Heavy Traffic Ahead

Rail Impacts of Powder River Basin Coal to Asia By Way of Pacific Northwest Terminals

Report Prepared For

Western Organization of Resource Councils

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By Way of Pacific Northwest Terminals

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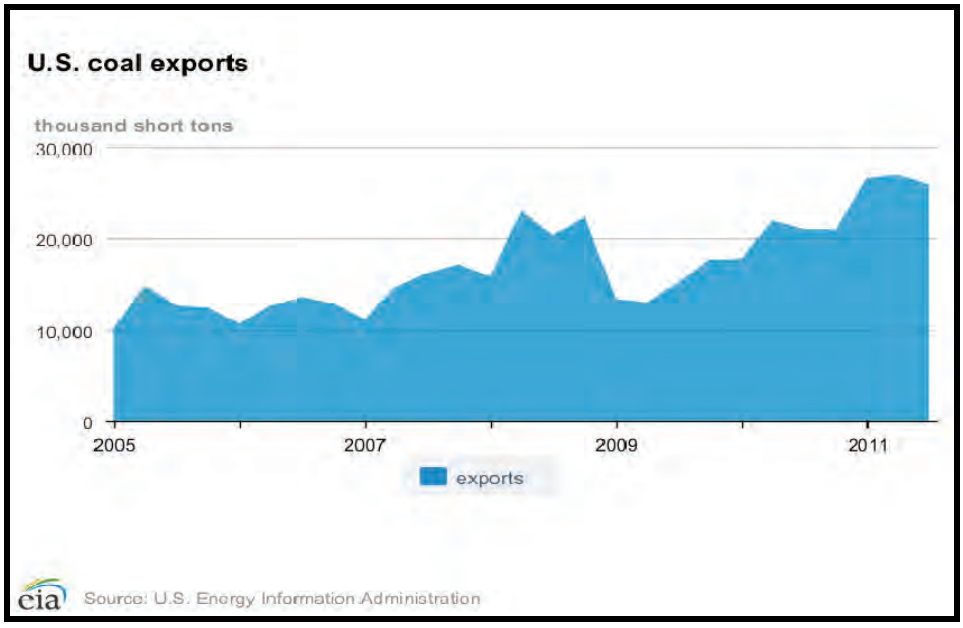
Introduction

Western Organization of Resource Councils (WORC) is a regional network of seven (7) grassroots community organizations that include 10,000 members and 38 local chapters. WORC's member organizations are: Dakota Rural Action; Dakota Resource Council; Idaho Rural Council; Northern Plains Resource Council; Oregon Rural Action; Powder River Basin Resource Council; and Western Colorado Congress. WORC's mission is to advance the vision of a democratic, sustainable and just society through community action. WORC is committed to building sustainable environmental and economic communities that balance economic growth with the health of people and stewardship of their land, water and air resources.

WORC is concerned about the potential impacts associated with the recent and projected significant increase in U.S. coal exports and related railroad shipments. Total U.S. export coal shipments increased from approximately 81.7 million tons in 2010 to 107.3 million in 2011.[1] This increase in U.S. coal exports is illustrated in the following chart:

Figure 1

U.S. Export Coal Tonnage Since 2005



[1] U.S. Energy Information Administration (EIA), U.S. Coal Exports, Table 7. Export coal tons are often expressed in metric tons (2,204.6 lbs.), whereas U.S. mine production and railroad coal tons are normally expressed in U.S. short tons (2,000 lbs.). Unless otherwise noted, the tons referenced herein, such as the referenced 82 and 107 million U.S. export coal tons, are listed in short tons.

The increase in U.S. coal exports can be attributed, in part, to the significant growth in export coal shipments to Asian markets, such as China, Japan, and South Korea, which increased from approximately 17.9 million in 2010 to 27.5 million in 2011. Total steam coal exports to Asia have increased from approximately 4.9 million in 2010 to over 7.8 million in 2011 and will likely exceed 12 million in 2012.[2]

U.S. coal producers and suppliers are actively looking to expand steam coal production from mines and origins in the Powder River Basin (PRB) in Montana and Wyoming and shift significant coal volumes away from domestic destinations to existing and proposed Pacific Northwest (PNW) export coal terminals, in order to compensate for a recent and projected decline in domestic steam coal-fired power production and take advantage of the growing Asian steam coal market. Currently, there are only three (3) PNW export coal terminals in British Columbia (BC), which handle approximately 5 million tons of PRB coal per year. In order to meet large export tonnage goals and reduce transportations costs, at least six (6) U.S. PNW export terminals are being considered in Washington and Oregon. The nine (9) existing and planned PNW export coal terminals are listed in the following table and described in more detail herein:

Figure 2

Existing and Proposed PNW Export Coal Terminals

British Columbia
Roberts Bank, BC (Westshore) N. Vancouver, BC (Neptune) Prince Rupert, BC (Ridley)
Washington
Cherry Point, WA (Bellingham) Longview, WA Grays Harbor,WA (Hoquiam)
Oregon
Coos Bay, OR St. Helens, OR (Westward) Boardman, OR (Morrow)

[2] In the past, most U.S. export coal shipments have been metallurgical coal (approximately 69.5 million tons in 2011). Europe, which received over 53.9 million tons of U.S. coal exports in 2011, has historically been the largest destination market for U.S coal exports. Consequently, the largest U.S. export coal ports are currently East coast ports such as Norfolk, Virginia and Baltimore, Maryland and Gulf coast ports such as New Orleans, Louisiana and Mobile, Alabama.

State and local governments have expressed concerns about the proposed expansion of PNW export coal terminals. For example, in a recent letter from Oregon Governor John A. Kitzhaber to U.S. Secretary of Interior Ken Salazar and others, the Governor requested a programmatic and comprehensive environmental impact statement (EIS) under the National Environmental Policy Act to look at the "unprecedented number of export coal proposals."[3] The Seattle City Council also recently unanimously passed a resolution in opposition to the transportation of coal through Seattle, which highlights the negative impacts from the significant increase in coal trains that would run through Seattle.[4]

Based on announced and proposed expansion plans associated with these existing and proposed PNW export coal terminals, PRB to PNW export coal shipments, which amounted to only a few million tons five years ago, could very well exceed 75 million tons per year by 2017 and 170 million tons by 2022. The projected annual volumes are shown in the following table:

Figure 3

Projected Annual PRB to PNW Export Coal Tons

(Millions of Short Tons)

PNW Export Coal Terminals	2012	2017	2022
Roberts Bank, BC (Westshore)	5.0	8.0	15.0
N. Vancouver, BC (Neptune)	0.0	2.0	5.0
Prince Rupert, BC (Ridley)	0.0	1.5	5.0
Existing British Columbia Coal	**5.0**	**11.5**	**25.0**
Cherry Point, WA (Bellingham)	0.0	27.5	52.5
Longview, WA	0.0	27.5	48.0
Grays Harbor, WA (Hoquiam)	0.0	0.0	5.0
Proposed Washington Coal Terminals	**0.0**	**55.0**	**105.5**
Coos Bay, OR	0.0	0.0	10.0
St. Helens, OR (Westward)	0.0	5.0	21.0
Boardman, OR (Morrow)	0.0	3.5	8.5
Proposed Oregon Coal Terminals	**0.0**	**8.5**	**39.5**
Total to PRB to PNW Export Coal Tons	**5.0**	**75.0**	**170.0**

[3] Letter from Governor John A. Kitzhaber dated April 25, 2012.
[4] http://www.seattle.gov/council/newsdetail.asp?id=12809&dept=28

The proposed expansion of PNW export coal terminal capacity will likely result in an explosion in PRB to PNW coal exports and railroad export coal movements. Two major U.S. Class I railroads dominate the PNW region as well as the PRB coal transportation market: BNSF Railway Company (BNSF) and Union Pacific Corporation (UP).[5] BNSF serves PRB origins in Montana and Wyoming. UP serves PRB origins in Wyoming, which are jointly served by BNSF. There are currently six railroad PRB coal lines in Montana and Wyoming and one proposed new coal line in Montana, which serve approximately twenty coal mines and would feed PRB export coal trains onto railroad mainlines for movement to the nine existing and proposed PNW terminals. The coal mines served by BNSF and UP are owned and operated by a few major coal companies, such as Peabody Energy, Arch Coal and Cloud Peak, which would work with the railroads and PNW export terminals in regard to export coal shipments. These PRB coal mines, railroad coal lines and railroad routes are described in more detail herein.

Repetitive and voluminous PRB to PNW export coal movements will obviously benefit the coal companies, railroads and terminal companies by generating billions of dollars in annual revenues and profits, but these coal movements will have a wide-range of adverse environmental, economic, transportation, public safety and other impacts. As described herein, the rail routes potentially impacted by the increase in PRB to PNW export coal cover an extremely broad impact area covering a total rail distance of over 4,000 miles. The impacted railroad routes traverse through many major populated areas, such as Spokane and Seattle, Washington, Billings, Montana and Portland, Oregon, as well as many environmentally sensitive areas, such as Glacier National Park in Montana.

WORC is concerned about the environmental, economic, transportation and other impacts associated with the expected increase in rail tonnage from the PRB coal mines to PNW export terminals and prepared this report to study the possible impacts associated with the expected increase in railroad export coal movements from PNW origins to PNW export terminals. WORC retained the consulting firms of Whiteside & Associates (TCW), a transportation and marketing consulting firm located in Billings, Montana, and G. W. Fauth & Associates, Inc. (GWF), an economic consulting firm specializing in transportation issues located in Alexandria, Virginia, to study the possible environmental, economic and transportation impacts associated with the expected increase in railroad export coal movements from PNW origins to PNW export terminals. Richard H. Streeter, an attorney in Washington, DC specializing in transportation issues, also contributed to this report.

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[5] On Feb. 12, 2010, Burlington Northern Santa Fe, LLC, (formerly known as Burlington Northern Santa Fe Corporation) and BNSF Railway Company became subsidiaries of Berkshire Hathaway Inc.

Executive Summary

The U.S. coal export market is headed for explosive growth of coal movements from the PRB region in Montana and Wyoming to nine existing and proposed PNW export terminals in Oregon, Washington and British Columbia.

The projected movement of 75 million tons per year by 2017 to 170 million tons per year by 2022 will generate billions of dollars in annual revenues for railroad, coal and terminal companies.

Although BNSF, UP and other railroads will be involved in the PRB to PNW export coal transportation market to some extent, BNSF's routes are significantly shorter than UP's routes and BNSF has a lower cost structure. Thus, BNSF can provide transportation rates which are significantly lower than UP and will likely capture the lion's share and dominate the expanding and lucrative PRB to PNW export coal market.

The total rail route miles potentially impacted cover an extremely broad impact area covering a total rail distance of over 4,000 miles. The impacted railroad route miles would directly impact over 48,977 acres based on a 100 ft. right-of-way (ROW).

The projected movement of 75 million tons per year by 2017 to 170 million tons per year by 2022 will equate to the movements of 27.86 to 63.15 loaded and empty coal trains per day. These repetitive 1¼-mile long loaded and empty coal trains will be going through numerous populated cities, towns, communities (such as Spokane, Washington, Seattle, Washington, Billings, Montana and Portland, Oregon), parks, forests, historical areas and other environmentally sensitive areas (such as Glacier National Park in Montana).

In addition to the obvious environmental and traffic concerns, the expected large coal volumes will result in several major choke points and bottlenecks and will likely cause rail congestion problems for the entire route. Many of the impacted railroad line segments, such as the line known as "The Funnel" from Sandpoint, ID to Spokane, WA, already have significant rail capacity and congestion issues.

Current railroad traffic, such as PNW import and export intermodal container traffic and export grain railroad traffic, would be adversely impacted by the reduction of rail capacity and would likely experience a deterioration of rail service, such as higher transit and cycle times and would likely incur higher costs in the form of higher freight rates and equipment costs.

The west bound movement of coal is likely to disrupt the frequency and reliability of inbound and outbound shipments of containerized traffic and that traffic would likely experience a diversion to California and Canadian ports where it will not be impacted by the congestion associated with the increased PRB to PNW coal shipments.

The two major cities that would be the most adversely impacted in terms of the expected export coal trains per day are: Spokane, Washington (pop. 208,916) and Billings, Montana (pop. 104,170). Nearly every PRB to PNW loaded and empty coal train would move through these two cities (up to 63.2 trains per day through Spokane and 57.6 trains per day through Billings).

There are many areas along the railroad routes which would require major upgrading and expansion of existing railroad tracks and related infrastructure which could cost billions of dollars. State and local governments would likely bear the brunt and burden of the related infrastructure costs in their localities and would likely be required to spend hundreds of millions of dollars in related mitigation, litigation, debt and other costs associated with the necessary improvements to accommodate export coal traffic levels.

The following table shows the projected annual tons for 2017 and 2022 and estimated loaded and empty coal trains per day for 38 indentified and studied railroad line segments covering 4,054.1 route miles:

Figure 4

Impacted Railroad Line Segments

(Sorted By Projected 2022 Export Coal Trains Per Day)

Railroad Line Segment	Railroad	Miles	Coal Tons/Year *(Millions)*		Coal Trains/Day *(Loaded & Empty)*	
			2017	2022	2017	2022
Sandpoint, ID to Spokane, WA (Latah Jct.) (The Funnel)	BNSF	70.5	75.0	170.0	27.9	63.2
Huntley, MT to Mossmain, MT (Billings)	BNSF/MRL	24.8	60.0	155.0	22.3	57.6
W. Dutch, WY to Huntley, MT	BNSF	138.9	60.0	105.0	22.3	39.0
Mossmain, MT to Sandpoint, ID (Helena, Missoula)	MRL	564.2	35.0	90.0	13.0	33.4
Spokane, WA (Latah Jct.) to Pasco, WA (SP&S Jct.)	BNSF	149.4	40.5	88.0	15.0	32.7
Campbell, WY to W. Dutch, WY	BNSF	100.5	45.0	80.0	16.7	29.7
Broadview, MT to Great Falls, MT	BNSF	188.0	40.0	80.0	14.9	29.7
Great Falls, MT to Shelby, MT	BNSF	99.1	40.0	80.0	14.9	29.7
Shelby, MT to Sandpoint, ID (Hi-Line)	BNSF	337.9	40.0	80.0	14.9	29.7
Everett, WA (PA Jct.) to Intalco, WA (Bellingham)	BNSF	78.3	38.0	77.5	14.1	28.8
Mossmain, MT to Broadview, MT	BNSF	35.8	25.0	65.0	9.3	24.1
Pasco, WA to Vancouver, WA (Columbia River Gorge)	BNSF	219.8	28.5	58.5	10.6	21.7
Spokane, WA (Latah Jct.) to Everett, WA (Stevens Pass)	BNSF	301.1	28.5	58.0	10.6	21.5
Intalco, WA to Cherry Point, WA	BNSF	8.9	27.5	52.5	10.2	19.5
Sarpy Jct., MT to Huntley, MT	BNSF	66.1	0.0	50.0	0.0	18.6
Eagle Butte Jct., WY to Campbell, WY	BNSF	25.6	25.0	45.0	9.3	16.7
Nichols, MT to Sarpy, Jct., MT	BNSF	16.4	0.0	45.0	0.0	16.7
Vancouver, WA to Longview, WA	BNSF	35.4	25.0	43.0	9.3	16.0
Ashland, MT to Miles City, MT	TRRC	89.0	0.0	40.0	0.0	14.9
Miles City, MT to Nichols, MT	BNSF	51.6	0.0	40.0	0.0	14.9
Shawnee Jct., WY to Campbell, WY (Joint Line)	BNSF/UP	140.2	20.0	35.0	7.4	13.0
Pasco, WA to Auburn, WA (Yakima) (Stampede Pass)	BNSF	227.5	12.0	29.5	4.5	11.0
Spring Creek, MT to W. Dutch, WY	BNSF	22.8	15.0	25.0	5.6	9.3
Intalco, WA to British Columbia Terminals	BNSF/CN	49.7	11.5	25.0	4.3	9.3
Spokane, WA to Hinkle, OR	UP	171.0	6.0	24.0	2.2	8.9
Hinkle, OR to Boardman, OR (Morrow)	UP	20.0	6.0	24.0	2.2	8.9
Portland, OR to St. Helens, OR (Port Westward)	PNWR	56.0	5.0	21.0	1.9	7.8
Auburn, WA to Everett, WA (PA Jct.) (Seattle)	BNSF	55.6	9.5	19.5	3.5	7.2
Vancouver, WA to Portland, OR	BNSF	9.9	2.5	15.5	0.9	5.8
Portland, OR to Boardman, OR (Morrow)	UP	164.0	2.5	15.5	0.9	5.8
Signal Peak, MT to Broadview, MT	BNSF	35.0	15.0	15.0	5.6	5.6
Auburn, WA to Centralia, WA (Tacoma)	BNSF	72.6	2.5	10.0	0.9	3.7
Portland, OR to Eugene, OR	UP	124.0	0.0	10.0	0.0	3.7
Eugene, WA to Coos Bay, OR	CORP	122.0	0.0	10.0	0.0	3.7
Centralia, WA to Longview, WA	BNSF	47.1	2.5	5.0	0.9	1.9
Big Sky, MT to Nichols, MT	BNSF	39.0	0.0	5.0	0.0	1.9
Kuehn, MT to Sarpy Jct., MT	BNSF	37.4	0.0	5.0	0.0	1.9
Centralia, WA to Port of Grays Harbor, WA	PSAP	59.0	0.0	5.0	0.0	1.9
Total / Average		**4.054.**	**24.8**	**57.1**	**9.2**	**21.2**

Study Assumptions

For the purpose of this report, it was assumed that PRB to PNW export coal shipments, which amounted to only a few million tons five years ago, will reach 75 million tons per year by 2017 and 170 million tons by 2022. The 170 million ton level assumes that all nine existing and proposed export coal terminals will be fully operational at projected capacity by 2022 and PRB coal would originate from all PRB coal lines.

It was necessary to make certain assumptions for this report in terms of export coal origin and destination annual tonnage levels and railroad route utilization. Since relatively very little PRB coal currently moves to PNW destinations and the projected annual volumes to the proposed PNW terminals may change based on the ongoing environment review process and other unforeseen factors, the PRB to PNW export coal tonnage levels included herein will obviously change and fluctuate as events transpire and as that market changes and expands over time.

BNSF can originate coal from several PRB origins. The economics may favor BNSF's PRB coal origins which involve the shortest rail distances to the various PNW export terminals, but the large projected annual coal volumes and PRB origin capacity constraints will likely result in coal being originated from nearly *all* PRB coal origins to some extent.

In addition, BNSF has several routing options in Montana and Washington which could be utilized for PRB to PNW export coal movements. Again, the economics may favor the shortest available route, however, the large projected annual coal volumes, current railroad traffic levels and current capacity constraints will likely result in BNSF's utilization of *all* of the BNSF available routing options to some extent. The tonnages assigned to each origin, destination and route were estimated by attempting to take these and other factors into account.

For the purpose of this report, it has been assumed that BNSF would originate 100% of the PRB coal, but UP would terminate approximately 14% of the tonnage by 2022 via its interchange with BNSF at Spokane, Washington[6]. UP could originate PRB coal and obtain a larger market share by the utilization of its longer, but less congested, southern routes. However, an evaluation of these UP routes was not included as part of this study.

[6] It has been assumed that UP would terminate 100% of the Boardman tonnage (8.5 million tons in 2022) and 50% of the Coos Bay tons (5 million tons by 2022) and 50% of the St. Helens tons (10.5 million tons by 2022), for a total of 24 million tons or approximately 14% of the 170 million total tons.

Longview is jointly served by BNSF and UP, however, this report assumes that BNSF would terminate 100% of the Longview traffic. Initially, Ambre Energy projected that 60 million metric tons (66 million short tons) would move via Longview, but subsequently lowered the projection to 44 million metric tons (48.5 million short tons)[7]. UP had been interested in capturing a share of the large Longview market, but recently expressed wariness of the controversies surrounding the PNW export terminals.[8] UP currently carries high-BTU, low-sulfur coal from Colorado and Utah for export to Mexico.

It is doubtful that UP will abandon the profitable and voluminous PNW export coal market, however. UP's role may be limited to more of that of a *congestion reliever* for BNSF (by delivering coal via the Spokane interchange) rather than a vigorous competitor to BNSF by originating PRB coal and the utilization of its southern routes. Although the use of UP for coal movements from Spokane could help alleviate some congestion of BNSF's lines in Washington, any Longview coal traffic handled by UP would result in more coal traffic moving through Portland, Oregon. Moreover, the use of UP's expansive southern routes would significantly broaden the adverse impacts.

There are several cases in which the allocated PRB to PNW export coal traffic may exceed the existing capacity of line segment. For example, MRL currently handles approximately five (5) loaded and empty coal trains per day and projects that it has the capacity to handle up to 10 loaded and empty coal trains per day in the next ten years. MRL's President Tom Walsh MRL indicates that it has capacity problems with two tunnels: "Probably, our biggest pinch points really are the two mountain passes when it comes down to it, especially the Continental Divide."[9] This analysis assumes that MRL would handle 13 loaded and empty coal trains by 2017 and 33 loaded and empty coal trains by 2022. Therefore, in these cases, the study assumes that the capacity issues would be resolved by either the diversion of other traffic or by increasing capacity. In the MRL case, if the projected traffic levels are lowered, traffic levels would increase on other lines segments, namely BNSF's line through Great Falls, Montana.

[7] http://seattletimes.nwsource.com/html/localnews/2017582357_coalterminal24m.html
[8] http://www.platts.com/RSSFeedDetailedNews/RSSFeed/Coal/6202450.
[9] http://missoulian.com/news/local/booming-asia-demands-more-energy-and-montana-has-it-by/article_ee425fa2-86b3-11e1-bb17-001a4bcf887a.html?cid=print

BNSF's unit coal trains average approximately 125 cars per train and carry approximately 14,750 loaded tons per train.[10] Each loaded and empty train is over 1¼ miles long.[11] These coal train characteristics were utilized in this report. Based on these characteristics (125 cars per train and 14,750 loaded tons per train), the following table shows the number of loaded and empty trains at various annual tonnage levels:[12]

Figure 5

Loaded & Empty Trains
Per Day at Various Tonnage Levels

Annual Tons	Trains Per Day (L&E)
1,000,000	**0.37**
5,000,000	**1.86**
10,000,000	**3.71**
25,000,000	**9.29**
50,000,000	**18.57**
75,000,000	**27.86**
100,000,000	**37.15**
150,000,000	**55.72**
170,000,000	**63.15**

In 2006, BNSF began using 150-car unit coal trains for a limited number of domestic unit train coal movements. The ultimate train size utilized for PRB to PNW export coal movements will depend on several factors, including the origin and destination car capacity and weight and train size restrictions along the utilized routes. Whether 125 or 150 cars per train are utilized, the same number of cars per day will be moving over the impacted railroad routes. There may be fewer trains with the use of 150-car unit trains, but the trains will be longer (i.e., approximately 1½ miles versus 1¼ miles long).

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[10] Testimony of Matthew K. Rose, Chairman, BNSF President and CEO, April 26, 2006, before the U. S. House of Representatives Transportation and Infrastructure Committee and 2010 Railroad Carload Waybill Sample data.

[11] Each railroad car is approximately 53.1 ft. long and each locomotive is approximately 70 ft. long. A unit coal train with 4 locomotives and 125 cars would be approximately 6,917.5 ft. long or 1.31 miles long.

[12] Tons per year / 14,750 tons per train / 365 days x 2.0 empty return ratio.

Pacific Northwest Export Coal Terminals

Plans, discussions and permitting are already in progress concerning several PNW export coal terminals. The following describes nine (9) current and proposed PNW export coal terminals:

1. Roberts Bank, BC (Westshore)

Westshore Terminals in Roberts Bank, BC is in the Vancouver Port Metro area. It is currently the largest PNW export coal terminal, with an annual capacity of approximately 32 million tons.[13] Westshore indicates that it currently moves U.S. coal from the PRB, but the majority of the coal exported from Roberts Bank is from Canada. U.S. PRB coal was first shipped through Westshore in 1988. Since then PRB coal shipments have gradually increased. In 2009, Westshore shipped a record 2 million tons of US coal, including several shipments from Utah mines.[14] Cloud Peak, which has PRB coal operations in Antelope, WY, Cordero Rojo, WY and Spring Creek, MT, exported approximately 3.3 million tons to Asian customers in 2010 through Westshore and indicated that it would ship 4 million tons in 2011. Gunvor Group, which recently acquired Signal Peak mine, also has an agreement with Westshore Terminals to ship export coal.[15]

2. North Vancouver, BC (Neptune)

Neptune Bulk Terminals (Canada) Ltd. in the Vancouver Port Metro area handles potash, steelmaking coal, bulk vegetable oils, fertilizers and agricultural products. The coal handled at Neptune Terminals is predominantly metallurgical grade, which is primarily used in steel production. Currently, Neptune has a total coal capacity of approximately 8 million tons, but is expanding its capacity to over 10 million tons to meet the growing demand from Asia.[16]

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13 http://www.westshore.com/background.html (29 million metric tonnes)
14 http://www.westshore.com/milestones.html
15 http://www.businessweek.com/ap/financialnews/D9QEVCBO4.htm
16 http://www.em.gov.bc.ca/Mining/investors/Documents/Coal15Feb2010web.pdf

3. Prince Rupert, BC (Ridley)

The Prince Rupert coal export facility is operated by Ridley Terminals, Inc. (Ridley), a Federal Crown Corporation owned by Canada. The coal terminal is in a remote location in the northwestern part of the province near Alaska, which is a long distance away from the PRB mines in Wyoming and Montana, but closer in nautical miles to the Asian market. Currently, Prince Rupert has an annual capacity of approximately 13 million tons, but plans are underway to double the capacity to over 26 million tons.[17] Ridley Terminals indicates that it began to receive U.S. PRB coal shipments in 2011.[18] In its 2010 Annual Report, Ridley stated: "Commencing in 2011 the Terminal will be receiving coal from customers based in the United States, their throughput volume combined with our Canadian producers have helped the Terminal realize a goal that has been 28 years in the making, to double the Terminal's capacity from 12 million tonnes per annum to 24 million tonnes." In its most recent report (Third Quarter 2011), Ridley indicated that its multi-year "Modification Project" will bring its total throughput capacity to 24-25 million tonnes by the end of 2014." (26.5 to 27.6 million short tons). In January 2011, Arch Coal announced that it had reached agreement with Ridley to export approximately 2.75 million tons from Prince Rupert.[19] CP and CN rail are also examining increased Canadian coal movements to Prince Rupert.

4. Cherry Point, WA (Bellingham)

In June 2010, SSA Marine began the environmental review process for a $500 million Gateway Pacific Terminal project at near Bellingham, WA.[20] The project, known as Cherry Point, could export up to 60 million tons per year.[21] On March 19, 2012, SSA Marine, through its subsidiary Pacific International Terminals, Inc. (PIT) submitted additional information to Whatcom County, Washington concerning the Cherry Point project. The submission indicates that the project will be completed in two stages. The first stage is planned to commence in 2014 and the second stage is expected to be completed by 2017.

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17 http://www.rti.ca/en_terminalprofile.html

18 According to Ridley Terminals, Inc. 2010 Annual Report, in early 2011 Ridley Terminals Inc. signed an amended long-term terminal services agreement with Western Coal Corp. and entered into a multi-year terminal service agreement with Arch Coal Sales Company, Inc. The Arch Coal agreement is for coal exports which originate from the PRB (page 26).

19 http://news.archcoal.com/phoenix.zhtml?c=107109&p=irol-newsArticle&ID=1517028&highlight

20 http://gatewaypacificterminal.com/gateway-pacific-terminal-at-cherry-point-starts-permit-process/

21 An economic analysis prepared by Martin Associates for Gateway Pacific Terminals dated October 27, 2011 states "In the first phase, the terminal is projected to handle 25 million metric tons per year (27.6 million short tons). The second phase will take the terminal capacity up to 54 million metric tons per year" (59.5 million short tons), 6 million slated to be potash and coke.

BNSF would provide rail service to Cherry Point via the 6.2 mile Custer Spur, which branches out west from BNSF's line near Custer, Washington, which is north of Bellingham. The rail line was originally built in 1965 to serve the Intalco aluminum smelter, and later a series of petroleum-related industries were constructed on the line.[22] The following map shows the BNSF line serving Cherry Point:

Figure 6

Map of BNSF's Line Serving Cherry Point

Although BNSF currently provides service to Cherry Point, significant railroad improvements will be required to achieve the projected capacity. BNSF expects to acquire an additional 43 acres of contiguous adjacent to its current right-of-way in order to double track the line. In addition, up to three receiving and departure or "R&D" tracks are planned near the Custer connection and two independent loop tracks (the "East" and "West" loops) and rail unloading stations are planned at Cherry Point.[23]

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[22] Washington State Statewide Rail Capacity and System Needs Study dated May 2006, page 12.

[23] March 19, 2012, Pacific International Terminals, Inc. additional information submitted to Whatcom County, Washington (see pages 4-33 and 4-34).

Initially, 7,000 ft. long trains (approximately 125 cars per train) are expected, but the facilities are being planned to accommodate 8,500 ft. long coal trains (approximately 150 cars per train). SSA Marine has already signed a contract with Peabody Energy, an investor in the project, agreeing to export 26.5 million tons of coal from its proposed terminal.[24] The following tonnage and train projections were included in PIT's March 2012 application:[25]

Figure 7

MIT's Tonnage and Train Projections For Cherry Point

Item	2016			2018			2021			2026		
	East Loop	West Loop	2016 Total	East Loop	West Loop	2018 Total	East Loop	West Loop	2021 Total	East Loop	West Loop	2026 Total
Metric Tons / Year (millions)	25.0	0.0	25.0	25.0	6.0	31.0	39.0	6.0	45.0	48.0	6.0	54.0
Short Tons / Year (millions)	27.6	0.0	27.6	27.6	6.6	34.2	43.0	6.6	49.6	52.9	6.6	59.5
Metric Tons / Train	13,625	0	---	13,625	17,272	---	16,350	17,272	---	16,350	17,272	---
Short Tons / Train	15,019	0	---	15,019	19,039	---	18,023	19,039	---	18,023	19,039	---
Cars / Train	125	0	---	125	170	---	150	170	---	150	170	---
Loaded Trains / Year	1,835	0	1,835	1,835	347	2,182	2,385	347	2,733	2,936	347	3,283
Loaded Trains / Day	5.0	0.0	5.0	5.0	1.0	6.0	6.5	1.0	7.5	8.0	1.0	9.0
Loaded & Empty Trains/Day	10.1	0.0	10.1	10.1	1.9	12.0	13.1	1.9	15.0	16.1	1.9	18.0

The proposed export coal movements would move from the East Loop, whereas export petroleum coke and potash trains would be unloaded at the West Loop. PIT's analysis assumes that by 2021 all export coal trains moving from Cherry Point would consist of 150 cars per train and carry 18,023 short tons per train. This 150-car per train assumption could result in an understatement in the expected number of trains per day. Although Cherry Point may be able to accommodate 150 cars per train, the ultimate train size will depend on several factors, including the origin car capacity and weight restrictions along the utilized route. Moreover, whether 125 or 150 cars per train are utilized, the same number of cars per day will be moving over the impacted railroad routes. There may be fewer trains, but the trains will be longer (i.e., approximately 1½ miles versus 1¼ miles long).

[24] Cascadia Weekly, March 2, 2011, *Cherry Point Shipping Terminal Signs its First Customer – A Coal Exporter*. (24 Million Metric Tonnes).

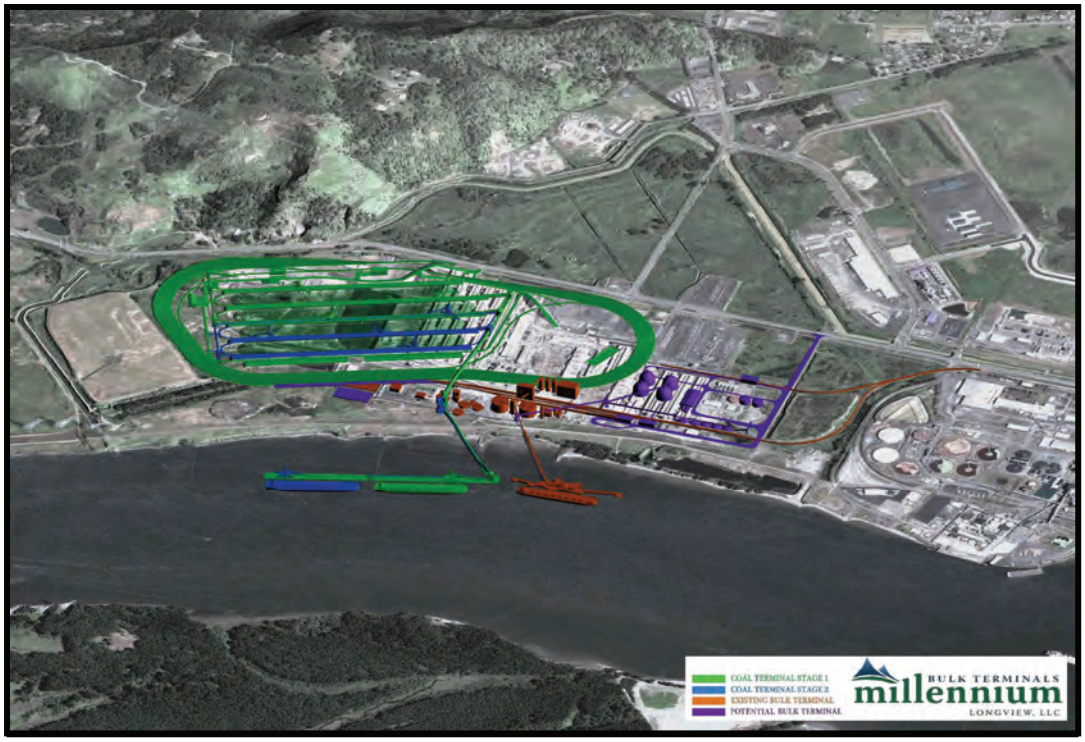
[25] PIT March 2012 Application, Chapter 4.5 Terminal Operations, Tables 4-2 and 4-5.

5. Longview, WA

In February 2012, Millennium Bulk Terminals Longview, LLC (MBTL), submitted several permit applications in order to seek permission to build a $643 million coal terminal on a 416 acre site on the Columbia River near Longview, Washington, which, by 2018, would handle 48.5 million tons per year.[26] MBTL is a Limited Liability Company (LLC) with two shareholders. Ambre Energy owns 62 percent of the shares and Arch Coal, Inc., the second largest U.S. coal producer, owns the remaining 38 percent.[27] Longview is served by both BNSF and UP. The Longview Switching Company (LSC) is a jointly owned subsidiary of BNSF and UP that performs terminal switching duties at the Port of Longview.[28] The following is a site rendering of the proposed Longview terminal:

Figure 8

Site Rendering of Longview Terminal



[26] See study prepared by Berk titled: *Economic & Fiscal Impacts of Millennium Bulk Terminals Longview*, dated April 12, 2012 (44 million metric tonnes).

[27] http://ambreenergy.com/projects/millennium

[28] Washington State Statewide Rail Capacity and System Needs Study dated May 2006, page 15.

6. Grays Harbor, WA (Hoquiam)

RailAmerica, which owns the Puget Sound and Pacific Railroad (PSAP) that serves the Port of Grays Harbor, near Hoquiam, Washington, has been actively exploring an export coal terminal. RailAmerica states that the Port of Grays Harbor "is the only deep-draft shipping port on Washington's coast, only 2 hours from open sea."[29] RailAmerica states that this would be a "relatively small project" ($45 Million) with a capacity of 5 million metric tons (5.5 million short tons).[30] PSAP connects with UP at Blakeslee Jct., Washington and with BNSF at Centralia, Washington.

7. Coos Bay, OR

The Port of Coos Bay, Oregon is considering an international shipping terminal. Coos Bay is served by Coos Bay Rail Link (CORP). The Oregon International Port of Coos Bay bought the 126-mile railroad in 2009, which interchanges with BNSF (via PNWR) and UP at Eugene, OR. The line is currently in serious disrepair. The line was embargoed in 2007 and abandonment was filed in 2008. CORP plans to resume freight service, but requires significant funding to repair and upgrade 110 bridges (70 of which are in poor condition) and 9 tunnels.[31] The port has been actively negotiating with investors. David Koch, the port's CEO, states that three companies are drawing up plans for a coal terminal that could export up to 10 million tons per year. Mitsui, an international trading firm headquartered in Japan, and Metro Ports, a company that specializes in terminals, are reportedly involved in the negotiations with Coos Bay.[32]

8. St. Helens, OR (Westward)

In January 2012, Kinder Morgan Terminals and Pacific Transloading, a subsidiary of Ambre Energy, submitted a proposal to export coal from St. Helens, Oregon, Port of Westward. Ambre Energy expects to ship as much as 30 million tons from St. Helens.[33] The proposed terminal is estimated to require $150 to $200 million in capital investment for construction and development. Port of Westward is served by PNWR, which connects with both BNSF and UP at Portland, Oregon.[34]

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29 http://www.railamerica.com/RailServices/PSAP.aspx

30 http://www.washingtonports.org/washington_ports/pgh%20newsletter%202011-08.pdf

31 See, e.g., Coos Bay Rail Link Infrastructure Evaluation Report, Revised August 20, 2010

32 See KLCC Public Radio story by Amelia Templeton titled: *International Investors Plan Coal Terminal at Coos Bay*, dated April 19, 2012. http://klcc.org/Feature.asp?FeatureID=3324

33 To date, Kinder Morgan has not released specific tonnage levels. Estimates of 15 to 30 million tons have appeared in various press reports.

34 http://portwestwardproject.com/PortWestwardFactSheet.pdf

9. Boardman, OR (Morrow)

The Port of St. Helens plans also call for a water transloading facility, which is part of the "The Morrow Pacific Project" under which PRB would be shipped by train to Morrow and from there by barge to Port Westward Industrial Park at the Port of St. Helens and then transferred directly from the barges to oceangoing vessels bound for Japan, South Korea or Taiwan.[35] Port of Morrow, near Boardman, OR, recently signed a one-year lease option with a subsidiary of Australian coal giant Ambre Energy (Coyote Island Terminal LLC of Salt Lake City) to shift Montana and Wyoming coal from trains to river barges. The company wants to build a rail off-loading terminal use the area to transfer the coal onto barges for shipment to St. Helens.[36] Initially, Ambre anticipates shipping 3.5 million metric tons (3.85 short tons) of coal per year to trade allies such as Japan, South Korea and Taiwan beginning as soon as mid-2013. Full operational and permitted capacity is expected to be 8 million metric tons (8.82 short tons) annually, subject to approval.[37] Port of Morrow is served by UP.

[35] http://morrowpacific.com/
[36] *Ibid*.
[37] http://morrowpacific.com/wp-content/uploads/2012/04/Morrow_Pacific_Project-Packet.pdf

Powder River Basin Coal

Steam coal can originate from many areas in the U.S., but it is expected and probable that the vast majority of the PNW export coal shipments will originate from the PRB coal mines and origins in Montana and Wyoming, which is the largest coal mining region in the United States.[38] As a result of the economics associated with mining the large seams of PRB coal, the price of PRB coal is the lowest in the United States. The following table compares the price of PRB coal with coal prices from other western coal origins. As can be seen, the low-cost PRB coal dominates the western coal market:

Figure 9

Western Coal Price Comparison[39]

Origin	Tons (Millions)	Average Sale Price
PRB Coal Origins		
Campbell County, WY	392.6	$12.05
Montana	44.5	$15.20
Other Western Coal Origins		
Sweetwater, WY	8.8	$32.09
Colorado	24.9	$40.00
Utah	19.0	$29.15

1. PRB Coal Mines and Origins

The PRB area in Montana and Wyoming, is dominated by several large coal companies. The current and proposed PRB coal mines and coal companies are listed below:

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[38] There are also other western coal origins in southwestern Wyoming, Colorado and Utah which also could be utilized for PNW exports, but this report focuses on the PRB coal origins in Montana and Wyoming.

[39] Source: U.S. Energy Information Administration, Table 30, Average Sales Price of Coal by State, County, and Number of Mines, 2010.

Figure 10

Current and Proposed PRB Coal Mines and Origins

Railroad	Mine	Station	Coal Company
Montana PRB Coal Mines and Origins			
BNSF	Absaloka	Kuehn, MT	Westmoreland Coal Co.
BNSF	Decker	Decker, MT	Kiewit Mining Group
BNSF	Rosebud	Colstrip, MT	Westmoreland Coal Co.
BNSF	Signal Peak[40]	Roundup, MT	Signal Peak Energy
BNSF	Spring Creek	Nerco Jct., MT	Cloud Peak Energy
TRRC/BNSF	Otter Creek[41]	Ashland, MT	Arch Coal
Wyoming PRB Coal Mines and Origins			
BNSF	Buckskin	Buckskin, WY	Kiewit Mining Group
BNSF	Clovis Point	Clovis Point., WY	Wyodak Resources
BNSF	Dry Fork	Dry Fork Jct., WY	Western Fuels
BNSF	Eagle Butte	Eagle Jct., WY	Alpha Natural Resources
BNSF	Rawhide	Rawhide, WY	Peabody Energy
BNSF/UP	Antelope	Converse Jct., WY	Cloud Peak Energy
BNSF/UP	Belle Ayr	Belle Ayr, WY	Alpha Natural Resources
BNSF/UP	Black Thunder	Black Thunder, WY	Arch Coal
BNSF/UP	Caballo	Caballo Jct., WY	Peabody Energy
BNSF/UP	Cordero Rojo	Cordero/Rojo, WY	Cloud Peak Energy
BNSF/UP	Coal Creek	Coal Creek, WY	Arch Coal
BNSF/UP	North Antelope Rochelle	Nacco Jct., WY	Peabody Energy
BNSF/UP	School Creek	Thunder Jct., WY	Peabody Energy
BNSF	Youngs Creek[42]	Decker, MT	Consol Energy

[40] Signal Peak is not technically in the PRB. The bituminous coal from Signal Peak is considered high-quality, producing higher heat and lower mercury than PRB coal. However, it is being marketed for the Pacific Rim and lies within the scope of the rail system being studied.

[41] The Otter Creek property near Ashland, Montana contains significant (731 million tons) coal reserves, which were recently obtained by Arch Coal. The Otter Creek mine would be served by the Tongue River Railroad Company (TRRC), a proposed 89-mile new coal line in Montana which would connect with BNSF's mainline at Miles City, Montana. Arch has not yet filed an application for a mine permit with the Montana Dept. of Environmental Quality.

[42] CONSOL of Wyoming LLC, and Chevron NPRB, LLC, have formed a new company, Youngs Creek Mining Company, LLC. to develop and operate the proposed Youngs Creek mine north of Sheridan, Wyoming. Youngs Creek mine has coal reserves of approximately 315 million tons. Based on initial feasibility studies, the mine has the potential to reach 15 million tons per year when at full production. This would require building a short spur line which would connect to BNSF's line near Decker, Montana. Youngs Creek is already permitted by the Wyoming Department of Environmental Quality.

2. PRB Railroad Coal Lines

The PRB coal mines are located on six (6) current lines and one (1) proposed line in Montana and Wyoming:

Figure 11

PRB Railroad Coal Lines

From	To	Railroad	Miles	Mines
Shawnee Jct. WY	Campbell, WY	BNSF/UP	140.2	10
Eagle Butte Jct., WY	Campbell, WY	BNSF	25.6	5
Spring Creek, MT	Dutch, WY	BNSF	22.8	2
Kuehn, MT	Sarpy Jct.	BNSF	37.4	1
Big Sky, MT	Nichols, MT	BNSF	39.0	1
Signal Peak, MT	Broadview, MT	BNSF	35.0	1
Ashland, MT	Miles City, MT	TRRC/BNSF	89.0	1

The largest PRB coal volumes currently originate from the so-called "Joint Line" from Shawnee Jct., to Campbell, WY, which is served by both BNSF and UP.[43] In 2011, the PRB coal mines in Wyoming originated 422 million tons whereas the mines in Montana originated 22 million tons.[44]

3. Current PRB Coal Market & Destinations

PRB coal movements are voluminous and repetitive. PRB coal production was approximately 444 million tons in 2011 and could exceed 500 million in a few years.[45] Currently, approximately 80 loaded coal trains move out of the PRB each day.

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[43] Under a Joint Line Agreement between BNSF and UP, the two railroads jointly serve the large coal mining operations on the line, which mine the "Wyodak" PRB coal seam. The BNSF's Orin Subdivision Line runs from Donkey Creek Jct., WY (MP 0.4) to Bridger Jct., WY (MP 127.3), which is approximately 127 miles (126.9). The portion of the line which is jointly owned and maintained by BNSF and UP (i.e., the Joint Line) actually runs 103 miles from MP 14.7 near Caballo Jct. to the interchange with UP at Shawnee Jct., WY (MP 117.7) . This study looks at the characteristics of the line from Campbell, WY (which is 3.5 miles before Donkey Creek Jct.) to the UP interchange at Shawnee Jct., which is a total of 120.8 miles.

[44] Source EIA-423 Monthly Non Utility Fuel Receipts and Fuel Quality Data for 2011.

[45] Source EIA-423 Monthly Non Utility Fuel Receipts and Fuel Quality Data for 2011.

The majority of these PRB coal trains move *south* from the BNSF/UP Joint Line in Wyoming and then either: south, east or west to numerous domestic destinations (168 destinations in 2011) stretching from Arizona to New York.[46] In comparison, very little coal traffic currently moves *northwest* from the PRB to PNW destinations. For example, only 6 million of the 444 million 2011 PRB coal tons, or 1.3%, moved to destinations in Washington and Oregon.

As a result of the expected increase in demand for export coal and a gradual decrease in demand from domestic users, a significant *shift* in PRB railroad coal traffic from current domestic destinations (e.g., less economical in eastern destinations such as New York and New Jersey) to the PNW export terminals will likely take place. [47] The following table shows the wide-distribution of PRB domestic coal tons to electric generating stations in 2011:

[46] *Ibid*.

[47] There are several other factors which have resulted in a decrease in demand for domestic coal, such as: the boom in availability of low cost natural gas; proposed new rules by the U.S. Environmental Protection Agency (EPA) to bring new coal-fired electric power plants in compliance with the Federal Clean Air Act and Clean Water Act.; increasing competitiveness of renewable energy sources; investments in energy efficiency, and the economic downturn - all of which have combined to affect a drop in domestic demand for coal.

Figure 12

2011 Distribution of PRB Coal Tons

Destination States	PRB Tons From:	
	Montana	Wyoming
2011 PRB to PNW Coal Tons		
Oregon	108,462	2,243,208
Washington	2,436,289	1,180,782
Total to OR and WA	**2,544,751**	**3,423,990**
2011 PRB Coal Tons to Other Destination States		
Alabama	0	12,315,605
Arizona	761,439	5,818,897
Arkansas	0	17,497,425
Colorado	0	9,516,900
Georgia	0	13,619,370
Illinois	237,701	61,291,247
Indiana	0	9,836,466
Iowa	0	23,799,910
Kansas	0	19,962,502
Kentucky	0	2,638,466
Louisiana	0	11,452,691
Maryland	0	582,606
Michigan	2,109,260	17,142,197
Minnesota	6,709,385	9,321,579
Mississippi	0	986,649
Missouri	0	44,227,641
Montana	8,405,469	0
Nebraska	0	13,732,077
Nevada	0	1,361,874
New Jersey	0	14,308
New York	0	2,020,463
North Dakota	0	301,381
Ohio	369,947	4,967,528
Oklahoma	13,967	18,884,374
Pennsylvania	0	378,352
South Dakota	0	1,676,078
Tennessee	0	9,409,077
Texas	0	62,096,767
Wisconsin	394,779	20,097,511
West Virginia	0	487,784
Wyoming	0	23,106,731
Total to Other States	**19,001,947**	**418,544,456**
Total 2011 PRB Coal Tons		
Total PRB Coal	**21,546,698**	**421,968,446**

4. Current PRB to PNW Coal Movements

Currently, approximately 10 to 12 million tons of coal per year move in railroad trains through the impacted PNW area, which is a significant volume, but small in comparison to the expected 75 to 175 million tons of PNW export coal traffic. There are only two (2) active coal fired generating stations which currently receive coal in unit trains from PRB mines:

Centralia, WA - In 2011, 3.5 million tons of coal moved via BNSF from PRB mines in Montana and Wyoming to Transalta's coal-fired Centralia generating station, which is Washington State's largest base-load power source with a capacity of 1,376 megawatts. The Centralia plant provides 10 percent of Washington State's power. In April 2011, legislation was passed which will close the plant by 2025.[48]

Boardman, OR - In 2011, 2.3 million tons of coal moved via BNSF and UP from PRB mines in Montana and Wyoming to Portland General Electric's (PGE) coal-fired Boardman generating station, which has a 585-megawatt capacity. In 2010, PGE announced plans to close Boardman by 2020.[49]

In addition to the domestic PRB coal traffic to these PNW plants, there is also current export coal (approximately 3 to 5 million tons), which currently moves through the PNW to the British Columbia export terminals (primarily Roberts Bank, BC). The current PRB to PNW coal traffic utilizes many of the same railroad line segments which will be used to haul the export coal traffic.

5. Projected PRB Export Coal Tons

As a result of the expected dramatic increase in demand for export coal, PRB coal production is likely to increase, but, because of the decrease in demand from domestic users, a significant *shift* in PRB traffic can also be expected. PRB coal production was approximately 445 million tons in 2011. PRB coal production could exceed 500 million, but the estimated demand for 75 to 170 million tons will likely result in shifting traffic from current destinations (e.g., less economical movements to New York and New Jersey) to the PNW. The following projections of the annual coal volumes from these railroad coal lines were used in this report:

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[48] On April 29, 2011, Gov. Chris Gregoire signed Senate Bill 5769 into law a collaborative agreement to close Centralia's two coal boilers – the first in 2020 and the second in 2025.

[49] On December 29, 2010, Oregon's Environmental Quality Commission unanimously approved Portland General Electric plan to close the state's only coal-fired power plant by Dec. 31, 2020 in exchange for a far smaller investment in pollution controls.

Figure 13

Projected Annual PRB to PNW Coal Tons

(Millions of Short Tons)

Railroad Coal Lines	2017	2022
Shawnee Jct. ("Joint Line")	20.0	35.0
Eagle Butte Jct., WY	25.0	45.0
Total From Wyoming Origins	**45.0**	**80.0**
Spring Creek, MT [50]	15.0	25.0
Big Sky, MT	0.0	5.0
Kuehn, MT	0.0	5.0
Signal Peak, MT	15.0	15.0
Ashland, MT (TRRC)	0.0	40.0
Total From Montana Origins	**30.0**	**90.0**
Total to PRB to PNW Export Coal Tons	**75.0**	**170.0**

[50] Includes projected tonnage from Youngs Creek Mine in Wyoming.

Impacted Railroad Routes

Currently, two Class I railroads dominate the western coal market as well as all rail shipments from the PRB to the PNW - BNSF and UP. Although UP also has access to the PRB coal origins, as a result of geographical and other advantages enjoyed by BNSF, it is reasonable and logical to assume that BNSF will dominate the PRB to PNW export coal market.

1. BNSF Market Domination

UP has access to Longview, but does not serve Cherry Point. BNSF's routes associated with its longest PRB movements to Longview are at least 200 miles shorter than UP's routes from the PRB.[51] BNSF's unit costs are also lower than UP's cost. BNSF's expected domination of the PRB to PNW export coal market can be seen by the current coal movements to PGE's Boardman generating station. Although Boardman is served by UP and has in years past received coal directly from UP via the PRB Joint Line and UP's routes, BNSF currently originates all the coal movements to Boardman (2.1 million tons) and interchanges the traffic with UP at Spokane, WA for delivery to Boardman.

Due to the expected large coal volumes, it is likely that all of BNSF's PRB coal origins, including the Joint Line origins, will be involved at some point in export coal movements to the PNW. However, the BNSF/UP Joint Line is already near capacity (primarily from existing coal traffic moving south on the line and then east and south to coal-fired generating stations) and there are several closer BNSF-served Montana origins (such as Signal Peak, MT), which will likely originate more of the export PNW coal as a result of the shorter distances.[52]

The following table compares the estimated total delivered cost for BNSF and UP PRB to PNW export coal movements and illustrates the economic advantages enjoyed by BNSF:

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[51] UP shipped 1.5 million tons of export coal in 2010, but expects exports to increase. Morrow, Coos Bay or St. Helens would be the most likely PNW destinations for UP. It is possible that UP could more effectively compete with BNSF for the Asia export market with non-PRB coal shipments from southern WY (Green River coal area) or UT (Uinta coal area). For example, the mileage from Hanna, WY to Longview, WA is approximately 200 miles shorter than BNSF's miles from Antelope, WY (which is on the Joint Line) to Longview, WA. However, this study concentrates on potential export coal movements from the PRB to the PNW and these potentially alternative western coal movements (which would have substantially different characteristics, e.g., cost, sulfur content, btu., etc, and rail routings) have not been studied here.

[52] Russian energy trader, Gunvor, recently invested $400 million to take a 33% stake in the Signal Peak coal mine in Montana and expects to increase production from 9 million to 15 million tons by exporting coal to Asia through Westport, BC.

Figure 14

BNSF & UP PRB to PNW Export Coal
Estimated Delivered Cost Comparison [53]

Item	Amount
Shortest BNSF Joint Line Movement (Caballo Jct.) to Longview, WA	
Coal Price Per Ton (Campbell County, WY)	$12.05
Route Miles	1,318
BNSF 2010 URCS Variable Cost Per Ton (120 Cars)	$18.65
Rate Per Ton (at 180% R/VC)	$33.57
Total Delivered Cost	$45.62
Shortest BNSF PRB Movement (Signal Peak) to Longview, WA	
Coal Price Per Ton (Montana)	$15.20
Route Miles	1,135
BNSF 2010 URCS Variable Cost Per Ton (120 Cars)	$16.18
Rate Per Ton (at 180% R/VC)	$29.12
Total Delivered Cost	$44.32
Shortest UP Joint Line Movement (Antelope) to Longview, WA	
Coal Price Per Ton (Campbell County, WY)	$12.05
Route Miles	1,582
UP 2010 URCS Variable Cost Per Ton (120 Cars)	$20.96
Rate Per Ton (at 180% R/VC)	$37.73
Total Delivered Cost	$49.78

As can be seen, the added distance associated with UP's route places UP in significant economic disadvantage with BNSF (i.e., UP $49.78 versus BNSF $44.32 to $45.62 per ton).

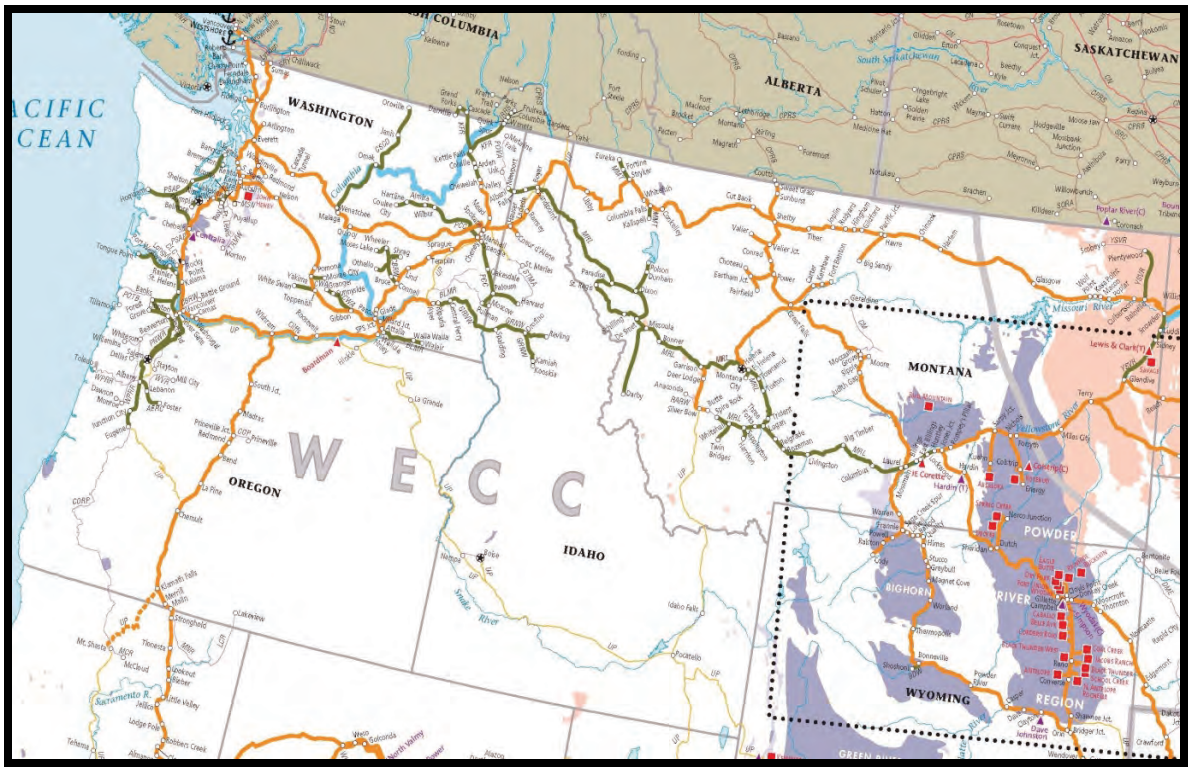
[53] Costs are based on STB's Uniform Railroad Costing System (URCS) 2010 unadjusted unit cost data for BNSF and UP. Rail rates are based on a 180% revenue-to-variable cost ratio, which is the STB's jurisdictional threshold level.

2. BNSF Railroad Routes Impacted

The possible railroad routes of movement and the individual railroad line segments which would likely be involved in coal movements from PRB coal mines to PNW export coal terminals have been carefully evaluated and studied for this report. These routes are expansive and cover a total distance of over 4,000 miles.[54] The vast majority of PRB export coal traffic would likely move north via BNSF from PRB mines in Wyoming and Montana, through Montana, Idaho and Washington to the PNW export coal terminals in Washington and Oregon.[55] The following is a portion of BNSF's system map which shows an overview of BNSF's routes from the PRB to the PNW:

Figure 15

BNSF's PRB to PNW Routes



[54] The over 4,000 route miles which will be potentially impacted excludes potential coal movements via UP's southern routes through Wyoming, Colorado, Utah , Idaho and Oregon and the miles in British Columbia to Prince Rupert, which were not part of this study.

[55] There are other BNSF routing options, such as the movement south from the PRB mines and then west with the utilization of UP's routes west though Colorado, Utah and then north through Idaho and Oregon (BNSF has trackage rights over a portion of the UP's Central Corridor route), but these other routing options are more circuitous.

As can be seen from Figure 14, BNSF's PRB to PNW routes are expansive, stretching from eastern Wyoming to the Pacific coast. These rail routes traverse many environmentally sensitive areas, such as Glacier National Park in Montana, as well as many major populated areas, such as Billings, Montana and Spokane, Washington. Most export coal movements from Montana and Wyoming would move north and connect with and utilize most of the western portion of BNSF's heavily utilized Great Northern Corridor, which runs from the PNW to Chicago, IL. Most of the freight moving along BNSF's Great Northern Corridor is consumer, industrial and agricultural products, such as double-stack intermodal container traffic and export grain traffic. Passenger trains such as Amtrak's Empire Builder and Cascades in the Northwest; and commuter trains, including Sound Transit in Washington, use the Great Northern Corridor. In addition, there are a growing number of unit-train tank car movements of oil from the Bakken shale formation in North Dakota and Montana to PNW destinations which are and will be increasing using this important corridor.[56]

3. BNSF's Routing Options

BNSF does have the benefit of have several viable routing options, which may lessen the impact on certain areas, but also significantly broadens the impact area. For example, the shortest rail distance is from Eagle Butte Jct., WY to Longview, WA which is 1,313 miles, but BNSF's viable routing options cover a distance of 2,321 miles. BNSF has two viable routing options in Montana and three routing options in Washington from Spokane:[57]

a. **BNSF/MRL Helena Route -** Montana Rail Link's (MRL) 564.2 mile line from Mossmain, MT (near Billings) to Sandpoint, ID runs through Helena and Missoula, MT and reconnects with BNSF at Sandpoint, ID. MRL, which is owned by Washington Companies, assumed control of the western portion of BNSF's mainline in Montana in 1987. MRL is considered a "bridge carrier" for BNSF as it only connects with BNSF at Huntley, MT and Sandpoint, ID and BNSF retains ownership of the MRL lines. BNSF and MRL have a long-term lease purchase plan for MRL to acquire the line. The MRL route is approximately 100 miles shorter than the BNSF route. BNSF currently uses MRL route to move the current PRB to PNW coal traffic to Centralia and Boardman, as well as grain traffic to the PNW and other traffic.

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[56] For example, in July, 2011, Tesoro Corp. announced that it intends to move 30,000 barrels per day (or approximately 50 loaded cars per day) of Bakken oil by rail in a dedicated unit trains to the Anacortes, Washington refinery and expects to spend $50 million on the project.

[57] BNSF has other available routing options, such as moving east or south and then west, but these routes are significantly more circuitous and thus not economically viable.

b. **BNSF Great Falls Route -** BNSF's northbound line from Mossmain, MT through Great Falls, which connects to BNSF's main east-west "Hi-Line" at Shelby, MT. Although the BNSF/MRL Helena route is approximately 100 miles shorter, as a result of the expected high volumes, it is likely that both of these routes will be heavily utilized by BNSF for export coal shipments.

c. **Stevens Pass / Cascade Tunnel -** BNSF's northern line from Spokane through Wenatchee, WA connecting with BNSF's north-south line along the coast at Everett, WA. This mainline, which passes through the Cascade Tunnel, is BNSF's major transcontinental route for double-stack intermodal container trains. Currently, this line has a capacity of 24 to 28 trains per day and is operating at 57 percent to 75 percent capacity.[58]

d. **Columbia River Gorge -** The BNSF's Vancouver-Pasco line, which follows the Columbia River along the north side of the Columbia River Gorge, is used by double-stack intermodal container trains moving east, grain trains moving west to the PNW ports, and other carload traffic. The line is operating today at about 80 percent of practical capacity with an estimated capacity of 40 trains per day.[59]

e. **Stampede Pass & Tunnel -** The Stampede Pass route moves south from Spokane and then west through Yakima, connecting with BNSF's north-south line along the coast south of Seattle, WA (Auburn). The line passes through the Stampede Tunnel and operates at a lower capacity because the ceiling of the Stampede Tunnel is too low to accommodate double-stack intermodal container trains and the grades over the Stampede Pass also make it difficult to haul heavily-loaded unit trains. As a result, BNSF could use the Columbia River Gorge or Steven Pass / Cascade Tunnel routes for loaded trains and the Stampede Pass route for empty trains.[60]

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[58] Washington State 2010-2030 Freight Rail Plan, page 3-28.

[59] *Ibid*.

[60] *Ibid*. It should be noted that these three (3) alternative routes in Washington have some common line segments. For example, both the Stampede Pass and Columbia River Gorge routes would use the line segment from Spokane to Pasco, WA and the Stevens Pass/Cascade Tunnel and Stampede Pass routes would use the line from Auburn to Longview, WA.

4. Mileage Differences For BNSF Routing Options

The following table shows the mileage differences for the six different viable routing options available to BNSF for export coal movements from Antelope, WY to Longview, WA:

Figure 16

BNSF Routing Options For Export Coal Movements
From Antelope, Wyoming to Longview, Washington

Route	Miles
From Antelope, WY to Spokane, WA	
Via BNSF/MRL Helena Route	966
Via BNSF Great Falls Route	1,064
From Spokane, WA to Longview, WA	
Via Columbia River Gorge Route	403
Via Stevens Pass / Cascade Tunnel Route	479
Via Stampede Pass Route	493
From Antelope, WY to Longview, WA	
Via BNSF/MRL Helena & Columbia River Gorge Routes	1,368
Via BNSF/MRL Helena & Stevens Pass/Cascade Tunnel Routes	1,445
Via BNSF/MRL Helena & Stampede Pass Routes	1,459
Via BNSF Great Falls & Columbia River Gorge Routes	1,467
Via BNSF Great Falls & Stevens Pass/Cascade Tunnel Routes	1,543
Via BNSF Great Falls & Stampede Pass Routes	1,558

As can be seen, the shortest route to Longview would involve the utilization of the MRL line in Montana and the Columbia River Gorge line in Washington (1,368 miles) whereas the longest route would involve BNSF's line through Great Falls and its Stampede Pass route in Washington (1,558 miles).[61] The economics would generally favor the shortest routes, however, because of the massive volumes expected, it is likely that all of the routing options will be utilized to a certain extent which will likely result in congestion problems for all the routes.

[61] For Cherry Point, which is in northern Washington, the shortest route would involve the BNSF/MRL Helena and Stevens Pass/Cascade Tunnel routes.

5. Impacted Railroad Line Segments

The characteristics of the identified railroad line segments will be described in more detail herein. The following is a list of the major railroad line segments in Wyoming, Montana, Idaho, Washington and Oregon which could be impacted by various degrees by the expected increase in export coal movements from PRB to PNW:

Figure 17

Railroad Line Segments Impacted

Section	Line Segment	Railroad	Miles[62]
1.	Shawnee Jct., WY to Campbell, WY ("Joint Line")	BNSF/UP	140.2
2.	Eagle Butte Jct., WY to Campbell, WY	BNSF	25.6
3.	Campbell, WY to W. Dutch, WY	BNSF	100.5
4.	Spring Creek, MT to W. Dutch, WY	BNSF	22.8
5.	W. Dutch, WY to Huntley, MT	BNSF	138.9
6.	Big Sky, MT to Nichols, MT	BNSF	39.0
7.	Ashland, MT to Miles City, MT	TRRC	89.0
8.	Miles City, MT to Nichols, MT	BNSF	51.6
9.	Nichols, MT to Sarpy, Jct., MT	BNSF	16.4
10.	Kuehn, MT to Sarpy Jct., MT	BNSF	37.4
11.	Sarpy Jct., MT to Huntley, MT	BNSF	66.1
12.	Huntley, MT to Mossmain, MT	BNSF/MRL	24.8
13.	Mossmain, MT to Broadview, MT	BNSF	35.8
14.	Signal Peak, MT to Broadview, MT	BNSF	35.0
15.	Broadview, MT to Great Falls, MT	BNSF	188.0
16.	Great Falls, MT to Shelby, MT	BNSF	99.1
17.	Shelby, MT to Sandpoint, ID	BNSF	337.9
18.	Mossmain, MT to Sandpoint, ID	MRL	564.2
19.	Sandpoint, ID to Spokane, WA (Latah Jct.)	BNSF	70.5
20.	Spokane, WA (Latah Jct.) to Everett, WA (PA Jct.)	BNSF	301.1
21.	Spokane, WA (Latah Jct.) to Pasco, WA (SP&S Jct.)	BNSF	149.4
22.	Pasco, WA (SP&S Jct.) to Vancouver, WA	BNSF	219.8
23.	Vancouver, WA to Longview, WA	BNSF	35.4
24.	Vancouver, WA to Portland, OR	BNSF	9.9
25.	Pasco, WA (SP&S Jct.) to Auburn, WA	BNSF	227.5
26.	Auburn, WA to Centralia, WA	BNSF	72.6
27.	Centralia, WA to Longview, WA	BNSF	47.1
28.	Auburn, WA to Everett, WA (PA Jct.)	BNSF	55.6
29.	Everett, WA (PA Jct.) to Intalco, WA	BNSF	78.3
30.	Intalco, WA to Cherry Point, WA	BNSF	8.9
31.	Intalco, WA to British Columbia Terminals	BNSF/CN	49.7
32.	Centralia, WA to Port of Grays Harbor, WA	PSAP	59.0
33.	Spokane, WA to Hinkle, OR	UP	171.0
34.	Hinkle, OR to Boardman, OR	UP	20.0
35.	Portland, OR to Boardman, OR	UP	164.0
36.	Portland, OR to St. Helens, OR (Port Westward)	PNWR	56.0
37.	Portland, OR to Eugene, OR	UP	124.0
38.	Eugene, WA to Coos Bay, OR	CORP	122.0
	Total Railroad Route Miles		**4,054.1**

[62] Includes route miles and mileage of connecting lines.

Projected Traffic Flow

The following charts show the impacted line segments and the potential the routing options and choke points:

Figure 18

Projected Traffic Flow From PRB Coal Mines to Spokane, WA

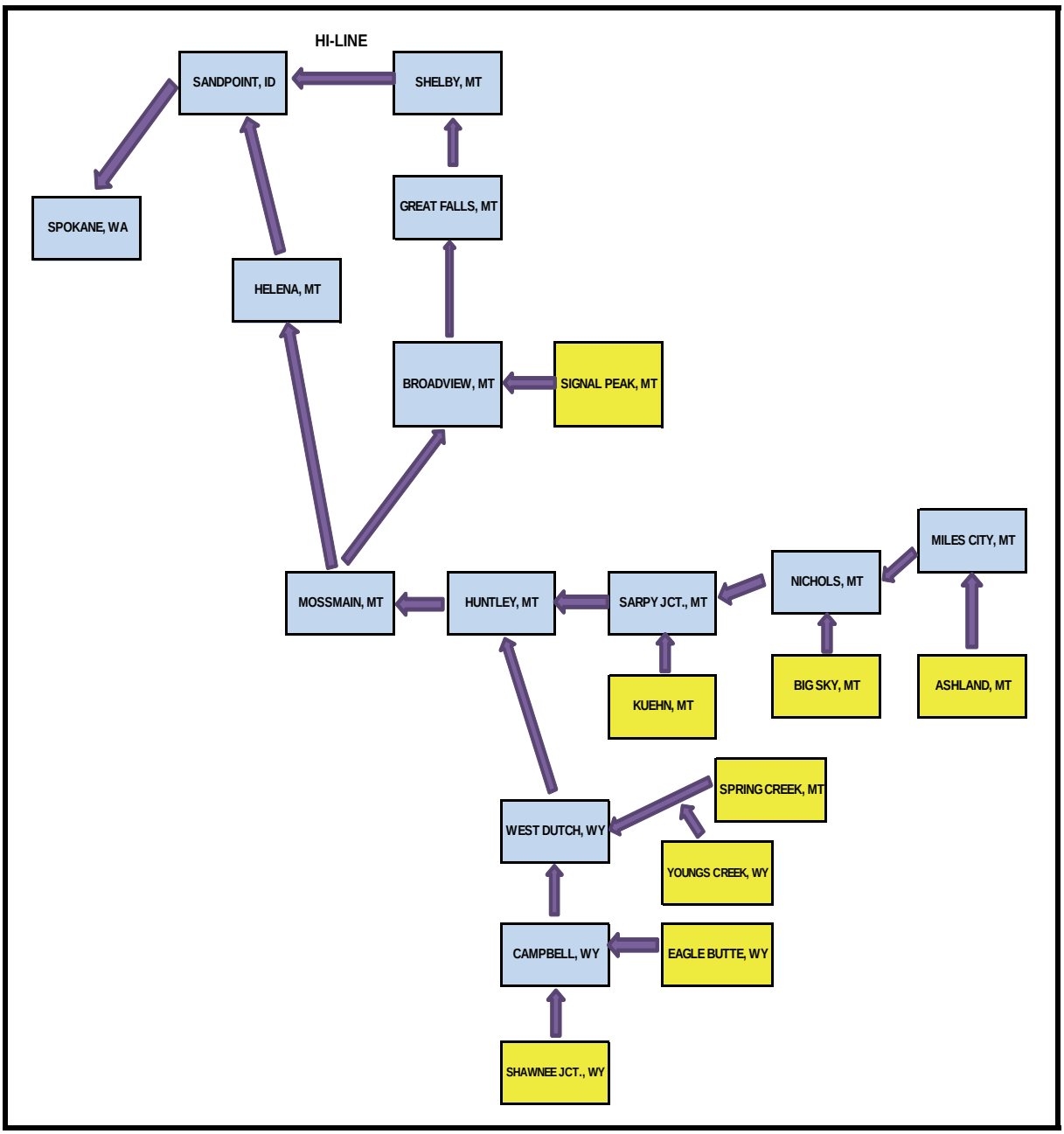
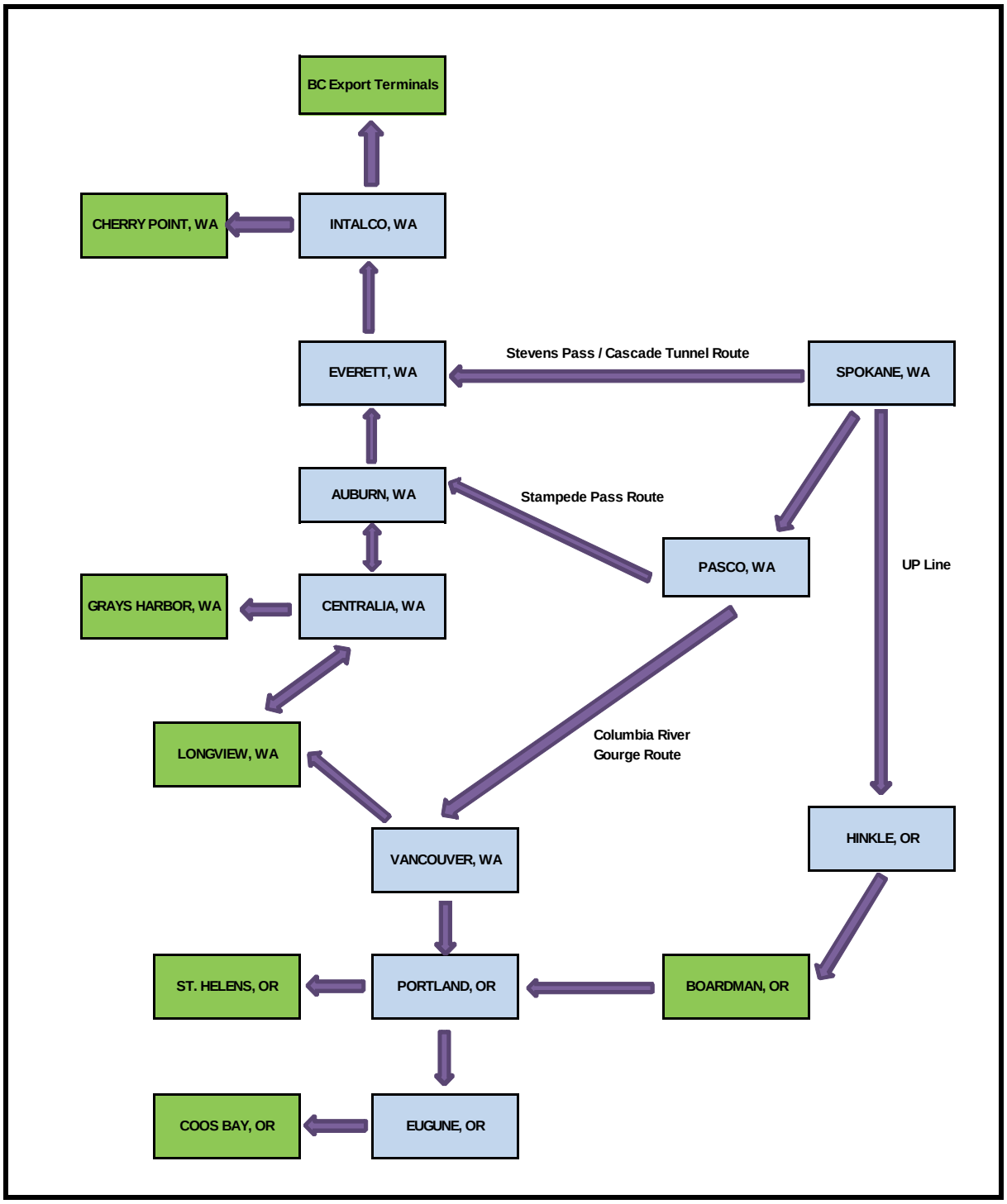


Figure 19

Projected Traffic Flow From Spokane, Washington
To PNW Export Coal Terminals



Major Choke Points & Bottlenecks

As indicated by Figures 17 and 18, the majority of the PRB coal shipments (all but Signal Peak) will converge at Huntley, MT and move to Mossmain, MT, where there is the routing option of either the shorter MRL route through Helena or the longer BNSF route through Great Falls, MT. All PRB coal shipments would then meet again at Sandpoint, ID and converge at Spokane, WA. Although BNSF has routing options from Spokane, WA, there are problems associated with each option, such as existing congestion on the Stevens Pass/Cascade Tunnel and Columbia River Gorge routes and the restrictions associated with the Stampede Pass route.

BNSF's internal routing options will help distribute the tonnage and could help lessen the impact in certain areas, however, the expected large coal volumes will likely result in congestion problems for the entire route. As illustrated by previous flowcharts (Figures 17 and 18), there are two key line segments which will carry nearly *all* the coal traffic and represent major choke points and bottlenecks:

Huntley, MT to Mossmain, MT (Billings) (BNSF/MRL - 24.8 Miles) - Coal shipments from the BNSF/UP Joint Line coal origins or the BNSF served origins would converge at Huntley, MT (Jones Jct.).[63] From Huntley the coal would move 24.8 miles on the MRL line to Mossmain, where it could then move on BNSF's direct route or via the shorter MRL route. It is projected that 22.3 to 57.6 PRB to PNW export coal trains per day will move over this line segments through Billings.

Sandpoint, ID to Spokane, WA (BNSF - 78.3 Miles) - The MRL route from Mossmain would converge with BNSF-direct coal from Shelby at Sandpoint, ID and move on the BNSF line to Spokane, WA. *All* (100%) BNSF export coal to the PNW would likely move over this 78.3 mile line segment. This line is commonly known as the "*Funnel*," and is the second-busiest rail corridor in Washington. It is projected that 27.9 to 63.2 PRB to PNW export coal trains per day will move through Spokane.

[63] The only exception would be Signal Peak, which is served by a new 35-mile spur, which connects to BNSF's line north of Mossmain near Broadview, MT, thus avoiding the bottleneck from Huntley to Mossmain.

Major Traffic Congestion Areas

In addition to these major choke points, there are also several sections in the routings which are already congested and may not be able to adequately handle the expected large volumes of export coal:

BNSF/UP Joint Line - Currently, the majority of PRB coal (357.1 million tons in 2010) originates on the high-density BNSF/UP Joint Line or Orin Subdivision Line, which runs 120.8 miles from an interchange with UP at Shawnee Jct., WY north to Campbell, WY. This line is already near capacity. In addition, most of the coal from the Joint Line moves south whereas as most PRB to PNW coal traffic would move north, which could cause operational problems on the Joint Line.

BNSF "Hi-Line" - BNSF export coal shipments would connect to its mainline, (known as the "Hi-Line") at Shelby, MT and move west to Sandpoint, ID and beyond. This is one of BNSF's heaviest used mainline, carrying intermodal container trains and west-bound grain shipments. The additional PRB to PNW export coal trains will add 14.9 to 29.7 trains per day to the already congested Hi-Line.

Stevens Pass / Cascade Tunnel - BNSF's Everett-Spokane line, which passes through the Cascade Tunnel at Stevens Pass, is the BNSF's major northern transcontinental route for double-stack intermodal container trains. It is heavily used, operated at about 70 percent of practical capacity in 2008.

Columbia River Gorge - The BNSF's Vancouver-Pasco line, which follows the Columbia River along the north side of the Columbia River Gorge, is used by double-stack intermodal container trains moving east and grain trains moving west to PNW export grain terminals. The line is operating today at about 80 percent of practical capacity.

North-South I-5 Corridor - BNSF's line connecting Seattle with Portland, OR, is the most heavily trafficked rail line in Washington State, conveying BNSF and UP trains (the latter via trackage rights) to and from the major PNW ports. The corridor hosts an average of 58 freight trains each day. PRB to PNW export coal tons will move over this route from Vancouver, WA to Longview and between Longview, WA and Seattle, WA.

Rail Capacity Issues

This report carefully examines and describes these 38 impacted railroad line segments covering over 4,000 route miles in more detail herein. In addition to the obvious environmental and traffic concerns, the expected large coal volumes will result in several major choke points and bottlenecks and will likely cause congestion problems for the entire route. These choke points and congestion areas will be described in more detail herein. The two major cities that will be the most adversely impacted in terms of the expected export coal trains per day are: Spokane, Washington (pop. 208,916) and Billings, Montana (pop. 104,170). Nearly every PNW to PRB loaded and empty coal train will move through these two cities (63.2 trains per day through Spokane and 57.6 trains per day through Billings).[64]

Many of the impacted railroad line segments already have significant rail capacity and congestion issues associated with the current rail traffic, such as PNW import and export intermodal container traffic and grain railroad traffic. For example, for many years there have been rail traffic congestion problems and capacity issues associated with the rail lines between Sandpoint, ID to Spokane, WA, which is appropriately named "*The Funnel*" as four rail lines converge at Spokane and any east/west shipments must travel through the Funnel. It is the second-busiest rail corridor in the state of Washington and hosts an average of 46 freight trains each day, along with daily operation of Amtrak's Empire Builder service connecting Seattle and Portland to Chicago.[65]

Over a decade ago, State, regional and local agencies in Washington and Idaho worked with BNSF, UP and others in developing an infrastructure and capital spending plan called "*Bridging the Valley*," which involved the separation of railroad and roadway grades and increasing the capacity of the line from Spokane, Washington to Athol, Idaho.[66] The improvements were originally designed to handle a gradual growth in intermodal and grain traffic of up to a total of 70 trains per day. However, the expected rapid growth in PRB to PNW export coal traffic was not envisioned or considered when these improvements were first designed (2000) and approved (2006). Now, in few short years, instead of the expected 70 trains per day, Spokane could see more than 130 trains per day, or 5.42 trains per hour moving through the city.

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[64] It is projected that all PRB to PNW export coal trains would move over the line from Sandpoint, ID to Spokane, WA, which is known as the "Funnel." With the exception of coal from the Signal Peak, MT mine, all other PRB to PNW coal trains would move over the Huntley, MT to Mossmain, MT line, which runs through Billings, MT.

[65] Washington State 2010-2030 Freight Rail Plan, December 2009, Appendix 3-B32 Appendix 3-B: Railroad History, Profiles, Service Corridors, & Safety Regulatory History.

[66] See, for example, Spokane Regional Transportation Council site: http://www.srtc.org/btv.html

Clearly, the Bridging the Valley plans and other similar infrastructure improvement plans are obsolete and will have to be reconsidered and significantly revised based on the expected growth in PRB to PNW export coal traffic.

The railroad traffic and associated problems in Billings, the largest city in Montana, have been the issue of many studies over the years. In 2004, the City of Billings, with Federal funding, conducted a Railroad Crossing Feasibility Study.[67] The 2004 report stated that the growth of rail traffic "has resulted in traffic slowdowns, safety hazards and air pollution." The report also concluded that the rail lines through Billings have "created a barrier" and "have played a role in the development and continuation of a social divider between downtown Billings and surrounding neighborhoods." The report looked at various alternatives to improving railroad traffic problems and made recommendations and recommended improved signage, signal controls and other low-cost improvements, as well as an underpass under the railroad tracks crossing 27th street combined with a small track shift appeared, to be the best alternative. It estimated that the cost would be approximately $20 million.

The 2004 Billings report was based on an estimated 30 trains per day through Billings. This traffic level, however, excluded the unexpected rapid growth in PRB to PNW export coal traffic, which could result in an additional 22.3 to 57.6 loaded and empty coal trains per day through Billings. The report also failed to reflect the significant increase in Bakken oil shipments, many of which move to three refineries around Billings or through Billings to Cushing, Oklahoma and other destinations, and the related rail shipments of tubulars, fracturing sand and other supplies into the Bakken, which have resulted in additional loaded and empty trains moving through Billings. With the added export coal trains and the existing coal, grain, intermodal, Bakken oil and other rail traffic already moving from, to and through Billings, there could be as many as 60 to 90 trains per day moving through the city in the near future.

In addition to potential improvements to downtown railroad crossings, the 2004 Billings report considered several options which involved major track relocations, which it estimated would cost between $60 and $150 million. These track relocation options involved possible by-passes around Billings (south of I-90, north of I-90 and north of Billings) and the relocation of MRL's switching yard in Billings. The report concluded that there would be major impacts associated with the track relocation options and they were too costly. Undoubtedly, Billings transportation planners will have to reevaluate these track relocation and by-pass options.

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[67] See: http://ci.billings.mt.us/DocumentView.aspx?DID=8159

Several other cities along the route have examined their railroad traffic and congestion issues in the past and will be impacted by the increased movements. Helena, Missoula, Great Falls and other cities in Montana have task forces that have studied the problems associated with increased rail movements. These cities have rail yards and main rail routes that traverse through the heart of their towns. Additionally, the Montana and Washington Departments of Transportation have had continued involvement in studying rail movements, traffic densities, congestion and capacity issues.

As a result of these capacity and congestion problems, there are many areas which will require major upgrading and expansion of existing railroad tracks. In some cases (such as Spokane and Billings) new rail by-passes may be required around populated areas. It is likely that hundreds of miles of railroad lines will require expansion from single to double or even triple track. Other railroad infrastructure, such as bridges, tunnels, high-way crossings, will also need to be replaced or upgraded in order to adequately, efficiently and safely handle the expected traffic levels.

The required upgrading and expansion of railroad tracks and related infrastructure could well cost billions of dollars. State and local governments will likely be called upon to bear the brunt and burden of these related costs local costs and will likely be required to spend hundreds of millions of dollars in related mitigation, litigation, debt and other costs associated with the necessary improvements to accommodate export coal traffic levels.

Impacted Railroad Traffic

Many of the impacted rail lines are already at or near capacity. Even with substantial infrastructure improvements, such a significant increase in export coal rail tonnage and coal trains (as well as related construction projects) will likely significantly interrupt and disrupt other railroad traffic lanes. Existing rail traffic, such as export grain traffic and import and export intermodal container traffic, will likely experience a deterioration of rail service, such as higher transit and cycle times, and will likely incur higher costs in the form of higher freight rates and equipment costs.

PRB to PNW export coal traffic (which will move in efficient unit trains and, in most cases, involve shorter distances) will likely be significantly more profitable than the existing PNW import/export intermodal container traffic and as or more profitable than PNW export grain traffic. As a result of the economics (high volume and revenues), PRB to PNW export coal movements will likely be favored by the railroads over other types of existing railroad traffic. The remaining capacity available to other railroad shippers will be limited, constrained and more expensive. As a result, railroad freight rates for other traffic will increase, which will be an additional benefit for the railroads.

The increase in export coal traffic will likely create numerous railroad shipping and logistic problems and result in increased costs and railroad rates for other shippers as a result of rail congestion and the limitations on available rail capacity. Railroad transit times will likely increase for other railroad traffic as a result of congestion and it may be forced to move over more circuitous routes, which will increase private railroad equipment utilization and related costs.

1. PNW Import and Export Intermodal Container Traffic

Although the Port of Los Angeles and Long Beach, CA handles the largest number of import and export containers (approximately 33% of the total U.S. container traffic), a significant amount of container traffic moves inbound and outbound from the PNW Ports of Seattle, Tacoma and Portland. In 2009, over 3 million containers or TEU's (twenty-foot equivalent units) were handled by these PNW Ports. BNSF also dominates this PNW intermodal container traffic, which will also likely be adversely impacted by the increase in congestion on BNSF's Hi-Line and the impacted lines in Washington and Oregon. PNW container volumes recently increased after cargoes were shifted from Southern California to PNW due to continuing congestion problems in Southern California and the search for new gateways by shippers and carriers.

As export coal trains consume the remaining rail capacity, intermodal transit times to and from PNW ports will be adversely impacted which will reduce the ability of the PNW container ports to compete with the Southern California ports. The following table shows and compares BNSF's current service goal hours for intermodal traffic from S. Seattle, WA and Los Angeles, CA to Chicago, IL:

Figure 20

Comparison of BNSF Intermodal
Service Goal Hours For Movements To Chicago, IL

From	To	BNSF Service Goal Hours [68]		
		Premium COFC	Expedited COFC	Expedited TOFC
S. Seattle, WA	Chicago, IL	85	79	79
Los Angeles, CA	Chicago, IL	84-92	78	78

As can be seen, BNSF's service goal hours for movements of intermodal containers and trailers on flat cars from S. Seattle, WA to Chicago, IL are currently approximately the same as the hours from Los Angeles, CA. This transit time from S. Seattle will be adversely impacted by the added rail congestion resulting from the increased export coal movements, which will reduce the ability to compete with the Southern California ports.

The ability of PNW intermodal container ports to compete with the expanding Canadian Port of Prince Rupert, B.C. will also be hurt. As a review of various comments filed in response to the Federal Maritime Commission's (FMC) Notice of Inquiry, U.S. Inland Containerized Cargo Moving Through Canadian and Mexican Seaports, demonstrates, the recent growth of Trans-Pacific services through Prince Rupert is due "in substantial part to the transportation advantages of that service, especially the shorter ocean transit time from Asia, and the excellent rail connection and service from the railroad(s) providing service from that port into the U.S. Midwest."[69] As was also repeatedly stressed, the primary considerations affecting the ports used for cargo imported to the U.S. are market-driven.

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[68] Source: BNSF. COFC = Container on Flat Car. TOFC = Trailer on Flat Car

[69] Joint Comments Submitted by World Shipping Council, The National Industrial Transportation League, and National Retail Federation, at p. 2.

Hence, the "business requirements of U.S. importers for timely, efficient and cost-effective service that will satisfy their delivery requirements are paramount considerations."[70] In other words, speed to market will increasingly play a major role in causing shippers to route cargo through maritime gateways in Canada.

Given the need for fast, reliable supply chains for container shipments, of which the railroads are a major component, a substantial increase in the number of coal trains will further clog BNSF's congested lines and will provide an economic incentive to shippers to divert containerized traffic to the Port at Prince Rupert and to Canadian National Railway Company (CN). As CN observed in its Comments, once its recent acquisition of the Elgin, Joliet and Eastern Railway Company (EJ&E) has been fully integrated, it "will allow CN to move trains from the congested downtown Chicago area onto the EJ&E line circling the city" and enable it to provide seamless service from Prince Rupert to customers located throughout the eastern part of the U.S.[71]

In his response to the FMC's inquiry into possible cargo diversion, Tay Yoshitani, Chief Executive Officer of the Port of Seattle, pointed out that "Washington is the most trade-dependent state in the nation" and that the Port of Seattle is "a primary economic engine for Washington State, generating nearly 200,000 jobs and $867 million in state and local tax revenue."[72] He also observed that "foreign cargo is crucial to the state's future competitiveness, because cargo creates jobs, and because farmers and other manufacturers across Washington need the robust infrastructure a strong import trade creates – without it, they cannot get their goods to markets across the globe."

Plainly, if the west-bound movement of coal disrupts the frequency and reliability of inbound and outbound shipments of containerized traffic, that traffic likely will be diverted to Canadian ports where it will not be impacted by the congestion caused by the increased coal shipments. Unfortunately, no similar relief will be accorded outbound movements of agricultural products and other goods manufactured in Washington. As a result, the warehousing, distribution and transloading centers, third party logistics companies and brokers at the Port of Seattle who offer services and facilities to shippers will also be harmed. Therefore, it is imperative that the total consequences of moving coal to PNW export terminals must be carefully explored.

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[70] Id.at 6.
[71] CN Comments at 4.
[72] Letter to Secretary Gregory dated January 9, 2012

2. PNW Export Grain Traffic

In 2011, U.S exports of corn, wheat and soybeans to Asia exceeded 60 million tons. The majority of this export grain traffic moved from PNW export terminals, primarily located in and around Vancouver, WA, Kalama, WA, Tacoma, WA, Portland, Oregon and other PNW destinations. BNSF dominates this transportation market with significant railroad grain movements, such as wheat movements from Montana, soybean movements from North Dakota and corn movements from Iowa.

The following table shows the total railroad agricultural shipments (Farm Products - STCC 01) moving to PNW destinations in 2010:[73]

Figure 21

2010 Railroad Shipments of
Farm Products (STCC 01) to PNW Destinations

Commodity	STCC	Carloads	Tons	Railroad Revenue
Soy Beans	01-144	129,580	14,152,756	$631,053,156
Corn	01-132	128,257	14,051,553	$597,014,673
Wheat	01-137	84,334	9,040,273	$300,406,569
Grain, NEC	01-139	13,240	427,024	$17,050,356
Peas, Dry Ripe	01-342	3,260	327,040	$14,496,108
Barley	01-131	4,616	240,272	$8,986,304
Beans, Dry Ripe	01-341	2,120	79,588	$3,563,960
Cottonseeds	01-141	516	29,484	$2,354,356
Total	**01**	**365,923**	**38,347,990**	**$1,574,925,482**

This railroad export grain traffic will likely be adversely impacted by the increase in congestion on BNSF's Hi-Line and the impacted lines in Washington and Oregon. In addition to the large volumes of grain moving to the PNW, the traffic also fluctuates seasonally with increased volumes taking place after the fall harvests. As a result, the traffic congestion would likely be greater during these post-harvest periods.

[73] Based on the STB's 2010 Public Waybill Sample for (BEA's 167, 168, 169 and 170)

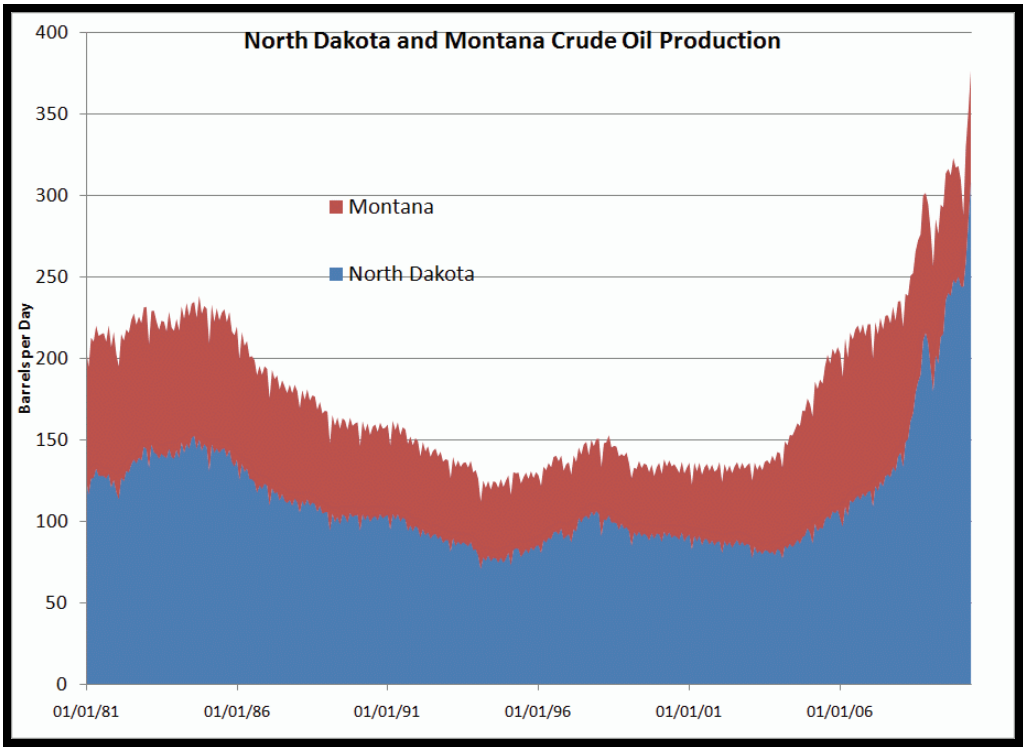
During the past decade, BNSF has increasingly promoted the use of 110-car shuttle trains for PNW export grain shipments. These shuttle trains will have to compete for capacity with the export coal unit trains, which will result in higher rates. Grain movements use a combination of privately-owned and railroad-owned covered hoppers. Transit times are likely to increase, which will increase equipment costs. Grain traffic from smaller elevators (non-shuttle elevators), such as 52-car elevators in Montana, will likely be hurt the most as BNSF will continue to favor the large shuttle facilities.

3. Bakken Oil Shipments

The Bakken Oil formation on North Dakota and Montana has been producing oil since its initial discovery in 1953, however, new discoveries coupled with the success of horizontal drilling in 1987 and the use of a new technique known as multi-stage fracturing or "fracking" in the early 2000's has resulted in an explosion of oil production from this area. The following chart shows this dramatic increase in North Dakota and Montana oil production in the last few years:

Figure 22

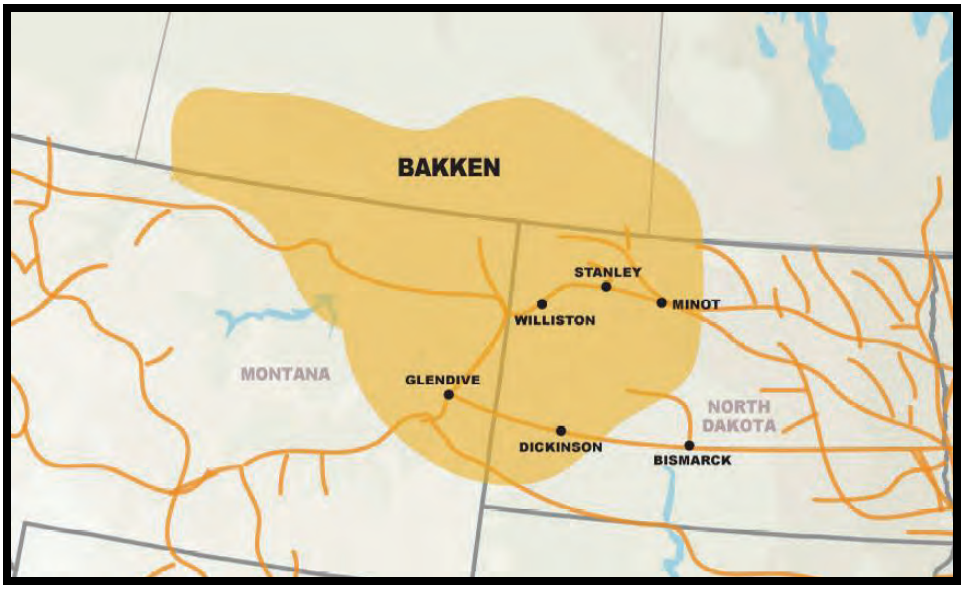
North Dakota and Montana Crude Oil Production



The railroads, especially BNSF, see this as a major growth area. BNSF estimates that nine (9) unit train loading facilities will be located in the area by 2013.[74] These facilities include: Trenton, ND, Tioga, ND, Epping, ND, and Dickinson, ND. BNSF estimates that it is positioned to transport 730,000 barrels of crude per day and that it directly serves 30% of U.S. refineries in 14 states.[75] The following map shows the Bakken area and BNSF's routes through the area:

Figure 23

BNSF's Bakken Oil Formation Service Area



A significant amount of the Bakken oil traffic will move over many of the lines that are also impacted by the increase in export coal shipments to the PNW. Bakken oil will move to refineries through-out the U.S, including the three refineries in the Billings area. Plans are also underway to move dedicated BNSF unit trains of Bakken crude oil to refineries to PNW.[76]

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[74] Presentation titled "Bakken Shale Overview" by Denis Smith, BNSF Vice President, Industrial Products Marketing, dated July 12, 2011.

[75] One 100-car unit train carries approximately 60,000 barrels. As a result, 730,000 barrels would equate to over 12 unit trains per day.

[76] In July, 2011, Tesoro Corp. announced that it intends to move 30,000 barrels per day (or approximately 50 loaded cars per day) of Bakken oil by rail in a dedicated unit trains to its 120,000 barrels per day refinery in Anacortes, WA and expects to spend $50 million on the project. Shell Oil also has a large refinery in Anacortes (147,500 barrels per day). In addition, to the two refineries in Anacortes, there are two large refineries in Ferndale, WA (i.e., BP Oil – 232,000 barrels per day and ConocoPhillips – 101,000 barrels per day), which is close to Cherry Point, WA. In addition, there is a small refinery in Tacoma, WA (US Oil & Refining Co. – 36,250 barrels per day).

Bakken oil will also move to Gulf coast refineries, such as those located in Houston, TX, Beaumont, TX, Port Arthur, TX, Lake Charles, LA and St. James, LA. One major BNSF destination is Cushing, OK, which is a crude-oil epicenter that is connected to a pipeline network tied to many major U.S. markets. Bakken oil shipments to Cushing would move through Billings. In fact, MRL's Billings yard has become a staging yard for Bakken oil tank cars over the last 24 months. This trend should continue as one of BNSF's major routes for getting Bakken oil to distribution points such as Cushing is through Billings and Laurel and down the west side of the Big Horn Mountains.

4. Passenger & Commuter Traffic

Passenger and commuter rail traffic will also be disrupted by the increased rail congestion caused by the increase in export coal trains. Amtrak's Empire Builder travels daily along BNSF's routes between Chicago, Illinois and Seattle, Washington and Portland, Oregon. Amtrak serves many stations along the impact route, including: Shelby, MT, Cut Bank, MT; Browning, MT; East Glacier Park, MT; Essex, MT; West Glacier, MT; Whitefish, MT; Libby, MT, Sandpoint, ID; Spokane, WA; Pasco, WA; Wishram, WA; Bingen, WA; Vancouver, WA; Portland, OR; Ephrata, WA; Wenatchee, WA; Leavenworth, WA; Everett, WA; Edmonds, WA and Seattle, WA. This Amtrak service is likely to be disrupted and impacted by the increase in congestion.

Amtrak also operates Amtrak Cascades Intercity Passenger Rail, which is sponsored by ticket-buying passengers, the states of Washington and Oregon, and Amtrak. Amtrak Cascades service operates on the same railroad tracks as freight trains, makes a limited number of stops, and connects central cities between Vancouver, B.C. and Eugene, OR.

Sound Transit's Sounder Commuter offers commuter rail service between Tacoma and downtown Seattle with stops in Puyallup, Sumner, Auburn, Kent, and Tukwila, and between Everett and downtown Seattle with stops in Edmonds and Mukilteo. It shares the same railroad tracks as freight trains and Amtrak. In contrast to Amtrak, Sounder commuter rail makes frequent stops along the 70-mile corridor between Everett and Tacoma, with service currently provided only during the weekday morning and evening commute hours. Sounder commuter trains make additional stops along the route at Mukilteo, Auburn, Kent, Sumner, Puyallup, and Tacoma's Tacoma Dome station.

Major Track and Infrastructure Improvements are Required

Many of the impacted railroad tracks are already at, near or exceed capacity and the existing infrastructure needs significant upgrades and improvements in order to handle the existing traffic and relieve existing congestions.[77] For example, BNSF's Stevens Pass / Cascade Tunnel route across Washington is already nearing capacity and BNSF has been forced to route intermodal trains south via the circuitous I-5 rail corridor to Vancouver (WA) and then east, which has added considerable volume to the Vancouver-Pasco line along the Columbia River Gorge, and made the scheduling of trains moving through the Gorge and along the I-5 rail corridor more complex. BNSF's rail routes will require major upgrading and expansion of existing railroad tracks, bridges, tunnels, high-way crossings and other infrastructure in order to adequately and safely handle such high annual volumes. Most of the infrastructure improvements related to coal movements made by BNSF and UP in recent years have focused on the east bound coal traffic lanes. As a result of the expected increase in PRB coal traffic to the PNW, many of the north-west bound line segments will require substantial infrastructure improvements and modifications in order to adequately handle the expected export coal volumes.

In 2007, the Association of American Railroads (AAR) released the National Rail Freight Infrastructure Capacity and Investment Study, which was an assessment of the long-term capacity expansion needs of the continental U.S. freight railroads and provided an approximation of the rail freight infrastructure improvements and investments needed to meet the U.S. Department of Transportation's (U.S. DOT) projected demand for rail freight transportation in 2035. The report included the following approximation of the capacity associated with various track configurations:

[77] e.g., see, December 2009, Washington State 2010-2030 Freight Rail Plan, which identified numerous existing rail bottlenecks and over 100 required capital improvement projects throughout the state.

Figure 24

Practical Track Capacity (Trains Per Day)

Number of Tracks	Train Control	Trains Per Day	
		Lower Bound	Upper Bound
1	No Signal and Track Warrant Control (NS-TWC)	16	20
1	Automatic Block Signaling (ABS)	18	25
2	No Signal and Track Warrant Control (NS-TWC)	28	35
1	Centralized Traffic Control (CTC)	30	48
2	Automatic Block Signaling (ABS)	53	80
2	Centralized Traffic Control (CTC)	75	100
3	Centralized Traffic Control (CTC)	133	163
4	Centralized Traffic Control (CTC)	173	230
5	Centralized Traffic Control (CTC)	248	340
6	Centralized Traffic Control (CTC)	360	415

These AAR standards were used in the evaluation of the capacity of the studied line segments associated with the potential PRB to PNW export coal movements. In numerous instances, the existing traffic levels fall within (and in some cases already exceed) these capacity ranges and the addition of the expected PRB to PNW export coal trains per day will exceed the existing capacity.

Railroad by-passes and track relocations in and around major populated areas, such as Spokane and Billings, may also be required. For example, in 2004, a by-pass around Billings was estimated to cost between $60 and $150 million. The majority of the impacted line segments are single track, which has a capacity ranging from 16 to 48 trains per day depending on the type of train control. Based on AAR's capacity standards, over 800 route miles (or approximately 20% of the route miles) will need to be expanded to double track in order to expand the capacity to efficiently and safely handle the expected volumes. Based on AAR's estimate of cost $3.8 million per mile, it would cost over $3 billion to double track 800 miles.

For example, most of the 149.4-mile line segment from Spokane, WA to Pasco, WA is single track with CTC.[78] According to Washington State, this line segment has an average utilization of 32 trains per day, which is within the 30 to 48 trains per day range for single track with CTC. However, the expected PRB to PNW export coal will add an additional 15.0 to 32.7 loaded and empty coal trains per day, which will likely exceed the 48 trains per day capacity. As a result, it is likely that this entire 149.4-mile segment will likely require double track with CTC.

There are also over 800 miles of road which have not been upgraded to Centralized Traffic Control (CTC), which would probably be required for many of these lines. The largest of these non-CTC line segments are the key line segments from Mossmain, MT to Shelby, MT, which runs 322.9 miles through Great Falls, MT. AAR estimates that the conversion of a line to CTC can cost up to $700,000 per mile, which would equate to over $500 million. In addition to installing double tracks and CTC, there are numerous bridges, tunnels, grade crossings and other railroad-related infrastructure which will need to be expanded, upgraded or rebuilt to efficiently and effectively move the expected coal volumes from the PRB to PNW.

The costs associated with the required infrastructure improvements will certainly be in the billions. In 2009, the State of Washington identified over 100 capital improvement projects and other initiatives and estimated the cost to exceed $2 billion, but Washington's estimate did not reflect the potential impact associated with a significant increase in railroad shipments of export coal. The total required improvements in Washington, Oregon, Montana, Wyoming and Idaho could well exceed $5 billion. This report includes a separate evaluation of the identified 38 individual line segments, which generally describe the required improvements associated with each line segment.

[78] The line includes approximately 10.9 miles of double track.

Environmental Impacts

The movement of 75 to 170 million tons per year would equate to the movements of 27.86 to 63.15 loaded and empty coal trains per day. These repetitive 1¼-mile long loaded and empty coal trains will be going through numerous populated cities, towns, communities (such as Spokane, Washington, Seattle, Washington, and Billings, Montana and Portland, Oregon), parks, forests, historical areas and other environmentally sensitive areas (such as Glacier National Park in Montana). As indicated Governor Kitzhaber's recent letter requesting a full EIS of the proposals, there are environmental concerns associated with: protection of water quality, including risk of spills; impacts to listed protected fish species; coal dust emissions at the facilities and during product transport; emissions of other air pollutants, including diesel particulate, ozone, mercury and greenhouse gases; and increased rail traffic, noise and delay times for communities along the proposed lines, including emergency vehicles at rail crossings.[79]

Although BNSF's shortest PRB to PNW railroad route (Signal Peak, MT to Longview, WA) covers a distance of 1,135 miles, there are 7 PRB existing and proposed coal lines in Wyoming and Montana which will likely be used and 9 existing and proposed PNW export coal terminals stretching from Prince Rupert, British Columbia to Coos Bay, Oregon. In addition, BNSF has several available routing options in Montana and Washington, which could lessen the impact on certain areas, but also significantly broadens the total impact area. As a result, the total rail route miles potentially impacted cover an extremely broad impact area covering a total rail distance of over 4,000 miles. The impacted railroad route miles would directly impact over 48,977 acres based on a 100 ft. right-of-way (ROW), as well as the adjoining and surrounding areas. These routes and impacted areas are described in more detail herein.

The PNW destination areas and communities in Washington, Oregon and British Columbia will obviously be adversely impacted by the increase in coal trains and pollution from coal dust and diesel fumes. Meeting these PNW export coal goals will also likely require coal companies to open brand new areas of mining and expand existing PRB coal mining operations in Montana and Wyoming, which could further increase air pollution, jeopardize water quality and require the industrialization of thousands of acres of agricultural land and wildlife habitat. The impacted areas will experience blocked vehicular traffic crossings and related traffic congestion, as well as an increase in related traffic accidents, injuries and deaths. The increase in export coal traffic could also adversely impact wildlife, pollute the air and ground, create noise and result in numerous other environmental problems along the entire route.

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[79] Letter from Governor John A. Kitzhaber dated April 25, 2012. Evaluating and quantifying the environmental impacts while they exist, is beyond the scope of this analysis.

Economic Impacts

In addition to the related environmental problems, however, there will be significant economic impacts. The railroads, terminals companies and coal companies plan to spend millions in expanding and upgrading the PNW export terminals. For example, Millennium Bulk Terminals is proposing to spend $600 million terminal for the proposed Longview export coal terminal.[80]

However, there are many areas along the railroad routes which will require major upgrading and expansion of existing railroad tracks and related infrastructure which could well cost billions of dollars. In some cases new rail by-passes may be required around major populated areas. Hundreds of miles of railroad lines will likely require expansion from single to double or even triple track. Other railroad infrastructure, such as bridges, tunnels, high-way crossings, will also need to be replaced or upgraded in order to adequately, efficiently and safely handle the expected increase in traffic levels.

State and local governments will likely bear the brunt and burden of these related local infrastructure costs and will likely be required to spend hundreds of millions of dollars in related mitigation, litigation, debt and other costs associated with the necessary improvements to accommodate export coal traffic levels.

Railroad shippers will also likely experience higher costs in terms and railroad rates, charges and related expenses. Many of the impacted rail lines are already at or near capacity. Even with substantial infrastructure improvements, such a significant increase in export coal rail tonnage and coal trains (as well as related construction projects) will likely significantly interrupt and disrupt other railroad traffic lanes and consume the majority of the existing rail capacity. Existing rail traffic, such as export grain traffic and import and export intermodal container traffic, will likely experience a deterioration of rail service, such as higher transit and cycle times, and will likely incur higher costs in the form of higher freight rates and equipment costs.

[80] http://millenniumbulk.com/wp-content/uploads/pdfs/BerkStudy.pdf

Regulatory Review & Mitigation

There are many areas along the impacted railroad routes which would require significant mitigation in order to alleviate the adverse impacts associated with the significant increase in coal traffic. State and local governments and other impacted and interested parties may have little input into related rail infrastructure requirements and needs.

The new PNW export coal terminals, such as Cherry Point and Longview, will have Environmental Impact Statements (EIS) associated with the local improvements and installations. U.S. Army Corps of Engineers (USACE) will serve as the lead federal agency in the preparation of these EIS reviews. USACE may look at the cumulative impacts as required by National Environmental Policy Act (NEPA), however, USACE has no authority over interstate railroad movements.[81]

The U.S. Surface Transportation Board (STB) is an economic regulatory agency that Congress has charged with resolving railroad rate and service disputes and reviewing proposed railroad mergers. The STB has often been involved in cases which involved mitigation resulting from increased railroad traffic levels and has been involved in several cases involving the proposed expansion of PRB coal movements.

For example, in the 1995 railroad merger between UP and Southern Pacific (UP/SP), the city of Reno, Nevada, along with many other cities and impacted parties, protested the merger, which required STB approval, because of the predicted 40 to 50 trains per day which would run through town as a result of the merger. Mitigation for Reno was a very expensive undertaking because the railroad tracks run through the heart of Reno's casino district. Several alternatives were considered and discarded, including track relocation or by-pass and a tunnel. After a decade of litigation and negotiations, an agreement was finally reached to excavate a 2.25-mile long, 33-feet-deep, and 54-foot-wide trench through the city, which was not completed until 2005. The Reno trench cost an estimated $265 million (excluding debt), of which the railroad contributed only $17 million.[82]

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[81] Recently, the EPA requested that USACE conduct a "thorough and broadly scoped cumulative impacts analysis" of a project at Port of Morrow in Oregon which has "the potential to significantly impact human health and the environment." The EPA stated that the Corps should address overall impacts, including increases in greenhouse gas emissions, rail traffic and mining activity on public lands.

[82] See *Railway Age* article by Willie Albright: We told you so - Predictions of calamity was not enough to derail Reno's runaway train trench. Now what ?, published July 11, 2011.

Although Reno was forced to spend millions in order to mitigate the adverse impact resulting from the UP/SP merger and the railroad's portion of the total cost was relatively small, Reno did obtain the benefit of STB-ordered mitigation. STB ordered relief which was intended to preserve the "environmental status quo." As a result, UP was forced to negotiate and Reno had some leverage in its subsequent negotiations.

Previous other potential expansions of railroad PRB coal movements have also been under the jurisdiction of, and the subject of approval by, the STB, namely:

- **DM&E -** The application filed by the Dakota, Minnesota & Eastern Railroad Corporation (DM&E) to construct and operate 280 miles of new rail line and the rehabilitation of approximately 600 miles of existing rail line in Wyoming, South Dakota, and Minnesota;[83] and

- **TRRC** - The Tongue River Railroad Company (TRRC), which involves the construction of an 89-mile coal line from Ashland, MT to Miles City, MT.[84]

In both the DM&E and TRRC cases, the railroads projected the movement of million tons of coal through either populated or environmentally sensitive areas, or both. As a result, STB identified and examined potential environmental and economic impacts associated with the project and ordered hundreds of environmental conditions.

For example, in the DM&E case, the STB prepared a Draft and a Final Environmental Impact Statement (EIS). The STB conducted biological surveys for threatened and endangered species and cultural resource surveys for archaeological sites and historic structures. Additionally, the STB gathered extensive data on air quality, crossing safety and potential

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83 DM&E filed an application for the expansion with the STB) on February 20, 1998. The STB subsequently approved DM&E's application in 2001. In 2007, the Canadian Pacific (CP) acquired DM&E. To date, no action has been taken on the construction of the line since CP's acquisition of DM&E.

84 A new coal line in Montana, which would be operated by the Tongue River Railroad Company (TRRC), has been proposed and approved for construction by the STB which would connect with BNSF's mainline at Miles City, MT. TRRC was first applied for regulatory approval in 1983 and has been the subject of numerous STB decisions and modifications. A recent agreement between one of the major opponents, billionaire Forrest Mars, and BNSF and Arch Coal, appears to have limited the proposed rail route to the 89-mile line from Ashland, MT to Miles City, MT. After a recent ruling in the 9th Circuit Court of Appeals, the STB in June reopened the Ashland to Miles City segment permit to require a revised application that reflects current plans to ship coal west to ports and the agency will conduct an environmental review of the revised project.

delays, railroad and vehicular traffic volumes, wetlands and aquatic resources, noise receptors, wildlife migration, and potential impacts to ranching operations.

There was extensive public involvement in the development of the original EIS. STB worked with five cooperating Federal agencies, conducted dozens of meetings and received approximately nearly 10,000 comments from agencies, elected officials, tribes, organizations, businesses, affected communities, landowners, and other members of the public. As a result, STB identified and examined potential environmental impacts associated with the project and ordered 147 environmental conditions.

The DM&E and TRRC proposals involved the construction of new rail lines in order to access PRB coal, whereas, the rail construction associated with the proposed PNW export terminals primarily involves the construction of railroad track, storage areas and unloading facilities. The required new construction may be smaller, but the size, scope and problems associated with DM&E's proposed PRB coal project are similar in many respects to the proposals to move PRB export coal tonnage to the PNW (i.e., same commodity (coal), same origin area (PRB), similar distances, similar congestion and environmental problems, etc.). Indeed, the traffic levels and adverse impacts associated with expansion of PRB to PNW export coal movements are likely bigger than the TRRC and DM&E cases combined:

Figure 25

Comparison of Projected PRB to PNW
Export Coal Volumes With DM&E and TRRC

Item	Low	High
Projected PRB to PNW Export Coal Volumes		
PRB to PNW Export Coal Tons Per Year (Millions)	75	170
PRB to PNW Export Coal Trains Per Day (L&E)	28	63
Projected DM&E PRB to U.S. Coal Volumes		
DM&E Proposed PRB Coal Tons Per Year (Millions)	20	100
DM&E Proposed PRB Coal Trains Per Day (L&E)	8	34
Projected TRRC PRB to U.S. Coal Volumes		
TRRC Proposed PRB Coal Tons Per Year (Millions)	33	44
TRRC Proposed PRB Coal Trains Per Day (L&E)	19	25

In the previous STB cases involving the expansion of PRB coal movements, i.e., DM&E and TRRC, the STB considered the "*downline*" and overall impacts associated with the proposed construction projects. Here, the size of the railroad track construction and expansion of the PNW export terminals may be smaller in comparison to the DM&E and TRRC PRB build-in proposals, but the "*upline*" and overall impacts will be much broader and more adverse to the areas along the impacted over 4,000 plus route miles.

However, the railroads, coal companies and other interested parties may resist an STB review of the cumulative impacts associated with the proposed expansion of PRB to PNW export coal movements - even though the proposed PRB to PNW export coal movements are much larger than any previous case that have been decided by the STB. Consequently, impacted and interested parties may be required to advocate and promote Federal legislation which would require a thorough STB review of the proposed cumulative impacts associated with the projected increase in PRB to PNW export coal movements.

Given the vast increase in the number of trains per day that are anticipated, it is imperative that State and local governments must be made aware that they will likely bear the brunt and burden of the local impacts. Without question, the increase will have substantial adverse environmental and economic consequences as it will increase the number of emissions, particulates, and delays in vehicular traffic. In order to address the adverse consequences, State and local governments must be prepared to seek relief from the STB and/or Congress.

The railroads, coal companies and PNW terminal companies may resist STB jurisdiction in regard to the proposed increase in PRB to PNW export coal movements and maintain that little or no mitigation is required because the railroads are not constructing a new line or merging with another railroad, but are instead constructing new facilities within existing rail corridors. However, in the event that new construction is required to reach new export terminals, that construction would likely entail an extension of a line of railroad into new territory, which would require STB approval.

In addition, the reopened TRRC proceeding opens the door for further environmental impact studies. As the Ninth Circuit recently recognized, "[t]he propose of TRRC II was to bring coal from Wyoming's PRB to the BNSF main line in Miles City, and then on to other destinations in the Midwest." (Slip Op. at 7, emphasis added). Given the absence of any prior focus on potential PNW movements, the argument can be made that the Board must perform a new cumulative impact analysis and that the shift in market destinations is a material change. (The STB ruled on June 18, 2012, to reopen the TRRC application to review the revised plans to ship the coal west.)

There are at least two STB precedents that provide some guidance regarding the STB's jurisdiction to consider the entirety of a project that is composed of both new construction and the rehabilitation and expansion of an existing line. In the DM&E case, the Board specifically rejected DM&E's argument that it lacked "jurisdiction to impose conditions related to the existing line."[85] As the Board explained, while it may not have jurisdiction over proposed improvements and upgrades of an existing line, it has jurisdiction to examine the potential environmental impacts resulting from increased rail operations over the portion of the rebuilt line as well as the impacts from the construction of the new line. As the Board further explained in slightly different terms:

> [W]e have broad power to impose conditions, so long as they are supported by the record and there is a sufficient nexus between the condition imposed and the transaction before us. Accordingly, we plainly have authority to impose mitigation to address the effects of increased operations on the existing line that would not occur but for the expansion of [the railroad's] system authorized here. (DM&E, 6 STB at 36).

It can also be anticipated that the railroad may argue that little or no mitigation is necessary and that the Board, as part of its conditioning authority, may not require the railroad to fund other than a small percentage of the cost of grade separations and other mitigation. Once again, there are two recent proceedings in which the Board required a railroad applicant to assume more than the minimal 5% of costs generally associated with the construction of grade crossing separation projects initiated at the request of a community and funded with federal highway grants.

When the Board approved the Canadian National Railroad Company's (CN) acquisition of EJ&E West Company, a wholly owned, non-carrier subsidiary of Elgin, Joliet and Eastern Railway Company (EJ&E), it reasoned that because the applicants were receiving the substantial benefit of the Board's approval of the transaction, they would be responsible for a higher share of the cost of grade-separation costs than would be the case if local governments were seeking to impose a grade-separation project on the railroad. As the STB realized in its approval of the transaction:

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[85] Dakota, MN & Eastern RR—Construction—Powder River Basin, 6 STB 8, 36 (2002) (DM&E). In so ruling, the STB relied on prior reasoning in Burlington Northern Santa Fe Corporation, BNSF Acquisition Corp., and Burlington Northern Railroad Company—Control—Washington Central Railroad Company, 1 STB 792 (1996), aff'd City of Auburn v. STB, 154 F.3d 1025 (9th Cir. 1998), cert. denied, 527 U.S. 1022 (1999) (City of Auburn).

> . . . will change the character of the EJ&E line from a line serving local traffic that also facilitates longer-haul movements through haulage and trackage rights into a line that will be integrated into CN's North American rail network at the very heart of the system. As the Final EIS shows, this transaction would have a substantial adverse effect on vehicular traffic delays and, in some areas, regional and local mobility and safety at grade crossings. (Slip op. at 46) Thus, CN's "share of the cost should be more than the traditional railroad share for grade-separation projects." (Id.)

Although CN appealed the Board's decision, the D.C. Circuit upheld the Board's decision when it found that "the higher proportion of costs the Board imposed on Canadian National is not unusual where, as here, the railroad, as opposed to the government, proposes the action that creates the need from grade separation and where no federal funds are involved."[86] The court also found that the Board's decision to require CN to pay as much as 78.5% of the cost of one grade separation and 67% of the cost of a second grade separation was "entirely consistent with [the Board's] policy of 'requiring {railroads} to mitigate transaction-related impacts, but not pre-existing conditions." Id.

In the DM&E case, the Board also required the railroad applicant to fund more than the minimal 5% of the cost of crossing-protection upgrades on the existing line and not only on the new line. See DM&E, 6 STB at 32. Plainly, the foregoing rationale is applicable to the situation involved herein where the overall adverse impacts will be much broader and more adverse than was the case in either the EJ&E, DM&E or TRRC proceedings.

[86] Village of Barrington, Illinois v. Surface Transportation Board, D.C. Cir. No. 09-1002 (March 15, 2011), slip op. at 42.

Potential Legislation

Impacted and interested parties may want to consider seeking or promoting Federal legislation which would require STB approval for such increases in traffic levels or extensive infrastructure improvements.

For example, impacted and interested parties could seek and promote Federal legislation which would amend the Interstate Commerce Act to would require railroads, prior to engaging in extensive improvements and upgrades of an existing line that would increase the number of trains by more than a certain percentage (perhaps 25% to 50%), to notify the Board of such improvements so that the Board may determine whether such improvements and upgrades might have a significant impact on the human environment. Should it determine that the planned improvements might have a likely adverse impact, the Board shall be required to hold public hearings on the proposed project to determine the safety and environmental effects of the proposed project, including the effects on local communities, such as public safety, grade crossing safety, hazardous materials transportation safety, emergency response time, noise, and socioeconomic impacts. Should it determine after such hearings that the proposed improvements and upgrades would have an adverse impact, the Board would have jurisdiction to impose conditions that would mitigate the adverse impacts.

As an alternative approach, any increase in the number of trains above a specified percentage would establish a presumption that the project would have an adverse impact that the Board would be required to address. As noted earlier, the expected rapid growth in PRB to PNW export coal traffic was not envisioned or considered when the Bridging the Valley plan was first designed (2000) and approved (2005). Now, in a few short years, instead of the expected 70 trains per day, Spokane could see as many as 140 trains per day, or 5.83 trains per hour moving through the city. As a result, if the STB has no oversight jurisdiction to impose mitigation conditions, the State of Washington and the local communities will bear the burden of responding to the adverse environmental impacts even though they will not share in the resulting economic gains that will flow only to the railroads and the coal mines.

Conclusion & Recommendations

The movement of 75 to 170 million tons per year would equate to the movements of 27.9 to 63.2 loaded and empty coal trains per day. These repetitive 1¼-mile long loaded and empty coal trains will be going through numerous populated cities, towns, communities, parks, forests and other environmentally sensitive areas - blocking traffic, causing vehicular and railroad traffic congestion, creating logistics problems, adversely impacting wildlife, polluting the air and ground, creating noise and resulting in numerous other problems.

BNSF will likely dominate this large and expanding PRB to PNW export coal market. BNSF's routes from the PRB to the PNW are significantly shorter than UP's routes and BNSF has a lower cost structure. As a result, BNSF can provide transportation rates which are significantly lower than UP and thus will likely capture the lion's share of the expanding and lucrative PRB to PNW export coal market. BNSF's shortest PRB to PNW railroad route covers a distance of 1,135 miles, however, the potentially impacted area is extremely broad covering a total rail distance of over 4,000 miles. These railroad routes traverse many environmentally sensitive areas, such as Glacier National Park in Montana, as well as many major populated areas, such as Spokane, Washington, Seattle, Washington, and Billings, Montana and Portland, Oregon.

Many of the impacted railroad line segments already have significant rail capacity and congestion issues associated with the current rail traffic, such as PNW import and export intermodal container traffic and grain railroad traffic. As a result of these capacity and congestion problems, there are many areas which will require major upgrading and expansion of existing railroad tracks. In some cases (such as Spokane and Billings) new rail by-passes may be required around populated areas. It is likely that hundreds of miles of railroad lines will require expansion from single to double or even triple track. Other railroad infrastructure, such as bridges, tunnels, high-way crossings, will also need to be replaced or upgraded in order to adequately, efficiently and safely handle the expected traffic levels.

There are many areas along the impacted railroad routes which would require significant mitigation in order to alleviate the adverse impacts associated with the significant increase in coal traffic. The required upgrading and expansion of railroad tracks and related infrastructure could well cost billions of dollars. State and local governments will likely bear the brunt and burden of these related local costs and will likely be required to spend hundreds of millions of dollars in related mitigation, litigation, debt and other costs associated with the necessary improvements to accommodate export coal traffic levels.

The STB is an economic regulatory agency that Congress charged with resolving railroad rate and service disputes and reviewing proposed railroad mergers. The STB has often been involved in cases which involved mitigation resulting from increased railroad traffic levels. In the previous STB cases involving the expansion of PRB coal movements, i.e., DM&E and TRRC, the STB considered the overall impacts associated with the proposed construction projects. Here, the size of the railroad track construction and expansion of the PNW export terminals may be smaller in comparison to the DM&E and TRRC PRB build-in proposals, but the overall impacts will be much broader and more adverse to the areas along the over 4,000 miles of impacted rail route.

Impacted and interested parties may want to consider seeking or promoting an STB full environmental review of the effects of exporting PRB coal via PNW ports or Federal legislation which would require STB approval for such increases in traffic levels or extensive infrastructure improvements.