

Location: Connell, WA

Project Type: Rural

Applicant: City of Connell

Type of Applicant: City Government

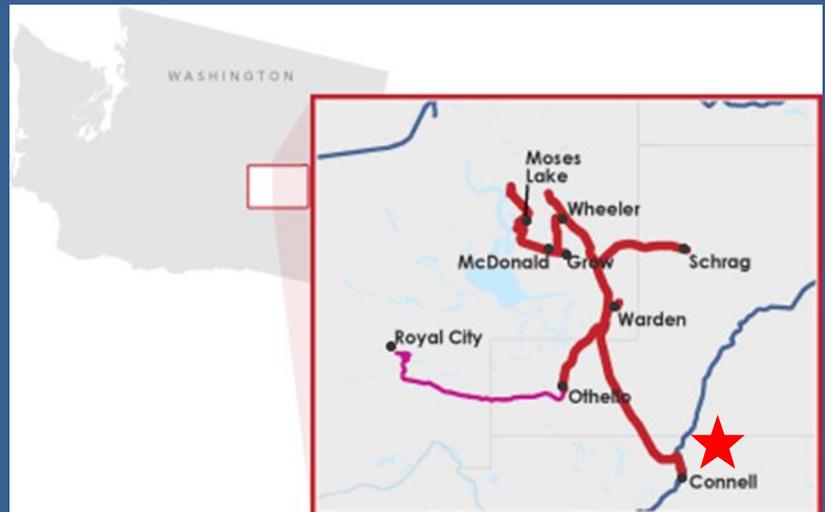
TIGER Funding Requested: \$14 Million

DUNS Number: 618129605

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I. PROJECT DESCRIPTION

OVERVIEW

This \$24 million project will relocate, reconfigure and improve the critical rail interchange in rural Connell, WA where the Columbia Basin Railway (CBRW) enters onto the BNSF Railway mainline. The requested \$14 million in TIGER 2017 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.

The existing railyard configuration is outdated, undersized, inefficient and cannot accommodate today's modern train service requirements.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Street (DOT Crossing # 089687U) are routinely blocked by the movement of the trains being switched into and out of this outdated and undersized interchange yard.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.

Background

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.

Constraints

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 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.





Efficiency and Safety

A new interchange, south of Connell, that is capable of handling complete unit trains will be more efficient for railroads, reduce motorist delays at crossings in Connell, and enhance safety for our citizens and students. Currently some 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.

Primary Goals

Primary goals of a new or reconfigured interchange:

- 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.

According to a recent Washington State Freight and Goods Transportation System report published by the Washington State Department of Transportation (WSDOT)¹, the Columbia Basin Railroad line from Connell, WA to Moses Lake/Wheeler, WA is shown as an "R2" Freight Rail Corridor, which handles 1 million to 5 million tons per year. In particular, 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.

Exhibit 1: Freight Rail Corridors in Washington State



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

¹ www.wsdot.wa.gov/Freight/FGTS/default.htm

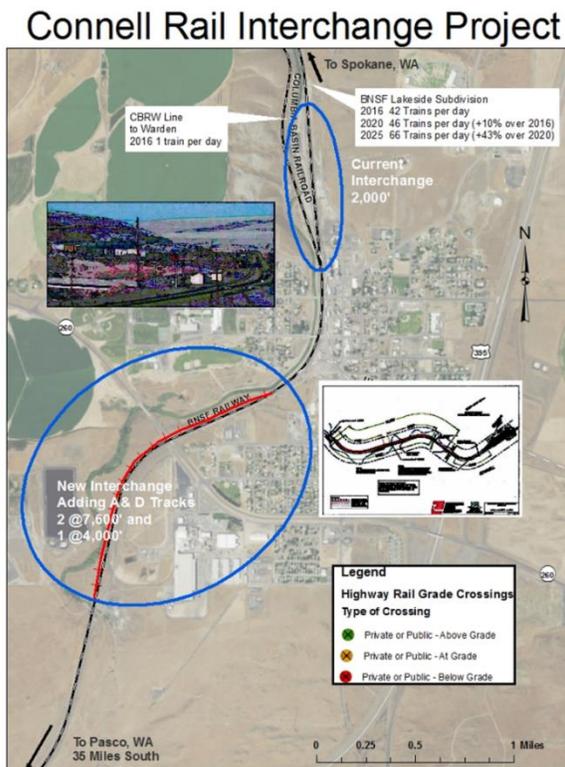




Short line railroads provide first mile connectivity between rural agricultural production areas and the main line rail transcontinental networks so that Washington State farmers, manufacturers and other sectors have access to national and global markets. These strategic rail connectors also serve advanced manufacturing sectors in the movement of both raw materials and finished goods.

Quantifying the scope of investment needs is a critical component of maintaining a viable system. Case studies specifically highlighted Columbia Basin Railroad and the role of short line railroads and regional connectors (i.e. Connell Rail Interchange) within the state and regional economy. Rail operators articulated their most pressing infrastructure needs to maintain rail operations. Because of rail volume, the Connell site faces a significant need for a rail interchange upgrade.

Exhibit 2: Map of Project



The Transportation Challenges:

Challenge 1: The rail lines divide the town in two.

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 will increase from 42² trains per day in 2016 to 46 trains per day by 2020. This is expected to increase to 93³ trains per day by 2035. The new interchange will reduce the current conflicts between the through trains and trains moving to and from the CBRW.

Challenge 2: The century-old rail infrastructure is inadequate to handle today's modern transportation needs.

Photos in Exhibit 3 and 4 will illustrate the existing conditions and challenges:

Exhibit 3 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.

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

³ *ibid.*





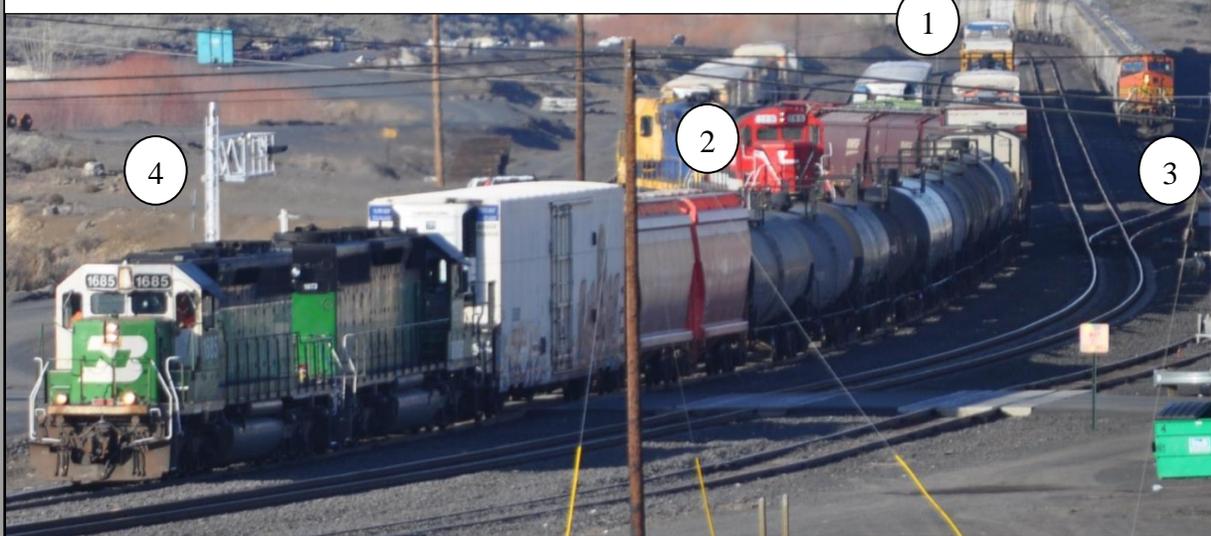
Exhibit 3: View of the Connell Interchange in Action

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



Exhibit 4: 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 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 trains 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 3 and 4) was originally built by Northern Pacific, BNSF’s predecessor, as a branch line off their 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. 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: 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. 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. In this case, the train is taken 35 miles west of Connell to Pasco before changing direction to ultimately return for reloading in Canada.

BNSF must operate unit trains in this fashion because the current configuration of the Connell





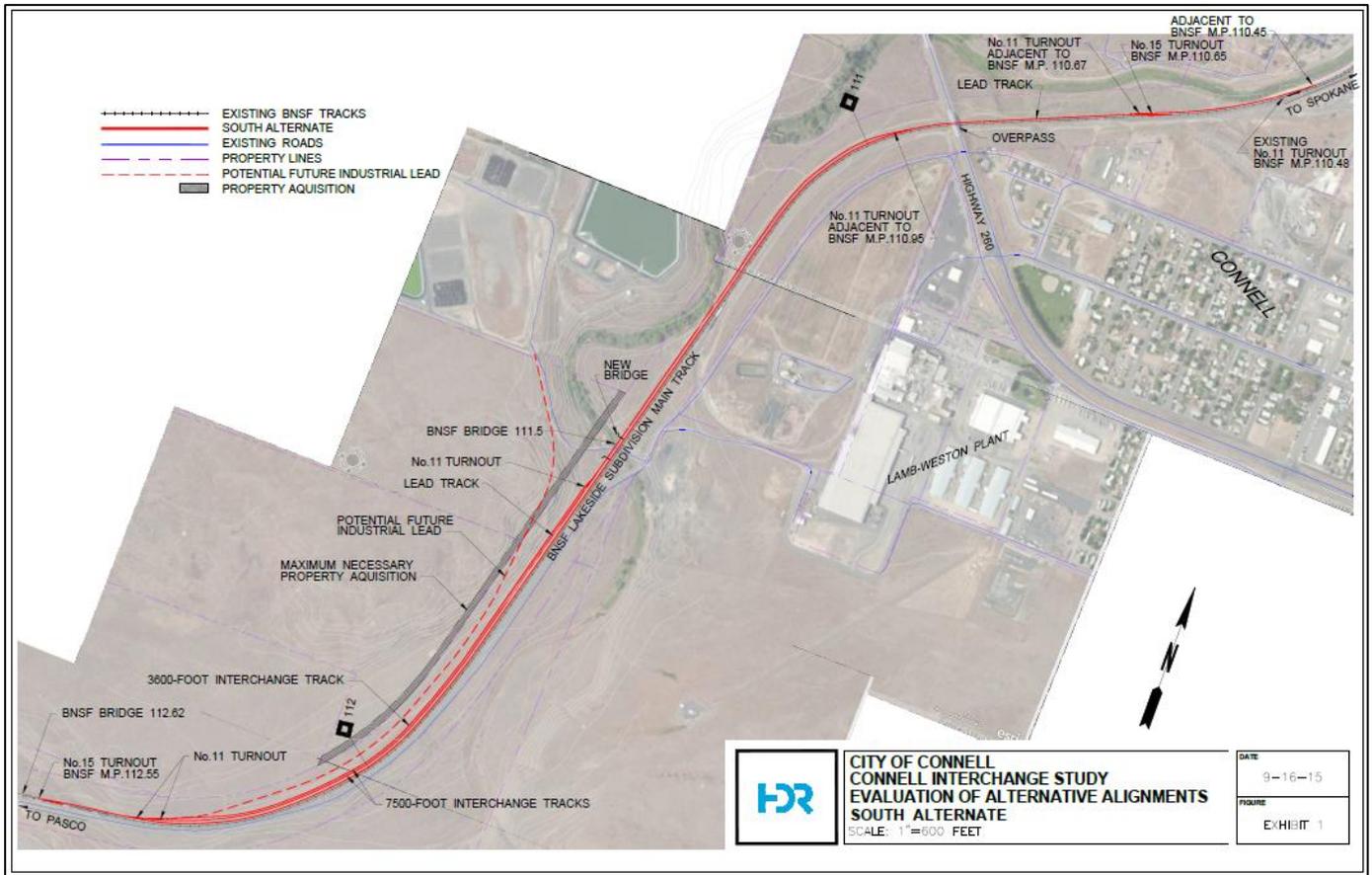
interchange cannot handle an easy transition of unit trains from the North to the CBRW line that serve the Port of Warden. Additionally, the BNSF Lakeside Subdivision's train frequency is too great to allow a 110-car unit train to block the main line for any extended period to allow for a change in operating 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.

The Solution

Exhibit 5 displays the proposed modern rail interchange, to be located approximately 1 mile south of the existing interchange

Exhibit 5: Relocated Interchange Yard



The Connell Rail Coalition brought together stakeholders to collaborate and develop a realistic solution to the existing challenges. This project aligns with, and supports, the goals of investments on the Great Northern Corridor. These coordinated efforts will achieve improvements and efficiencies of rail improvement, long-term sustainability, and foster economic growth.

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





The outcome of this project, and projects along the Great Northern Corridor, will be improved operations, increased safety, reduced road congestion, reduced truck use of roads and highways, and competitive transportation options for the region's farmers, producers and manufacturers.

Improved freight mobility has proven to have a positive economic impact on the region. For example, the Port of Warden was successful in siting the \$109 million Pacific Coast Canola plant. The plant relies on timely rail service and unit train capability.

As discussed earlier, because of the current configuration of the interchange yard at Connell, unit trains serving the Port of Warden must travel an additional 35 miles to Pasco (70 miles roundtrip) in order to turn north to access the rail line to Warden. The new interchange will eliminate these additional miles by providing a rail line that can access the CBRW rail in Connell.

"Having the ability to bring in Unit Trains into Warden on the Columbia Basin Railroad line to service companies such as Pacific Coast Canola is helping to establish the Port of Warden as a key location in Eastern Washington to handle freight and it is pivotal for our economic development and will provide low cost options which are critical for companies to competitively ship their goods."

~Dale Pomeroy, Commissioner, Port of Warden

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.

Great Northern Corridor Coalition & WSDOT Short Line Rail Inventory

The Great Northern Corridor Coalition has identified the Connell Rail Interchange as a necessary project to enhance economic development. According to the Coalition:

"Five inland ports in Washington are directly affected by the interchange at Connell. As a result, the rail interchange and its configuration need to be upgraded and improved to accommodate the tremendous growth in traffic [at Connell and on the CBRW]."

WSDOT in its State Short Line Rail Inventory and Needs Assessment further stated:

"While most, if not all of the CBRW is capable of handling 286K cars, the line faced a need for track rehabilitation as well as a significant need for an interchange upgrade. ... The interest by the [Great Northern Corridor Coalition] in the status of the CBRW line is but one of several entities expressing interest in improvement and expansion of the reach and connectivity of the line." ("286K" refers to the gross rail weight in thousands of pounds of a typical four-axle freight railcar; most railcars in use in North America are 286K cars. Cars with a lighter weight are in service principally on lines that are not 286K-capable, shippers pay more per unit to ship on the lighter cars because they cannot carry as much freight)

WSDOT also identified the economic importance of rail service in eastern Washington in the Washington State Short Line Rail Inventory and Needs Assessment:





“The economic base of the region significantly revolves about agricultural production. Aside from state and local government employment, the agricultural sector makes up substantial portions of the local employment, led by grain farming and frozen food manufacturing. ... Fruit and vegetable farming are also top-10 employment sectors in the region. In fact, the agricultural and support sectors make up 34 percent of the region’s economic output.”

The importance of the Connell Rail Interchange goes well beyond the City of Connell because it impacts economic prosperity across the state, region and country. It limits efficient movement and growth of freight along the Great Northern Corridor.

Engineering designs and operating plans have been developed to meet growing demands at Connell by building a new interchange south of the City, shifting the rail switch yard into industrial areas, and moving away from residential areas, school bus traffic patterns and emergency routes. The completion of this project will harness and attract economic development and will grow our region and our community.

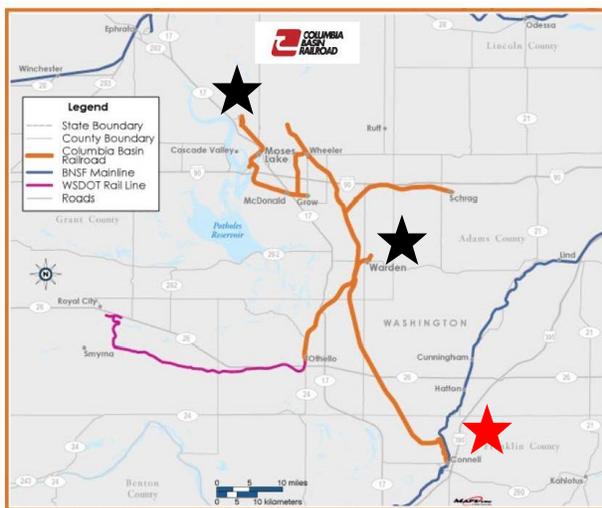
Importantly, a major impediment to improving the regional, and national rail network will be remedied. The new rail interchange will fix the existing **pinch point in the regional rail system**, improving rail service both regionally, and nationally.

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

Exhibit 6: Related Rail Infrastructure Projects



Source: http://clear.com/service_page/#

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 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.

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 located in a rural area, common to Eastern Washington.

Exhibit 7: Great Northern Corridor

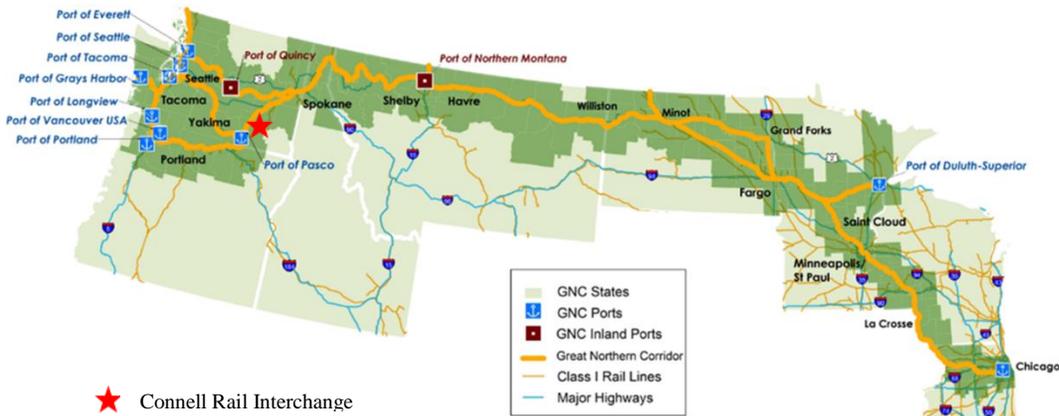


Exhibit 8: Site of Rail Project

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, 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 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, north to Seattle/Tacoma.





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. It includes two 7500-foot capacity tracks and one 3600-foot capacity track. 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 Auxiliary tracks for interchange movements which allow interchange to take place clear of BNSF signalized track. The Connell site provides access to a wide three-county region, abundant with agriculture and industry.

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 four primary project partners that are committed to delivering this project to completion. The City of Connell is the applicant for this funding request.



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.



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 its 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.

The parties are committed to working together to complete this important project. All that remains to move forward with this regional and nationally significant project is the support that this grant funding will provide.

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 TIGER 2017 will allow this project to be completed in a timely manner to meet the transportation needs of both the region and the nation.

Exhibit 9: 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 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.

The USDOT TIGER 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.





Exhibit 10: Sources and Uses of Funds

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%

Project Funding	in Millions	%
Federal Request	\$14.0	58%
Local Match	\$10.1	42%
	<u>\$24.1</u>	100%

V. MERIT CRITERIA

Primary Selection Criteria

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. Shippers face higher costs and the potential loss of market share. The community and region could face higher road maintenance costs, increased conflicts at current grade crossings, and inefficient movement of trains on the BNSF mainline.

a) **Safety** – The new rail interchange will improve multi-modal safety by decreasing train congestion which impacts sight distances and can block or partially block local intersections. *Currently, more than 64 school buses cross the two at-grade crossings per day.* The new interchange will dramatically reduce conflicts between rail and motorists (including school buses) at the two at-grade crossings in Connell. Pedestrians who are impatient when a train is blocking sometimes take a risk by crossing between railcars. Reducing blockages will reduce this risky behavior.

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





b) **State of Good Repair** – 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.

c) **Economic Competitiveness** – The new rail interchange will allow greater freight capacity because of improved flow and velocity. Construction of the Connell Rail Interchange will lead to safe increases in rail movements, expanded access to rail for the region’s agricultural producers and manufacturers, and at reduced costs. It will bring opportunities to expand existing businesses, and attract new business. The Grant and Adams county region has only two modes of transportation for the first movement of freight: truck and rail. The 2007 Commodity Flow Survey for Washington State noted that, between truck and rail, rail movements reach a far wider market than truck.

According to WSDOT (2014 State Rail Plan⁴), 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.

Economic Value of the region served by this project

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.⁵

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.

Job Creation

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. This project will enhance the ability of current and prospective employers to create more jobs, support workforce development, and

⁴ www.wsdot.wa.gov/.../0/StateRailPlanFinal201403.pdf

⁵ http://agr.wa.gov/AgInWa/Crop_Maps.aspx





contribute to community revitalization – especially for low-income groups and minorities in the ag sector.

Economic Importance to Adams and Grant Counties

This operating region draws goods primarily from Grant and Adams county areas. The economic base of the region centers on agricultural production. **Agricultural and support sectors make up 34 percent of the region’s economic output, generating 7,323 jobs⁶.**

“Having a short line railroad connection to BNSF at the Connell Interchange is critical for current and future industry employers in Adams County.”⁷

Today, about 35% of the Columbia Basin Railroad volume originates in Adams County.

In Othello, **McCain Foods USA, Inc.** and **JR Simplot Company** rely on the railroads to move processed frozen potato products to locations across the country and overseas. **Gavilon Grain’s** Union Elevator ships several hundred rail cars of grain from the Schrag Elevator annually. Those rail cars are moved by Columbia Basin Railroad to the Connell Interchange.

Bruce Industrial Park, operated by the Port of Othello, relies heavily on the short line’s presence. The railroad provides critical service to several smaller agricultural industry companies.

The direct connection between CBRW to BNSF’s Class #1 mainline at the Connell Interchange provides a critical piece of Adams County’s infrastructure.

Future Rail Growth Opportunities

The following information was gathered from shippers reliant on the CBRW for service:

Wilbur-Ellis Company

Wilbur-Ellis is an international marketer and distributor of agricultural products, animal feed, fertilizer, agricultural chemicals, specialty chemicals and ingredients. Wilbur-Ellis distributes fertilizer from terminals at Warden, Othello, and Moses Lake. The fertilizer is delivered by railroad from origins in the central and western U.S. and Canada. Wilbur-Ellis stated that their current annual volume is approximately 220 dry fertilizer carloads and 110 liquid fertilizer carloads. They are considering expansion to seven locations in the CBRW service area.

Akzo Nobel Pulp and Performance Chemicals, Inc.

Akzo Nobel is a large multinational chemical company that distributes chemicals to the agriculture industry in eastern Washington from Moses Lake. Akzo Nobel stated that volumes have been consistent at about 900 carloads per year over the past 25 years (weekly volumes range from 15 to 20 carloads).

Pacific Coast Canola

Pacific Coast Canola (PCC) processes canola in Warden. The Warden plant has a crushing capacity of 385,000 tons annually. It produces about 150,000 tons of canola oil per year. Canola, also known as rapeseed, produces a high-quality, high-value cooking oil and ingredient for processed foods PCC receives canola seed in unit trains from western Canada, and ships canola

⁶ (Table 15, p. 41, WSDOT Short Line Study, 2015). www.wsdot.wa.gov/Research/Reports/800/842.1.htm

⁷ Adams County Development Council





oil and canola meal out of their plant in carload volumes. Canola meal is used as an animal feed.

In 2014, PCC received 1745 carloads of canola seed (as well as 21 cars of corn), and shipped out 610 carloads of canola oil and 399 carloads of canola meal. The inbound canola seed equated to 16-unit trains or approximately one unit train every three weeks.

Grant County Economic Development Council

The Grant County Economic Development Council (GCEDC) detailed initiatives and trends that are expected to increase rail traffic on the CBRW through the Connell interchange:

- A prime rail-served industrial park, which will emphasize manufacturing and distribution of industrial machinery, agricultural machinery, and agricultural and industrial chemicals, is expected to be constructed near the airport at Moses Lake.
 - Food processors are seriously considering construction of new facilities within the region.
 - Shippers are increasingly diverting freight from truck to rail. Costs for truck transportation continue to increase, and are often impaired by congestion at Washington Ports and in Western Washington. Outbound processed foods, such as canola oil and potato products, that are presently moved by truck, can be moved more effectively by rail to serve regional markets and to access Western Washington Ports. Rail assists in meeting customer preferences for identity protected grains, and can accommodate increasing growth in containerized transportation to Pacific Rim countries.
- d) **Environmental Sustainability** – The ability to use rail versus trucks to move cargo in and out of the region will reduce emissions from fuel because rail is a much more efficient mode of transportation than trucks.
- e) **Quality of Life** – Rail interchange modifications will reduce the overall impacts of train-interchange activities by moving them away from the at-grade crossings. Vehicular and pedestrian accessibility will be greatly improved over existing conditions due to the reduction in stacking of trains across road crossings causing traffic delays. Importantly, the new interchange will dramatically reduce the number of times school buses and trains are at the grade crossings at the same time.





Exhibit 11: Examples of Delays Experienced at Connell Crossings



Secondary Selection Criteria

a) **Innovation** – Quality design efficiency has been developed through logistics engineering review, resulting in realistic layout and practical design solutions.

b) **Partnership** – 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.

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 partners provided matching funds and contributions were received from BNSF and Columbia Basin Railroad (\$5000 each). 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.

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
 Letters in support of this application are attached in Appendix E.

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.

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

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.

Alternatives evaluated





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.

The South Alternative was selected as Preferred Alternative

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

Description of the design of the selected interchange alternative:

South – 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.

Sources of data and information used to develop the alternative layouts include:

1. Inferworks software to provide topographic data based on available USGS data.
2. Franklin and Adams County Assessor property data for property boundary and ownership information.
3. CBRW and BNSF Historical Track Charts used for existing track information.
4. U.S. Fish and Wildlife Service, National Wetlands Inventory to identify any conflicts in areas of alternative construction around waterways.
5. United States Department of Agriculture, National Resources Conservation Service Web Soil Survey web data used to identify any potential soil and construction issues.
6. ESRI ArcGIS used for aerial imagery information.

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.

Recent refinement to the original cost estimates added \$4,235,702. The estimate for the South Alternative is \$24 million, which includes contingency.

Benefits of the South Alternative

- 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.

Recommendations

The South Alternative is the most beneficial option related to cost, operations and land impacts because it:

- Meets all minimum design criteria.
- Has the smallest overall footprint.
- Provides potential for future industrial rail access.
- Requires the least amount of land acquisition, if any.
- The most cost effective.

Cost Estimate

The original Order of Magnitude Construction Cost for each alternative was estimated to be:

- South Alternative: \$19,240,000.
- Middle Alternative: \$23,480,000.
- North Alternative: \$33,287,000.

The South alternative, even with recent adjustments, is the most cost-effective option.





B. Project Schedule

Final Design will be completed by Spring 2018. A 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 can begin as early as Summer 2018 and be completed by Fall 2019. But will be delayed while the City works to secure full funding. 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 in order to apply them 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 fully obligated.

Exhibit 12: 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 13: Required Permits/ Approvals

Agency	Permit/Approval
City of Connell	<ul style="list-style-type: none"> – 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	<ul style="list-style-type: none"> – 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	<ul style="list-style-type: none"> – Construction Stormwater NPDES Permit – SEPA review
Corps	<ul style="list-style-type: none"> – Project review/approval (process to be determined) – NEPA review (if triggered) – Section 404 Permit (if wetlands were filled)
USBR/SCBID	<ul style="list-style-type: none"> – Project review/approval (process to be determined) – NEPA review (if triggered)
USFWS	– ESA review (if NEPA is triggered)
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
- WSDOT 2016 Prioritized Freight Project List⁸
- 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.

⁸ <http://www.wsdot.wa.gov/publications/fulltext/LegReports/15-17/2016PrioritizedFreightProjectList.pdf>





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 Rail Coalition
 - 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.

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.

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 14: 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. Results of Benefit-Cost Analysis

Exhibit 15 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 INFRA and TIGER 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.





Exhibit 15: 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	\$ -
Quality 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

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 the roads and highways, due to the reduction of truck miles;
- Reduced emissions due to lower Vehicle miles traveled by commercial trucks;
- Improved safety, resulting in reduced economic costs of potential fatalities on the highway due to the 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:

- Downtown 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.

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 of 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.

Safety

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.

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.

Economic Competitiveness

The 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.

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.

Quality of Life

The reduction in switching in the center of Connell will improve the resident quality of life by reducing congestion and improving local mobility. Significantly, it will dramatically reduce the risk of school bus and train accidents. Residents and visitors will enjoy the ability to cross from the residential and commercial areas to the schools located west of the BNSF mainline in a timelier manner. Emergency response time will be improved because of the reduction on blockages due to train switching and reconfiguration.

Qualitative Benefits not Quantified.

Although, the reduction of potential fatalities has been monetized, the social benefits of preventing other less severe accidents is not 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.

VIII. COST SHARE

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.

BNSF cannot make any financial or in-kind commitments at this time. As the project is further developed, BNSF may have opportunities to provide assistance. 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.





IX. FEDERAL WAGE RATE CERTIFICATION

The signed Federal Wage Rate Certification is attached as requested in Appendix F.


City of Connell EASTERN WASHINGTON'S HARVESTLAND

Maria Peña, City Administrator
 101 E. Adams, P.O. Box 1200 • Connell WA 99124 • www.cityofconnell.com
 (509) 234-2701 ext 1234 • Fax: (509) 234-2704 • info@cityofconnell.com

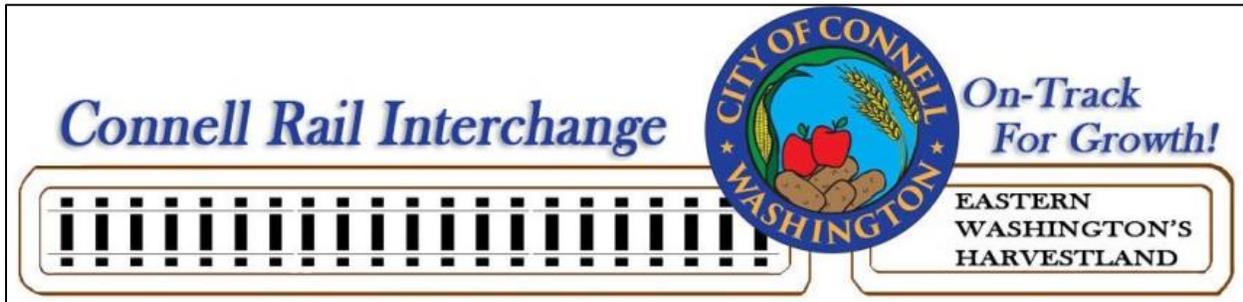
FEDERAL WAGE RATE CERTIFICATION
 Connell Rail Interchange Project

I hereby certify that the City of Connell will comply with the requirements of Subchapter IV of Chapter 31 of Title 40, United States Code [Federal Wage Rate Requirements], in the utilization of any funds granted to the City of Connell as required by the Fiscal Year 2017 Appropriations Act.

 
 Mayor Bruce Blackwell Date

X. 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. 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: Federal Wage Rate Certification

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

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

H: Connell Interchange 30% Opinion of Construction

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





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 TIGER 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](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





Merrill G. Lieb
Assistant Vice President
Shortline Development

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

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





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 F: Federal Wage Rate Certificate



Maria Peña, City Administrator
 104 E. Adams, P.O. Box 1200 ♦ Connell WA 99326 ♦ www.cityofconnell.com
 (509) 234-2701 ext 1234 ♦ Fax: (509) 234-2704 ♦ moena@connellwa.org

FEDERAL WAGE RATE CERTIFICATION

Connell Rail Interchange Project

I hereby certify that the City of Connell will comply with the requirements of Subchapter IV of Chapter 31 of Title 40, United States Code [Federal Wage Rate Requirements], in the utilization of any funds granted to the City of Connell as required by the Fiscal Year 2017 Appropriations Act.

Bruce Blackwell
 Mayor Bruce Blackwell

Oct 9, 2017
 Date





H: 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				WORKING DRAFT	
Item #	Description	Unit	Unit Cost	Qty	Total
Project Items					
1	Performance and Payment Bond	LS	7,500.00	1	7,500.00
2	Construction Surveying	LS	100,000.00	1	100,000.00
3	Material and Construction Testing	LS	30,000.00	1	30,000.00
4	Construction Contingency	LS	40,000.00	1	40,000.00
SUBTOTAL OF PROJECT ITEMS (Excluding Tax and Bond)					\$170,000
Roadway/Civil Items					
5	Project Temporary Traffic Control	LS	7,500.00	1	7,500.00
6	Clearing and Grubbing	AC	2,500.00	1	2,500.00
7	Soil Erosion Control	LS	15,000.00	1	15,000.00
8	Construction Surveying	LS	100,000.00	1	100,000.00
9	Material and Construction Testing	LS	30,000.00	1	30,000.00
10	Rock Excavation	CY	25.00	395,000	9,875,000
11	Embankment Compaction	CY	2.50	147,000	367,500
12	Common Borrow Including Haul	CY	4.50	0	0
13	Gravel	CY	3.00	283,113	849,339
14	Gravel	CY	3.00	36,700	110,100
15	Gravel	CY	26.00	28,750	752,500
16	Jurusha and Install Subbase	LF	65.00	11,900	773,500
17	15% Hot Stone Asphalt	LF	65.00	11,900	773,500
18	15% Hot Stone Asphalt	LF	65.00	11,900	773,500
19	15% Hot Stone Asphalt	LF	65.00	11,900	773,500
20	Bridge	LF	12,000.00	276	3,312,000
21	Pier Protection and Access Rd Accom @ 34520	LS	80,000.00	1	80,000.00
22	15% Hot Stone Asphalt	LF	65.00	11,900	773,500
23	Sealing, Patching and Matched	AC	3,000.00	133	399,000
SUBTOTAL OF ROADWAY/CIVIL ITEMS					\$9,013,859
Railroad Items					
24	BNSF Signation	EA	1,100,000.00	1	1,100,000.00
25	Jurusha and Install Track	LF	180.00	27,241	4,902,800
26	Common Standard #15 Turnout BNSF	EA	220,000.00	3	660,000
27	Common Standard #11 Turnout BNSF	EA	180,000.00	5	900,000
28	Common Standard Turnout Other	EA	175,000.00	5	875,000
29	Common Standard Turnout Other	EA	175,000.00	5	875,000
30	Common Standard Turnout Other	EA	175,000.00	5	875,000
31	Common Standard Turnout Other	EA	175,000.00	5	875,000
32	Jurusha and Install Wood Panel Crossing	LF	500.00	288	144,000
33	Jurusha and Install Weavey	LF	10.00	4,000	40,000
SUBTOTAL OF RAILROAD ITEMS					\$9,970,800
SUBTOTAL OF BID ITEMS (EXCLUDING MOB AND BOND)					\$16,084,719
SUBTOTAL OF BID ITEMS (INCLUDING MOB AND BOND)					\$16,079,720
Additional Required Items					
34	Construction Contingency	DAY	1,000.00	200	200,000
35	Minor Access Road Extra Costs	AC	10,000.00	0	0
36	Aggrav Property Costs	AC	10,000.00	0	0
37	Construction Testing QA Allowance	EA	30,000.00	1	30,000
38	Engineering (Railroad) related (not including geotech and survey)	EA	300,000.00	1	300,000
39	Engineering (Railroad) related (not including geotech and survey)	EA	300,000.00	1	300,000
40	Engineering (Railroad) related (not including geotech and survey)	EA	300,000.00	1	300,000
SUBTOTAL OF ADDITIONAL ITEMS					\$1,130,000
Tax (8.0% of bid items and additional items)					\$1,448,928
TOTAL (BID ITEMS, ADDITIONAL TAX)					\$19,558,670
Contingency					\$2,311,210.24
GRAND TOTAL					\$23,470,884

Area of earthwork footprint, no deductions.
70% grub area top soil strip at 0.5'
Assumes full volume but only 13% of overall excavation will be rock.
Borrow sources are assumed to be in close proximity and provided at limited cost.
Based on 60% footprint of top of grade and includes adjacent to track access road.
Based on footprint of top of grade and includes access roads and turnout pads.
Vial area increased due to second access road.
Estimated max. area of 1.5:1 embankment or cut slope w/ 1.5' cover depth.
Pile length and foundations are still in question. Width of bridge increased to accommodate second road.

* Cost could possibly be reduced
* Cost could possibly be reduced
* Cost could possibly be reduced

Unit Prices based on 2015 prices for similar projects where quantities are shown.
The amount of work to be done is assumed to be handled by track side offices.
The estimate accounts for certain elements of work, when 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)

