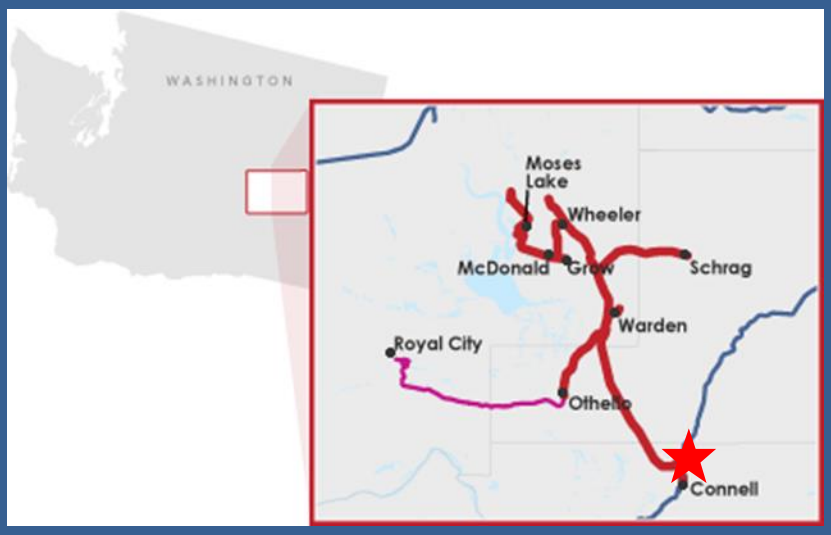
Connell Rail Interchange

On-Track For Growth!

EASTERN WASHINGTON'S HARVESTLAND



Location: Connell, WA

Project Type: Rural

Applicant: City of Connell

Co-Sponsor: Great Northern Corridor Coalition

Type of Applicant: City Government

INFRA Funding Requested: $14 Million

DUNS Number: 618129605

Website: www.cityofconnell.com

Contact: Maria Pena, City Administrator

104 E. Adams Street PO Box 1200 Connell, WA 99326-1200

GREAT NORTHERN CORRIDOR COALITION

CITY OF CONNELL Washington

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Project Name	Connell Rail Interchange
Was an INFRA application for this project submitted previously?	Yes
If yes, what was the name of the project in the previous application?	Connell Rail Interchange
Previously Incurred Project Cost	$0.1
Future Eligible Project Cost	$24.0M
Total Project Cost (This should be the sum of the previous two rows)	$24.1
INFRA Request	$14.0M
Total Federal Funding (including INFRA)	$14.0M
Are matching funds restricted to a specific project component? If so, which one?	No
Is the project or a portion of the project currently located on National Highway Freight Network?	No
Is the project or a portion of the project located on the NHS? • Does the project add capacity to the Interstate system?	No No
• Is the project in a national scenic area?	No
Do the project components include a railway-highway grade crossing or grade separation project? • If so, please include the grade crossing	No
Do the project components include an intermodal or freight rail project, or freight project within the boundaries of a public or private freight rail, water (including ports), or intermodal facility?	Yes, Freight rail project
If answered yes to either of the two component questions above, how much of requested INFRA funds will be spent on each of these projects components?	$14.0M
State(s) in which project is located	Washington
Small or large project	Small - Rural
Urbanized Area in which project is located, if applicable	
Population of Urbanized Area	
Is the project currently programmed in the: • TIP? • STIP? • RTPO Long Range Transportation Plan? • State Long Range Transportation Plan? • State Freight Plan?	• Yes • Yes, (Connecting WA) • Yes • Does not include project programming • Included on 2016 Project List
If selected, would you be interested in participating in a new environmental review and permitting approach?	No, as a CE is anticipated for this Project.

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I. PROJECT DESCRIPTION

OVERVIEW

The Great Northern Corridor Coalition (GNCC) and the City of Connell are requesting support for the completion of the Connell Rail Interchange project (the Project). This $24 million Project will relocate, reconfigure and improve a critical rail interchange on the Great Northern Corridor (GNC) in rural Connell, WA where the Columbia Basin Railway (CBRW) enters onto the BNSF Railway mainline. The requested $14 million in INFRA 2018 funds will be used to construct infrastructure improvements to meet 21st Century rail demands by re-locating and expanding the rail interchange outside of Connell to industrial lands south of the City. In addition to adding capacity and improving freight movement, this investment will relocate the rail switch yard away from residential areas, school traffic patterns and emergency response routes. This Project will increase the efficiency of delivering goods to market on the GNC, thereby reducing the cost of doing business and bringing new private investment along the CBRW line.

The Project reduces train/vehicle blockages on the Great Northern Corridor that divides residential areas from the City's schools that are on the opposite side of the interchange yard.

Recently, USDOT opted to invest in freight rail improvements at the Grant County International Airport in Central Washington. This investment will leverage the benefits of that project by eliminating a bottleneck in the freight supply chain to/from the Grant County International Airport's Industrial Center[1].

The existing railyard configuration is outdated, undersized, inefficient and cannot accommodate today's modern train service requirements. The current yard configuration causes congestion at primary street crossings, bifurcates the city center and the main residential areas from local schools, and emergency services. It also creates a critical "pinch point" in serving both national and regional needs.

The City of Connell's two primarily at-grade rail crossings: Clark Street (DOT Crossing #089686M) and East Adams Street (DOT Crossing # 089687U) are routinely blocked by the movement of the trains being switched into and out of this outdated and undersized interchange yard. In addition, more blockages occur because of the 42 BNSF (2016 data) trains that move daily through the City on the BNSF mainline.

Our three-county region needs to expand and modernize the Connell Rail Interchange to accommodate growing demands from local agriculture and manufacturers. The inefficiency of the interchange impedes mainline freight movement – the new interchange will improve operations on this critical national rail corridor.

The new interchange will improve the ability of BNSF and CBRW to complete the interchange of longer trains by reducing the time that interchange operations interfere with mainline flow and capacity. The planned improvements will facilitate better service and improve transit times for unit trains. Significantly, a reconfigured interchange will improve accessibility and safety for citizens and students by reducing conflicts at grade crossings within Connell. The project will deliver improved service, efficiencies and safety on the Great Northern Corridor.

[1] Northern Columbia Basin Rail Project received a $10 million small project FASTLANE grant to reinstate rail service to Grant County International Airport and the adjacent Employment Center.

The Transportation Challenges:

Challenge 1: Safety and mobility are compromised because the rail lines divide Connell

The current configuration divides Connell. To the east are emergency services, commercial and most of the residential areas; and, to the west, is a school complex, including (clockwise from the North) Connell Elementary School, Robert Olds Junior High, and Connell High School and a school administration building. *More than 64 school buses cross the two at-grade crossings per day.* Current projections show that the mainline traffic on this subdivision of the GNC will increase from 42[2] trains per day in 2016 to 46 trains per day by 2020. This is expected to increase to 93[3] trains per day by 2035. The new interchange will reduce the current conflicts between the through trains on the GNC and trains moving to and from the CBRW.

Challenge 2: The century-old rail infrastructure is not adequate to meet today's needs for nationwide freight movement and system reliability.

The current interchange is limited to exchanging approximately 2,000 feet of train lengths without significant delays to automotive traffic and the railroad. The 2,000' length can handle a 31-car train with two locomotives. However, the typical daily train interchanged today at Connell is 44 cars long, creating the need for short movements, slowdowns and blockages. At <u>least 50% of the time one or both of the railroads are unnecessarily delayed or experience inefficiencies because of the current constraints at the interchange</u>.

Photos in Exhibit 1 and 2 will illustrate the existing conditions and challenges:

Exhibit 1 shows the existing small interchange which is only 400 feet from primary street crossings. The short length of the old interchange can only accommodate 25-30 train cars. Consequently, unit trains must be broken into four, or more, segments. Each of these changes entails blocking main street crossings. Exhibit 4 is a closer look at the movement through the interchange a few minutes later when all three trains are closing in on the Clark Street Crossing.

Exhibit 1: View of the Connell Interchange in Action

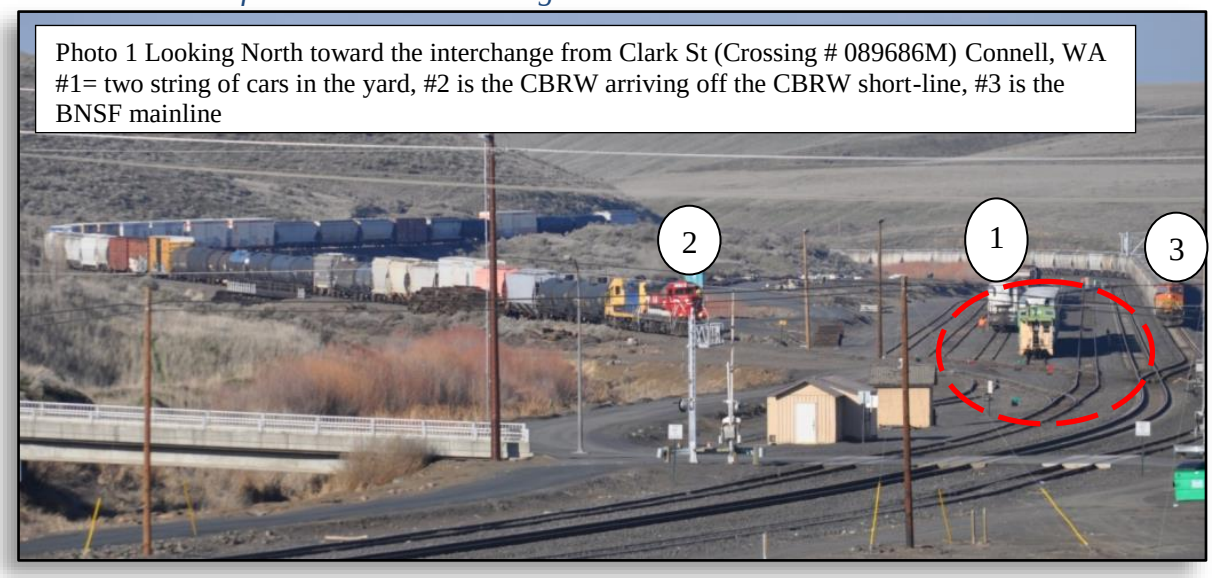
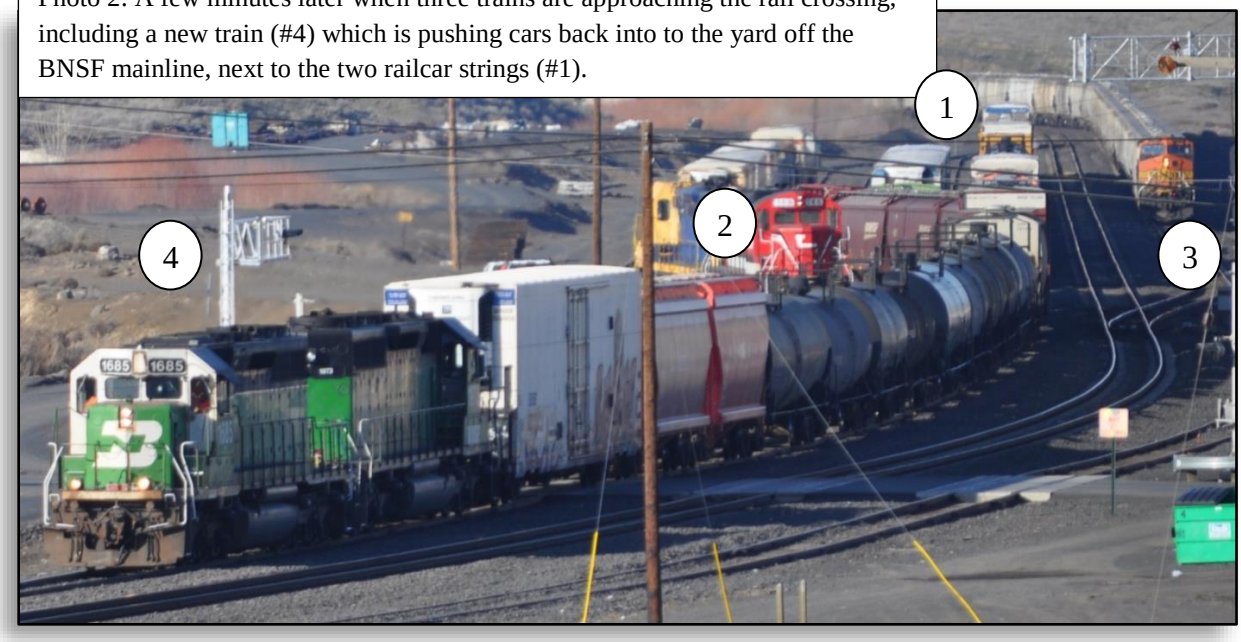


Photo 1 Looking North toward the interchange from Clark St (Crossing # 089686M) Connell, WA #1= two string of cars in the yard, #2 is the CBRW arriving off the CBRW short-line, #3 is the BNSF mainline

[2] Washington Ports Forecast 2017, Aug 31,2017 BST Table 6-1: Three Day Average Train Volumes pg. 108.
[3] ibid.

Exhibit 2: Photo 2 shows the same site with the rail congestion that occurs as multiple (3) trains approach the area.

Photo 2: A few minutes later when three trains are approaching the rail crossing, including a new train (#4) which is pushing cars back into to the yard off the BNSF mainline, next to the two railcar strings (#1).



Current Operations and Interchange at Connell

BNSF and CBRW interchange rail cars in Connell. Typically, each railroad operates a train to Connell, with both trains attempting to arrive simultaneously to exchange rail cars. BNSF operates a train along the GNC from Pasco called the "Connell Turn" that delivers cars to CBRW and switches cars for local BNSF-served industries between Pasco and Connell. CBRW originates a train at the Port of Warden that delivers cars to BNSF, and provides service to rail shippers in Bruce.

In Exhibits 3 &4, the CBRW train can be seen arriving from the CBRW line on to the BNSF line. The BNSF train, on the right, is moving through Connell on the BNSF Mainline. The two train sets in the middle (highlighted in the circle) are in the current interchange yard.

The interchange of cars occurs on BNSF track at Connell. BNSF has a 5-track yard approximately 0.4 miles long, and a 1.5-mile-long controlled siding. These are all located east of the switch where the CBRW connects with BNSF. The CBRW main line comes east – down a 1% grade to reach the interchange with BNSF at Connell. BNSF's Lakeside Subdivision has a descending westbound grade of up to 0.7% in Connell.

The current interchange yard at Connell was not built to serve as an interchange between two separate railroads. The rail line that is now owned by CBRW (entering from the left on Exhibit 1 and 2) was originally built by Northern Pacific, BNSF's predecessor, as a branch line off their GNC Spokane-Pasco main line. **Nor was the interchange constructed with the concept of unit-train volumes in mind.** Instead the current yard was intended for staging only 25 to 30 car trains.

21st Century Rail Transportation Needs

Reconfiguring and expansion of the Connell interchange is needed for CBRW to improve, and

modernize, service to growing agricultural producers and manufactures in the region. The reconfiguration will improve reliability and lower operating costs, enhancing the competitiveness of freight rail along the Great Northern Corridor. A primary goal of the project is to enable long trains operating westward on BNSF's Lakeside Subdivision to be interchanged to the CBRW without the need for breaking the train apart, time-consuming switching, or extensive roadway grade-crossing blockages. The interchange reconfiguration will allow for operations such as switching arriving BNSF trains, or repositioning or reconfiguring motive power, to occur without blocking the BNSF Lakeside Subdivision main line.

The interchange reconfiguration will allow for the simultaneous accommodation of an inbound and an outbound train between BNSF and CBRW, without one blocking the path of the other. The minimum number of tracks required for this type of operation is three, with a clear length of 8,600 feet (7,500 feet minimum) each. This configuration will enable unit trains, with a typical length of 7,400 feet, to arrive or depart from any track, with adequate stopping and clearance distance in each track.

Challenge 3: Freight movement vital to the region's economy is impaired because there is no direct northbound connection from the BNSF line to the CBRW line.

The introduction of inbound unit trains of canola seed in late 2013 placed additional capacity demands on the Connell interchange. The unit trains originate in south central Canada and operate through Spokane on the GNC. The canola is destined for the Port of Warden. Because of the outdated track configuration at the Connell interchange, BNSF runs the unit canola trains from Spokane *past* Connell to BNSF's yard in Pasco. There, the operating-end of the train is moved from the west to the east end of the train, and the train travels back to Connell to be interchanged with the CBRW for final delivery to Port of Warden. This allows the unit trains to enter CBRW directly from the BNSF line without the need to switch at Connell. The train then proceeds to the Port of Warden for final delivery.

The same route must be replicated in reverse for empty unit train returning from the Port of Warden as it comes off the CBRW on to the Great Northern Corridor. In this case, the train is taken 35 miles west of Connell to Pasco before changing direction to ultimately return for reloading in Canada. This adds unnecessary costs to the shippers that will be eliminated with the completion of this Project.

BNSF must operate unit trains in this fashion because the current configuration of the Connell interchange cannot handle an easy transition of unit trains from the North to the CBRW line that serve the Port of Warden. Additionally, the BNSF Lakeside Subdivision's train frequency is too great to allow a 110-car unit train to block the main line for any extended period to allow for a change in operating ends and reconfiguration of power.

The inefficiency of this interchange adds about 70 additional miles to each unit train move. The new interchange will alleviate this deficiency and allow efficient moves by unit trains coming from either direction.

Challenge 4 - The current interchange increases congestion and is unsafe

The current 42 trains/day on the BNSF mainline, when combined with the inefficient movement of CBRW trains adds significant delays for motorists at crossings in Connell. Significantly, more than 64 school buses per day must move across the two at grade crossings in Connell. The challenge is magnified because many of the switch moves over the grade crossings are performed

with a shove move; where rail cars are pushed over the crossing without the enhancement of the locomotive's lights, horns, and bells. These crossings are currently equipped with only shoulder-mounted lights and gates. A new configuration will eliminate the need for shove movements over the grade crossings, and will allow railroads to conduct timely train inspections away from areas prone to congestion and delay.

The Solution to the Transportation Challenges – A new interchange south of Connell

The Goals for the project include:

- Allow unit trains (up to 7,500' length) traveling on BNSF line from either direction to enter the new interchange without the need for reverse movements or the need to "break" the trains into smaller segments.
- Allow interchange related operations, such as removing or reconfiguring power, to take place clear of the BNSF mainline track.
- Allow the BNSF or CBRW to stage a train for interchange without blocking arriving or departing trains. This requires at least three parallel tracks.
- Reduce the duration of train disruptions at the Adams and Clark Street at-grade crossings.

- *Exhibit 3: Map of Project*

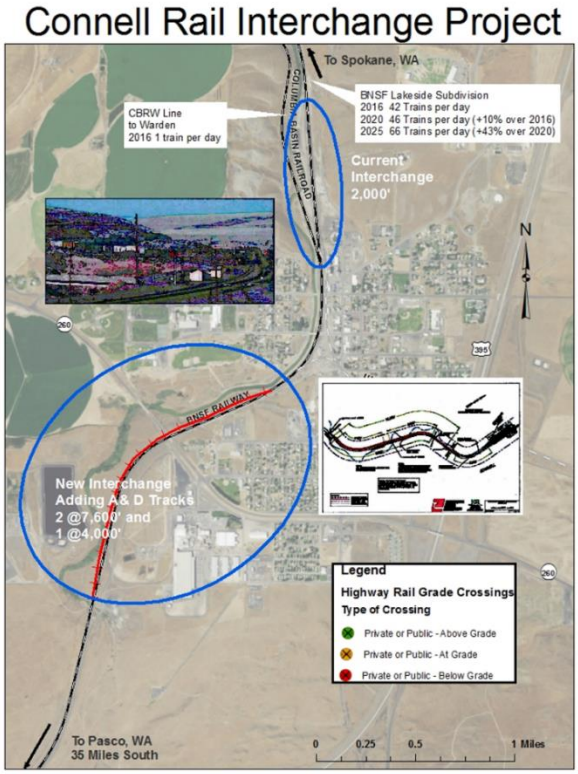
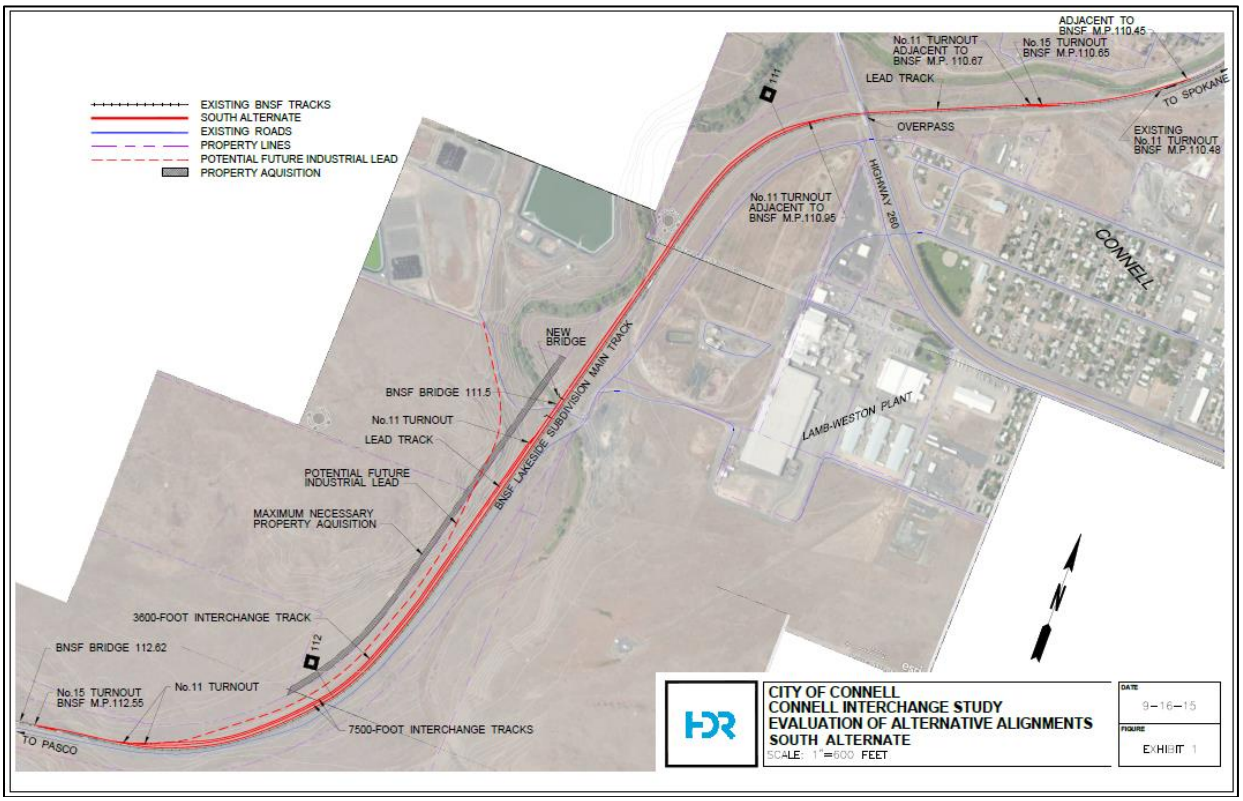


Exhibit 4 displays the proposed modern rail interchange along the Great Northern Corridor mainline, to be located approximately 1 mile south of the existing interchange

The South Alternate is positioned parallel to existing BNSF main track between MP 112.55 and MP 110.45. It connects to the main track at MP 112.55 and 110.65 using #15 turnouts. It includes two 7500-foot capacity tracks and one 3600-foot capacity track. A track extension (lead track) between MP 110.45 and 110.65 will be used by the CBRW to reach the existing BNSF Auxiliary tracks for interchange movements which allow interchange to take place clear of BNSF signalized track. Actual track capacities are: Track 1 = 7,600 feet, Track 2 = 7,550 feet, and Track 3 = 4,000 ft. (As per the 30% Plans).

The new rail interchange would be operated as a joint facility of the BNSF and CBRW. This means that regardless of ownership, the new track facilities would be used by both railroads as defined in an operating agreement to be developed between the two railroads, consistent with current operating activity and mutual goals for rail traffic flow and safety.

Exhibit 4: Relocated Interchange Yard



History of the Project

In March 2015, a Washington State Community Economic Revitalization Board (CERB) Planning Grant, was awarded for initial design work for the new rail interchange. This funding allowed for design elements to be developed, and added validity to the project. Later that year, the State Legislature awarded $10 million towards further design, permitting, and construction of the project. Preliminary engineering design (30%) is nearly completed. Final design will occur in spring 2018. Construction is targeted to begin Summer of 2019. The goal for project completion is Summer 2020.

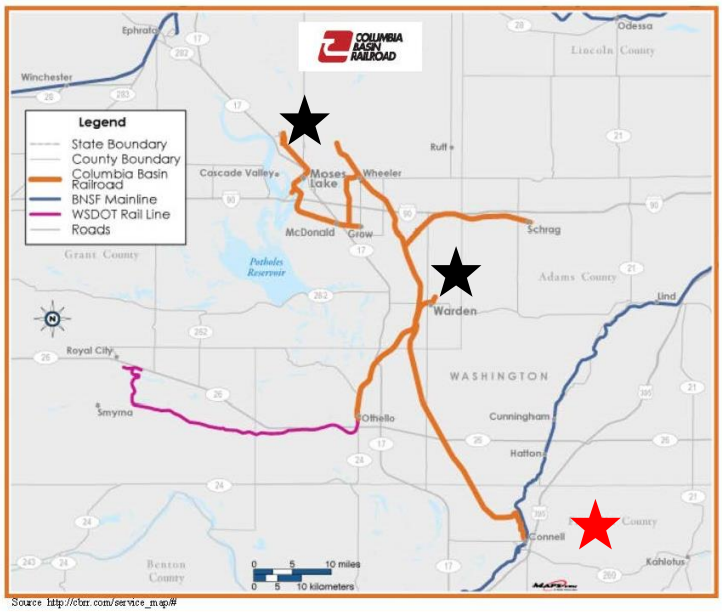
Related Rail Infrastructure Projects

Washington State also designated $2 million for **Port of Warden Rail Infrastructure Expansion**. Their project will increase rail capacity and service by constructing 1 mile of storage siding track.

In addition to the canola seed crushing facility that receives unit trains, the Port of Warden has attracted other businesses, including fresh food processing for frozen and dehydrated food products and necessary warehouse space. The new businesses have leveraged existing rail capacity, making the additional rail storage track essential for maintaining efficient operations on the CBRW.

Port of Moses Lake's Northern Columbia Basin Rail Project, which will be served by the CBRW was recently awarded a FASTLANE 2017 small project grant of $10 million to complete their $31 million project. The project will extend rail service to the industrial areas around the Grant County International Airport.

Exhibit 5: Related Rail Infrastructure Projects

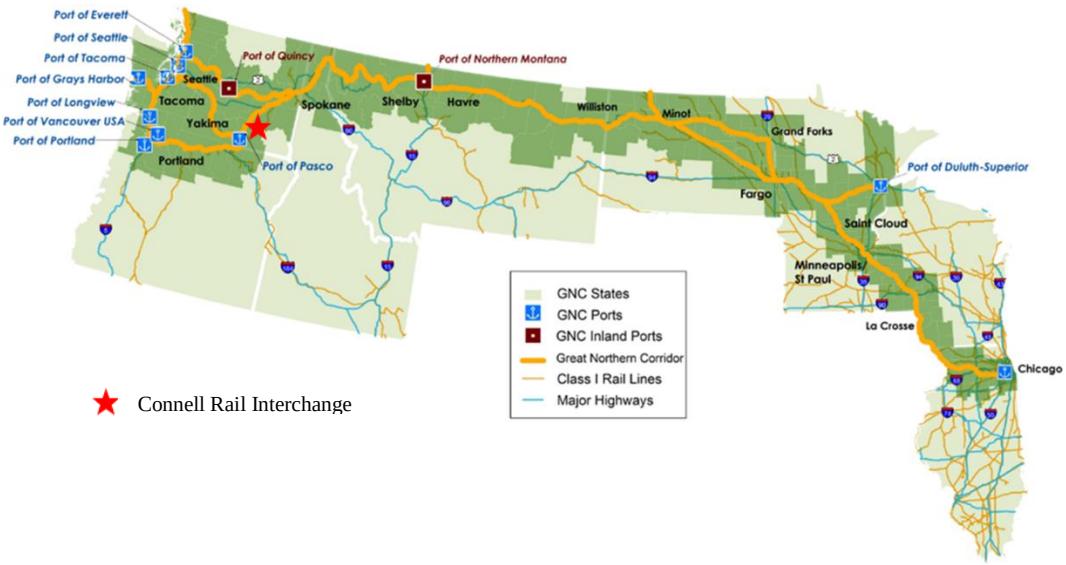


Source: http://cbrr.com/service_map/#

II. -PROJECT LOCATION

The Connell Rail Interchange is in the City of Connell in eastern Washington. Connell is on the Great Northern Corridor, where the Columbia Basin Railroad (CBRW) line intersects with BNSF Railway (BNSF). Located in Franklin County, just off U.S. Highway 395 in sunny southeastern Washington, historic Connell embodies the best of small town America. According to the U.S. Census Bureau, Connell is in a rural area, common to Eastern Washington.

Exhibit 6: Great Northern Corridor



Connell is located at MP 110 on BNSF's 149-mile Lakeside Subdivision, which connects Spokane and Pasco, Washington. Both Spokane and Pasco are railroad articulation points of regional and national significance along the GNC, with multiple lines converging on both cities. The Lakeside Subdivision is a segment of high-density freight main line that funnels traffic between the Midwest and Pacific Northwest. This GNC main line is one of six so-called

"transcontinental" railroad lines in the U.S., that connect Central U.S. railroad hubs such as Chicago, St. Louis, Kansas City, Memphis, and New Orleans with the west coast urban areas and major ports of Seattle/Tacoma, Portland, San Francisco/Oakland, and Los Angeles/Long Beach. The BNSF main line is one of two main lines which provide direct connectivity between Chicago and Seattle/Tacoma and Portland. The other is the Union Pacific (UP) main line that enters Portland from the east and goes north to Seattle/Tacoma. This request is based in large part to the regional and national significance of the project as exemplified through inclusion within two recently completed statewide freight/rail studies (discussed herein) and the GNCC's two-phased Multi-State Planning and Development Study. http://greatnortherncorridor.org/study/

Rail-Specific Location

The project, referred to as the "South Alternate", is positioned parallel to existing BNSF main track between MP 112.55 and MP 110.45. It connects to the main track at MP 112.55 and 110.65 using #15 turnouts. In addition, a track extension (lead track) between MP 110.45 and 110.65 will be used by the CBRW to reach the existing BNSF. The Connell site provides access to a wide three-county region with abundant agriculture and industry.

Exhibit 7: Site of Rail Project

Alan Kenaga/Capital Press

Geospatial Data:

East (north) end:
Latitude: 46°39'33"N
Longitude: 118°51'56"W
West (south) end:
Latitude: 46°38'14"N
Longitude: 118°53'32"W

Precise location details are shown on construction plans; HDR Project No. 259968.

III. PROJECT PARTIES

There are five primary project partners that are committed to delivering this project to completion. The City of Connell is the primary applicant for this funding request. The City has worked closely with the Great Northern Corridor Coalition (GNCC), BNSF and CBRW on the development of this Project. The City has taken the responsibility of submitting this Project for INFRA funding in partnership with the GNCC.

Connell is a vibrant rural community in Eastern Washington, with less than 5,500 residents. The community was established in 1883 as a railroad stop called Palouse Junction. The community later became known as Connell, named after Northern Pacific Station Agent, Joseph Connell. The Connell Post Office was authorized in January 1887. Much of the old town was destroyed by fire in the late 1890s and was rebuilt along the present Columbia Avenue. A major portion of the business district again burned in July 1905. Connell was incorporated in 1910. The primary industrial base is food processing, agricultural chemicals and minimum and medium security correction facilities. The community is also home to the North Franklin School District where there is a High School, Alternative High School, Junior High, Elementary School

and Administration offices. Both Washington State and Franklin County have transportation facilities in the community.

The Great Northern Corridor Coalition is a regional coalition comprised of eight states, ports, BNSF Railway, and other interested stakeholders along a multi-modal Corridor. The Coalition's mission is to promote a premier multi-state corridor by acting collectively to promote public policy, research, and multimodal infrastructure development that expands commerce and enhances safety on the corridor.

BNSF rail system is a major provider of freight movement across the country. It is one of two nationwide lines that serve Washington State. The BNSF line passes through Connell on a route that ultimately connects to major Ports along the Columbia River and Western Washington. The BNSF serves the major grain and bulk commodity export/import ports on the lower Columbia River and Grays Harbor, Washington. Through its northerly connection, it serves the Ports in Western Washington. It is a preferred route for heavy unit trains of agricultural products, coal, minerals, and other bulk commodities traveling west from loading points in the Midwest to export facilities in the Pacific Northwest. The route is also used by high-priority intermodal trains and merchandise trains traveling in both directions; as well as for empty grain, coal, and other bulk commodity trains cycling back east.

Data in the 2014 Washington State Rail Plan shows that, in 2010, the BNSF's Lakeside Subdivision (between Spokane and Pasco) averaged 32 trains per day. The maximum capacity of the subdivision, in 2010, was approximately 37 trains per day. Since the rail plan's publication, traffic volumes have increased slightly with unit trains of agricultural and industrial products. BNSF has also made recent infrastructure improvements on the Lakeside Subdivision and along the Great Northern Corridor to increase the capacity of trains on the line. Currently, there are between 30 and 40 trains per day using this subdivision.

Columbia Basin Railroad (CBRW) is a privately held Short Line railroad operating in central Washington. The CBRW provides a direct connection to BNSF from shippers in central Washington. The CBRW offers a cost-effective alternative to lengthy truck transportation. **CBRW has grown its traffic to become the busiest short line in eastern Washington State (**Washington State Freight and Goods Transportation System Report, WSDOT, November 2014). The railroad has 60 active shippers and handles more than 10,000 carloads per year. It moves more than 1 million tons of freight annually (tons =U.S. short tons of 2,000 lbs.). In 2014, WSDOT designated the CBRW as an "R2" Freight Rail Corridor, i.e., a corridor which handles between 1 million and 5 million tons per year. Most other Washington State short lines are classified as R3 or R4 lines that handle much less tonnage.

Traffic volumes on CBRW grew with the opening of a unit train unloading facility at the Port of Warden in November 2013. The terminal allowed CBRW to begin receiving 110-car unit trains of canola seed from BNSF for delivery to Pacific Coast Canola crushing and oil refining facility at the Port of Warden. The facility is the first commercial-scale canola seed crushing operation west of the Rocky Mountains. In addition to unit trains, local freight trains operated by CBRW serve new and expanding industrial sites and facilities in Moses Lake and agricultural shipping

centers of Bruce and Schrag.

Originally formed in 1986 as the Washington Central Railroad, the Columbia Basin Railroad is headquartered in Yakima, under the management of Brig Temple, along with an affiliated short line, the Central Washington Railroad. Major commodities handled by CBRW include canola, agricultural products such as grain and animal feed, inbound fertilizer and chemicals, and outbound frozen potatoes, and vegetables. CBRW interchanges its cars with BNSF at Connell.

The Columbia Basin Railroad recognizes it important role for improving service to agricultural shipping centers. WSDOT, when they designated CBRW as an R2 line, stated:

"Columbia Basin Railroad believes that these locations have tremendous potential for increased economic growth, and is working with Adams County and the Port of Othello on improving rail infrastructure."

WSDOT is administering the Connect Washington funds that the State Legislature designated for the Connell Rail Interchange in 2015. WSDOT will ensure that all contracting procedures are followed. The WSDOT State Rail & Marine Office is currently finalizing a contract with BNSF to complete final design and permitting of the project. WSDOT has years of experience overseeing the completion of federally funded rail infrastructure projects. Since, 2010 WSDOT has been working with FRA to complete nearly $800 million of rail projects funded by federal high-speed rail funds. The Rail and Marine Office is well versed in the requirements of federally funded programs and will be a partner with the City by providing appropriate oversight of the project.

Teamwork is a hallmark of the Connell Rail Interchange project. This collaboration is the foundation that will make our project successful. The project's proponents include: Port of Pasco, City of Othello, Port of Othello, Port of Warden, Port of Moses Lake, Benton Franklin Council of Governments, Port of Royal Slope, Tri-City Development Council, Adams County Development Council, Adams County Commissioners, Franklin County Commissioners, and Grant County Economic Development Council. State support comes from: Washington State Legislature, Washington State Department of Transportation, Washington State Department of Commerce, Community Economic Revitalization Board, Great Northern Corridor Coalition, and the Rail Caucus.

Our cornerstones for success are: Communication – Collaboration – Commitment – Community.

IV. GRANT FUNDS, AND SOURCES/USES OF PROJECT FUNDS

The plan for full funding for this important project includes commitments from both state, local and federal parties. The project cannot be fully funded from state and local sources. The project does include participation from project beneficiaries and sets realistic expectations for costs and benefits. The Connell Rail Interchange project is a prime example of the value of public infrastructure combined with private investment to achieve economic development, safety improvements, and community growth.

This funding request of $14 million in INFRA 2017 will allow this project to be completed in a timely manner to meet the transportation needs of both the region and the nation.

The project received initial funding from the Washington Community Economic Revitalization

Board for initial planning and to obtain 30% design engineering.

Washington State Legislature has committed $10 million in the *2015 Connecting Washington* funding program. The Connecting Washington program is a multi-year, $16 billion investment in Washington's transportation system. The commitment in Connecting Washington demonstrates that the state recognizes the regional, and national, benefits of the project.

Exhibit 8: Funding Status

CONNELL RAIL INTERCHANGE PROJECT			
Funding Sources	**Amount in Millions**	**Status**	**Purpose**
City of Connell/ Local	$ 0.1	Committed	PE
Connecting WA	$ 10.0	Committed	FE, Enviromental, and Construction
Federal TIGER 2017	$ 14.0	Requested	Construction
Total Project Funding	**$ 24.1**		

The USDOT INFRA 2017 grant will complete the funding necessary to complete the construction of the project, and represent an appropriate contribution because of the benefits to movement of freight across the nation, and for the economic growth of Central Washington. It is anticipated that WSDOT would administer the INFRA award similar to how they administer the Connecting Washington funds allocated to this Project.

Exhibit 9: Sources and Uses of Funds

CONNELL RAIL INTERCHANGE PROJECT			
Funding Sources	**Amount in Millions**	**Status**	**Use**
City of Connell/ Local	$ 0.1	Committed	PE
Connecting WA	$ 10.0	Committed	FE, Enviromental, and Construction
Federal INFRA 2017	$ 14.0	Requested	Construction
Total Project Funding	**$ 24.1**		

Source	**Total Project Cost**	
	in Millions	**%**
Total Federal	$14.0	58%
Total Local	$10.1	42%
Total Project Funding	**$24.1**	**100%**

Use of Funds		
Project Budget	**in Millions**	**%**
CN	$15.4	64%
FE/ CN Engineering	$5.0	21%
Contingency	$3.6	15%
Total Cost	**$24.1**	**100%**

V. MERIT CRITERIA

CRITERION #1: SUPPORT OF REGIONAL AND NATIONAL ECONOMIC VITALITY

The Benefit Cost Analysis (BCA) demonstrates the cost of effectiveness of this Project. Exhibit 10 displays the summary of the BCA. Quantified benefits include the transportation cost savings of modal conversion to rail, reduced emissions due to reduced truck miles, better fuel efficiency, and improved safety by the reduction of potential accidents anticipated from the reduction of truck vehicle miles traveled when this project is completed.

This BCA follows guidance set forth in the Benefit-Cost Analysis Resource Guide and the 2017 Benefit-Cost Analysis Guidance for Grant Applications.

A discount rate of 7 % was used, following the TIGER and INFRA BCA Resource Guide updated July 2017. The bottom line, the present value (PV) of costs in 2016 dollars is $21.0 million and the PV of benefits is $28.5 million. This rate yields conservative estimates of NPV and benefit cost ratio. This is appropriate because funds are public and would be spent on other public projects. This analysis yields a NPV of $7.5 million and a benefit-cost ratio of 1.4:1. The greatest share of benefits is Economic Competitiveness from operational savings because of the use of rail for the forecasted freight shipments.

Affected Populations and Types of Impacts

Personal vehicle users, school buses, commercial carriers, and local residents are the main groups benefiting from improved mobility with less trucks on local and regional roads and highways.

Project beneficiaries include each of the proponents – and sixty active rail shippers in the region.

The following description and tables attempt to present costs and benefits for each type of impact that could be monetized:

Quantified benefits include:

- Improved economic competitiveness based upon the reduction of transportation costs for the Central Washington shipper;
- Reduction of gallons of fuel used to transport cargo;
- Improved state of repair of roads and highways, due to the reduction of truck miles;
- Reduced emissions due to lower Vehicle miles traveled by commercial trucks;
- Improved safety, which results in lower costs of potential fatalities on highways because of reduced VMT of the trucks.

Costs include construction and lifecycle costs. Construction costs are best available estimates at the 30% design level as of March 2016. This analysis anticipates general operations and maintenance costs.

Unquantified benefits include:

- City of Connell benefits from reduced rail congestion along the BNSF mainline;
- Benefits to the regional community by increased job opportunities among the industries currently or in the future located within the CBRW service area;
- Quality of life benefits to the area's citizens from increased, and safer, connectivity across the rail lines within Connell from non-motorized modes of transportation. Non-motorized modes of transportation are increasingly providing access to work centers, educational sites, and daily services. These modes will be improved when rail congestion is eased by the completion of the project.

Exhibit 10: Project Benefit to Cost Ratio Analysis Summary

Benefit Cost Analysis Summary				
Long-term Outcomes	**Social Benefit**	**Inputs**	**Value**	**Monetized Value**
				Discount Rate 7%
Safety	Reduced fatalities from reduction of VMT	Fatality cost savings of 0.57 fatalities	$4.7 million saved	$ 1,976,250
State of Good Repair	Reduction of maintenance on US Roads & Hwys, Consistent with State and Regional Plans	Maintenance, preservation and upgrade savings of Highways	46 million VTM reduced off the highways	$ 2,287,326
Economic Competiveness	Fuel savings due to cargo transported Rail vs. Truck	Gallons of fuel saved	6 million gallons of fuel saved by reducing miles traveled with modal shift to Rail	$ 6,849,000
Economic Competiveness	Operational cost savings	Savings of rail transport vs. truck transport	455 million ton miles @$0.071 savings (non fuel) per mile (truck vs. rail)	$ 13,511,980
Environmental Sustainability	Environmental Benefits from Reduced Emissions by modal change to rail	Saving in CO2	51,062 MT Saved	$ -
Qualtiy of Life	Improved Transportation Choices for Rural Producers	Not Quantified	Not Quantified	
Total Cost				($20,987,000)
Total Benefits				$28,476,858
Net Present Value				**$ 7,489,858**
Benefit to Cost Ratio				**1.4:1**

Quantified Costs and Benefits Measurement of Long-Term Outcomes

The largest positive benefits, at a 7% discount rate, comes from the economic competitiveness

criteria. Increasing the availability of rail to industries served by the CBRW will divert 455 million-ton miles of freight off trucks on public roads and highways. The reduction in truck VMT results in operating savings of approximately $13 million per year due to the lower cost per ton/mile of energy (fuel) needed by rail versus truck. This accounts for 55% of the total benefits. Over the 20-year analysis period, it is estimated that 6 million gallons of fuel will be saved; $7 million (or 27%) of the long-term benefits. The monetized saving of reducing 0.57 highway fatalities by diverting from truck to rail generates a safety benefit of $2 million (8% of the benefits). Savings in road maintenance costs from the improvements account for the remaining $2 million (or 9%) of the monetized benefits.

The Project Contributes to National and Regional Vitality

Economic Competitiveness -Benefits are calculated by monetizing the reduced operational costs to the shipper by diverting from truck to more cost-effective rail transportation. The estimated operational cost savings based upon the differential cost savings of $0.071 per ton/mile (before fuel costs) totals $32 million over the analysis period. The analysis anticipates that the interchange will provide additional rail capacity to the CBRW service area, leading to growth in existing, or new, rail dependent industries along the CBRW line.

The economic value of the goods and services from Agriculture and Food Processing in the three-county area (Adams, Franklin, and Grant County) served by the Connell Interchange exceeds $3.55 Billion.[4] There are 7,323 jobs in agriculture and food processing in the Columbia Basin that will benefit by improved rail infrastructure at the Connell Rail Interchange.

The Connell interchange is a "pinch point" encumbering the region and the nation to meet both the expected increases in volume, and to grow the value of Eastern Washington goods and services. Replacing the interchange is a high priority need, allowing for the anticipated growth, in the nation, for commodities and goods traveling east and west – across the nation.

The CBRW is a critical lifeline for commerce in the region. If a rail line, like CBRW, deteriorates to an unusable condition, and cannot meet the Class I railroad (BNSF) connection requirements, shippers will bear significant private costs to divert to trucks. Additionally, they will risk loss market share due to both costs, and constraints on truck movement.

The CBRW is vital to the economic prosperity of rural Central Washington.

Exhibit 11: Freight Rail Corridors in Washington State

Washington State Freight and Goods Transportation System Update | March 2014
Map of FGTS: Freight Rail System by Volume

The inability for CBRW to efficiently, and safely, connect with the BNSF line increases both private and public societal costs to Washington residents and shippers. The project will allow the CBRW to bring more efficient service to current, and future industries in Central Washington. According to a recent Washington State Freight and Goods Transportation System report published by the Washington State Department of Transportation (WSDOT)[5], the CBRW is an "R2" Freight Rail

Corridor, which handles 1 million to 5 million tons per year. The report shows the Columbia Basin Railroad as the busiest short line in Eastern Washington. The Connell Rail Interchange is a critical rail connection point that impacts the entire mainline corridor, the region, our businesses, and citizens.

The CBRW provides first mile connectivity between rural agricultural production areas and the main line rail transcontinental networks so that Washington State farmers, manufacturers and other sectors have access to national and global markets.

The project will open new industrial lands for development

The Connell Rail Interchange will also allow for rail service on lands planned for industrial development near the interchange. It will enhance economic value by attracting new rail-dependent businesses to those areas. The Connell site will give shippers an alternate, lower-cost transportation mode for freight that currently moves in and out of the area by truck. It will assist in preserving existing manufacturing jobs and related investment, and help attract new business opportunities, job creation, and economic development.

The Project will bring more efficient movement of freight on the GNC

The new interchange will eliminate the inefficient unit train movements by providing a rail line that can access the CBRW rail in Connell. The current configuration of the interchange yard at Connell requires unit trains serving the canola plant at the Port of Warden to travel an additional 35 miles to Pasco (70 miles roundtrip) to turn north to access the rail line to Warden.

According to WSDOT (2014 State Rail Plan[6]), tonnage handled by railroads is expected to increase to 260 million tons by 2035 – a doubling of the tonnage handled in 2010. The increase is expected from a tripling of export grain and other export bulk commodities. Additionally, it is expected that imported goods in containers and imported motor vehicles will double over the same period. This activity originates at vessels at ports in Western Washington and Oregon.

In addition to the already noted economic vitality indicators, the Great Northern Corridor Coalition has been collaborating for several years to promote corridor-wide cooperation in transportation planning and shared infrastructure investment. Studies funded by two Federal Highway Administration Multimodal Corridor Operations and Management grants and contributions from Coalition stakeholders identified solutions to enhance the Corridor and achieve the Coalition's goals and objectives. The Moorhead Grade Separation, Safety and Mobility Project was identified in this analysis and exemplifies infrastructure development that expands commerce while enhancing safety on the Corridor. *For additional information, please refer to the entire GNCC study at http://greatnortherncorridor.org/study/*

The project improves safety, mobility and quality of life in Connell

Safety benefits are estimated at $4.7 million in total social benefit due to 0.57 lives saved over the 20 years after project construction is completed. This is calculated based upon the reduction of potential fatalities due to the use of rail versus truck along the 432-mile sample route.

Additionally, by diverting more freight from truck to rail, there will be fewer risks of accidents involving trucks and automobiles on local roads and highways. It will foster a safe, connected,

[6] www.wsdot.wa.gov/.../0/StateRailPlanFinal201403.pdf

accessible rail transportation system for the multimodal movement of goods and people

Train blockages hinder emergency response time in Connell. The project will bring about more predictable, and quicker response times. Emergency response time will be improved because of the reduction on blockages due to train switching and reconfiguration.

Environmental Sustainability: Bringing more efficient rail service will reduce truck movement in the area, reducing emissions of greenhouse gases in the environment. Using the route sample, it is estimated that the project will reduce emissions by 51,000 MT of CO2 during the first 20 years with the completion of this project.

State of Good Repair It is anticipated that there will be a reduction of 46 million truck miles because of the increased rail capacity resulting from the Connell Rail Interchange project. This is a total savings in road maintenance of $5 million over the 20-year post-construction analysis period. With the new interchange, both CBRW and BNSF can handle increased freight volumes, diverting more from trucks to rail. That, in turn, keeps the cargo off local roads and highways, reducing maintenance and upkeep costs.

Historically, secular GDP growth in the U.S. adds 1.5% to 2% annual growth in railroad freight traffic. Over the 25-year period of 2010-2035, freight traffic in Washington is likely to increase by a factor of 1.65 independent of growth in import/export traffic. Accordingly, if the Connell interchange mirrors national patterns, it would be expected to have traffic growth of 1.65 times current volumes by 2035. If the interchange is not relocated and expanded, it is likely this freight traffic will be moved by truck. If this occurs, then there will be more trucks on the region's roads, requiring additional investment in maintenance and repair.

Exhibit 12: Examples of Delays Experienced at Connell Crossings

Non-Monetized Benefits- Although, the reduction of potential fatalities has been monetized, the social benefits of preventing other less severe accidents has not been monetized. Nor are the environmental benefits derived from reductions in other emissions due to recent guidance from USDOT. Finally, the benefit of increased mobility within the City of Connell due to the relocation of the interchange is not quantified.

CRITERION #2 LEVERAGING OF FUNDING

Activities to Maximize Non-Federal Match- The plan for full funding for this important project (detailed in Section IV) includes commitments from both state, local and federal parties. The project cannot be fully funded from state and local sources. The project does include participation from project beneficiaries and sets realistic expectations for costs and benefits. The Connell Rail Interchange project is a prime example of the value of public infrastructure combined with private investment to achieve economic development, safety improvements, and community growth.

The partners provided matching funds and contributions for the initial planning. BNSF and Columbia Basin Railroad each provided $5000. Supplemental matching funds (of $1000 each) were received from five port districts, three economic development organizations, and the City of Connell. Additionally, Franklin County provided a $10,000 grant for preparation of the BCA and supporting analysis for the project.

Evaluation of Private Funding Options- BNSF cannot make any financial or in-kind commitments at this time. As the project is further developed, BNSF may have opportunities to aid. BNSF is a valuable partner and critical for the following:

- To evaluate placement of the new rail interchange on their owned right-of-way.
- To provide aerial mapping, survey and geotechnical data, conducted at their expense.
- To participate and collaborate on the project design and development.
- To contribute funding to the CERB planning grant.

BNSF in-kind contributions such as engineering and other planning costs add value to the project.

Likewise, CBRW has been asked to participate in a funding formula that would likely hinge on the results of federal funding awards. Increasing business and economic development on the CBRW line is very positive; and CBRW is currently funding upgrades on other portions of the line. At this time, CBRW does not have funds available to participate in this project as a funding partner.

Fiscal Constraints of the City- The City of Connell has a population of only 5400 people. The Median household income for 2016 was $49,577, 20% below the average in the State. Poverty is approaching 27% compared to Washington State at 11.3% and the US as a whole at 12.7%. the per capita income is $14,070 which is 44% of Washington States' and 49% of the US average. This community cannot carry the financial burden of this regional project.

When the City was preparing the 2016 Fiscal Year budget it was evident that the General Fund was no longer able to help support the Street Fund. It was decided that the General Fund would no longer support street operations. This left a shortage of approximately $40,000 for operations and maintenance of city streets. To help offset the shortage Council reallocated funds from the Street Improvement Reserve to Street Operations, now leaving a shortage in the Street Reserve. Accordingly, despite the fiscal constraints imposed by its size and personal income levels, the City Council has put a proposition on the November 2017 Ballot asking voters to approve an increase of 0.002 (.2%) in the City's retail sales and use tax for a period of 10 years to help raise funds for city streets.

Even though, this Project would offer the local citizens relief from traffic congestion, the City does not have any funds that they can devote to the Project.

Operations and Maintenance of the Project-As noted, this yard will be jointly operated by BNSF and CBRW. These two parties will be responsible for the operations and maintenance cost of the facility as is the current practice.

Reduced Delivery Delays can be achieved with Federal aid in this funding round. If the Project is not funded in this round, the project will have to be broken into phases because of the Connecting Washington (CWA) appropriation schedule. The CWA funds are available this biennium (2017-2019). If federal funds to complete the project are not secured by June 2018, this project will have to be phased into two stages so that Phase I can be built with CWA funds by June 30, 2019. Although this option is feasible, it will cause completion delays and increased costs due to re-mobilization and construction cost increases for Phase II. This will also put completion of the whole Project in jeopardy because there will no longer be matching funds available.

CRITERION #3 INNOVATION

Quality design efficiency has been developed through logistics engineering review, resulting in realistic layout and practical design solutions.

These partners joined together to seek matching funds to jump start the initial design. In 2015, a planning study (Feasibility, Preliminary Design, and Cost Estimate) was funded by the Washington State Department of Commerce Community Economic Revitalization Board (CERB). The planning, performed by HDR Engineering, achieved 30% design engineering.

The new Connell Rail Interchange will build on this partnership to leverage resources, encourage partnership, improve a critical transportation system need, and provide substantial benefit to the Eastern Washington region. The new rail connection project in Connell, Washington is a transformative investment which will anchor broad, long-lasting, positive improvement.

As a freight rail interchange yard, there is limited innovation in environmental review and permitting, experimental project delivery or safety and technology applications that can be employed for this Project. BNSF is under contract with WSDOT to finalize the design of the yard to BNSF standards and current operating methods. The Project is being constructed within BNSF right of ways so a Categorical Exclusion from NEPA from the FRA is anticipated.

CRITERION #4 PERFORMANCE AND ACCOUTABILITY

Completion of this Project is the priority of all project parties. The applicant proposed that USDOT approve the use of Connecting Washington funds to complete the design, environmental reviews prior to obligation and still count those funds as local match. This project can quickly move to construction once funding is secured. Based upon the deadlines set by the State Legislature, the applicant proposes that the Department hold the parties accountable to deliver the Final Design and Environmental Review no later than April 30, 2018, upon which the Department would obligate the funds contingent on the demonstrated cost savings from not phasing the Project. Connecting Washington funds could be used to start construction as quickly as possible and not need to wait for final obligation. The INFRA funds could be released for construction activities when the project hits 45% of completion based upon the scope of work and basis of design. This would allow the project to go to bid late Spring 2018 and commence construction during Summer 2018. This efficient delivery plan will save 6 -12 months in the process and reduce the project risks. Project risks that would be averted include possibly losing

Connecting Washington funds to another project, and cost increases from delays and/or remobilization of contractors and equipment.

VI. PROJECT READINESS

A. Technical Feasibility

An Alternatives Analysis Engineering Study evaluated concept design, technical aspects, and opinion of probable construction cost estimate for three possible interchange location alternatives.

During this review, two alternate alignments were eliminated from further consideration because of higher design and construction cost without accompanying benefits than the selected alignment.

Detailed Project Description

Existing Rail Infrastructure

The existing tracks in the project area include:

- BNSF Main Track – A portion of the Lakeside Subdivision, runs northeast to southwest. This segment of the BNSF Subdivision has heavy train traffic. The track speed limit through the City of Connell (the area of the South Alternate) is up to 45 MPH for both freight trains and passenger trains. Train traffic on this track segment is dispatched from Fort Worth, Texas using Centralized Traffic Control (CTC) and a wayside signal system.
- BNSF Connell (Controlled) Siding – The siding has a capacity of 8110 feet and connects to the BNSF Main Track at MP 108.25 and MP 109.94. This siding is used for meeting and passing trains and is dispatched and controlled in the same manner as the Main Track.
- BNSF Auxiliary Tracks – The auxiliary tracks in Connell include the existing interchange tracks, industry tracks, and other miscellaneous tracks. These tracks are non-controlled tracks and are operated using Rule 6.28 (Other than Main Track) of the General Code of Operating Rules (GCOR). This rule uses visual means to occupy, make movements and avoid other trains.
- CBRW Main Track – A portion of the 1st Subdivision comes from the north and west and connects to BNSF Auxiliary tracks at CBRW MP 186.90 and BNSF MP 110.45. Around the interchange, the CBRW operates its main track under Rule 6.13 (Yard Limits) which uses visual rule as a means to occupy, make movements and avoid other trains.

The Preferred Alternative

The project engineers evaluated three potential alternatives that reflect the minimum requirements described in the *Initial Engineering Basis of Design* (EBOD) - August 2015 (Source: HDR Engineering). The three alternatives were designated as South, Middle, and North Alternatives for comparison.

Based on a thorough engineering review, the South Alternate was selected as the preferred route.

The South Alternate is positioned parallel to existing BNSF main track between MP 112.55 and MP 110.45. It connects to the main track at MP 112.55 and 110.65 using #15 turnouts. It includes two 7500-foot capacity tracks and one 3600-foot capacity track. A track extension (lead track) between MP 110.45 and 110.65 will be used by the CBRW to reach the existing BNSF Auxiliary tracks for interchange movements which allow interchange to take place clear of BNSF

signalized track. Actual track capacities are: Track 1 = 7,600 feet, Track 2 = 7,550 feet, and Track 3 = 4,000 ft. (As per the 30% Plans).

The benefits of the South Alternative include:

- Can be constructed with minimal interruptions to current operations.
- Least expensive.
- Smallest area of disturbance.
- Requires least amount of private land acquisition, if any.
- Impacts the least number of drainages.

The new rail interchange would be operated as a joint facility of the BNSF and CBRW. This means that regardless of ownership, the new track facilities would be used by both railroads as defined in an operating agreement to be developed between the two railroads, consistent with current operating activity and mutual goals for rail traffic flow and safety.

OUTLINE OF DETAILED STATEMENT OF WORK, Technical and Engineering Aspects

Final Design and Permitting

Task 1 Contract Management and Administration
Task 2 Property Survey and Boundary Work
Task 3 Geotechnical Investigation
Task 4 Track and Civil Design
Task 5 Hydraulic Engineering
Task 6 Bridge and Crash Wall Engineering
Task 7 Environmental and Permitting

Opinion of Construction Cost Estimate

HDR prepared Order of Magnitude – Opinion of Construction Cost Estimates for each interchange alternative. The cost estimates include all foreseeable items related to construction including but not limited to; engineering design, civil elements to construct the roadbed for the tracks, railroad elements to construct the tracks, permitting, construction management, utility accommodations, erosion control measures, and other details. **An overall 30% contingency is included which is typical to assign for this level of estimate detail.**

The following assumptions have been included in the South alternative estimate:

- Area of clearing and grubbing includes the entire earthwork footprint to remove organics and other potential debris which cannot be reintroduced into the subgrade construction.
- Top soil stripping depth assumed to be 6" average over 70% of each alternate's footprint.
- Engineering Geotextile fabric would be used on 50% of the earthwork footprint of each alternative to mitigate any poor subgrade conditions encountered during construction.
- Storm water treatment and disposal is assumed to be handled by track side ditches.
- Rock excavation for each of the alternatives was based on available soils data and is a percentage of the overall excavation ranging from 20% to 30%, and estimated quantities assume vertical rock excavation.
- Sub ballast will be 1-foot deep and includes the area adjacent to track access roads.
- Borrow sources are assumed to be in close proximity and provided at limited cost.
- Retaining walls are assumed to be an average of 10' tall at all potential wall areas.

- The estimate includes a limited utility accommodation allowance and is not based on specific known data or information.
- Costs for industrial leads (if presented) are not included.
- Costs assume work provided within a public works project without Buy America rules. The estimate accounts for certain elements of work within BNSF Right of Way that must be performed by BNSF (such as track and signal work) due to union agreements.

The estimate for the South Alternative is $24 million, which includes contingency funds.

B. Project Schedule

Final Design will be completed by Spring 2018. The detailed Project Schedule identifies all major project milestones. It demonstrates that: a) all necessary activities will be completed; b) the project can begin construction quickly; and c) all property acquisition will be completed (minimal or none needed).

Construction could begin as early as Summer 2018 and be completed by Fall 2019. But will be delayed while the City works to secure full funding for the Project. The schedule below assumes a longer schedule based upon award of Federal Funds in Spring 2018. Connect Washington funding is available now, but the City is deferring use of the funds to apply them to be counted towards a match to the federal funds. During obligation negotiations, the City will request authorization to start the project with the state funds that are currently available, followed by federal funds when those funds are fully obligated which is estimated to be by December 2018.

Exhibit 13: Project Schedule

Task	Rail Improvements
Complete Final Design	Mar-18
Complete NEPA/SEPA	Mar-18
Receive Federal Permits	N/A
Notice of Federal Award	Mar-18
Obligation of Federal Award	Dec -18
Issue Call-For-Bids	Jan-19
Award Construction Contract	Mar-19
Begin Construction	Jun- 19
Substantially Completion	**Sep-20**

C. Required Approvals

1. Environmental Permits and Reviews

An Environmental Overview was completed to identify potential areas of concern for Critical Areas including Wetlands, Critical Aquifer Recharge Areas and Wellhead Protection Areas, Surface Water and Floodplains, Wildlife, and Geologically Hazardous Areas. Federally-Listed

Species, Pipelines, and Zoning impacts were also evaluated.

a) Information about NEPA status

Environmental analysis will proceed as described, including timely completion of NEPA, as project milestones are met. We anticipate meeting the criteria for a Categorical Exclusion from the FRA.

Final Design will coordinate proper environmental compliance, by the following actions:

- Delineate wetlands
- Flag ordinary high-water mark (OHWM)
- Create baseline assessment of fish and wildlife use
- Prepare wetland and stream delineation report

Prepare biological assessment (BA)

- Comply with Endangered Species Act (ESA)
- Prepare a critical area report (CAR)
- Prepare SEPA checklist
- Identify suitable wetland/stream mitigation concepts
- Prepare a Joint Aquatic Resource Project Application (JARPA)

Final Design elements and precise details (30-pages) are proposed by HDR Engineering; is scheduled for completion by Spring 2018. Construction is planned to begin Summer 2018 and be completed in Fall 2018.

b) Information on reviews, approvals and permits by other agencies

Anticipated consultation with local, state, and federal groups, together with permitting is shown: in Exhibit 13 below

Exhibit 14: Required Permits/ Approvals

Agency	Permit/Approval
City of Connell	– SEPA Environmental Checklist and Determination – Critical Area Review/Report – Right of Way Permit (if new road crossings) – Conditional Use Permit (depending upon alignment)
Franklin County	– SEPA Environmental Checklist and Determination – Critical Area Review/Report – Land Use Permit (process to be determined)
WSDOT	– SEPA review
WDFW	– Hydraulic Project Approval (HPA)
Ecology	– Construction Stormwater NPDES Permit – SEPA review
Corps	– Project review/approval (process to be determined) – NEPA review (if triggered) – Section 404 Permit (if wetlands were filled)
USBR/SCBID	– Project review/approval (process to be determined) – NEPA review (if triggered)
USFWS	– ESA review (if NEPA is triggered)

Agency	Permit/Approval
NMFS/NOAA Fisheries	– ESA review (if NEPA is triggered)
BNSF	– Project review/approval (process to be determined)

Final Design involves a comprehensive pattern of review to assure environmental compliance.

c) Environmental and Design Studies

Design engineering and construction drawings are complete to 30% Design by HDR Engineering:

Studies Completed, Planning & Design

- Alternatives Alignment Analysis (7-page report and 4 exhibits).
- Rail Freight Flow (9-page report).
- Environmental Overview (5-page report).
- Engineering Basis of Design (62-page report).
- Operating Basis of Design (18-page report).
- Engineering 30% Design (21-exhibits).
  TOTAL – 126 pages, Engineering & Design Studies, Reports and Drawings.

d) Discussions with FRA regarding project's compliance with NEPA and other Federal environmental reviews and Approvals

There have not been any discussions with the FRA as of this point. As the project moves forward with the preliminary designs and NEPA determinations, WSDOT and the City of Connell will work with the FRA to ensure federal environmental compliance and approval is completed in a timely manner.

e) Public Engagement

From its inception, Connell Rail coalition has work to engage the public and stakeholders. The result has been broad based support across the region. There have been more than thirty-three media reports highlighting the importance of the project: Appendix D highlights presentations and media coverage.

Additionally, more than 150 people state and regional leaders have been contacted about the project.

2. The Project is recognized and incorporated in state and local plans

Legislative Approvals

There are no additional Legislative approvals needed for this project. Connecting Washington funds are being administered by WSDOT's Freight Office.

State and Local Planning

The project is listed in the following State and Local Planning documents.

- 2014 Washington State Rail Plan
- City of Connell Comprehensive Plan
- Great Northern Corridor Coalition's Multi-State Planning and Development Study- Phase II Project List

- WSDOT 2016 Prioritized Freight Project List[7]
- 2018-2019 Update to the STIP

The Connell Rail Interchange project is consistent with the City of Connell Comprehensive Plan. It pertains specifically to key goals and policies, all in accordance with state GMA Planning requirements.

These goals and policies include:

- Economic diversification
- Cost effective development
- Coordinated transportation planning
- Enhanced access to rail service
- Top priority to transportation facilities
- Advocacy and support by:
  - Great Northern Corridor Coalition (GNCC)
  - Washington State Legislative Rail Caucus
  - Benton-Franklin Council of Governments (BFCOG)
  - WSDOT

Designs and Agreements Completed to date

- WSDOT Practical Design Review – Approved February 9, 2016.
- WSDOT Connecting Washington Design Agreement – Approved March 21, 2016.
- WSDOT - BNSF Design Agreement- Approve September 30, 2017.

3. Federal Transportation Requirements Affecting State and Local Planning

This project is currently in the WA State Transportation Improvement Plan (STIP) as required under FAST ACT. The City has been working closely with WSDOT, the Administrator of the Connect Washington funds, to ensure this project meets all State and Local planning requirements as required under the current federal transportation statutes. As was discussed earlier, the CBRW has been identified as a R2 rail line on the Washington State Freight and Goods Transportation System (FGTS). This is a classification system for roadways, railways, and waterways based on freight volume. The FGTS is used to establish funding eligibility for Freight Mobility Strategic Investment Board grants, fulfill federal reporting requirements, support transportation planning process, and plan for pavement needs and upgrades. WSDOT uses this data to designate Freight Economic Corridors.

D. Project Risks/ Mitigation Strategies

Risk categories were identified: Financial, Management, Contracting/Procurement, Construction, Environmental, Right-of-Way, Structural/Geotech, Utilities, and Operations/Maintenance.

As mentioned previously, extensive geo-technical engineering work is planned within the project scope, schedule, and budget – to verify acceptable slope stabilization requirements and to assure rail track bed integrity.

Another risk mitigation measure – which is well underway – involves deliberate coordination with railroads and all project partners – to assure top-quality performance and practical function.

[7] http://www.wsdot.wa.gov/publications/fulltext/LegReports/15-17/2016PrioritizedFreightProjectList.pdf

Other risk mitigation measures include a comprehensive pattern of environmental review/permits. This aim will make certain that the project resolves any concerns, and is on-time and on-budget.

Exhibit 15: Risk Matrix

Potential Risk Area	Risk Type	Current Status/ Proposed Mitigation	Risk Level
Technical Feasibility	Feasibility	Preliminary design developed with input from customers and the railroads	Low
Design Standards Conformance	Feasibility	Preliminary design developed with input from customers and the railroads	Low
Partner Approvals	Schedule	Preliminary design developed with input from customer and railroads	Low
Local Jurisdiction Approvals	Schedule	Past history of multi-agency cooperation and collaboration is anticipated to continue.	Low
Environmental Approvals	Cost, schedule	Impact on built and natural environment appears is assessed as low.	Low Medium
Public and Stakeholder Support	Cost, schedule	Extensive public involvement effort was done as part of the project's planning and budgeting processes. Level of public interest is high, in particular from nearby residential neighborhoods.	Low
Construction	Cost, schedule	Currently entering into final design phase for the rail improvements. To mitigate potential risks, conservative prices and quantities were used. In addition, Project Budget contains $3.6 million in contingency funds	Low
Funding Remaining Gap	Funding	The City of Connell nor the State have funds to complete the full build out of the project.	High

VII. SUMMARY

The Connell Rail Interchange will benefit local, regional and, significantly, national freight mobility. It will reduce the risk of accidents, reduce school bus conflicts with rail at crossings, and dramatically improve freight movement at a major "pinch point" on the Great Northern Corridor. It is a well-planned and designed project that leverages state and local investments to bring about greater regional economic development and more efficient movement of important agricultural products from Eastern Washington.

This Project will help USDOT achieve its National Goals, by removing trucks from the highways, therefore improving safety, reducing wear and tear on the highways, reducing congestion, enhancing the nature environment through reduced emissions and generating economic vitality for the region. The lands along the CBRW are ready for private investment, such as the recently completed CHS Fertilizer plant near Warden. The CHS plant has already increase the number of carloads by over 400 percent from their previous facility near Bruce, WA.

Growth as experienced by CHS will not be able to continue without the expanded rail capacity that this Project will achieve. Other private firms are looking to invest in rail served properties. Completion of this Project will make those investments a reality.

It has the commitment of engaged project partners, and support of state and local governments. The project can move forward on a timely basis with the support from the Federal Government. With the requested funding, the Connell Rail Interchange is On-Track for Growth!

Appendices:

A: Benefit-Cost Analysis Technical Narrative

B: Benefit Cost Analysis Excel Spreadsheet.

The following can be found on the project webpage at www.cityofconnell.com

Under the Project Webpage:

http://www.cityofconnell.com/index.asp?SEC=6E07FAFD-EFDD-4C95-85F1-C915B1DA1222&Type=B_BASIC

C: Market Demand

D: Examples of Public Outreach – Presentations & Media Coverage

E: List of Support Letters

F: HDR: Construction plans; HDR Project No. 259968.

http://www.cityofconnell.com/index.asp?SEC=6E07FAFD-EFDD-4C95-85F1-C915B1DA1222&Type=B_BASIC

G: Connell Interchange 30% Opinion of Construction Cost Estimate http://www.cityofconnell.com/vertical/sites/%7B5EC177C6-8A65-48BE-BB20-78D21372A172%7D/uploads/Design.pdf

H: Small Project Summary

Appendix C: Market Demand

National Rail Transportation Trends

Each year, the U.S. moves over $20 trillion in goods weighing over 17 billion tons between hundreds of cities, towns and regions. An increasing percentage of these shipments are being made through our nation's ports and intermodal rail facilities.

The Connell site, situated on the mainline of BNSF, enjoys good access to major international container port operations in Seattle/Tacoma three and a half hours to the west as well as to Class I intermodal rail facilities in Spokane, one and a half hours to the northeast.

Over 25 million containers and trailers are being moved annually using intermodal transportation, the fastest growing mode of shipment in the U.S. supply chain. International container shipments are likewise projected to increase tremendously at West Coast ports like Seattle/Tacoma over the next several years fueled by a recovering global economy, new U.S. trade agreements and growing U.S. exports, especially to China and Southeast Asia's growing middle class.

Both trends are playing major roles in shaping site selection decisions in the U.S. Locations in Eastern Washington, including the Connell Rail Interchange service area are well-positioned to capitalize on these port and intermodal-related transportation trends.

Sources: http://www.growadamscounty.com/site-selection/blueprint-for-action-report/

http://www.growadamscounty.com/site-selection/comparative-distribution-warehousing-costs-in-port-and-intermodal-proximate-cities/

SUMMARY OF RAIL FREIGHT FLOW REPORT

Introduction

A rail freight flow evaluation was performed in 2016 by HDR Engineering; to describe existing freight railroad traffic and patterns across the BNSF Railway (BNSF) and Columbia Basin Railroad (CBRW) interchange in the City of Connell, Washington, and to forecast potential future freight railroad traffic and patterns for a 10-year horizon.

Overview

The City of Connell is served by two freight railroads: BNSF, a Class I railroad with a 32,500-mile network that spans the Western United States, and CBRW, a locally owned and operated short line that extends west from Connell with an 86-mile network of lines serving Moses Lake, Wheeler, Schrag, and Othello, Washington. The 10-year horizon was chosen as freight railroad traffic is volatile in response to global, national, and regional economic activity and patterns, and commodity flows may shift drastically depending on demand, costs of production, technological innovation, and regulatory changes.

Summary

Railroad freight traffic through the Connell interchange between BNSF and CBRW has grown approximately 10 percent annually during the last five years. This compares to a national average for rail traffic of near zero growth during the last five years (AAR, Annual U.S. Rail Tons). Connell interchange rail traffic growth is due to expansions of commodity processing, conversion

of transportation from truck to rail, and improvements in rail service that reduce transportation costs, enabling shippers and receivers in the CBRW service area to expand their markets.

Growth in agricultural commodity processing, growth in manufacturing, and truck conversion to railroad transportation is expected to continue to occur.

Regionally, rail traffic is expected to grow at approximately 1.5 to 2 percent annually during the next ten years. This growth will be driven by increased exports of agricultural, mineral, and energy commodities, increased regional manufacturing, increased import and export of consumer goods and heavy capital goods, and increased conversion of freight from truck to rail (Washington State Rail Plan; Federal Railroad Administration). Follow the link at: http://www.wsdot.wa.gov/NR/rdonlyres/F67D73E5-2F2D-40F2-9795-736131D98106/0/StateRailPlanFinal201403.pdf

Additional Cargo information:

In an interview for this Rail Freight Flow report, CBRW provided a traffic breakdown in Table 1, based on an annual volume of 10,200 carloads in 2014. (Note: a typical carload of agricultural bulk commodities or chemicals varies from 100 to 110 net tons; a typical carload of frozen or refrigerated perishables ranges from 60 to 100 tons.)

Table 1: CBRW Freight Commodities, 2014

Commodity	Percentage of total traffic
Outbound frozen potato products	20%
Inbound fertilizer	15%
Inbound canola seed (for PCC crushing)	15%
Chemicals (mostly inbound, some outbound)	10%
Inbound paper (rolls)	5%
Cooking oil (inbound and outbound)	5%
Outbound canola meal	5%
Inbound feed	5%
Outbound grain (primarily wheat)	5%
Other traffic (inbound and outbound)	15%

Again, to apply the data:
Economic Value is over $3.55 Billion in the three-county area (Adams, Franklin, Grant) based on Ag Market Value and Food Processing Sales. http://agr.wa.gov/AgInWa/Crop_Maps.aspx

Volume/Value of Agricultural Products Shipped by Rail

Table 2 below indicates the value of freight shipped by CBRW and other state railroads. Note that canola has 1.7 times the value per pound than grain (mostly wheat and some barley); canola oil has 3.8 times the value of grain. **Thus, the Connell interchange is supporting one of the most valuable transportation patterns in eastern Washington on a per-ton basis.**

Table 2: Value of freight moving by rail in Eastern Washington

Commodity	Value ($)	Unit	Source and Notes
Paper	$0.40	lb.	Index Mundi (wood pulp)
Canola oil	$0.38	lb.	USDA (canola oil)
Steel	$0.33	lb.	Steel on the Net (cold rolled steel coil)
Fertilizer	$0.21	lb.	Index Mundi
Seed	$0.17	lb.	USDA (canola seed)
Scrap	$0.16	lb.	USGS.gov (2013, iron and steel scrap)
Feed	$0.12	lb.	USDA (Barley No. 3)
Grain	$0.10	lb.	Index Mundi (wheat)
Cement	$0.04	lb.	USGS.gov (2012 value)
Chemicals	Too general		n/a
Frozen food	Too general		n/a

BNSF and CBRW Freight Growth and Infrastructure Development

In its 2014 rail plan, Washington state expects the tonnage handled by its railroads to reach 260 million tons by 2035, **more than double the volume** moved in 2010, driven by a tripling of export grain and other export bulk commodities, as well as a doubling of imported goods shipped in containers and imported motor vehicles that will be transloaded from vessel to rail at Washington state ports.

Historically, secular GDP growth in the U.S. on its own adds 1.5% to 2% annual growth in railroad freight traffic. Over the 25-year period of 2010-2035, freight traffic in Washington is likely to increase by a factor of 1.65 independent of growth in import/export traffic. Accordingly, if the Connell interchange mirrors national patterns, it would be expected to have traffic growth of 1.65 times current volumes by 2035.

SHORT LINE RAIL REPORT

Washington State Department of Transportation (WSDOT) completed a research report: Washington State Short Line Rail Inventory and Needs Assessment, WA-RD 842.1, June 2015, authored by Dr. Jeremy Sage, Dr. Ken Casavant, and J. Bradley Eustice. An overview is given. For the full report (95 pages): http://www.wsdot.wa.gov/research/reports/fullreports/842.1.pdf

The purpose of the study was to provide a framework for a data-based evaluation of the condition and capital needs of the entire short line rail system within the state. It was a collaborative effort between WSDOT and researchers with the Freight Policy Transportation Institute (FPTI) at Washington State University (WSU).

State policies recognize that:

- **Rail systems have the potential to create and sustain regional economic growth**.

Investment in rail can produce public benefit to:

- Improve safety of rail operations
- Avoid greater capital costs in rural road networks
- Reduce highway congestion and enhance safety
- Reduce airborne contaminants
- Enhance competitiveness and employment
- Preserve rail segments for current and future use

Appendix D: Examples of Public Outreach

Presentations and Media Coverage

	SOURCE	TITLE
1	WA St Tran Commission	Statewide Rail Capacity and System Needs Study - Technical Memorandum
2	The Royal Register	Connell Rail interchange needs upgrades
3	Columbia Basin Farmer	Columbia Basin Railroad is busiest short line in eastern Washington
4	Railway Track Structures	Columbia Basin Railroad named busiest shortline in eastern Washington
5	Progressive Railroading	Columbia Basin Railroad remains a busy short line in Washington state
6	KXLY, Moses Lake	Meeting regarding the Connell Rail Interchange held in Moses Lake
7	PR Newswire	Important Meeting Held Regarding the Connell Rail Interchange
8	Progressive Railroading	Columbia Basin eyes BNSF interchange upgrades
9	Railway Track Structures	Meeting held to discuss Connell Rail Interchange
10	Western Farmer	Important Meeting Held Regarding the Connell Rail Interchange
11	Grant County EDC	Can a Rail Line Operate at 170% of its Practical Capacity?
12	Columbia Basin Farmer	Connell Rail Interchange needs discussed at December meeting
13	City Council Memo	Connell Rail Interchange
14	Capital Press	Coalition seeks funds to study rail interchange improvements
15	Tri-City Herald	Connell seeks help with railroad interchange
16	Railway Age	Rail bottleneck relief sought for Connell, Wash.
17	Franklin County Graphic	City Council hears presentation on Connell Interchange, plans to ease rail issues
18	Great Northern Corridor	Multi-State Planning and Development Study
19	City Council Memo	CERB Planning Grant Application - Connell Rail Interchange
20	Progressive Railroading	Washington port freight-rail projects part of state funding package
21	Senate Transportation	Senate Transportation Package - LEAP Transportation Document 2015 NL-1
22	WCMA Newsletter	Connell city administrator Jed Crowther reports
23	City Council Memo	Connell Rail Interchange Update
24	Basin Business Journal	CERB awarded $50,000 Planning Grant for Connell Rail Interchange
25	CERB Press Release	Community Economic Revitalization Board announces $1.7 million in grants/loan
26	Franklin County Graphic	Goal→Plan→Action – To Improve and Modernize Connell Rail Interchange
27	Attorney General of WA	Letter re: Freight Rail Assistance Account, RCW 47.76.250(11)
28	Franklin County Graphic	CERB awards $50,000 towards study of Connell Rail Interchange
29	Capital Press	Planning grant to help city untangle rail congestion
30	Tri-City Herald	Newhouse opens Tri-City office
31	WPPA	Freight project backers eye $500 million in INFRA grants
32	City Council Memo	Community Economic Revitalization Board (CERB) Award Acceptance
33	House Transportation	House Transportation Package - LEAP Transportation Document 2015 NLH-1

PRESENTATIONS

A Fact Sheet and Frequently Asked Questions (FAQs) Sheet were widely distributed.
http://www.cityofconnell.com/vertical/sites/%7B5EC177C6-8A65-48BE-BB20-78D21372A172%7D/uploads/Connell_Rail_Interchange_-_Fact_Sheet_3-16-2015(1).pdf

Ten public presentations occurred; including CERB, WSDOT and State Rail Caucus.
http://www.cityofconnell.com/vertical/sites/%7B5EC177C6-8A65-48BE-BB20-78D21372A172%7D/uploads/Connell_Rail_Presentation_11_16_15.pdf

Appendix E: List of Support Letters

Full list of Support letters can be found on the project webpage

Organizations

- U.S. Senator Maria Cantwell
- U.S. Senator Patty Murray
- Congressman Dan Newhouse
- BNSF
- CBRW
- Port of Pasco
- Port of Othello
- Port of Warden
- Port of Moses Lake
- Port of Royal Slope
- Tri-City Development Council
- Adams County
- Grant County
- City of Othello
- Benton /Franklin COG
- WSDOT
- Adams County Commissioners
- Franklin County Commissioners
- Great Northern Corridor Coalition
- WA State Senator Mark Schoesler
- WA State Senator Judy Warnick
- WA State Representative Mary Dye
- WA State Representative Joe Schmick
- WA State Representative Tom Dent
- WA State Representative Matt Manweller

BNSF RAILWAY

Merril G. Lieb
Assistant Vice President
Shortline Development

BNSF Railway Company
2500 Lou Menk Dr., AOB-1
Fort Worth, TX 76131
(817) 694-0311 (o)

merril.lieb@bnsf.com

October 13, 2017

The Honorable Elaine Chao
Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Secretary Chao:

BNSF Railway supports efforts by the City of Connell to secure funding from the 2017 TIGER and INFRA funding programs for the Connell Rail Interchange project. The Connell Rail Interchange project is located on BNSF's Lakeside Subdivision on the Great Northern Corridor and connects the Columbia Basin Railroad to the national rail network and the global marketplace.

The Connell Rail Interchange project would construct new interchange tracks that would improve the efficiency, capacity and safety of the interchange between BNSF Railway and the shortline operator that serves central Washington, the Columbia Basin Railroad. The proposed project would replace the existing constrained interchange that cannot efficiently handle growing freight volumes, including unit trains, without impacting mainline operations and capacity.

BNSF looks forward to continuing its collaboration on this project with project partners, including reaching an agreement with Columbia Basin Railroad for the usage of the proposed new infrastructure that will be constructed on BNSF property. BNSF has a strong partnership with Columbia Basin Railroad and believes an agreement will be reached in a timely manner.

BNSF is prepared to proceed pending satisfactory review of funding requirements, final engineering, operating impacts, financial impacts, and negotiation of definitive agreement.

Sincerely,

Merrill Lieb
AVP Shortline Development

COLUMBIA BASIN RAILROAD

October 3, 2017

The Honorable Elaine Chao
Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave., S.E.
Washington, D.C. 20590

RE: **Support of TIGER 2017 and INFRA FY17/18 Grant for Connell Rail Interchange Infrastructure Improvement Project**

Dear Secretary Elaine Chao:

I am writing on behalf of Columbia Basin Railroad in strong support of a TIGER 2017 and INFRA FY17/18 Grant for the Connell Rail Interchange infrastructure improvement project.

The Connell Rail Interchange is a key rail interchange in Eastern Washington where the Columbia Basin Railroad line intersects with BNSF Railway's busy Lakeside Subdivision line, which runs between Spokane, WA and Pasco, WA. The Columbia Basin Railroad Line goes through the heart of the Columbia Basin in eastern Washington and serves Moses Lake, Wheeler, Schrag, Warden, Bruce, Othello and Connell in Grant, Adams and Franklin Counties.

Over the past several years, a significant amount of economic development has been occurring in communities on the Columbia Basin Railroad Line, especially in Grant and Adams Counties. Consequently, the Columbia Basin Railroad line has become one of the busiest short lines in Washington State, hauling over 10,000 carloads annually of various agricultural, industrial commodities and other cargo for 60 active rail shippers in the Columbia Basin, which employ nearly 7,000 people in Grant and Adams Counties.

The Connell Rail Interchange was built nearly 100 years ago and the configuration of the Interchange is outdated and inefficient. **As a result, the Connell Rail Interchange needs to be upgraded and improved to accommodate the tremendous growth in rail cargo that is flowing to and through Connell.**

The Connell Rail Interchange also sits on the Northern Corridor Rail Line, which is a key strategic freight transportation corridor that spans the northern US between the Pacific Northwest and the Midwest. The Corridor unifies the population centers of the Midwest and Pacific Northwest, and is a critical logistics channel for goods produced or consumed in the Northern Tier.

Without a new and improved rail interchange at Connell, the existing conditions there will create a choke/pinch point which could adversely impact rail velocity on the Northern Corridor and hinder economic growth in several communities in the Columbia Basin.

In conclusion and for the above mentioned reasons, Columbia Basin Railroad urges USDOT to approve the City of Connell's TIGER 2017 and INFRA FY17/18 grant application to improve and upgrade the Connell Rail Interchange.

Thank you for your consideration of this request.

Sincerely,

Brig Temple
President/CEO
Columbia Basin Railroad
111 University Parkway, Suite 200
Yakima, WA 98901

Appendix G: Connell Interchange 30% Opinion of Construction Cost Estimate

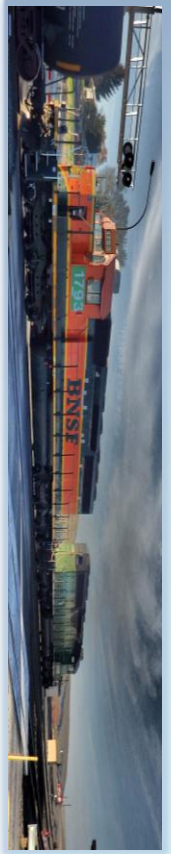
http://www.cityofconnell.com/vertical/sites/%7B5EC177C6-8A65-48BE-BB20-78D21372A172%7D/uploads/Design.pdf

Connell Interchange 30% Opinion of Construction Cost Estimate — 3/8/2016 — WORKING DRAFT

Item #	Description	Unit	Unit Cost	Qty	Total	
Project Items						
1	Mobilization	LS	4%	1	$ 643,763.04	
2	Performance and Payment Bond	LS	1.5%	1	$ 241,411.14	
3	Construction Surveying	LS	$ 100,000.00	1	$ 100,000.00	
4	Material and Construction Testing	LS	$ 30,000.00	1	$ 30,000.00	
5	Temporary Water Pollution/Erosion Control	LS	$ 40,000.00	1	$ 40,000.00	
	SUBTOTAL OF PROJECT ITEMS (Excluding Mob and Bonds)				**$170,000**	
Roadway/Civil Items						
6	Project Temporary Traffic Control	LS	$ 7,500.00	1	$ 7,500.00	
7	Clearing and Grubbing	AC	$ 2,500.00	23	$ 57,500.00	Area of earthwork footprint, no deductions
8	Strip Topsoil	CY	$ 2.50	12987	$ 32,468.33	70% grub area top soil strip at 0.5'
9	Roadway Excavation Including Haul	CY	$ 5.50	258513	$ 1,421,819.67	
10	Rock Excavation	CY	$ 25.00	39500	$ 987,500.00	Assumes full volume but only 13% of overall excavation will be rock.
11	Embankment Compaction	CY	$ 2.50	14700	$ 36,750.00	
12	Common Borrow Including Haul	CY	$ 4.50	0	$ -	
13	Remove and Restore Borrow Area Overburden	CY	$ 4.00	0	$ -	
14	Dispose of Excess Materials	CY	$ 3.00	283313	$ 849,938.00	Borrow sources are assumed to be in close proximity and provided at limited cost
15	Geotextile Fabric	SY	$ 3.00	35700	$ 107,100.00	Based on 50% footprint of top of grade and includes adjacent to track access road.
16	Furnish and Install Subballast	CY	$ 28.00	28750	$ 805,000.00	Based on footprint of top of grade and includes access roads and turnout pads.
17	Furnish and Install Retaining Wall System	SF	$ 70.00	11300	$ 791,000.00	Wall area increased due to second access road.
18	36" Dia Steel Culvert Pipe	LF	$ 85.00	32	$ 2,720.00	
19	Riprap Slope Protection	SY	$ 30.00	12750	$ 382,500.00	Estimated max area of 1.5:1 embankment or cut slope w/ 1.5' cover depth.
20	Bridge	LF	$ 12,000.00	276	$ 3,312,000.00	Pile length and foudations are still in question. Width of bridge increased to accommodate second road.
21	Pier Protection and Access Rd Accom @ SR260	LS	$ 80,000.00	1	$ 80,000.00	
22	Permanent Mitigation and Errosion Control Features	LS	$ 100,000.00	1	$ 100,000.00	
23	Seeding, Fertilizing and Mulching	AC	$ 3,000.00	13.3	$ 39,900.00	
	SUBTOTAL OF ROADWAY / CIVIL ITEMS				**$9,013,696**	
Railroad Items						
24	BNSF Signalization	EA	$ 1,100,000.00	1	$ 1,100,000.00	
25	Furnish and Install Track BNSF	TF	$ 180.00	22241	$ 4,003,380.00	* Cost could possibly be reduced
26	Furnish and Install Track Other	TF	$ 180.00		$ -	
27	Common Standard #15 Turnout BNSF	EA	$ 220,000.00	3	$ 660,000.00	
28	Common Standard #11 Turnout BNSF	EA	$ 180,000.00	5	$ 900,000.00	* Cost could possibly be reduced
29	Common Standard Turnout Other	EA	$ 135,000.00		$ -	
30	Common Standard Derail BNSF	EA	$ 63,000.00	1	$ 63,000.00	
31	Common Standard Derail Other	EA	$ 35,000.00		$ -	
32	Furnish and Install Wood Panel Crossing	TF	$ 500.00	288	$ 144,000.00	* Cost could possibly be reduced
33	Furnish and Install Walkway	LF	$ 10.00	4000	$ 40,000.00	
	SUBTOTAL OF RAILROAD ITEMS				**$6,910,380**	
	SUBTOTAL OF BID ITEMS (EXCLUDING MOB and BOND)				$16,094,076	
	SUBTOTAL OF BID ITEMS (INCLUDING MOB and BOND)				**$16,979,250**	
Additional Required Items						
	Utility Accomodations Allowance				$ 20,000.00	
	Railroad Flagging Cost	DAY	$ 1,000.00	200.00	$ 200,000.00	
	Misc Access Road Extra Costs				$ 50,000.00	
	Approx Property Costs	AC	$ 10,000.00	0.10	$ 1,000.00	
	Agency Fees / Costs				$ 200,000.00	
	Construction Testing QA Allowance				$ 30,000.00	
	Agreements				$ 30,000.00	
	Engineering (Railroad/Rail related civil including geotech and survey)				$ 300,000.00	
	Partial Construction Management				$ 150,000.00	
	Enviromental Permitting and Mitigation				$ 150,000.00	
	SUBTOTAL OF ADDITIONAL ITEMS				**$1,131,000**	
	Tax (8.0% of bid items and additional items)		8.0%		$1,448,820	
	TOTAL (BID ITEMS, ADDITIONAL, TAX)				**$19,559,070**	
	Contingency		20%		$3,911,814.04	
	GRAND TOTAL				**$23,470,884**	

Unit Prices based on 2015 prices for similar projects where quantities are shown.
Stormwater treatment and disposal is assumed to be handled by track side ditches.
The estimate includes a limited utility accommodation allowance and is not based on specific known data or information.
Costs assume work provided within a public works project without Buy America

The estimate accounts for certain elements of work within BNSF Right of Way that must be performed by BNSF (such as track and signal work) due to union agreements*.
(* If the facility is owned by others, BNSF would only need to perform construction on items that it would own and maintain)



Appendix: H Small Project Summary

INFRA Requirements	Response
1. Does the project generate national or regional economic, mobility, safety benefits?	Yes. The freight movement is improved on the BNSF mainline; freight movement on region shortline RR is more efficient; agriculture and manufacturers in Central WA will receive reliable service; and students and residents in Connell will have fewer dangerous train/vehicle conflicts.
2. Is the project cost effective?	7% Discount = $7.5 million NPV; 1.4:1 B/C ratio.
3. Does the project contribute to one or more of the Goals listed under 23 U.S.C. 150 (and shown below)?	
(b)**National Goals**-It is in the interest of the United States to focus the Federal-aid highway program on the following national goals:	
(l) **Safety**-To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	**Safety** – Will reduce the motorist and students conflicts with train movement in Connell. There are currently 64 daily school bus crossing over the two at grade crossings in Connell. Emergency response times will improve with fewer train blockages at the crossings that divide the City of Connell. As the CBRW rail line improves efficiencies, more freight will be diverted from truck to rail, reducing truck/automobile accidents
2) **Infrastructure condition**-To maintain the highway infrastructure asset system in a state of good repair.	**Infrastructure condition -** Less wear and tear on roads and vehicles due to stop and starts at Connell crossings. Diversion of truck freight to rail will reduce wear and tear on regional roads and highways.
((3) **Congestion reduction**-To achieve a significant reduction in congestion on the National Highway System.	**Congestion reduction** – reduction in train blockages in Connell will reduce congestion and improve emergency response times.
(4) **System reliability**-To improve the efficiency of the surface transportation system.	**System Reliability** – fewer train blockages will allow for Connell's transportation system to operate more efficiently.

(5) **Freight movement and economic vitality**-To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.	**Freight movement and economic vitality** – freight will move more quickly, and efficiently, on the BNSF mainline; and to regional markets in Central Washington. The improved movement of freight will assist in retaining current industries, and fostering new growth in Central WA
(6) **Environmental sustainability**-To enhance the performance of the transportation system while protecting and enhancing the natural environment.	**Environmental sustainability** – reduction of train blockage time will reduce emissions from idling vehicles. Less fuel will be used by trucks as more freight in diverted to rail in Central WA areas served by the CBRW.
(7) **Reduced project delivery delays** To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices	**Reduced project delivery delays** The project is included in state and regional freight and transportation plans. The City has a long history of working with the state and local regulatory agencies, all of who are aware of the project. No problems are anticipated in permitting the project
4. Is the project based on the results of preliminary engineering?	**Yes.** Design engineering and construction drawings are complete to 30% Design by HDR Engineering:
5a. With respect to non-Federal financial commitments, does the project have one or more stable and dependable funding or financing sources to construct, maintain, and operate the project?	**Yes**. $10 million is included in Washington State's Connecting Washington legislative package. And $0.1 million is included in the City of Connell's budget
5b. Are contingency amounts available to cover unanticipated cost increases?	**Yes,** $3.6 million, or 15% of total costs, are included as contingency.
6. Is it the case that the project cannot be easily and efficiently completed without other Federal funding or financial assistance available to the project sponsor?	**Yes.** The project requires the assistance of the federal government in order to proceed.
7. Is the project reasonably expected to begin construction not later than 18 months after the date of obligation of funds for the project?	Yes. The project will be ready to proceed to construction later than June 2019 with completion in Sept 2020. This can be earlier if obligation can occur quickly.