less than 750 miles. As a result, between Washington and Lower Mainland, B.C. trucks tend to carry most cargo. For moves between Interior, B.C. and Washington, however, the distances can easily be 750 miles. As a result, a large share of the forest products produced in that region is shipped by rail.
- Another factor is the availability of rail service at the customer's door. For example, one shipper stated that the volume of scrap paper shipped might justify using rail, but a number of the suppliers do not have rail to their facilities. For example, there are a number of scrap paper warehouses located in the Vancouver area. These warehouses are not rail-served, so the product is shipped by truck.
- Speed and reliability is another important factor in deciding between truck and rail, and is one in which the railroads do not compete well. For example, one shipper of forest products said that trucking lines that his firm uses guarantee an on-time delivery window of less than one day, and this margin is decreasing. For railroad service, this firm plans on a delivery window of +/- 3 days, which means that a boxcar shipped by rail may show up at the customer's address at any time over an entire week.
- Most forest products do not move in containers, so tunnel clearances are typically not an issue. However, for products that do move in containers, tunnel clearances are a concern. According to shippers, double-stack service along the I-5 Corridor between Vancouver and California could potentially shift cargoes from truck to rail. However, it appears that the vertical clearances in some rail tunnels in southern Oregon and northern California are not high enough to allow "high-cube" double-stack container service. And without double-stack service, rail does not enjoy a major advantage over trucking.
- Maximum weight limits are also a concern. The main line railroads in North America have adopted a loaded car weight 286,000 pounds as a maximum, and most of the main line system has been upgraded to handle this type of car. However, according to one shipper, there are sections of line on the I-5 Corridor (rail lines paralleling I-5 between Blaine and Southern California) that have weight limits lower than this. As a result, less product can be loaded on railcars, decreasing the advantage of shipping by rail.
- Customer preference is another factor in the transportation decision. For many shippers, product is sold FOB the producer's loading dock, and the choice of mode is made by the customer. In summary, shippers felt that, in order to attract additional rail cargoes across the B.C./Washington border, railroads need to guarantee more timely service, provide double-stack service, and allow heavy weight cars in the I-5 Corridor."

Freight Appendices

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Freight Appendix 1

The Northern Light and Jacque Peterson
Map of Birch Bay and the City of Blaine, WA



Freight 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 41st 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 10th 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 38th 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 4th Street, 88th Street and 172nd 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 4th 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 172nd St exit that people “need to get through that 116th St. exit with a carpool lane at least.” With the long-term plans for the industrial area development and other commercial areas near there, 172nd St would be the ideal end goal for any improvement plans, said Nehring. “If [HOV access could be expanded] at least through 116th and then push it through to 172nd 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 councilor 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 2nd 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 Freiburger 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

Freight Appendix 3

Government of Canada

Terms of Reference for the United States-Canada

Regulatory Cooperation Council

Border Action Plan

Terms of Reference for the United States-Canada Regulatory Cooperation Council

June 3, 2011

Context

Canada and the United States share cultural, social, and environmental values that have led both countries to develop robust and efficient regulatory protections for their citizens. However, Canadian and U.S. regulators do not always maximize—or the laws under which they operate do not allow them to maximize—opportunities to align regulatory approaches that achieve common objectives, which is imperative given the integrated nature of our supply chains and robust trade relationship. In some cases, the resulting differences do not increase regulatory benefits, and instead impose needless additional burdens and costs for both businesses and consumers. These costs can be particularly acute for small- and medium-sized enterprises—the cornerstone of economic activity between our nations—which may not have the resources to customize products to meet unnecessarily divergent regulatory requirements. Identifying, preventing, and addressing unnecessary regulatory divergences requires regulatory cooperation between Canada and the United States.

Aligning regulatory approaches between Canada and the United States can spur economic growth and job creation in both nations and facilitate trade, while maintaining high standards of public health and safety and environmental protection. Through their February 4, 2011, commitment to establish a United States-Canada Regulatory Cooperation Council (RCC), both governments recognize the imperative of securing economic benefits through smarter, more effective approaches to regulation that increase cooperation. Increased regulatory cooperation in no way diminishes the sovereignty of either Canada or the United States or the ability of either country to carry out its regulatory functions according to its domestic and legal policy requirements. Accordingly, the RCC's activities, as described in these Terms of Reference, will be conducted in manner consistent with the domestic laws of both countries.

Canada and the United States have their own well developed and transparent regulatory regimes. For example, both governments follow good regulatory practices, such as regulatory impact assessment and open engagement of citizens and stakeholders in the rule-making process. Notwithstanding the strengths of current approaches, both countries do operate independently, and they recognize the opportunity to work together in order to bolster transparency and better align analysis in support of regulations, including for example, measures that would provide early notice of regulations with potential effects on trade. Their mutual desire to better align and cooperate in these areas reflects the commitment of both countries to evidence-based, predictable, cost-effective regulatory approaches that are carefully targeted to enable businesses to continue to innovate and grow without compromising the high standards of public health, safety, and environmental protection that their citizens expect.

Mandate of the Regulatory Cooperation Council

The mandate of the RCC is to identify and recommend opportunities to enhance regulatory

cooperation through:

Increased regulatory alignment and transparency: Regulatory cooperation can be strengthened through a commitment to:

- increased transparency at the earliest possible stages of the rule-making process (e.g., through measures that allow for engagement between regulators in both countries to examine options to align regulatory approaches);

- participation by relevant stakeholders and the public in general, including information regarding promising initiatives and “early warning” of upcoming rules that are significant and of mutual interest.

Greater alignment in regulations and recognition of regulatory practices: Over the years, regulators have taken significant steps to improve regulations by requiring careful attention to costs and benefits, by encouraging the use of the best available science, and by emphasizing low-cost tools, such as information disclosure and public-private partnerships. Equally, Canada and the U.S. have highly effective regulatory regimes and delivery mechanisms. Regulatory delivery and regulatory processes can be streamlined through cooperation that would seek to leverage the implementation activities conducted in either country. There are opportunities to align not just the regulations themselves, but also the activities associated with the application of regulations (testing procedures, inspection and certification activities, etc), and to accept and recognize the work done in each other’s jurisdiction. The work undertaken under the regulatory regime of one country, given our common outcomes and effective implementation, can be better leveraged to avoid duplicative or trade-related actions related to border trade. Based on greater coordination of regulatory practices, processes, and activities, Canada and the U.S. will seek to develop a permanent, lasting approach to avoiding future misalignments.

Smarter, less burdensome regulations in specific sectors: The RCC is charged with identifying opportunities to bring significant economic benefits to both countries through increased regulatory alignment within key existing and emerging sectors of the North American economy. In seeking to identify opportunities for increased alignment and cooperation, particular consideration will be given to:

- sectors that are characterized by high levels of integration and a history of cooperative regulatory approaches and supporting activities;

- sectors that have well developed pre-existing regulatory frameworks that are designed to achieve similar outcomes but are currently a barrier to increased integration and activity;

- sectors that offer significant, emerging growth potential and that are characterized by rapidly evolving technologies where regulatory approaches are anticipated or are currently in early stages of development; and

- sectors where regulatory cooperation will support export growth in North America.

RCC Principles

Each country will maintain its own sovereign regulation—mutual reliance on the other country's system to inform one's own decision-making, and closer alignment of existing federal regulatory systems, consistent with domestic law, will be the focus.

Regulatory outcomes for consumer protection, health, safety, security, and the environment will not be compromised.

New regulatory systems will be designed with the goal of achieving regulatory alignment, to the extent feasible and appropriate. Regulatory alignment will be sought for all future Canada-U.S. regulatory system development—with differences existing only where necessary and with the impacts considered.

The role of the RCC will be one of broad engagement, bilateral and horizontal coordination, idea generation and challenge. Efforts towards regulatory alignment will be conducted by lead departments and agencies, under broad guidance from the RCC and in consultation with impacted stakeholders. The goal is to align existing federal regulatory systems or, absent such alignment, encourage the adoption of other measures that make it easier to conduct business between the two countries, where such efforts are feasible and appropriate and consistent with other RCC principles.

In addition to resolving existing unnecessary divergences, mechanisms to facilitate and secure future alignment will be developed. Transparency and early engagement between countries and with stakeholders will underlie these efforts.

Opportunities will be pursued that provide benefits to both Canada and the United States.

Organization of the United States-Canada Regulatory Cooperation Council

The RCC will be co-chaired by high-level representatives of the central regulatory oversight agencies in both governments, working closely with their respective trade and foreign affairs agencies, regulatory agencies, and those agencies with policy responsibility for broader competitiveness issues within their federal governments. The co-chairs will solicit the active involvement of regulatory agencies, depending on the specific cooperative activities being addressed.

Central Agency Role

The central agencies, working closely with their respective trade and foreign affairs agencies, regulatory agencies, as well as any other relevant agencies, will lead efforts to examine opportunities to improve collaboration in regards to the rule-making process in an effort to improve the transparency and analytic basis of regulations. A particular emphasis would be placed on measures that would provide early notice of regulations with potential effects on trade. Similarly, recognizing their respective leadership responsibilities for promoting smart, evidence-based regulations, the central agencies will also lead efforts to enhance the contribution of current regulatory analyses to cooperation and quality rule-making in both countries.

Trade/Foreign Affairs/Industry Role:

The trade, foreign affairs, and industry agencies of both countries will work closely with the co-chairs to ensure that any regulatory cooperation efforts will be consistent with pertinent international obligations and to assist in identifying opportunities to enhance regulatory cooperation, particularly for those sectors that are characterized by high levels of integration and a history of cooperative regulatory approaches and supporting activities. In the interests of open government, the agencies may, as appropriate, consult and engage with their legislative bodies and key stakeholders regarding efforts on regulatory cooperation.

Regulatory Agency Role:

The principal role of regulatory agencies within the RCC will be to: (1) work with the co-chairs to identify or develop sectoral initiatives or other opportunities to improve collaboration, as mutually agreed by regulators and the co-chairs; and (2) work with counterpart agencies to achieve progress on sectoral initiatives as mutually agreed by regulators and the co-chairs.

Working Groups:

Under the direction of the co-chairs and, in the interest of assuring sustained progress, working groups may be organized to advance the work of the Council in areas of its mandate. Senior executives from the agencies described above are expected to play prominent leadership roles in advancing working group priorities, in accordance with co-chair commitments to open, transparent engagement of stakeholders and citizens.

Regulatory Cooperation Council Action Plan

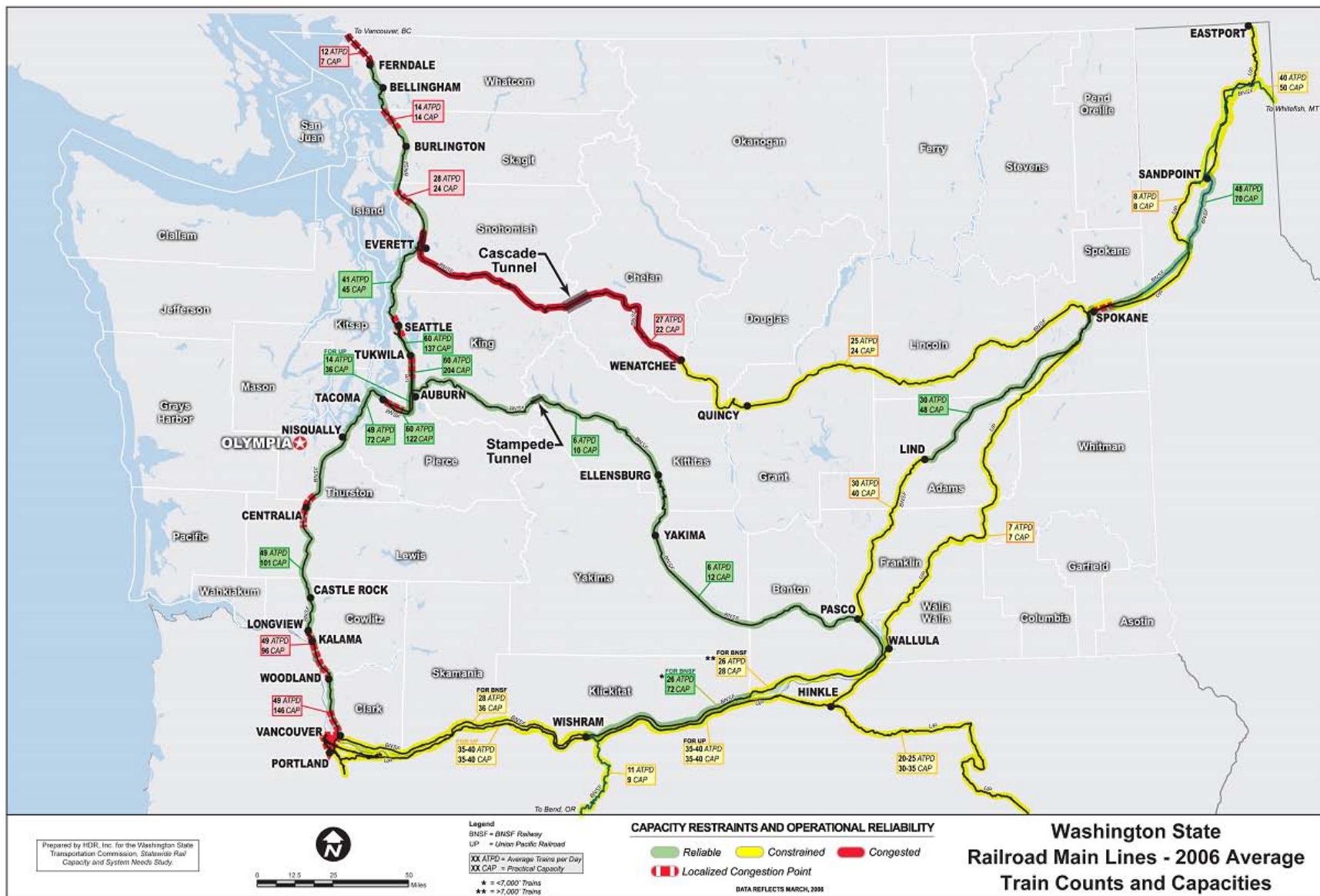
The co-chairs' first task will be to create an Action Plan to advance the goals identified in their mandate, which will be developed in close consultation with regulatory agencies. The Action Plan will outline activities for a period of up to two years. At the end of the two-year period, Canada and the United States will review the work of the RCC and consider the adoption of a new Action Plan.

Given the importance of securing and sustaining momentum for the Council's efforts, the co-chairs will monitor progress closely, providing oversight necessary to achieve their mandate with an appropriate level of public and stakeholder engagement. The RCC will meet regularly with interested stakeholders. The RCC will establish stakeholder sessions adjoining semiannual RCC meetings, one hosted by Canada and the other by the U.S. The United States and Canada will seek, to the extent possible, to coordinate the RCC's activities with the work of the U.S.-Mexico High-Level Regulatory Cooperation Council when the three governments identify regulatory issues of common interest in North America. Nothing in these Terms of Reference or the RCC Action Plan shall restrict the ability of counterpart agencies in the United States or Canada to engage agency-to-agency in bilateral cooperation and collaboration initiatives on their own outside the remit of the RCC.

Freight Appendix 4

Washington State Transportation Commission
Map of Washington State Railroad Main Lines –
Average Train Counts and Capacities
Commission Statewide Rail Capacity and System Needs Study
Final Report December 2006

Washington State Rail System- Mainline Capacities, 2006

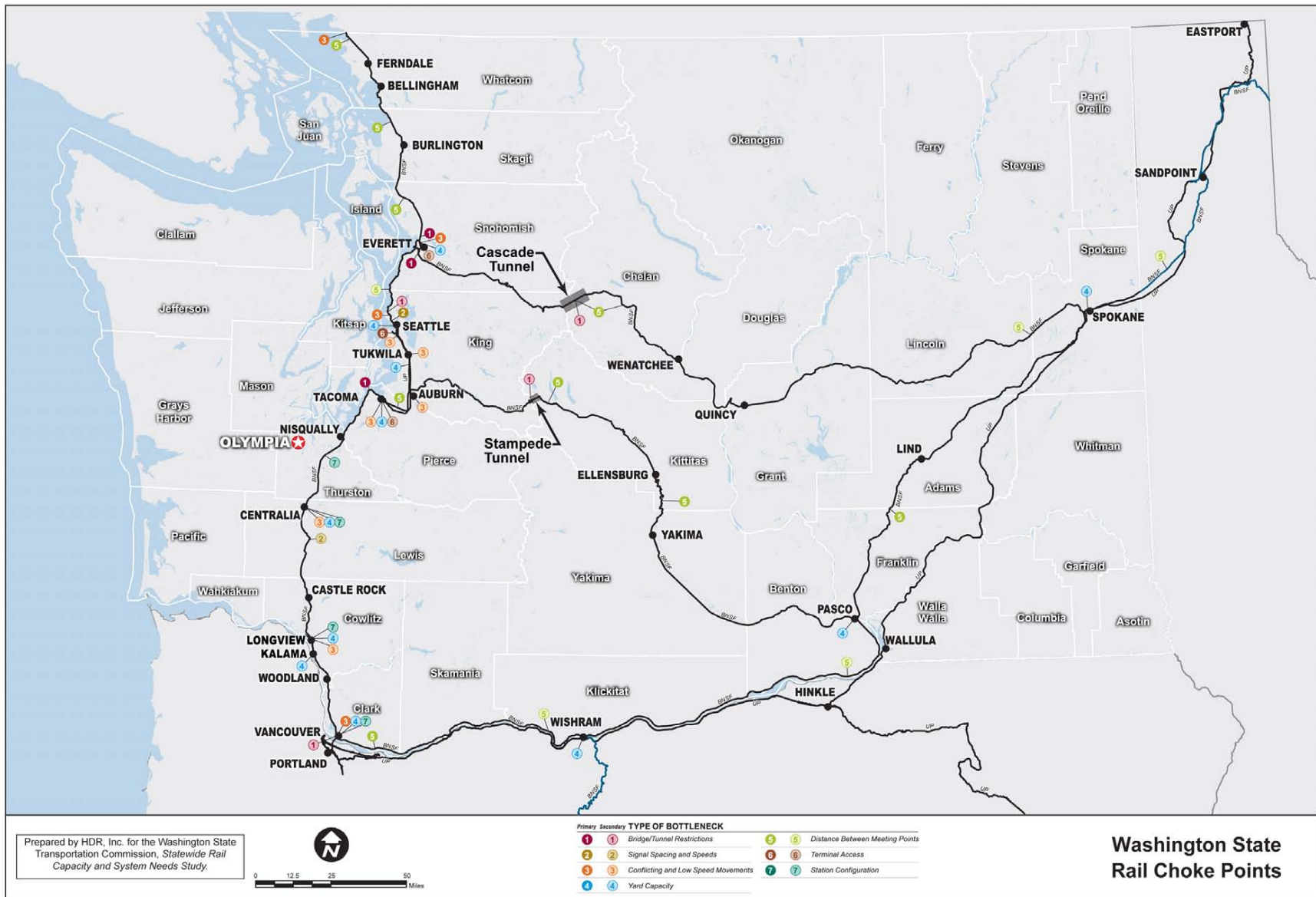


Source: Washington State Transportation Commission Statewide Rail Capacity and System Needs Study – Final Report December 2006, Figure 3, page 22.

Freight Appendix 5

Washington State Transportation Commission
Map of Washington State Rail Choke Points
Commission Statewide Rail Capacity and System Needs Study
Final Report December 2006

Washington State Rail System – Rail Choke Points



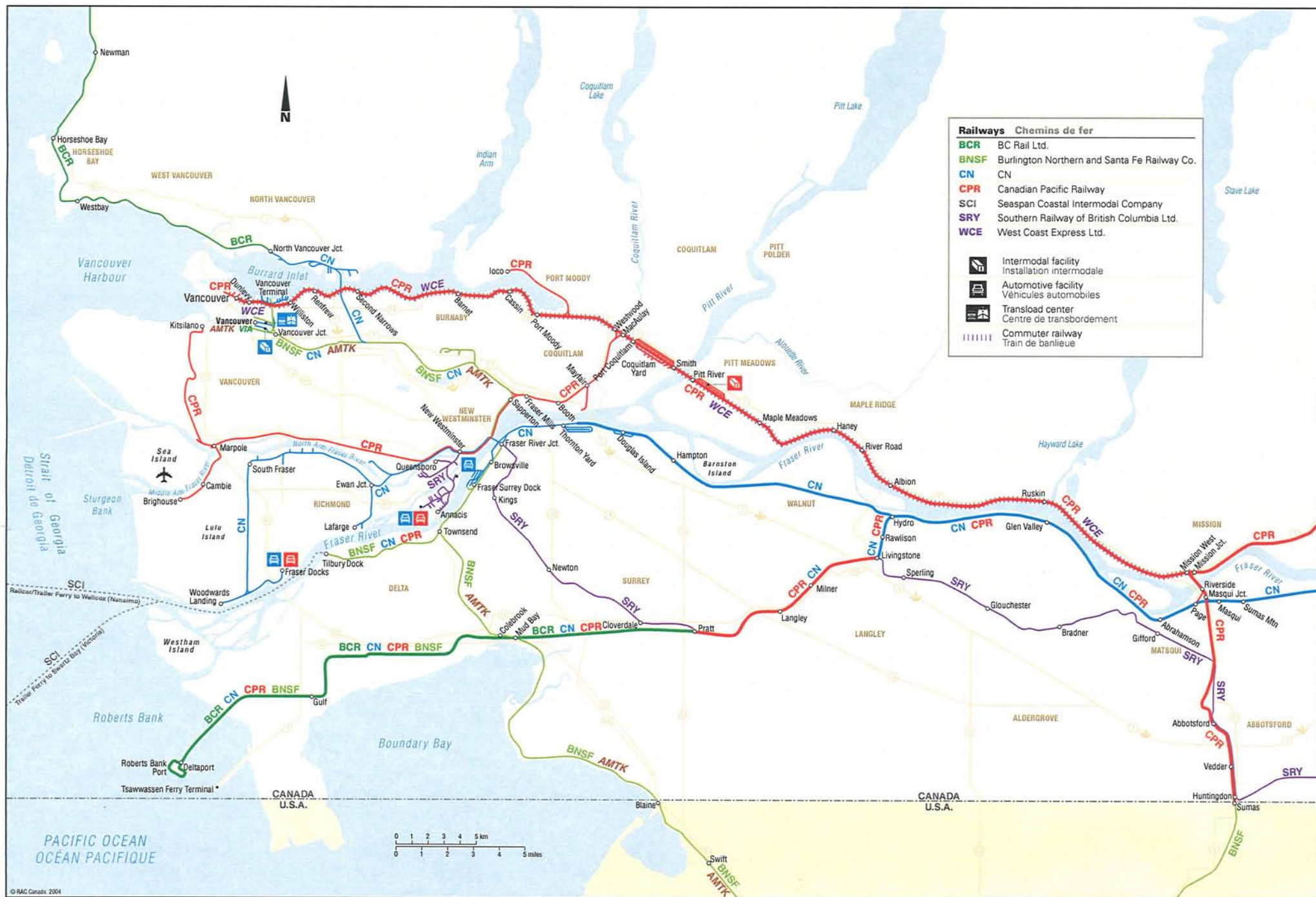
Source: Washington State Transportation Commission *Statewide Rail Capacity and System Needs Study – Final Report December 2006*, Figure 3, page 22.

Freight Appendix 6

Railway Association of Canada

Map of Rail lines in the Vancouver, B.C. area

Vancouver



Freight Appendix 7

Illustration of suggested track improvements to the Colebrook siding at Mud Bay

Source: Satellite imagery courtesy of the City of Surrey, BC.



Thornton Yard

CN Rwy

Colebrook Rd

Hwy 99

131 A St.

Suggested track improvements

Mud Bay

BNSF Rwy

N

200 Meters

Freight Appendix 8

Burlington Bulletin

Update on Flooding Concerns at Skagit River and
Plans for Skagit River Bridge Replacement

Volume 22, Issue 1 Spring/Summer 2011, Pages 10-11

Corps of Engineers General Investigation Study

The Corps of Engineers recently announced it would halt all work on the Skagit General Investigation study, due to lack of federal funds. Congressman Rick Larsen responded by sending the letter below:

Dear General:

I have serious concern about reports that work on the Skagit River General Investigation Study (Skagit G.I.) has been stopped. To abruptly halt forward progress on the Skagit G.I. without exhausting every option available is irresponsible to the mission of protecting lives and property.

The Skagit G.I. has taken over thirteen years and has endured numerous scheduled completion date revisions to get to the point where it is today. The Skagit community cannot afford another delay. For more than a decade the people of the Skagit Valley have looked to the Corps to provide the basis on which they can begin completing flood control projects that will increase safety for those living on the banks of the Skagit River.

The Corps itself has recognized how important this GI study is, the Skagit G.I. has simply taken too long. Through the Reset Initiative the Corps gave the Skagit G.I. a needed higher priority level to urge along its completion in a fiscally responsible manner. Skagit County, the local sponsor of the investigation, has invested their own money and pledged to work with the Corps toward timely completion.

It would be a disservice to the residents of the Skagit Valley to let the Skagit G.I. deviate from its schedule one more time. Less than \$4 million remains to complete the investigation. Stopping the Skagit G.I. will waste the \$6.263 million of federal funds already invested, not including the local community sponsor's match.

With every new flood comes a threat to the community's of Skagit County. The sense of urgency behind the Skagit G.I. has never diminished and the County's intention to complete the study was reiterated in a letter signed in January of this year. It is time to complete the Skagit G.I.

On behalf of the residents of Skagit County, I demand that every program is evaluated to find savings in order to fund and complete the Skagit G.I.

Sincerely,

Rick Larsen

Member of Congress

Over the past two years, a partnership of Cities, Towns, and Skagit County worked with Corps of Engineer headquarters to increase the priority of the Skagit GI. Our Federal Congressional delegation then supported this effort by pulling some strings and lining up additional funding for FY11 (\$1.1 million). However, the funding became a victim of budget concerns. It may be possible to restore some of the funding in FY12, but the problem with partial funding is that it is inefficient and extends the time period for completing the study. As of the date of this newsletter, there is no schedule for completing the Skagit River General Investigation Study.

Potential BNSF Skagit River Bridge Replacement

With support from the Governor's Office, our State legislators, and the Washington State Department of Transportation's Rail Office, a 2nd application requesting High Speed Intercity Passenger Rail (HISPR) money to fund the preliminary engineering and environmental study needed to replace this old bridge, was submitted in April. The application was for \$11.3 million, with the City of Burlington committing \$350,000. Replacing this bridge is critically important to reduce Burlington's flood risk, because if large debris blockages occur upstream of the old bridge (as happened in 1995), water can back up 2-3 feet, making upstream flooding much worse and potentially enabling flood water to enter Burlington from the Sterling area along the Gages Slough corridor. We should hear something from the Federal Rail Administration on whether this project was selected for funding within the next few months.



1995 Skagit River Flood – BNSF Bridge failure



Concept for BNSF Skagit River Bridge replacement

Flood Storage in the Baker Hydroelectric Project

A concept that came out of the Puget Sound Energy Baker Hydroelectric Project relicensing process was to draw down the reservoirs in advance of a flood-producing weather system. This idea was accepted by the Federal Energy Regulatory Commission (FERC), and FERC directed PSE to provide a report about the viability of this concept within three years of the license being issued. That deadline is in October. Puget Sound Energy, through its consultant, Tetra Tech, has a study under way. The City is concerned that the study is obfuscating the issue through an analysis almost no one can understand, and not focusing on the practical issues that are most important. The concept for drawing down the reservoirs in advance of a flood event came from Puget Sound Energy's operation of the Project during the Skagit flood of record in October 2003. The City and other flood partners would simply like to see protocols put into place that ensure PSE does its best to operate the dams in a similar manner for future floods.



2003 Skagit River Flood – Upper Baker and Lower Baker dams spilling water after the Skagit River flood peak

The Mayors of Burlington, Mount Vernon, Sedro-Woolley and La Conner sent a letter to Puget Sound Energy's CEO, Kim Harris, requesting Puget's help to address this concern (see attached).

Continued on Page 12

Freight Appendix 9

Cascade Gateway Rail Study

Forecast of BNSF Through Trains between Everett
and Vancouver, BC

Wilbur Smith 2002, Chapter 2.2.2 Pages 2-4 through 2-6

BNSF currently operates about 6 through trains a day between Everett and Seattle, and 12 local freight trains. The locals serve industries along the line and on branch lines off the main line. The through trains in 2002 will carry a total of 6 million tons of freight, predominantly in the southbound direction. Union Pacific Railroad (UP) has an agreement with BNSF that allows it to market its services to shippers along this line to and from points in several western states². Under the terms of this agreement, BNSF handles cars from points on this line to an interchange with UP in Seattle; no UP trains *per se* operate on the corridor. BNSF/UP interchange tonnage is included in the 6 million ton figure for 2002.

2.2.2 Forecast of BNSF Through Trains between Everett and Vancouver, BC

Study team member Reebie Associates performed the forecast of cross-border rail freight volumes on the corridor. Reebie's effort, "Cascade Gateway Freight Demand Analysis", appears as Appendix A. This analysis studied both truck and rail volumes in tons over the Cascade Gateway, and forecasted shipments by origin, destination and commodity through Year 2012. A description of the forecasting methodology appears in the document. The rail volumes forecast by Reebie are summarized in Table 2-1 below.

| Table 2-1. Rail Freight Traffic Forecast | | | |
|---|------------------------|------------------------|-------------------|
| Year | Southbound Tons | Northbound Tons | Total Tons |
| 2002 base year | 5.62 million | .41 million | 6.03 million |
| 2012 standard | 8.72 million | .61 million | 9.33 million |
| 2012 likely | 8.91 million | .76 million | 9.67 million |
| 2012 optimistic | 9.01 million | .83 million | 9.84 million |

Source: Reebie Associates

The table uses 2002 as the base year. This 2002 estimate is based on actual tons shipped for 2000 increased by a normal growth factor per individual commodities. Netted out of the 2000 total were one-time northbound shipments of rip-rap to Roberts Bank for expansion of the port facility there³. The rail freight travels in "carload service", which means conventional boxcars, flat cars, tank cars, gondolas, etc. It differs from intermodal service, which handles containers and trailers on flat cars or in double-stack cars.

The "standard" forecast assumes normal growth per commodity northbound and southbound through Year 2012. As previously noted, the current volumes are handled by three round trips (or six through trains) per day. The 9.33 million tons forecast for 2012 could be handled by four round trips (or eight through trains) per day.

² UP/SP Proportional Rate Agreement, signed between UP and BNSF in May of 1997. This agreement was concluded as part of the BNSF and UP/SP settlement, by which BNSF supported the 1996 UP/SP merger. The agreement specifies that UP can quote rates to shippers along the Cascade Gateway rail line to/from points in Oregon, California, Nevada, Utah, Colorado, Arizona, and New Mexico, and western Texas. BNSF will haul cars between these shippers and UP. For the haulage, BNSF gets part of the rate.

³ This is Deltaport, a coal and marine container intermodal facility belonging to the Port of Vancouver. It is referred to as Roberts Bank throughout this document.

The 2012 “likely” and “optimistic” forecasts assume the implementation of double-stack intermodal train service on the corridor⁴. Intermodal transportation would be a new rail service product offering on the corridor. It would be in addition to carload service, whose growth is reflected in the standard forecast. The service will require new equipment (cars and car loading devices) and new configurations at yards whereby intermodal containers can be loaded on and off double-stack cars. This would most likely happen at New Westminster.

Double-stack trains consist of a string of a single car type, i.e. multi-unit articulated cars, in which container boxes are stacked one on top of another. Double-stack trains carry “marine” containers between ports and inland destinations, as well as “domestic” containers between load centers that are not connected specifically with any port. Double-stack trains have succeeded in attracting freight which had previously traveled by truck, due to cost and even transit time savings, in various markets throughout North America. The likely and the optimistic scenarios assume double-stack service on the corridor because such service presents the best opportunity for growth in Cascade Gateway rail tonnage above normal carload growth. While containers can be handled on flat cars or single level, multi-unit articulated cars (called “spine” cars), double-stack services offer greater cost advantages for shippers and, therefore, have had better success in attracting shipments from trucks on highways.



Typical Double-Stack Train

Implementation of double-stack trains on the corridor also assumes two key prerequisites. One is that the double-stacks operate beyond Seattle to other markets on the West Coast, including Southern California. The other is that vertical clearances in tunnels are improved to permit these movements. The latter is because double-stack trains carrying containers 9'6" high (known as high cube containers) require higher clearances than typical carload trains. Currently, there are vertical clearance obstructions for high cube double-stack trains in the Chuckanut tunnels on the Cascade Gateway rail line, as well as on BNSF and UP in southern Oregon and northern California.

Assuming the implementation of double-stack trains, Reebie forecast that 9.67 million and 9.81 million total tons (including carload and intermodal double-stack tons) could be handled on the corridor. This calculation required the quantification of truck movements by commodity through 2012 and the diversion potential for double-stack service. This was done on a commodity-by-commodity basis. Overall, the diversions (either “likely” or “optimistic”) result in a comparatively small increase in total tons. Likely diversions were 10 percent of total divertible

⁴ The likely and optimistic forecasts comprise the enhanced rail forecasts specified in the scope of work. The new and improved facilities forecast, which was also specified in the scope, would be driven by improvements at corridor area ports. The resulting traffic growth is captured in the port-related traffic forecasts, which are discussed in a subsequent section of this document.

tons, and optimistic diversions were 15 percent of total divertible tons. These could be handled with two round trips (four double-stack trains) per week. Thus, on a given day in 2012, there may be as many as 8 to 10 through trains on the corridor, assuming a double-stack round trip occurs on a single day. This is a 40 percent increase in corridor through trains from today. The additional trains that could run on the corridor in 2012 appear in Table 2-2.

| Table 2-2. Train Volume Forecast | | |
|---|------------------|-------------------|
| Type of Train Service | 2002 | 2012 |
| Carload Trains | 6 trains per day | 8 trains per day |
| Double-stack Trains | | 4 trains per week |

Source: Reebie Associates and WSA

Overall, the majority of the increase in trains will be a result of the normal growth of carload traffic. Annual carload trains in 2012 will total about 2,900, and annual double-stack trains will total about 200, or less than a tenth of carload trains.

In addition to these through trains, BNSF operates 12 local freight trains on this segment of the line. This volume likely will remain the same over the 10-year study period. These local operations have lesser priority than through freights and passenger trains. Also, most through freight trains tend to operate at night and locals during the day. Many of these locals work branch lines and yards, as opposed to the main line, for most of their shifts. So they are not likely to have much effect on corridor capacity for the through freight and passenger trains. Approximately on a monthly basis, BNSF delivers unit trains of coal to Roberts Bank for export. BNSF has access to the BC Rail line that enters Roberts Bank coal export facility (see BC Rail discussion below).

2.2.3 Other Freight Rail Operators between Colebrook and Vancouver

Other operators on the corridor, a brief sketch of their operations, and likely volumes over the study period are as follows. None of these operations is likely to have a significant impact on capacity on the corridor between Everett and Vancouver. They pertain to various portions of the corridor only north of Mud Bay. The notable capacity constraint is the single track Fraser River Rail Bridge, which is used by all of these carriers and BNSF.

- ***Southern Railway of British Columbia (SRY).*** BNSF runs a switcher into the SRY Trap Yard in New Westminster daily. To do this, BNSF runs from its New Westminster Yard onto the Canadian Pacific Railway's (CP) track running under the Fraser River Bridge to Trap Yard west of the bridge. SRY interchanges 10 to 20 cars daily there. SRY uses the New Westminster rail bridge to reach its track on the Surrey side. SRY has an approach to the bridge from Trap Yard. SRY has 8 movements across the bridge Monday through Friday, four movements on Saturday, and 6 movements on Sunday. SRY traffic is carload traffic. SRY estimates growth at about 2 percent per year. SRY trackage can be seen in Figure 2-2.

Freight Appendix 10

Cascade Gateway Rail Study

Chapter 5 “Capacity Improvements”

Wilbur Smith 2002, Pages 5-1 through 5-14

Chapter 5

CAPACITY IMPROVEMENTS

5.1 INTRODUCTION

The purpose of this chapter is to identify the minimum improvements for the rail corridor that will provide sufficient capacity for the freight and passenger train volumes forecasted in Chapters 2 and 3. The emphasis here is on the segment of the corridor between Everett and Vancouver. This emphasis recognizes that improvements planned for future SoundTransit commuter rail services between Seattle and Everett will effectively restore the historic double track configuration and thereby provide sufficient capacity for foreseeable freight and passenger volumes.

5.2 CASCADE GATEWAY CAPACITY ISSUES AND SOLUTIONS

The Cascade Gateway rail line capacity needs are analyzed in terms of specific segments. These are Pacific Central Station in Vancouver to Everett, Vancouver to Burlington via Sumas (an alternative routing for double-stack trains), and Everett to Seattle. Estimated train volumes for 2002 and forecast volumes for 2012 are noted in Chapters 2 and 3. Freight operators on the Cascade Gateway rail corridor include BNSF, CP, CN, and SRY. Passenger operators include Amtrak, VIA, Sounder, and Rocky Mountain Rail Tours. With the possible exception of Rocky Mountain Rail Tours, all carriers are likely to handle more traffic in 2012 than today.

5.2.1 BNSF Main line between Everett and Vancouver

The BNSF main track between the yard at Everett (PA Junction) and the Pacific Central passenger station in Vancouver is about 122 miles in length. Except for 9.3 miles between Still Creek (just east of Vancouver) and New Westminster, where there is double track, the line is single track.

New Westminster Rail Bridge

This bridge is approximately a fifth of a mile long and spans the Fraser River. It is owned by the Canadian government and used by the BNSF, SRY, CN, Amtrak, VIA and Rocky Mountain Rail Tours. The bridge has limited clearance above the Fraser River. Thus, it includes a “swing” span that opens to allow marine traffic to pass up and down the river. The rail line on the bridge is single track, with a severe speed restriction. The current operating speed across the river is only 8 mph or 13 kph. According to a recent study on a replacement for the bridge, total train movements over the bridge range generally between 1,200 and 1,300 for both freight and passenger services on a monthly basis¹.

The study estimated that opening of the swing bridge for marine traffic consumes over 30 percent of the overall availability of the bridge. Given this estimate, coupled with its single track

¹ “Supporting Rationale for the Replacement of the New Westminster Rail Bridge,” prepared for the Greater Vancouver Gateway Council and Borealis; July, 2002.

configuration, speed restriction, multiple users and volume of traffic, it is reasonable to say the bridge is a corridor bottleneck which will become worse with increasing numbers of passenger and freight trains.

Principal Sidings

There are 10 significant sidings that can be used as passing tracks. The sidings vary in length from about 6,000 feet to just over 9,000 feet, but the longer sidings are few in number, far from each other, and in some cases, encumbered with one or more internal public road crossings that limit the railroad's ability to hold a long train in the siding.

Passing sidings, or comparatively short sections of double track paralleling the main line track, provide capacity to a single-track railroad. The principal sidings, their length and railroad milepost locations (from south to north), appear in Table 5-1.

| Table 5-1: Principal Sidings Everett to Vancouver | | | |
|--|------------------|--------------------|-------------------------------------|
| Milepost | Name | Length (Ft) | Notes |
| 45.9 | English | 9,026 | One public crossings |
| 55.5 | Stanwood | 6,381 | Public Crossing |
| 66.8 | Mt. Vernon | 6,075 | Public Crossing |
| 71.9 | Burlington | 5,900 | Between Greenleaf St. and Pease Rd. |
| 79.3 | Bow | 8,916 | Public Crossing |
| 92.9 | South Bellingham | 6,347 | |
| 106.3 | Ferndale | 8,610 | North of Main St. |
| 111.8 | Custer | 6,400 | Distance is clear of road crossing |
| 116.0 | Swift | 8,710 | |
| 119.3 | Blaine | 6,060 | Not in CTC Signal System |
| 139.9 | Brownsville | 5,908 | Two sidings |

Source: BNSF track charts and conversations with WSDOT consultant

The relatively long distances between sidings (20 miles Brownsville to Blaine; 13 miles South Bellingham to Ferndale; 12 miles Everett to English) all constrain the maximum practical capacity of the route. Capacity is further limited by frequent speed restrictions, which are either the effect of curves (Samish to South Bellingham), bridges (the Snohomish River and Steamboat Slough at Marysville; the Nicomekl and Serpentine Rivers near Colebrook; the Fraser River at New Westminster), or public law (White Rock, BC).

Dispatching Systems

Most of the corridor's single track is dispatched remotely, through a Centralized Traffic Control (CTC) system in which the train dispatcher electrically controls switch alignments and signal indications. There is still a 20.5-mile stretch between Swift (just south of Blaine) and Brownsville, and another 2-mile section between Still Creek (west of New Westminster) and Vancouver, that are protected only with Automatic Block Signals, and on which trains require track warrants or other "manual" authority, to operate. BNSF's main track terminates at Still Creek. From there to Pacific Central is yard trackage, and not remotely dispatched by CTC. Also, BC Rail dispatches the eight tenths of a mile of BNSF main line, used by CP and CN to and from Roberts Bank, at Colebrook.

Tunnels

Between Samish and South Bellingham there are four tunnels (Tunnel 18, 1,113 feet long; Tunnel 19, 141 feet long; Tunnel 20, 326 feet long; and Tunnel 21, 751 feet long) with vertical clearance restrictions that prohibit the operations of some double-stack trains. Presently, the clearances are sufficient for two “low cube” (8’6” high) containers atop one another, i.e. a “low-low” combination. This combination requires a vertical clearance of at least 18’2” above the top of the rail, according to BNSF. However, the vertical clearances are insufficient for either of the two following double-stack combinations: a low cube container and a “high cube” (9’6” high) container, i.e. a “low-high” combination; or two high cube containers, i.e. a “high-high” combination. The former requires a vertical clearance of at least 19’2”, and the latter requires a minimum vertical clearance of at least 20’2” for containers 10’6” wide. The current tunnels permit 19’ of vertical clearance for containers that are 10’6” wide².

Border Crossing Facilities

All southbound freight trains are subject to U.S. Customs inspection upon entry at Blaine, and some trains are required to set out individual cars for Customs to inspect. Setting out individual cars for U.S. Customs to inspect requires that trains be delayed long enough for the necessary switching to be completed, which can in turn delay other trains. U.S. Customs has indicated that the service will increase the number of inspections as an enhanced security measure. For northbound trains, Canadian Customs inspection is handled at White Rock. Trains are inspected on the main line. Stops frequently last for an hour.

Main Line Operations

The typical trip, for either a passenger or a freight train, takes relatively long for the distance it covers. A freight train may require 8-10 hours to travel between Everett and the BNSF yard at New Westminster (Sapperton) – especially if the train has any *en route* work to do. Such work may entail setting out or picking up blocks of railcars, or switching at sidings or industries along the line.

Current BNSF operations consist of 6 through freight trains (3 round trips or 3 trains each way) daily, 12 local freight trains (a high number for the main track distances involved), and 2 pairs of Amtrak *Cascades* passenger trains (one pair running between Seattle and Vancouver, and one pair running between Seattle and Bellingham³). CP, CN and SRY traffic add several trains a day in the corridor, but only north of Colebrook.

The Amtrak *Cascades* passenger trains operate in the morning and evening, in opposing directions. Five of the 6 BNSF through freight trains operate at night; the locals are a mix of daylight and nighttime operations.

² Conventional intermodal containers come with two heights; 8’6” and 9’6”. The latter are termed “high cube” because they provide more cubic space for loading cargo. The high cube containers are therefore becoming increasingly popular with shippers. Indeed, for domestic container shipments, 9’6” high cube containers are becoming what the market demands. Accordingly, double-stack routes ideally should be planned with vertical clearances allowing for a “high-high” double-stack combination.

³ In the Recommended Improvements discussion that follows, the analysis assumes that a second Amtrak *Cascades* train will be extended to operate between Bellingham and Vancouver in 2004, and a third round trip between Seattle and Vancouver will be implemented in 2008, per Working Paper 1.

Planned Improvements

Washington Department of Transportation, which sponsors the Amtrak *Cascades* Service, is planning various improvements along the Cascade Gateway rail corridor to facilitate more trains and faster speed up to 110 miles per hour. The list of improvements which WSDOT is contemplating, along with estimated cost costs, appear in Table 5-2.

| Table 5-2. Amtrak Cascades Capital Improvements, Everett to Blaine, WA. (2002 US Dollars) | | |
|--|-----------------------|---|
| Project | Estimated Cost | Remarks |
| 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 improvement 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. Reduces running time by 1 1/2 minutes. |
| TOTAL | \$300,500,000 | Assumes current alignment into White Rock. |
| Note: Accuracy of cost estimates +/- 30% | | |
| Source: WSDOT, November 2002 | | |

Capacity Challenges

Given forecasts of increasing freight and passenger traffic, this analysis reviewed and evaluated the current capacity of the corridor to identify the challenges of accommodating more traffic.

The effective separation of the BNSF through freight service from the scheduled passenger service helps somewhat to reduce the pressure on the line capacity: most BNSF through trains operate at night, while the Cascades are daytime trains. But this separation is not a viable strategy in the long term if there is to be growth in the freight service.

As it is, if both passenger trains were to operate to Vancouver, then there would have to be two passenger train "meets" near Bellingham or Samish. The current daylight BNSF through freight train would have to meet or be overtaken by the two passenger trains, and all three through trains might have to meet or overtake at least some of the daylight locals.

At night, the 5 BNSF through freight trains must all meet their opposing mates: at least 6 meets per night, if all trains are more or less on time. Furthermore, all these conflicts tend to concentrate in the territory between Colebrook and Bow (that is, in the middle).

So, despite what appears to be a modest total demand, this is currently a difficult route to operate with consistent performance. If a train is delayed, there are likely to be ripple effects for the other trains, and not much the train dispatcher can do to recover.

Chapter 2 explored the potential for double-stack container trains operating on the corridor. However, there are physical challenges to doing this. First are substandard vertical clearances in four tunnels south of Bellingham. These would need improvement to handle two “high cube” or 9’6”-high containers stacked on top of one another, as well as for a high and a low cube (8’6”-high) container combination. Routing containers through the Sumas Gateway (as discussed below) would mitigate this particular challenge. But other institutional challenges remain, as this movement would imply an agreement sorted out between BNSF and most likely CP, which are competing railroads in many markets. Furthermore, there is the challenge of yet other vertical clearance problems for double-stacks in southern Oregon and northern California, which would have to be addressed to allow double-stacks to flow on the I-5 corridor between the Pacific Northwest and Southern California. These problems exist on both BNSF and UP, which has a right to market services in Vancouver. These improvements on the I-5 corridor between Seattle and Southern California reportedly total about \$10 million for each railroad.

Other operators on this segment of the corridor include VIA, CP, CN, SRY and Rocky Mountain Rail Tours. These operations are limited mostly to between Downtown Vancouver and the south side of the Fraser River Bridge and at Colebrook. Double track north of the bridge mitigates some problems there, but the bridge itself remains a challenge for the reasons noted above. An ongoing study is looking at alternatives for replacing the bridge⁴. One alternative is a rail tunnel under the Fraser River. This poses several challenges in itself. The tunnel would have an underwater depth of 25 meters (about 80 feet), which would require an approach of at least 2 to 2.5 kilometers (1.2 to 1.5 miles) on each side. Given these parameters, it is reasonable to assume that the cost for such an alternative would be in the hundreds of millions of dollars. A goal of the study is to develop cost estimates for this and other alternatives.

Recommended Improvements

The following analysis pertains to improvements between the southern end of the Fraser River Bridge and Everett. This is because double track and CTC north of the bridge to Vancouver provides sufficient capacity for increased numbers of freight and passenger trains. Similarly, improvements proposed between Seattle and Everett for new commuter trains would provide sufficient capacity there for new trains. This study notes the need for alternatives to the New Westminster Rail Bridge over the Fraser River. However, it does not quantify these alternatives since they are the subject of the ongoing study referenced previously.

There are four significant issues involved in improving the corridor between Everett and the southern end of the New Westminster Rail Bridge so that it could efficiently handle as much as one to two additional BNSF freight trains a day in each direction, plus the extended (or even an expanded) passenger service. These issues are:

- Reducing the distance between longer sidings.

⁴ “Greater Vancouver Region Major Commercial Transportation System Study”, being prepared for the Greater Vancouver Gateway Council.

- Improving the signal system.
- Providing surge capacity at Swift to mitigate the impact of customs inspections.
- Providing clearance in the tunnels if hi-cube double-stacks are to operate.

To address these issues, the analysis developed the following recommendations for capacity enhancements:

1. Construction of a 9,000-foot controlled siding at Colebrook, BC on existing subgrade (i.e., the earthen roadbed that underlies the track structure) immediately north of the west switch connection to the BC Rail line to Roberts Bank (approximately BNSF Milepost 131.25 to 133.50). BNSF wants 9,000-foot sidings that can handle 7,000-foot trains efficiently. The cost estimate associated with this improvement in Table 5-3 includes only rail, tie and ballast; the signal costs are included in the signal item.
2. Extension of the Centralized Traffic Control System from its present north limit at Blaine (BNSF MP 116.8) 20.5 miles to Townsend (BNSF MP 137.3) – a point just north of the North switch to the new Colebrook Siding, and the current southern limit of the CTC between the New Westminster Rail Bridge and Tilbury Line Junction (Townsend). This improvement would incorporate an existing CTC interlocking between switches at Colebrook. Current BNSF standards require coded track circuits replace line-side wires as a means for supplying the electric current that activates intermediate signals. Therefore, the cost estimates in Table 5-3 include the costs for replacing the entire signal system, not just the addition of CTC controls.
3. Extension of one more of the existing 6,000-foot sidings to 9,000 feet. From an operating perspective, the best location for this extension is probably South Bellingham: that location is about half-way between the long controlled sidings at Ferndale and Bow, and it is far enough north to help with meet/pass conflicts that cluster in the middle of the route. However, this extension may be very difficult to construct at South Bellingham: there is a tunnel to the south, and the waterfront to the north, either of which limit the engineering options. In addition, WSDOT currently has a contract with BNSF that calls for the Stanwood siding (MP 55.5) to be extended as a condition of future expansion of the state-sponsored Amtrak *Cascades* service.

An alternate extension might be Mt. Vernon, which is about half-way between the long sidings at English and Bow, and where a 2,500-foot extension to the south would be significantly easier to engineer than one at South Bellingham. (Even here, however, there may be wetlands impacts from extending the subgrade.)

4. To aid in the handling of customs inspections on rail freight cars, a support track could be constructed immediately south of the Customs inspection shed at Swift, most likely on the west side of the existing main track. If cars for inspection were set out into this track, it would help keep the controlled siding clear for other movements, or even allow the main track and existing siding to exchange roles, so that the controlled siding is between the main track and the Customs shed. An additional recommendation is that U.S. and Canadian Customs inspection be performed at Swift. This will require institutional coordination, but the effect would be to free the main line of northbound trains stopped at White Rock for Canadian inspections.

5. If high-cube double-stack container trains are to be operated over this route, lower floors of Tunnels 18, 19, 20, and 21 to permit increased vertical clearance will be required. The assumption for double-stack trains is that they would originate and terminate at the BNSF New Westminster Yard for runs on the corridor to and from U.S. destinations. The costs for improvements in the yard itself for loading and unloading double-stack cars, as well as for the cars, are not part of this analysis.
6. Installation of electric lock protection on the non-controlled siding at Marysville to allow the area's local freight train to clear the main track without causing delay to other main line trains or being delayed itself by other main line trains.

The improvements noted above are located on Figure 5-1 below. Rough costs for these improvements appear in Table 5-3.

| Table 5-3. Cost Estimates for Capacity Improvements between Everett and Vancouver (2002 US Millions of Dollars) | | |
|--|---|--------------|
| 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-foot support track at Swift for Customs inspection (5000' @ \$160/ track-foot including grading), and place in CTC system (2 Turnouts @\$250,000 each). | 1.30 |
| 4. | Construct a 2,000-foot extension to one existing siding (2,000' @ \$160/ track-foot). | 0.32 |
| 5. | Lower tunnel floors (2300 feet @ \$820/ft). | 1.90 |
| 6. | Electric lock protection on the non-controlled siding at Marysville. | .15 |
| | TOTAL | 24.11 |
| | Contingency @ 40% | 9.64 |
| | Engineering @ 20% | 4.82 |
| | GRAND TOTAL | 38.57 |

Source: Washington Infrastructure Services

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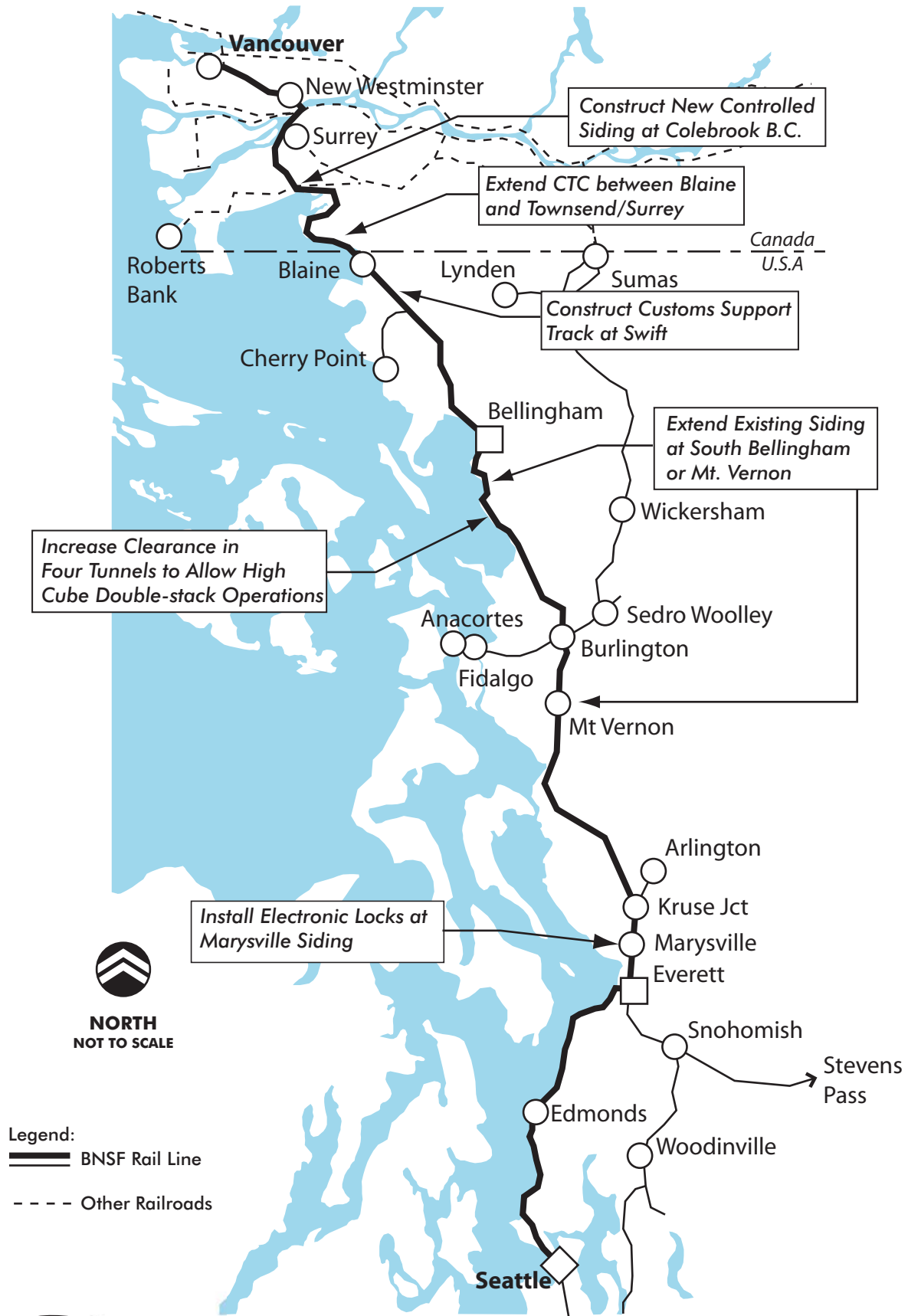


Figure 5-1

RECOMMENDED IMPROVEMENTS - EVERETT TO VANCOUVER

377000\FINAL REPORT\FIGURE 5-1 - 11/26/02

These costs do not include any costs for environmental mitigation. Not appearing here are costs for vertical clearance improvements on both BNSF and UP for implementing double-stack services to and from Southern California.

Specifically related to increases in passenger service between New Westminster and Pacific Central Station, other improvements have been suggested. One study, “Vancouver BC Amtrak Service: Infrastructure and Operating Changes for Additional Trains” (1998), identified various improvements. The improvements included, among other things

- ***For a second Amtrak Cascades train:*** a second track between CN Junction and Still Creek Phase 1 (\$5.4 million), a Douglas Road grade separation (\$12 million), CTC between CN Junction and Blaine (\$7.9 million), and a Colebrook siding (\$4 million).
- ***For a third Amtrak Cascades train:*** Various yard area changes at New Westminster (\$2.8 million), a third main track between Piper and Brunette (\$13.2 million), a second main track between CN Junction and Still Creek Phase 2 (\$11.2 million), and a controlled siding Willington Junction to Sperling (\$8.7 million).

Together, these improvements total \$53.2 million in 1998 dollars, exclusive of CTC and the Colebrook siding. The consultant who worked on the study reported that this figure has been revised upward to over \$100 million. Presumably these costs include engineering and contingencies. It is interesting to note that the 1998 estimate for the CTC is only \$7.9 million, versus the \$18.78 million, inclusive of coded track circuit (before engineering and contingencies), cited in Table 5.3. The 1998 study was sponsored by Amtrak, British Columbia Transportation Financing Authority, BNSF, and CN.

5.2.2 Main Line Alternative for Double-stack Trains via Sumas

As noted above, one of the larger cost items for improvements on BNSF Cascade Gateway rail corridor is for vertical clearance improvements to the four tunnels south of Bellingham through the Chuckanut range. This might be avoided if double-stacks were routed via Sumas, Washington. Traveling from Everett north to Vancouver, double-stack trains conceivably could use the following routing: BNSF Cascade Gateway main line from Everett to Burlington, thence on BNSF’s Sumas Subdivision from Burlington to Sumas, thence on CP to Vancouver. This routing has vertical clearances that would allow for high cube double-stack trains. The routing is shown on Figure 5-2 and discussed in the text that follows.

The BNSF’s Sumas Subdivision extends for 45 miles from Burlington via Sedro Wooley to Sumas, where it connects with the Canadian Pacific (CP). The Southern Railway of British Columbia also operates in Sumas, but does not have a direct connection to the BNSF there. The SRY track to Vancouver is accessed off of the CP at Sumas.

The BNSF line, while in very good physical condition, has no passing sidings anywhere between Sumas and Burlington. This segment has no signalization; train operates by track warrant control.

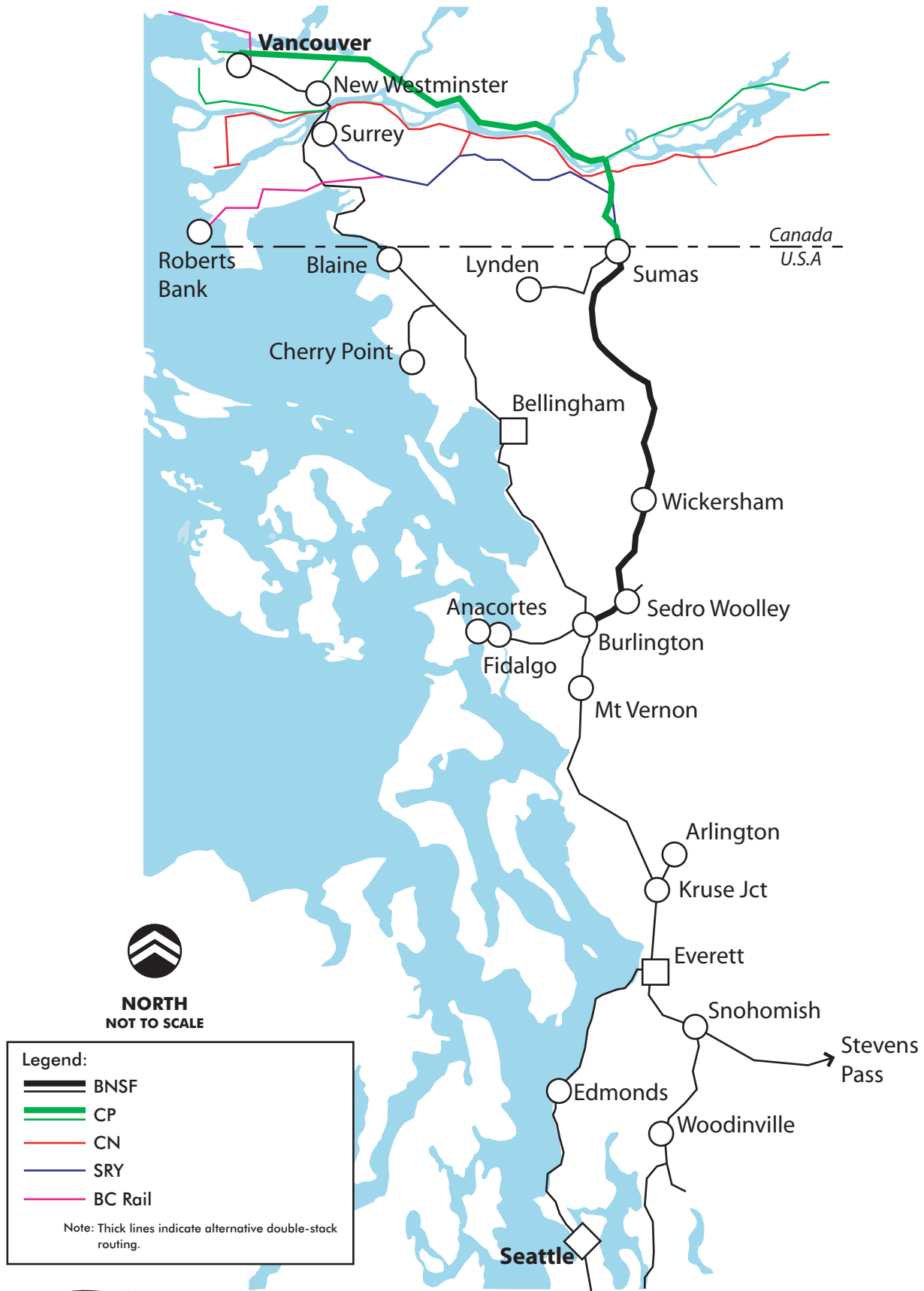


Figure 5-2

ALTERNATIVE DOUBLE-STACK ROUTING VIA SUMAS

377000\FINAL REPORT\FIGURE 5-2 - 11/26/02

North of Sumas, the SRY operates a single track line to the Fraser River at New Westminster, where physical connections exist to the other carriers, and therefore to Vancouver. The CP operates a line approximately 8 miles from Sumas to its main line at Mission. From this CP line, there is also a physical connection to the CN main line, on the south bank of the Fraser, opposite Mission, but this connection is in the Northeast quadrant of the CN/CP crossing, and is used as part of a CP/CN directional running arrangement that extends east of Mission through the Fraser River Canyon. It is therefore not practical to operate between points on the CN east or west of Mission, and the Sumas border crossing.

There are some other physical limitations to this gateway and its supporting rail routes. The SRY line to New Westminster includes a very steep grade, with extremely sharp curves, as it climbs the Fraser Valley escarpment south of the Fraser River rail crossing near Brownsville⁵. The SRY lines also winds through residential neighborhoods in Surrey. The CP line is maintained to branch line conditions, and would probably need some tie and ballast work if any substantial increase in traffic were to develop.

A routing via Sumas using SRY would be less desirable given the various challenges in the route and alignment noted above. Despite limitations, it is likely that the CP/BNSF trackage could accommodate an additional double-stack through train four times a week (2 rounds trips per week) in 2012, provided that:

- The added train did not require intermediate switching or perform work en route, and
- The train could be scheduled so as not to require a meet in either direction with the daily turnaround local that operates on BNSF between Everett and Sumas during daylight hours (this is currently the only train that uses this route).

This last condition would probably restrict the added train to a nighttime schedule, and would further restrict it from operating daily (in other words, the added train would need to operate northbound one night; southbound the next). Such an operation sometimes produces crew scheduling difficulties, which can contribute to extra operating costs, but on the whole, it is likely such an operation could be implemented without any significant capital investment. In that respect, the Vancouver-CP-Sumas-BNSF-Burlington route may offer an alternate route for added double-stack trains: one that would not require altering any existing tunnels.

Apart from the physical feasibility of such a movement, there are institutional considerations. The purpose of running double-stacks on the Sumas Gateway would be to avoid making improvements in the Chuckanut tunnels, which would be costly, as noted above. However, there would have to be agreements in place between BNSF and CP that would allow this movement. Rates would have to be construed and an operating plan defined. Presumably, the trains would originate and terminate at a CP intermodal facility in Vancouver. However, more detail would have to be specified in the agreement between the railroads.

⁵ A physical inspection of the line in August, 2002 revealed about a 3 percent grade climbing the escarpment and curves of about 10 to 14 degrees (uncompensated).

Also, double-stack trains operated on a BNSF-CP routing via Sumas, albeit infrequently (estimated 1 train every other day, or 2 round trips per week in 2012), could have the potential of causing delays to truck and motor vehicle traffic in Abbotsford and Huntington, BC.

5.2.3 BNSF Main Line between Seattle and Everett

It is unlikely that a small marginal increase in train volumes – either passenger or freight – would trigger a requirement for increased capacity between King Street Station in Seattle and Everett (PA Junction), a distance of 34 miles. It is also clear that a significant change in train counts would require more plant.

The principal driver of increased train volumes is likely to be extension of SoundTransit commuter service from Seattle to Everett. Previous studies, such as the WSDOT "Pacific Northwest Rail Corridor Passenger Plan" (1995) and subsequent *Sounder* and BNSF analyses have indicated that such an extension would require:

- Improvements and extensions to the existing CTC control system, particularly extending the control system from Ballard to King Street.
- Up to eight new crossovers between North Portal and Everett Junction.
- Construction of a second main track through some or all of the remaining single track bottlenecks: one through Interbay Yard in Seattle; one just north of the Ballard movable bridge; one at Edmonds; one at Mukilteo, and various segments between Everett Junction and Everett Station.

If these improvements are made in connection with increased passenger service, they would almost certainly bring about a sufficient increase in total rail capacity to accommodate any additional freight traffic to and from Canada. For one thing, the 8-mile-long Cascade Tunnel near Skykomish would remain an impediment (because of ventilation requirements) to any large increase in freight trains to and from the east. Consequently, the positive effect of the proposed track and signal improvements between Everett and Seattle on the BNSF freight service would pass down to any increased Canadian traffic. Track improvements planned by SoundTransit are shown in Figure 5-3.

On the passenger side, the Everett-Seattle improvements have been developed specifically to support added peak-period passenger service, and would therefore act also to support the running of an additional mid-day intercity service as well.

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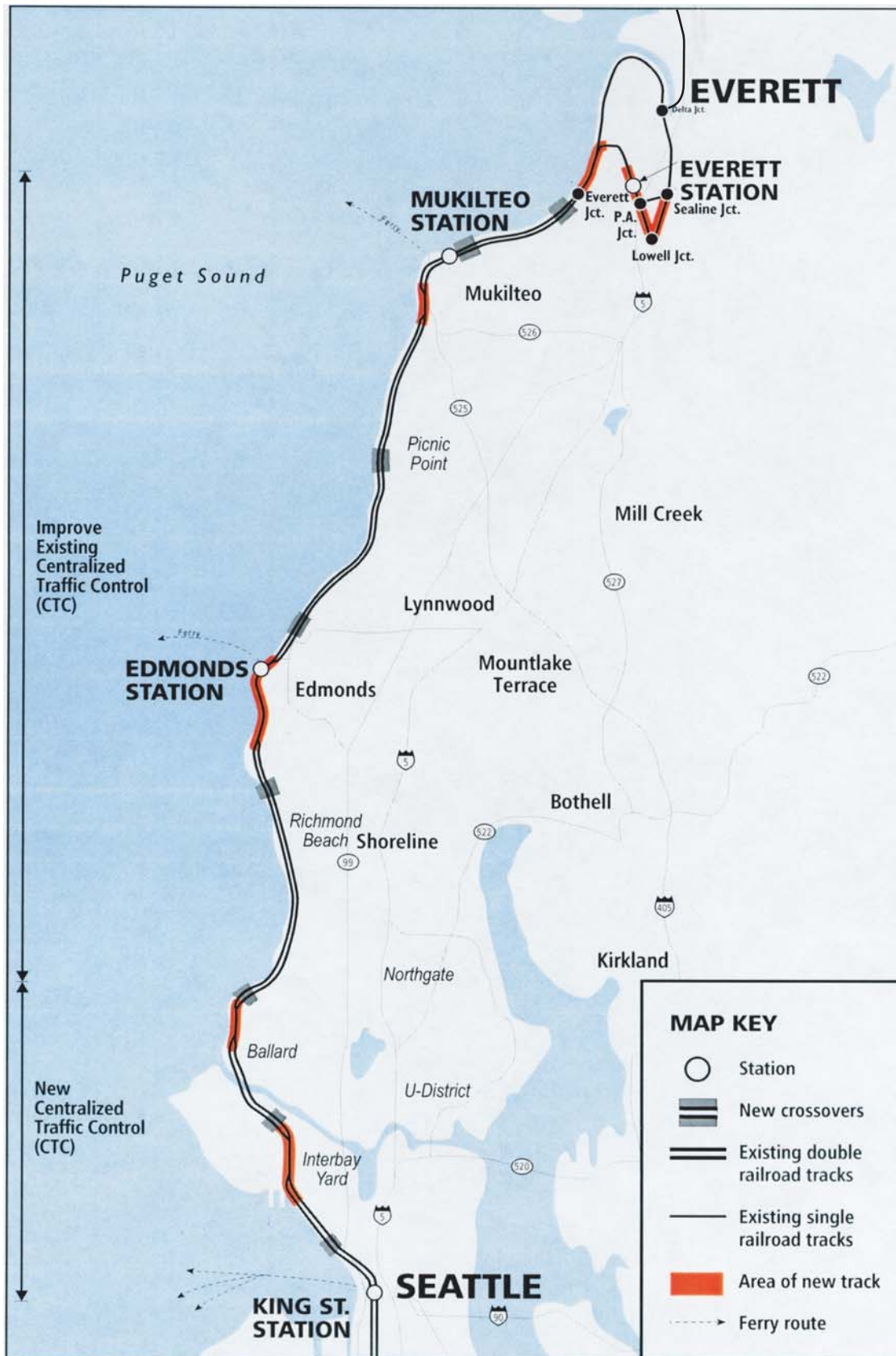


Figure 5-3

**TRACK IMPROVEMENTS FOR
SOUNDTRANSIT COMMUTER RAIL SERVICE**

377000\FINAL REPORT\FIGURE 5-3 - 11/26/02



Wilbur Smith Associates

SOURCE: Graphic provided by SoundTransit

5.3 SUMMARY

The Cascade Gateway rail corridor improvements cited in Table 5-2 (between New Westminster and Everett) will create additional operating capacity and improve flexibility in handling of both freight and passenger service. All of the improvements outlined in Table 5-2, except the tunnel clearance projects, will benefit the growth of rail service on the route. These improvements total \$38.57 million. Improvements, identified in a previous study for additional passenger trains between New Westminster and Vancouver, come with a price tag reportedly exceeding \$100 million. These improvements will create additional flexibility and potentially enhance service reliability, but are not essential capacity improvements *per se*, as the line segment there is already double tracked and dispatched by CTC. In addition, the tunnel clearance projects will make full height high cube double-stack service feasible over the route. An alternative to the tunnel work might be operation of double-stack service via the Sumas line with only modest improvements to the connecting CP trackage, but this will only support limited double-stack train operations.

Freight Appendix 11

Cascade Gateway Rail Study
Cascade Gateway Freight Demand Analysis – Key
Findings
Wilbur Smith 2002, Appendix A

Key Findings

During the course of Reebie Associates' investigation into the freight flows moving across the Cascade Gateway, we have developed the following key findings:

1. It is highly unlikely that the railroads will introduce a new technology to serve demand in this area, as there is insufficient demand to make the risk of such an investment worthwhile. They may invest in a proven technology, such as double-stack intermodal trains, but due to low demand, such investment is only likely to occur as part of an attempt to build up a West Coast intermodal system.
2. It is very difficult, if not impossible, to predict any future increase in the amount of freight being hauled by the railroad over the Canada/United States border in concert with imports and exports to and from the ocean ports. If such a shift were to occur, it would likely be between the railroads, and not railroad traffic that is taken away from the motor carrier.
3. Significant amounts of lumber are shipped from the Canada to the United States and that amount is expected to increase over the next 10 years. This makes the issue of tariffs with respect to lumber movements from Canada to the United States especially relevant. In 2001, the United States imposed tariffs on the importation of lumber from Canada. This immediately decreased the volume of lumber being shipped. Were the tariffs to be removed, obviously the forecast volumes would be higher.
4. The number of tons shipped into the United States from Canada by motor carrier and the number of tons shipped the other direction are almost equal. For rail, on the other hand, the number of tons shipped southbound is more than 10 times the number of tons shipped northbound. One possible explanation is that the commodity mix southbound is far more suitable to rail than the commodity mix northbound.