

Cover Page

BASIC PROJECT INFORMATION	
What is project Name?	Hood River-White Salmon Interstate Bridge Replacement
Who is project Sponsor?	Port of Hood River, 1000 E. Port Marina Dr., Hood River, OR 97031, (541) 386-1645
Was an INFRA application for this project submitted previously?	No
Project Costs	\$10.83M
INFRA Request Amount	\$5.00M
Estimated Federal funding (excluding INFRA) anticipated to be used in INFRA funded future project	\$0
Estimated non-Federal funding anticipated to be used in INFRA funded future project	\$5.83M
Future Eligible Project Cost	\$10.83M
Previously incurred project costs (if applicable)	N/A
Total Project Cost	\$10.83M
Are matching funds restricted to a specific project component?	No
PROJECT ELIGIBILITY	
To be eligible, all future eligible project costs must fall into at least one of the following four categories	
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on the National Highway Freight Network (NHFN)	\$2.6M (25%).
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on the National Highway System (NHS)	\$10.83M (100%)
Approximately how much of the estimated future eligible project costs will be spent on components constituting railway-highway grade crossing or grade separation projects?	\$10.83M (100%)
Approximately how much of the estimated future eligible project costs will be spent on components constituting intermodal or freight rail projects, or freight projects within the boundaries of a public or private freight rail, water, or intermodal facility?	\$8.12M (75%)
PROJECT LOCATION	
State(s) in which project is located	Oregon and Washington
Small or Large	Small
Urbanized Area in which project is located, if applicable	n/a
Population of Urbanized Area	n/a
Is the project located in an Opportunity Zone?	Yes. Tract No. 41027950300
Is the project currently programmed in the STIP, Long Range Transportation Plans, or State Freight Plans?	Oregon STIP 2018-2021 (No. 21280), Oregon State Freight Plan 2017. App J. Klickitat County (Wash.) Long Range Transportation Plan
National Scenic Area?	Columbia River Gorge National Scenic Area (CRGNSA). Bridge Replacement is identified in Chapter 7 of the Management Plan.

Project Narrative

I. Project Description

The Mid-Columbia River Region seeks to replace the nearly century old Hood River (Ore.) - White Salmon (Wash.) Interstate Bridge. The original bridge – built in 1924 – has a number of restrictions limiting it’s full use for the residents, businesses and visitors to this 95 mile stretch of the Columbia River located in the Columbia River Gorge National Scenic Area (CRGNSA). The replacement effort began in 1999 (back in the day of earmarks) with the Washington State federal delegation obtaining \$1.58 million for a feasibility study, draft environmental impact statement (DEIS) and a type, size and location (TS&L) study for the replacement of what was referred to in Washington State as State Route 35 (SR-35). In 2017, the Oregon Legislature passed HB2017 appropriating \$5 million toward a Final Environmental Impact Statement (FEIS)/Record of Decision (ROD) and project development activities¹. \$2.5 million of that appropriation remains as of January 2020. The Port of Hood River’s \$5 million grant request will leverage the remaining \$2.5 million of Oregon state appropriation along with another \$3.33 million of local contribution to complete the FEIS, begin permits, design and Right of Way (ROW) acquisition necessary. The region anticipates that final construction funding will come from a mixture of Washington and Oregon bonds and local funding to make replacement a reality prior to the end of 2029. ✨

Figure 1a. The Current Hood River Bridge from Waubish Rd. in White Salmon



Figure 1b. Visualization required for NEPA of new bridge design concept



¹ *Local Agency Agreement, Misc. Contracts and Agreements No. 32334, Salem, OR: The State of Oregon, January 9, 2018.*

II. Project Location

The Hood River - White Salmon Interstate Bridge (HRB) is a critical freight and commuter link in the heart of the CRGNSA, spanning the federal waterway at river mile 169 between Oregon and Washington. The Oregon landing is located at GPS coordinates 45.713223, -121.500499. The project is located in Oregon Congressional District 2 and Washington Congressional District 3.

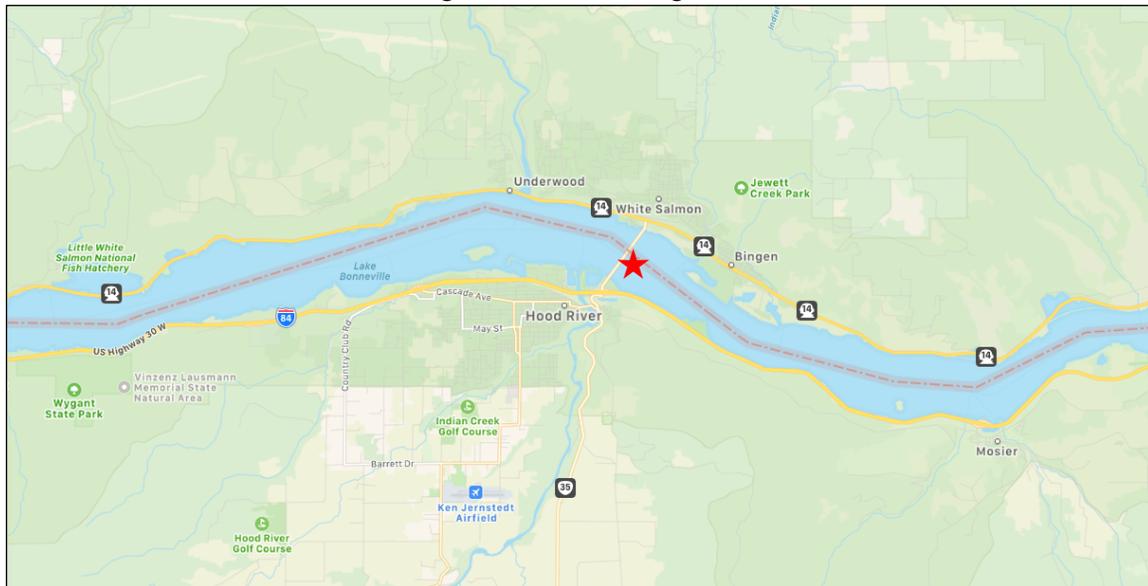
The 4,418 foot long bridge connects the rural communities of White Salmon and Bingen, Washington with Hood River, Oregon serving as an essential link to the local communities, the region, and interstate movement of freight, commuters, and visitors. The Preliminary Preferred Alternative (PPA) selected during the Pre-INFRA Phase 1 DEIS sited the new bridge directly west of the current bridge, with approaches at or just west of their current location.

The HRB provides the only connection for passenger vehicles between Interstate 84 and Washington SR 14 for over forty-five miles between Cascade Locks (Bridge of the Gods) and The Dalles (US-197) Bridge. For truck traffic over 80,000 lbs., there is 95 miles of isolation between I-205 and US-197. Other important connected by the bridge are Oregon Hwys. 35 and 30, and Washington SR-141, US Marine Hwy M-84, the Pacific Coast Trail, as well as the soon to be completed Historic Columbia River Highway State Trail. *

Figure 2
Location of Hood River, Oregon



Figure 3
The HRB Connects SR-14 in Washington to I-84 in Oregon



III. Project Parties

The following is a list of project partners helping with the replacement of the HRB.

PARTNER	ROLE
Port of Hood River	Current bridge owner and operator since 1950. Bi-state Bridge Replacement Committee Member
City of Hood River	Municipal boundary of southern approach. Bi-state Bridge Replacement Committee Member
Hood River County	Constitutional local government to the south. Bi-state Bridge Replacement Committee Member
Klickitat County	Constitutional local government to the north. Bi-state Bridge Replacement Committee Member
City of White Salmon	Municipal boundary of northern approach. Bi-state Bridge Replacement Committee Member
City of Bingen	Bi-state Bridge Replacement Committee Member
SW Washington State Regional Transportation Council (RTC)	Public agency board providing a conduit for state funding and policy direction
Oregon Dept. of Transportation (ODOT)	Facilitated the funding of FEIS/Public Private Partnership (P3) rule development
Columbia River Gorge Commission	Bi-state National Scenic Area (NSA). Management Plan includes Bridge Replacement provisions
Washington Dept. of Transportation (WSDOT)	Project partner on engagement to the Washington State highway system
Mid-Columbia Economic Development District (MCEDD)	Providing economic development data for the Mid-Columbia River Region
Shaver Transportation	Founded in 1880, Shaver's 15 tugs and 20 barges are one of the largest marine transportation companies on the Columbia Snake River System
Columbia River Inter-Tribal Fishing Council (CRITFC)	Tribal agency partner communicating impacts to tribal rights regarding cultural resources, fisheries and economic development. Represents interests for the Yakama Nation (YN), Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Confederated Tribes of Warm Springs (CTWS), and the Nez Perce Tribe (NPT)

By completing the pre-construction phases of the project and securing needed rights-of-way for the new bridge, this project will build upon the work completed by the Port and partner agencies to rectify current and future transportation inadequacies and deficiencies associated with the current bridge.

Renewed outreach to tribal representatives including direct in-person meetings with each of the four treaty tribes (Yakama Nation, Confederated Tribes of Warm Springs, Confederated Tribes of the Umatilla Indian Reservation, and the Nez Perce Tribes) has been a major element in the public outreach process to date and the Port anticipates maintaining those tribal relationships through construction and beyond.

REGIONAL PARTNERS & PLANNING ALREADY COMPLETE

A multi-jurisdictional effort has been underway since 1999 for the long-term replacement of the existing bridge. This planning effort began with scoping for a bridge replacement feasibility study conducted by lead agencies Southwest Washington Regional Transportation Council (RTC), the Oregon Department of Transportation (ODOT), and the Washington State Department of Transportation (WSDOT). This effort culminated in a NEPA scoping phase led by the Federal Highway Administration (FHWA); a completed feasibility study and draft Environmental Impact Study (DEIS) including a Record of Decision in 2003; and a Type, Size and Location Study (TS&L) in 2012. This multi-year study effort included the involvement of local counties, cities, ports, Gorge Commission, businesses and citizens as participants on a Local Advisory Committee.

Since then, replacement of the HRB has been identified as the #1 priority in the 2019 Comprehensive Economic Development Strategy (CEDS) of the Mid-Columbia Economic Development District, which states:

“Matching funding to support completion of an Environmental Impact Statement for a new Hood River White Salmon Interstate Bridge [...] is a vital step in the process of securing a replacement bridge, a critical transportation facility in the mid-Columbia Region.”²

The 2019 Regional Transportation Plan for Klickitat County, Washington also ranks bridge replacement project as a #1 priority.

Hood River County’s Zoning Ordinance Article 75 (National Scenic Area Ordinance) anticipates the bridge replacement project, with recommendations on the Visual Quality, Historic Design Elements, and recommendations for Recreation and Pedestrian/Bicycle Access for the new bridge. The bridge replacement project is included in the County’s next update to the Transportation Safety Plan (TSP), as well as that of the City of Hood River. The need for bridge replacement is also expected to be included in the next comprehensive plan update for Klickitat County and City of White Salmon.

AFFECTED COMMUNITIES

Both Klickitat County in Washington and Hood River County in Oregon are rural areas with 2017 populations of 21,811 and 23,377 respectively. The cities of Bingen and White Salmon together comprise a local population of 3,281 and the City of Hood River has 7,686 residents. Together, these communities constitute a single bi-state community and the economic well-being of this region is dependent on the Bridge. The entire Columbia River Gorge region is home to more than 83,000 residents commuting across state and county lines for employment, creating a

² Board of Directors, *Columbia Gorge Economic Development Strategy 2017-2022*, The Dalles, OR: Mid-Columbia Economic Development District, April 2019.

truly bi-state regional economy. The Columbia River Gorge National Scenic Area is a national treasure, and host to over 2 million visitors each year. *

IV. Grant Funds, Sources and Uses of all Project Funding

Following is a high level summary of the work prior to the current 2020 INFRA request, the work that will take place as part of the INFRA request and work that will take place after the INFRA request.

Figure 4
Resources and Expenditures Summary by Phase

RESOURCES			
	Feasibility Pre-INFRA Phase 1	Pre- Construction INFRA Phase 2	Construction Post-INFRA Phase 3
Washington	\$99,885	\$-	\$94,900,115
Oregon	\$2,500,000	\$2,500,000	\$90,000,000
Federal	\$1,582,000	\$5,000,000	\$-
Local	\$335,000	\$3,333,333	\$99,749,667
TOTAL	\$4,516,885	\$10,833,333	\$284,649,782

EXPENDITURES			
	Feasibility Pre-INFRA Phase 1	FUTURE ELIGIBLE COSTS	Construction Post-INFRA Phase 3
DEIS	\$1,277,000	\$-	\$-
TS&L	\$739,885	\$-	\$-
SDEIS	\$2,046,000	\$-	\$-
Admin/Legal	\$454,000	\$1,279,000	\$1,500,000
ROW	\$-	\$985,000	\$-
Other Arch	\$-	\$2,046,000	\$-
Engineering	\$-	\$5,200,000	\$25,000,000
Construction	\$-	\$-	\$238,500,000
Contingency	\$-	\$1,323,333	\$19,649,782
TOTAL	\$4,516,885	\$10,833,333	\$284,649,782

A. Previously Incurred Expenses (Pre-INFRA Phase 1)

This bi-state effort began in 1999 when Rep. Linda Smith (Wash. 3rd District) worked to secure the funds for the SR-35 Feasibility Study. The SW Washington Regional Transportation Council (RTC) received \$942,000 in the Transportation Equity Act for the 21st Century (TEA-21) which was passed June 9, 1998. An additional \$235,000 in local match was used, bringing the total to \$1,277,500 for the study effort. Matching funds were provided by Klickitat (Wash.) County and the Port of Hood River, Ore. These funds were used to complete the SR-35 Feasibility Study and Draft Environmental Impact Statement (DEIS) in 2003.

On August 10, 2005, President Bush signed into law the “Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users” (SAFETEA-LU), which included \$640,000 for the SR-35 Study. Representative Doc Hastings (Wash. 3rd District) secured these funds via earmark. WSDOT provided “Toll Credits” from the State Ferry system as a match (\$99,885). These funds were used to complete the Type, Size, and Location (TS&L) Study in 2011.

In 2017, the Oregon side of the river picked up the baton when the Oregon State Legislature passed House Bill 2017 (HB2017), the “Local Transportation Projects Program”, using State Highway Funds. \$5 million was appropriated for “an environmental impact statement (EIS) and necessary related activities for the replacement of the Hood River / White Salmon Interstate Bridge”. As of December 31, 2019, the Port of Hood River, ODOT and Federal Highway Administration (FHWA) have completed most of the Supplemental Draft EIS and the Port has also developed Administrative Rules for the consideration of Public Private Partnerships (P3s).

B. Future Eligible Costs

This next INFRA phase will include completing the Final Environmental Impact Statement (FEIS)/Record of Decision, acquisition of Right of Way (ROW), environmental mitigation, revenue forecasting using a Level 2 Traffic and Revenue Study and 15% design. Studying Public Private Partnerships (P3s) is also a task during this phase. The breakdown of costs follows category structures found on the grant form SF-424C.

Figure 5. Future Eligible Costs by SF-424C Cost Classification

Cost Classification / Task	Total Cost	% of Total Costs	Notes
A. ADMINISTRATIVE & LEGAL EXPENSES			
- Port Project Management Staff & Expenses	\$120,000		
- Contracted Project Management Expenses	\$150,000		
- Intergovernmental Coordination	\$96,000		
- Project Legal	\$48,000		
- Traffic/Toll Revenue Estimates	\$270,000		
- Regulatory / Permit Scoping	\$108,000		
- Evaluate Project Delivery Alternatives	\$150,000		
- Financial Modeling/Finance Plan Preparation	\$105,000		
- Public/Private RFI	\$192,000		
- Feasibility Report	\$40,000		
	\$1,279,000	12%	SF-424C Row 1
B. LAND, STRUCTURES, RIGHTS-OF-WAYS, APPRAISALS			
- ROW Engineering/Appraisals	\$935,000		
- ROW Legal	\$50,000		
	\$985,000	9%	SF-424C Row 2
C. OTHER ARCHITECTURAL & ENGINEERING FEES			
Complete Sec. 106/Final EIS			
- Archeological Investigation	\$150,000		
- Biological Assessment	\$186,000		
- Section 4(f) Consultation	\$30,000		
- Public Outreach & Involvement	\$109,000		
- Tribal Coordination	\$245,000		
- Stormwater and Water Quality	\$90,000		
- Final EIS Documentation/Report	\$1,236,000		
	\$2,046,000	19%	SF-424C Row 5
D. ARCHITECTURAL & ENGINEERING DOCUMENTS			
- 15% Engineering Design/Build Bid Set	\$4,500,000		
- Geotechnical Borings	\$700,000		
	\$5,200,000	48%	SF-424C Row 4
SUBTOTAL	\$9,510,000		SF-424C Row 12
CONTINGENCY	\$1,323,333	12%	SF-424C Row 13
TOTAL INFRA PROJECT COSTS	\$10,833,333	100%	SF-424C Row 16

C. Source and Amount of Funds to be Used toward Future Eligible Project Costs

Approximately \$2.5-million remains that will be used to complete NEPA, conduct financial studies, create a permit plan and evaluate project delivery methods from HB2017 funds.

The Port of Hood River has committed \$3.3-million towards future eligible project costs per vote of the Commission on February 4, 2020.³

A successful INFRA 2020 grant application for \$5-million will complete the financing for this phase of the project.

Figure 4 shows a summary of the source and amount of funds to be used on Future Eligible Project Costs for the INFRA phase.

D. Non-federal Funds for Future Eligible Project Costs, Including Documentation

The Intergovernmental Agreement (IGA) between the Port of Hood River and State of Oregon for \$5-million was executed January 9, 2018. The Port of Hood River Board of Commissioners approved the INFRA 2020 grant application at their February 4, 2020 regular meeting. The discussion included language that commits the Port to contributing the local match of \$3.3-million. Both documents are included in the Appendices.

E. Federal Funds for Future Eligible Costs, the Amount, Nature and Source of Required Non-federal match funds

No other federal funds are being sought for future eligible project costs. The resources required as the non-federal match will be State of Oregon funds appropriated as part of HB2017 and a commitment by the Port of Hood River to contribute matching funds, as previously noted in this application.

F. Budget Showing How Funds Will Be Spent

Figure 6. Future Eligible Costs by Source

CATEGORY	ODOT	%	POHR	%	NON-FED	%	INFRA	%	TOTAL	%
Admin/Legal	\$454,000	35%	\$270,200	21%	\$724,200	57%	\$554,800	43%	\$1,279,000	12%
ROW	\$0	0%	\$481,400	49%	\$481,400	49%	\$503,600	51%	\$985,000	9%
NEPA	\$2,046,000	100%	\$0	0%	\$2,046,000	100%	\$0	0%	\$2,046,000	19%
Engineering	\$0	0%	\$2,080,000	40%	\$2,080,000	40%	\$3,120,000	60%	\$5,200,000	48%
Contingency	\$0	0%	\$501,733	38%	\$501,733	38%	\$821,600	62%	\$1,323,333	12%
TOTAL	\$2,500,000	23%	\$3,333,333	31%	\$5,833,333	54%	\$5,000,000	46%	\$10,833,333	100%

³ Board of Commissioners, *Approved Regular Meeting Minutes*, Hood River, OR: Port of Hood River, February 4, 2020.

The categories are the same as the sub-totaled categories in Figure 5. Future Eligible Costs. The Non-Fed totals for each category are the added amounts from the ODOT and POHR contributions. The right-most percentage column (%) reflects the percentages of each category to the entire INFRA project. The percentages of the Non-Fed and INFRA totals are not shown in the table but add up 100% of the project costs. Figure 5 shows additional breakdown for each category.

G. Contingency

The project includes a 12% contingency split roughly 62:38 between INFRA and the applicant. This contingency should be adequate for accommodating any unanticipated cost increases. ODOT is funding a \$300,000 contingency though it is identified as a management control line item within the NEPA grant document. Unused contingencies would be used to generate engineering beyond 15%.

H. INFRA Grant Proceeds Going Towards Freight Infrastructure

As a small project defined in section C.3.ii of the NOFO, this project development award will assist in improving freight rail infrastructure on the Burlington Northern Santa Fe (BNSF) Railway on the Washington side of the Columbia River as well as improving maritime traffic on the Columbia River. In addition, the project is in a bi-state rural area as defined in Sec. C.3.e in the NOFO.

The current bridge's 246-foot navigational channel under the lift span is poorly aligned, insufficient, and dangerous for the commercial cargo barges navigating the federal inland waterway. The preliminary preferred alternative calls for a minimum navigational channel of 450 feet, and also recommends a re-alignment of the channel, stating that "the channel alignment should also allow tugs and barges to be aligned with the westerly winds that now hit on the diagonal and cause control problems, especially for tows with empty barges."

In his testimony to the Oregon state legislature on January 25, 2016, Eric Burnette, Executive Director of the Oregon Board of Maritime Pilots described the unique and significant challenges barge pilots face when approaching and navigating under the bridge [excerpt]:

".... When configured as a unit, these 4 barges and one towboat form a large vessel that by itself is slightly over 1/10 of a mile long. It requires precise and skillful navigation. The practical impacts of these combined factors on navigational safety are significant. A tug/barge headed upriver will typically favor the south side of the channel as it passes the While Salmon River Delta, and then quickly shift to the north side of the channel to avoid the Hood River Delta. Once clear of the Hood River Delta it must then immediately get into position to pass under the lift span of the Hood River Bridge.⁴

A down-bound vessel faces a different set of challenges. Lacking the obstacles found on the downstream side of the Hood River Bridge, a tug/barge approaching from upstream will have

⁴ Senate Bill 1510 (LC0257), Hearing before the Committee on Transportation, *Testimony of Eric Burnette, Exec. Dir. of Oregon Board of Marine Pilots*, Salem, OR: Oregon State Senate, January 25, 2016.

more time and room to get into proper alignment to pass under the Hood River Interstate bridge. However, once under the bridge, that tug/barge must negotiate both the Hood River and then the White Salmon River Deltas with the current coming from behind. This following current only accelerates the vessel's speed over the bottom and reduces the time available to make the necessary course corrections as it passes both deltas.”

In an email to the Port of Hood River on April 11, 2016, Port Captain Fred Harding describes the experience thusly:

“Many gray hairs have been produced by the current span on many a crew. Over the 30+ years I have been watching the Columbia River this bridge has been known to be struck more than all other obstacles on the entire river system. Due to the narrowness of the bridge and the weather in the area of the bridge. If you add into the mix the wind surfers and kite boarders the difficulty again increases. If it were to be enlarged to 450 feet at the navigation span and the river to under side of the bridge were to be 80 feet I believe much of the stress of the transit would be reduced.”⁵

Over 9 million tons of commercial cargo traveled under the bridge's lift span in 2012, at least 30% of the total cargo barged for import/export on the inland navigation route from Portland/Vancouver to Lewiston, Idaho. Barge traffic on the lower Columbia River continues to grow with barge operators annually hauling more than 3 million tons of wheat and barley, and millions of barrels of petroleum products, logs and wood chips.

Engineering can begin upon completion of the 45-day public comment period for the Supplemental Draft EIS. The FEIS/ROD is anticipated to be completed in Summer 2021 as part of this INFRA request. The engineering will be aided by any mitigation that is required through the NEPA process and public comment period. The Oregon Legislative appropriation must be used for NEPA and other activities necessary to move the project forward. *

V. Merit Criteria

Criterion #1. Support for National or Regional Economic Vitality

Narrow lanes, limited access, low speeds, rapidly increasing deferred O&M costs, and constrained horizontal clearance for barges inhibit marine freight and vehicle traffic. Replacing the Hood River Bridge will provide a more efficient linkage between Washington and Oregon regional and interstate freight corridors. The new bridge will include wider lanes, an increased speed limit and pedestrian infrastructure, both of which are not existent presently. Additionally, the new bridge will widen horizontal barge clearance which currently makes this area among the most difficult to traverse on Marine Highway 84 (M-84).

The new bridge will assist in improving freight rail movement along the Class I Burlington Northern Santa Fe (BNSF) mainline that connects the nation with ocean ports located along the West Coast. Preliminary marine freight benefits include replacement of the outdated lift span bridge with a fixed span with adequate vertical clearance for all ships, and re-alignment of the

⁵ Harding, Captain Fred, Shaver Transportation, *Message to Genevieve Scholl*, Portland, OR: Port of Hood River, April 11, 2016, E-mail.

channel to 450 feet, which will enhance inland to ocean port barge shipping using 4-barge tows on the Columbia River, which serves as our the nation’s largest wheat export gateway.

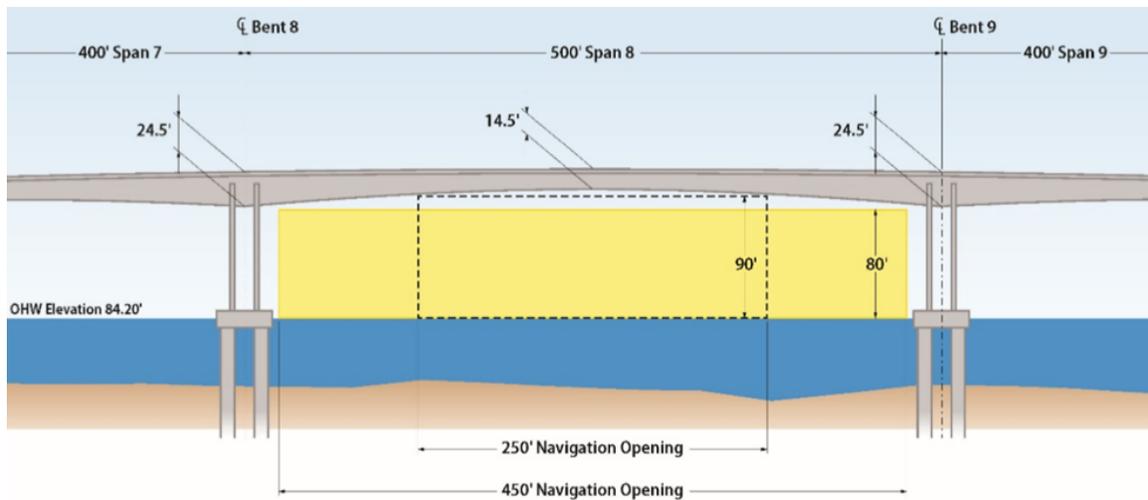
The combined rail, marine and highway freight volume served by the bridge exceeded 25 million tons in 2019 (74% rail, 14% barge, 12% truck), based on estimates by Port staff.⁶

Over 4.3 million vehicles crossed the Hood River Bridge in 2019. Traffic levels have reached record levels in 2019 despite a current 80,000 lbs. vehicle weight limit. The proposed bridge is expected to raise this weight limit to 105,500 lbs. and increase truck usage by 15% during the first year of opening.

According to this project’s detailed Benefit Cost Analysis, Phase 2 elements (for which this INFRA grant will be used) are projected to result in a BCA ratio of 2.5:1 (using a 7% annual discount rate).

INFRA funds are expected to leverage bi-state (Oregon and Washington) and local funding required to construct the new bridge without the need for additional federal grants in Phase 3. The combined phases 2 and 3 are expected to result in a BCA ratio of 1.2:1 (using a 7% annual discount rate).

Figure 7. USCG Preliminary Navigation Determination – Clearances



⁶ Assumes 5 unit trains per day on the BNSF mainline = 18.5 M tons, 3.5 million tons of barge cargo shipments (per USACE shipment data), and 3.1 M tons of truck freight (Port of Hood River data) in shipments in 2019.

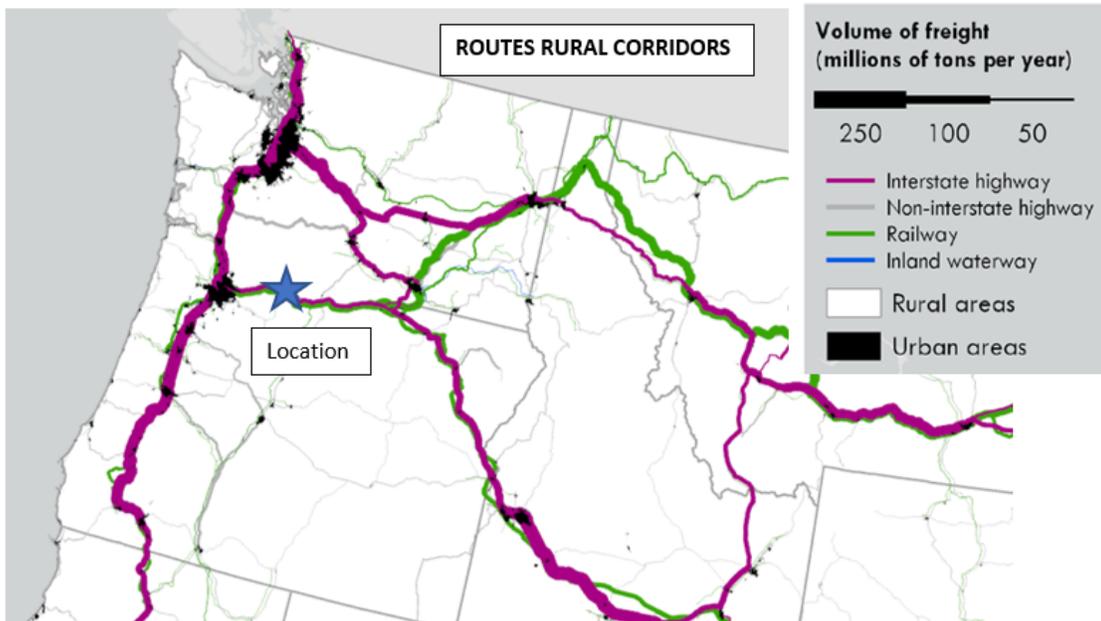
Figure 8. Summary of Benefits and Costs

Economic Competitiveness	Phase 2 only		Phases 2 & 3	
	BCA with zero discount rate	BCA with 7% discount rate	BCA with zero discount rate	BCA with 7% discount rate
Summary of Benefits				
Economic Competitiveness factors (net change)	\$26,799,868	\$23,499,499	\$1,238,027,950	\$222,558,010
State of Good Repair (cost avoidance)	\$0	\$0	\$96,519,290	\$11,166,553
Safety (cost avoidance)	\$0	\$0	\$41,903,799	\$5,374,121
Environmental Air Quality factors (net change)	\$0	\$0	\$124,019	\$18,853
Remaining life of Bridge in year 50	\$0	\$0	\$147,741,558	\$3,123,398
Summary of Benefits	\$26,799,868	\$23,499,499	\$1,524,316,615	\$242,240,935
Summary of Costs	(\$10,833,333)	(\$9,505,624)	(\$295,483,115)	(\$207,505,709)
Net Benefits over 50 Years	\$15,966,535	\$13,993,875	\$1,228,833,500	\$34,735,227
Benefit Cost Ratio (calculated)	2.4738	2.4722	5.1587	1.1674
Benefit Cost Ratio (rounded)	2.5:1	2.5:1	5.2:1	1.2:1

Source: Hood River Bridge Benefit Cost Analysis, Appendix B, February 2020.

The proposed project directly addresses the federal Rural Opportunities to Use Transportation for Economic Success (ROUTES) initiative by addressing disparities in rural transportation infrastructure. Replacement of the 96-year old bridge will result in bi-state regional economic benefits that meet our Nation’s priority transportation goals of safety and economic competitiveness. As shown in the ROUTES map below, this project directly serves all designated Rural freight modes (Interstate Highway, Railways, Inland Waterway).

Figure 9. Project meets four ROUTES rural corridors criteria



This project is located within a rural U.S. Congressionally-designated National Scenic Area (NSA), located approximately 45 miles from an urban center at river mile 169 between Oregon and Washington. As such, the route provides a vital linkage between the agricultural heartland and ocean ports located in the Pacific Northwest.

The new bridge will strengthen U.S. freight mobility for all modes of travel, support and enhance high technology companies, farm operations and visitation/service industries within the NSA and beyond.

There are well over 10,000 separate farm operations that depend on shipments along the routes enhanced by this project. The Hood River and Yakima Valleys are a world leader in the production of pears and apples, with over 225,000 tons of fruit produced for domestic and foreign consumption each year.

In addition, the region has evolved its Advanced Technology and Avionics clusters. The bridge is a critical shipping route and workforce link between Oregon and Washington, which is home to Insitu, an independent subsidiary of Boeing, and one of the largest manufacturers of unmanned aerial vehicles (UAVs) in the world.

As a NSA, the Columbia River Gorge attracts millions of visitors each year from around the U.S and the world. The current Bridge has no bicycle/pedestrian facilities and cannot support such facilities. The proposed design will accommodate all modes of travel and safely connect the historic highway to regional destinations by auto, truck, foot and bicycle.

COMMUTERS: NO VIABLE ALTERNATE ROUTE TO WORK

The Hood River/White Salmon area is truly a single, bi-state community with the bridge providing a critical route to work and services for residents on both sides of the river. In 2014 there were 12,444 jobs in Hood River County. Of those jobs, workers who lived outside of the County held 5,435. Nearly six percent (736 jobs) of Hood River County's jobs were held by residents of Klickitat County (White Salmon, Bingen primarily) and 2.5% (315 jobs) were held by Skamania County residents (Stevenson, North Bonneville primarily)⁷. Alternate routes across the river would require an additional 45-60 minutes drive time, as the nearest alternate crossings of the Columbia are more than 20 miles away in each direction. Thus, the bridges of the Gorge, especially the HRB, provide essential routes to work, school, health care, and other services for working families throughout the region.

KEY INDUSTRY SECTORS

Key industry clusters in the region include agricultural production worth over \$300 million annually; high tech/advanced manufacturing focused on unmanned aerial vehicles (UAV) generating over \$450 million in annual revenue with 1,200 employees in both states; value added agricultural/food production clustered around wineries, breweries, and distilleries; and tourism recognizing the region as an international destination for outdoor recreation in all seasons. Beyond workforce commuting, the value of freight crossing the Hood River Interstate Bridge is estimated to be \$75 million, not including high-value UAV components⁸.

Studies conducted by Parsons Brinckerhoff and HNTB on the HRB conclude that cumulative spending to maintain the bridge in its current deficient, constrained/limited access condition could grow to \$30 million over the next 25 years. The Summary of the Draft EIS describes the impact

⁷ Data provided by Oregon Employment Department Regional Economist, Dallas Fridley. Phone: (541) 645-0005 Email: Dallas.W.FRIDLEY@oregon.gov

⁸ Moore, Terry, EcoNorthwest, *SR-35 Hood River Bridge: Economic Effects*, Portland, OR: SW Washington RTC, October 2010.

of bridge closure if the current bridge reaches the end of its serviceable life and has to be closed to all vehicular traffic:

“This closure would have severe social and economic impacts on the interdependent, bi-state communities. In particular, Bingen, White Salmon and nearby rural areas would lose their direct connect to I-84. Residents and business-related traffic would need to travel 20 miles east or west before being able to cross the Columbia River at The Dalles or Cascade Locks. This severed direct connection could be detrimental to the long-term economic development of the Washington communities as well as an adverse effect to Hood River businesses and service providers that depend on the workforce and client base that Washington residents supply.”⁹

AFFECTED INDUSTRY SECTORS:

MANUFACTURING, AGRICULTURE, FORESTRY, TOURISM

Bingen, Washington is the home of Insitu, an independent subsidiary of Boeing and one of the largest manufacturers of unmanned aerial vehicles (UAVs) in the United States. The Bridge is a critical shipping route for Insitu UAVs, components, and parts, but even more important as a commuter link for the company’s more than 1,200 employees who live and work on both sides of the river.

The Hood River Valley is a world leader in the production of Anjou pears and other winter pear varieties. Together, Oregon and Washington produce 84% of the nation’s fresh pear crop. According to the Columbia Gorge Fruit Growers Association, over 225,000 tons of apples, pears, and cherries are annually produced in the Mid-Columbia area. The current bridge is structurally deficient for vehicle freight crossings, with only two very narrow (9’ 4’ .75”wide), shoulder-less lanes. The preliminary preferred alternative calls for a roadway consisting of two 12-foot travel lanes, two 8-foot shoulders, and one 16-foot pedestrian/bike facility on one side.

The Bridge has no bicycle/pedestrian facilities and cannot support the addition of such facilities. This is particularly problematic since it prohibits cycle commuting between Washington and Oregon and also fails to serve the recreational interests of cyclists and pedestrians drawn to the NSA.

Since 1986, ODOT has invested over \$73 million in federal and state funding to redevelop the Historic Columbia River Gorge Highway (HCRH) - \$56 million of that on the HCRH Bicycle and Pedestrian facility. 63 of the original 73 miles of the Historic Columbia River Highway are now open to travel either by motor vehicle (Historic Highway or connecting county roads) or by foot and bicycle (State Trail). This facility is drawing tens of thousands of cyclists and pedestrians to the NSA, yet the lack of cycling and pedestrian access on the HRB presents a significant and unfortunate gap in non-motorized connectivity in the NSA.

An October 2012 study by HNTB concluded that while there is significant interest and broad support from area stakeholders in adding safe pedestrian and bicycle crossings to the current bridge, there are significant structural and mechanical barriers that make such a project unfeasible and cost-prohibitive. The study concluded that:

⁹ Moore, Terry, EcoNorthwest, *SR-35 Hood River Bridge: Economic Effects*, Portland, OR: SW Washington RTC, October 2010.

- The steel trusses have a limited reserve structural capacity to support added loads.
- The lift span would require significant mechanical and electrical equipment upgrades and structural retrofit or full replacement to support the added loads and configuration.
- The steel trusses would require full engineering evaluation and structural strengthening to support added loads.
- If a ped/bike facility is added to the bridge the bridge may need to be load limited for vehicles.
- The substructure (piers) and subaqueous (underwater) foundations have an unknown ability to support additional vertical and lateral loading and require further investigation.

The Summary of the Draft EIS notes that a result of the construction of the preliminary preferred alternative design would be that, “Recreational opportunities would be expected to increase with a bridge crossing that has multi-modal facilities and would enable bi-state connections to trails and sidewalks.”

ENVIRONMENTAL IMPACTS & BENEFITS

At the project location, the Columbia River is host to Endangered Species Act (ESA) salmon and steelhead, lamprey, and migratory birds and other sensitive species. The Summary to the DEIS details the immediate environmental benefit to the Columbia River with the removal of the steel deck bridge:

“The new bridge would benefit water quality, as compared to the existing bridge, because road runoff from the bridge deck would be collected and treated prior to discharge to the Columbia River. Currently, all oil, grease, metals, and sediments from vehicle may enter the river directly through the grated bridge decking.”

The DEIS also notes the expected improvements related to an increased speed limit on the new bridge, stating: “Each of the build alternatives would improve energy consumption of traffic [...] range[ing] between 8 and 15 percent less than No Action as a result of the higher operating speed....”

Criterion #2. Leverage of Federal Funds

Thirty percent of the project will be coming from revenues generated from the existing toll bridge. Though not popular, tolls have been a cultural norm on the Hood River Bridge since 1924. By using tolls generated by local residents on this project, the Port is showing a significant local leverage of federal funds while showing citizens in Hood River and Klickitat Counties that their tolls are being used for bridge replacement.

Figure 6 (pg. 9) shows the breakdown by the source of revenue. The \$2.5M from ODOT was appropriated as part of House Bill 2017 (HB2017) to the Port of Hood River to develop a Final EIS (FEIS) and Record of Decision (ROD). The Port of Hood River Board of Commissioners voted unanimously to obligate \$3.3M from toll revenues to forward this project along¹⁰. Without

¹⁰ Board of Commissioners, *Approved Regular Meeting Minutes*, Hood River, OR: Port of Hood River, February 4, 2020.

the federal contribution, it is likely that many of the tasks identified in this application will not occur in the near future. In the past, tolls have been used for the ongoing maintenance and repairs of the existing bridge, so utilizing tolls toward bridge replacement is somewhat unique for the Port.

Criterion #3. Potential for Innovation

BROADBAND OPPORTUNITIES

Gorge Networks and the Columbia Gorge Broadband Consortium have approached the Port requesting that the new bridge will have adequate conduit for high-speed Internet cable that can reach both sides of the River.

The Gorge Broadband Consortium (GBC) seeks to ensure that residents and businesses have the broadband access and skills to take advantage of the resources, services, and markets available on the Internet today.

To accomplish these goals, the GBC is working with communities, internet service providers, and local and regional governments to address access challenges in Klickitat and Skamania Counties (Wash.). Ensuring that a new bridge will provide conduit and access for high speed internet cable will help the GBC meet their goals.

TOLLING ANALYSIS

A new bridge will likely generate an increased toll providing revenue to pay for the bonds necessary for bridge construction. The Port contracted with Stantec Inc., an international professional services company in the transportation consulting industry. In February 2019, Stantec produced a Sketch Level Traffic & Revenue (T&R) Forecast studying five tolling scenarios.

Figure 10. Basic Assumptions for analyzing tolling scenarios

SCENARIO	ASSUMPTIONS
1	No replacement Bridge; toll collection continues using cash and BreezeBy; no toll rate modifications.
2	A replacement Bridge opens in FY2025; toll collection continues using cash and BreezeBy; no toll rate modifications.
3	A replacement Bridge opens in FY2025; All Electronic Toll Collection (AET) starts in FY2025; image-based toll rate will be equal to the cash rate; no toll rate modifications.
4	A replacement Bridge opens in FY2025; All Electronic Toll Collection (AET) starts in FY2025; image-based toll rate will be equal to the cash rate; a 100 percent toll increase is applied upon replacement Bridge opening in FY2025.
5	A replacement Bridge opens in FY2025; All Electronic Toll Collection (AET) starts in FY2025; image-based toll rate will be equal to the cash rate; a 100 percent toll increase is applied upon replacement Bridge opening in FY2025; an inflation of 2 percent per year is applied to all forecast years after FY2025.

The Stantec analysis forecasts T&R for a 32-year period from FY2019 through FY2050 based upon the five scenarios listed above.¹¹ Though setting tolls for a new bridge is years away, the analysis gave elected officials and the public some understanding of the assumptions to be considered for funding a replacement bridge.

¹¹ Gobeille, Rick, Sketch Level T&R Forecast, Portland, OR: Stantec Inc., February 22, 2019.

INNOVATIVE PROJECT DELIVERY PRACTICES

One of the tasks that this INFRA grant will help fund is an analysis on alternative project delivery methods. With less and less public funds available for infrastructure projects, the Port expects to evaluate and analyze Public Private Partnerships (P3s). It will be critical for the steps after the INFRA tasks have been completed to have a better understanding of whether municipal financing will be available or if the private market can provide a better product for the region. It will be critical to have a clear understanding of the best procurement model moving forward and INFRA will help add clarity to this goal.

Criterion #4. Performance and Accountability

The Port of Hood River has already completed Phase 1 work elements (between 1998-2019) for the Hood River-White Salmon Bridge. This included pre-INFRA grant investment of \$4.5 million to determine overall project feasibility, conceptual design, preliminary environmental impact studies, and engineering studies of project life cycle costs. Detailed life cycle cost analysis was prepared by an independent professional engineering firm, and is documented in the report: *Deterioration, Moeling & Future Expenditures for the Hood River -White Salmon Bridge Replacement*: HNTB, 2011. Print. Rep. Hood River: ODOT, WSDOT, SW Washington RTC, 2014. Print.

Thirty percent of the project will be coming from revenues generated from the existing toll bridge. Though not popular, tolls have been a cultural norm on the Hood River Bridge since 1924. By using tolls generated by local residents on this project, the Port is showing a significant local leverage of federal funds while showing citizens in Hood River and Klickitat Counties that their tolls are being used for bridge replacement. This is one way that the Port can show performance and accountability to the residents of the mid-Columbia region that this project is significant.

The Hood River-White Salmon Bridge BCA analysis takes this and other project cost and toll revenue information and related assumptions into account.

STATE OF GOOD REPAIR

Replacing the Hood River Bridge will enable the Port to avoid major near-term O&M costs needed to maintain current lift span elements and keep operations moving effectively. Estimates made in the 2011 HNTB Corporation Report "Deterioration Moeling & Future Expenditures for the Hood River - White Salmon Bridge" regarding the extensive O&M expenditures needed to maintain the Hood River Bridge, determined that the bridge would need \$36.5 million in repairs over the next 30 years if no action were taken to improve the bridge. In comparison, the bridge would only require routine, less expensive maintenance if this project to move forward (an estimated \$19.6 million over that same 30-year time frame). The difference (\$16.9 million in year 2018 dollars) was divided by 30 in order to annualize the cost; the resulting product was applied to each year in the BCA (see following Exhibit).

Figure 11. O&M Cost Avoidance

Assumptions	INFRA Grant Awarded, Hood River Bridge Built	NO BUILD	Change	Source
O&M schedules				
Aggregate O&M Costs over 30 Years (2011 Dollars)	\$16,065,014	\$29,955,638	\$13,890,624	2011 HNTB Corporation Report "Deterioration Moeling & Future Expenditures for the Hood River - White Salmon Bridge"
Escalation Factor	1.219639	1.219639	1.219639	ENR Seattle CCI 2011-18 index
Annualized Escalation Factor			3.1%	ENR Seattle CCI 2011-18 index
Aggregate O&M Costs over 30 Years (2018 Dollars)	\$19,593,518	\$36,535,066	\$16,941,547	Calculated
Annualized O&M Cost	\$653,117	\$1,217,836	\$564,718	Calculated

RESIDUAL VALUE OF CAPITAL INVESTMENT

In accordance with BCA Guidelines, the BCA quantifies the residual value of the capital expenses associated with this project. This figure accounts for the residual value of capital investment. The residual value of the capital portion of the project was analyzed to determine the general category of the bridge capital investment. For this project a 100-year life is assumed. Hence, there would be 50 years of remaining useful value in year 50, which equates to 1/2 of its original cost. The residual value of the project was then discounted by 7% annually (see following Figure).

Figure 12. Residual Value Analysis

Item	Future Eligible Costs Phase 2 (2020-2024)	Post INFRA Construction Costs Phase 3 (2025-29)	Total
Bridge Investment	\$10,833,333	\$284,649,782	\$295,483,115
Life Expectancy (years)			100
Years remaining in year 50			50
percent value remaining in year 50			50%
Residual value in year 50			\$147,741,558

INCREASED TOLL REVENUES

Because toll revenues would be dedicated towards bridge costs, a portion of gross toll revenues is included in this analysis. Increased tolling revenue was determined by projecting future crossings in build and no-build scenarios while also projecting increases in tolling in build and no-build scenarios, as reflected in the following Exhibit. Projected crossings were calculated by multiplying current crossings by annual crossing growth rates in a build (1%) and no-build (0.5%) scenario. Once crossings were projected, each type of crossing (car, truck, motorcycle) was multiplied by build (tolls are doubled in order to afford bridge reconstruction) and no-build (no change) tolling assumptions. The difference between the two scenarios is the projected benefit.

Since the economic benefit of toll revenues would be partially offset by the annual savings realized from expected reductions in fuel costs and vehicle maintenance, this BCA assumes that 90% of gross toll revenues can be counted towards the benefits of constructing the new bridge.

Figure 13. Bridge Tolling Assumptions

Port of Hood River Bridge Tolls			
NO BUILD	Northbound	Southbound	Average
Cars	\$2.00	\$ -	\$1.00
Motorcycles	\$1.50	\$ -	\$0.75
Trucks (per Axle)	\$2.00	\$ -	\$1.00
Port of Hood River Future Tolls			
BUILD	Northbound	Southbound	Toll
Cars	\$2.50	\$2.50	\$2.50
Motorcycles	\$1.50	\$1.50	\$1.50
Trucks (per Axle)	\$2.50	\$2.50	\$2.50

According to the Hood River-White Salmon Bridge Replacement Project BCA analysis (summarized in the following **Figure 14**), the projected increase in toll revenues from the \$2.00 one direction rate to the \$2.50 (both direction rate), is expected to be more than sufficient in meeting the revenue requirements associated with annual bridge financing and project operations and maintenance requirements.

In fact, the investment in the new bridge is expected to support \$802.6 million in gross toll revenues during the next 50 years, and result in a net O&M cost savings of \$66.4 million (undiscounted 2018 dollars). Please refer to full BCA Report for additional detail.

The primary purpose of Phase 2 of the project (for which the INFRA grant funds are being requested) includes completion of the environmental permitting (FEIS) and securing a Full Funding Agreement with formal legislative support from both Oregon and Washington. The Port of Hood River will be responsible for establishing the tolls for the bridge and will have the fiduciary responsibility for ensuring that the toll revenues that are collected will be dedicated to project financing and O&M reserves necessary to address long term maintenance as stipulated by the full funding agreement that is established by the bi-state compact for bridge funding. *

Figure 14. Bridge Revenue and Related BCA Assumptions

Economic Competitiveness	Phase 2 only	Phases 2&3
	2020-2024	2020-2079
Truck Traffic	655,830	11,926,173
Light Vehicle Traffic	21,205,160	329,256,637
Change in Truck Miles of Travel	-	(93,548,626)
Change in Truck Travel Time	-	(1,725,989)
Change in Truck Ton-Miles	-	(1,216,132,138)
Change in Passenger Vehicle Travel Time (hours)	-	(13,257,828)
Net Change in Fuel Required (gallons)	-	(290,098)
Monitized Value of Economic Competitiveness		
Bridge Toll Revenues, No Build	\$29,777,631	\$411,382,798
Bridge Toll Revenues, BUILD	\$29,777,631	\$802,579,218
Toll Revenues Dedicated to New Bridge Project (@90%)	\$26,799,868	\$722,321,296
Vehicle O&M Savings, Passenger Vehicles		\$397,734,843
Value of Travel Time Savings, Passenger Vehicles		\$114,753,923
Value of Travel Time Savings, Trucks		\$794,205
Truck Fuel Cost Savings per Year		\$870,293
Truck Maintenance Cost Savings (excludes fuel & driver time)		\$1,553,390
State of Good Repair (cost avoidance)		
Roadway Maintenance Cost Savings Per Year (trucks)	\$0	\$791,021
Net Bridge O&M Cost Avoidance	\$0	\$66,353,614
Net Insurance Cost Savings	\$0	\$29,374,655
Safety Benefits (cost avoidance)		
Change in Truck Accident costs (injuries)	\$0	\$14,503,341
Change in Truck Accidents costs (fatalities)	\$0	\$205,462
Barge related cost avoidance (operations/delays)	\$0	\$14,270,149
Barge related cost avoidance (property damage)	\$0	\$12,924,848
Net Environmental Impacts, Air Quality Benefits		
Volatile Organic Compounds (VOC)	\$0	\$6,337
Nitrogen Oxide (NOx)	\$0	\$47,679
Particulate Matter (PM)	\$0	\$70,002
Summary of Benefits		
Economic Competitiveness factors (net change)	\$26,799,868	\$1,238,027,950
State of Good Repair (cost avoidance)	\$0	\$96,519,290
Safety (cost avoidance)	\$0	\$41,903,799
Environmental Air Quality factors (net change)	\$0	\$124,019
Summary of Annual Benefits	\$26,799,868	\$1,376,575,058
Value of Bridge in Year 50		
Remaining life of Bridge in year 50	\$0	\$147,741,558
Summary of Total Benefits	\$26,799,868	\$1,524,316,615
Summary of Costs	(\$10,833,333)	(\$295,483,115)
Net Benefits (no discount rate)	\$15,966,535	\$1,228,833,500
Net Benefits (w/@7% discount rate)	\$13,993,875	\$34,735,227

VI. Project Readiness

The region completed a feasibility study almost 20 years ago and a preliminary preferred alternative was selected through the Draft EIS process. Design criteria were negotiated as part of the Type, Size and Location Study (TS&L) in 2011.

The Supplemental Draft EIS is currently underway with the public comment period taking place at the end of 2020. Any mitigation or other project requirements based upon environmental impacts will be incorporated into the mitigation plan. This plan will include any additional construction elements required for NEPA clearance. The timing lines up well for the INFRA grant as the grant agreement can be signed before the Final EIS and ROD is being developed. The US Dept. of Transportation (USDOT) Federal Highway Administration (FHWA) along with the Oregon Dept. of Transportation (ODOT) and the Port of Hood River (POHR) will sign the ROD sometime in mid-2021.

Geotechnical borings will be required at the location of the 17 piers before engineering begins. The US Army Corps of Engineers (USACE) will be issuing a permit for the geotechnical work, which will be good for two in-water work seasons (November 1 – February 15). The borings should take three weeks to complete. Permit status below:

The Port has already prepared a Request for Proposals document for soliciting engineering services for this project

A. Technical Feasibility

The feasibility of this INFRA project is high, as the alternatives and details have been analyzed for over 20 years. In 1999, the Project received funding to complete a SR-35 Columbia River Cross Feasibility Study (<https://www.rtc.wa.gov/studies/sr35/docs/SR35-FinalReport-ES.pdf>) and a Draft Environmental Impact Statement (<https://www.rtc.wa.gov/studies/sr35/docs/deis-es.pdf>). This work determined that replacement of the 1924 bridge was feasible and narrowed down the alternatives for bridge replacement.

Figure 15. Evaluation for Bridge Design Criteria

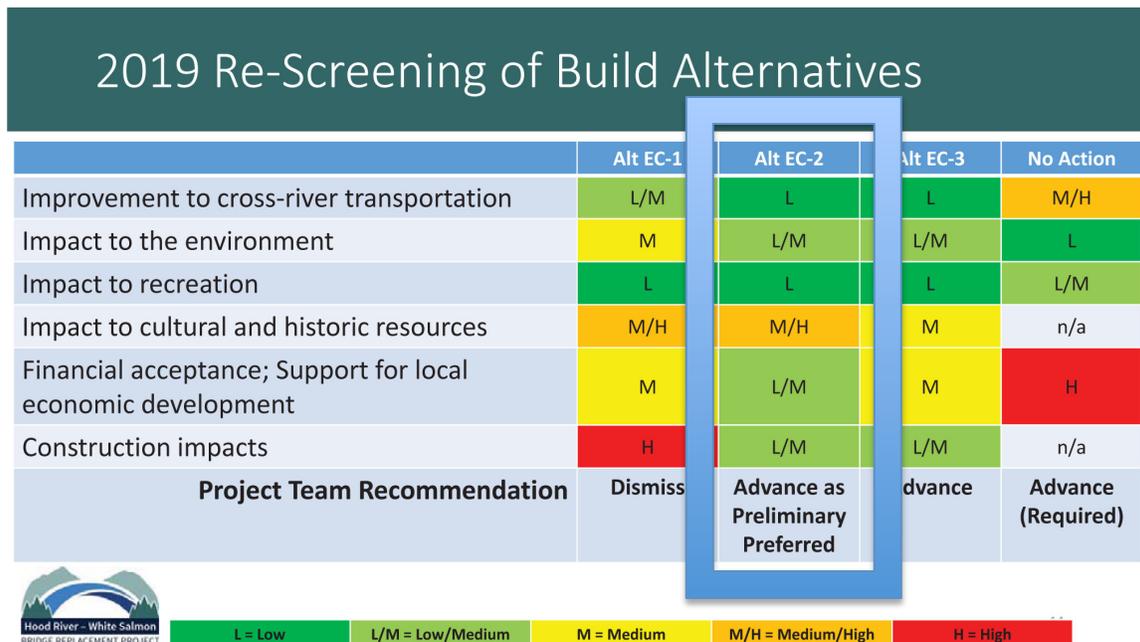
Evaluation Criteria	Weighting	Steel Girder	Segmental Box	Tied Arch
Design Criteria	4%	✓	✓	
Cost	40%		✓	
Construction	12%		✓	
Risk	12%	✓	✓	
Bridge Aesthetics	13%	✓	✓	
Impact to Recreation Users	10%		✓	✓
Natural Environment	9%		✓	✓

After an 11-year delay, the Project received funding to conduct a Type, Size and Location Study (TS&L). FHWA – Washington Division was the lead federal sponsor for this phase and the study resulted in design criteria for a preliminary preferred alternative

(<https://www.rtc.wa.gov/studies/sr35/docs/sr35ExecSum20111007.pdf>). This report was issued in 2011. With cost and aesthetics serving as a key evaluation criteria, the concrete segmental box girder bridge was evaluated as the recommended and most constructible alternative.

In 2017, the Port of Hood River received funding to update the aged Draft EIS and that effort is currently underway. As the Project continues to update the technical reports and analysis that are now almost 20 years old, the preliminary preferred alternative continues to remain the most feasible alternative. A re-screening of the alternatives was completed under advisement of the Project Policy Advisory Committee and the Preferred Alternative (Alt EC-2) was again advanced as the most feasible alternative.

Figure 16. 2019 Re-Screening of Build Alternatives



An Intergovernmental Agreement (IGA) between the Port of Hood River and the State of Oregon was executed January 9, 2018 committing funds to complete a Final Environmental Impact Study (FEIS). At this time, \$2.5-million is remaining to complete the work. In addition, the Port Commission at their February 18, 2020 Regular Meeting voted 5-0 to apply for the 2020 INFRA Grant Program after a detailed discussion about obligating \$3.3-million in existing bridge toll revenue.

In summary, the feasibility of this project being delivered upon award of INFRA is high. The preferred alternative has been identified and funding has been secured.

B. Project Schedule

A project schedule based upon quarterly cost estimates for authorized tasks is submitted as an attachment. Upon receipt of INFRA funds, all activities included in this application will begin. The attached schedule assumes that the grant agreement can be negotiated and approved by the

end of December 2020 allowing work to begin January 2021¹². The INFRA project is estimated to take 24 months and is scheduled to finish by December 2022.

The Supplemental DEIS is scheduled to be released in December 2020 and the INFRA grant would begin engineering activities upon completion of the public comment period. Work on future eligible costs such as geotechnical borings would begin during the in-water work period starting in January 2021.

Figure 16. INFRA Project Milestone Completion Summary

KEY MILESTONE	DURATION	COMPLETION
SDEIS Public Comment Period Complete	7 days	December 2020
Contract for INFRA Executed	3 months	January 2021
In-Water Geotechnical Borings	3 weeks	February 2021
Final EIS/ROD	6 months	July 2021
Project Delivery (Traditional vs. P3)*	9 months	September 2021
Toll Policies*	9 months	July 2022
15% Engineering	18 months	September 2022
Governance Evaluation*	18 months	September 2022
ROW Acquisition	18 months	October 2022
INFRA Work Complete	24 months	December 2022

* Activity not contingent upon other milestones

C. Required Approvals to Being Infra Project

ENVIRONMENTAL PERMITS AND REVIEW

The SDEIS 45-day comment period and the permit for geotechnical work are the two milestones that will be completed before IFNRA work can begin.

The Port is currently in the Supplemental Draft EIS stage (SDEIS). The Project would not begin until the 45-day public comment period closes allowing IFNRA Project tasks to begin. Any mitigation or other project requirements based upon environmental impacts will be incorporated into the mitigation plan. This plan will include any additional construction elements required for NEPA clearance. The timing lines up well for the INFRA grant as the grant agreement can be signed before the Final EIS and ROD is being developed. The US Dept. of Transportation (USDOT) Federal Highway Administration (FHWA) along with the Oregon Dept. of Transportation (ODOT) and the Port of Hood River (POHR) will sign the ROD sometime in mid-2021.

Geotechnical borings will be required at the location of the 15 piers before engineering begins. The US Army Corps of Engineers (USACE) has issued a permit for the geotechnical work, which will be good for two in-water work seasons (November 1 – February 15). The borings should take three weeks to complete. The Washington Department of Natural Resources will approve their permit upon receipt of the USACE approval. Permit status below:

¹² Greenwood, K., *INFRA 2020 Future Eligible Estimated Costs by Quarter*, Hood River, OR: Port of Hood River, February 24, 2020.

Figure 17. Geotechnical Borings In-Water Work Permit Status

Jurisdiction	Permit	Submitted	Status	Approval Date
Federal				
U.S. Army Corps of Engineers – Portland District	Clean Water Act (CWA) Section 404/Rivers and Harbors Act Section 10	15-Jul-19	8/19 assigned to PM Winston Zack	TBD
			NWP-2019-392	
State				
Oregon Department of Environmental Quality	CWA Section 401 Water Quality Certification	15-Jul-19	Pre-certified	N/A
Oregon Division of State Lands	Removal/Fill Permit	15-Jul-19	No Permit Needed	N/A
Oregon Division of State Lands	Short Term Access Agreement	15-Jul-19	Approved	31-Jul-19
				No. 62177-AA
Washington Department of Natural Resources	Aquatic Land Lease	15-Jul-19	In review	TBD
Washington Department of Fish and Wildlife	Hydraulic Project Approval	Before 1 September 2019	Approved	19-Sep-19
Local				
City of White Salmon	State Environmental Policy Act (SEPA) Exemption	15-Jul-19	Exempt	23-Jul-19
	Shoreline Substantial Development Permit (SSDP) Exemption	15-Jul-19	Exempt	23-Jul-19

As part of NEPA, the USCG issued a Preliminary Navigation Determination (<file:///Y:/Downloads/2020%2001%2021%20USCG%20Preliminary%20Navigation%20Determination.pdf>) for the bridge clearances and sent the linked letter to the Port on January 21, 2020.

A number of prior documents have been conducted on this project including the 2003 Draft Environmental Impact Statement, 2004 SR 35 Crossing Feasibility Study, and the 2010 Bridge Type, Size and Location Study. These have been referenced frequently throughout the INFRA application.

The Port has been working closely with Emily Cline, Environmental Program Manager, USDOT-FHWA Oregon, 530 Center St., Suite 42, Salem, OR 97301, (503) 316-2547. Ms. Cline is a key member of the Project Team along with Kevin Greenwood, Bridge Replacement Project Director, Port of Hood River (POHR); and Jeff Buckland, Environmental Project Manager, Oregon Dept. of Transportation (ODOT). We have had bi-monthly project meetings since POHR, FHWA and ODOT were named co-lead agencies for the NEPA process. Frequent phone conferences for additional queries also take place as is typical for any NEPA process.

The public engagement has been thorough since the DEIS re-evaluation and the current Supplemental Draft work. An online survey to get public feedback about bridge replacement and the design criteria generated over 1,000 responses from Oregon and Washington residents. A public open house was held in December 2018 to share the results of the survey and to generate any feedback on the work that had been in development since the late 1990s. Information boards

are produced monthly and displayed at the White Salmon (Wash.) library and in the entry foyer to the Port administrative offices.

A number of community outreach events were also held including a tabling event at the Hood River Walmart (1/11/2019), White Salmon Harvest Market (1/11/2019), Hood River Farmers Market (9/6/2019) and the White Salmon Huckleberry Festival (9/6/2019). As environmental justice is an important part of the NEPA process, the project team also conducted events focused on soliciting responses from underserved populations. Events were held at Latinos en Action (1/10/2019) and the Bingen (Wash.) Food Bank (9/11/2019).

As part of the INFRA grant, the Port anticipates reaching out to tribal members in a variety of ways to generate feedback on fisheries, cultural resources and economic development impacts created by bridge replacement. There are also a number of standing tribal committees that are working directly with the Project Team.

An EIS Working Group (EISWG) is made up of elected officials, a member of the Columbia River Gorge Commission, the Exec. Dir. Of the SW Washington Regional Transportation Council (RTC), the Oregon Area Commission on Transportation (ACT) and the Port of Klickitat (Wash.). The EISWG has been a sounding board for consultants as they conducted a re-evaluation of the DEIS and provided updates on the various technical reports necessary for publishing the Supplemental Draft EIS. The WG's minutes and meeting materials can be found online at (<https://portofhoodriver.com/bridge/bridge-replacement-project/environmental-impact-statement-working-group/>).

A new Bi-State Bridge Replacement Working Group (BSBRWG) has been meeting monthly to discuss policy needs, governance/ownership issues, toll setting and other issues related to bridge replacement outside the NEPA process. This six-member group is made up of the Mayors of Hood River, White Salmon, and Bingen; Commissioners from Hood River and Klickitat Counties; and the Commission President from the Port of Hood River. The Executive Committee members are invited to sit in and participate in the BSBRWG meetings.

Overall, the Port has made public information a high priority during this process.

STATE AND LOCAL APPROVALS - SHOW BROAD PUBLIC SUPPORT

Support letters have been received from:

- Port of Hood River Commission
- City of Hood River Council
- Hood River County Commission
- City of Bingen (Wash.) Council
- City of White Salmon (Wash.) Council
- Klickitat County (Wash.) Commission
- State Sen. Thomsen (Ore. 26th District – R)
- State Rep. Williams (Ore. 52nd District – D)
- State Sen. King (Wash. 14th District - R)
- State Rep. Mosbrucker (Wa. 14th Dist. - R)
- State Rep. Corry (Wash. 14th District - R)
- U.S. Sen. Wyden (Oregon – D)
- U.S. Sen. Merkley (Oregon – D)
- U.S. Sen. Cantwell (Washington – D)
- U.S. Sen. Murray (Washington – D)
- U.S. Rep. Greg Walden (Oregon 2nd District - R)
- U.S. Rep. Jamie Herrera-Beutler (Washington 3rd District - R)
- U.S. Rep. Peter deFazio (Oregon 4th District - D)
- U.S. Rep. Earl Blumenauer (Oregon 3rd District - D)
- SW Washington Regional Transportation Council (SWRTC)
- Port of Cascade Locks
- Shaver Transportation
- Columbia River Gorge Commission

SHOW HOW THE PROJECT IS INCLUDED IN RELEVANT STATE, METRO AND LOCAL PLANNING DOCUMENTS.

- Oregon STIP 2018-2021 (No. 21280)
- Oregon State Freight Plan 2017. App J
- Klickitat County (Wash.) Long Range Transportation Plan, 2019
- City of Hood River Transportation System Plan, 2018
- Pacific NW Waterways (PNWA) Maritime Projects, 2020

POTENTIAL RISK

Procurement for Personal Services Contracts for engineering, cultural resources, traffic and revenue studies and toll analysis are relatively straightforward procurements. The Port has worked with a number of consultants in these fields and ready to begin public contracting rules for these engineering services upon signing the contract agreement. Delays in procurement are low.

There is a chance that during the public comment period for the Supplemental Draft EIS that enough comments are generated that could change elements of the conceptual design criteria. For example, during the TS&L Study, the bike/ped path was located on the west side of the bridge. Since the preferred alternative will be about 50 yards closer to the treaty fishing site, comments could be received by tribal fishers objecting to the closeness of the bridge. The project could avoid that concern by moving the bike/ped path to the east side of the bridge. Another example would be two pier locations were placed within the underwater Bureau of Indian Affairs (BIA) legal parcel. If that becomes an issue, the concept plan could move the piers to the north and south outside the respective boundaries. As part of the SDEIS process, a risk register is being kept to account for these possibilities. The risk is high that something could come out of the comment period, but since the project is conceptual at this point, adjustments could be made to the design criteria before engineering begins.

Right of Way (ROW) acquisition is always a concern and the Project has identified an acquisition plan for required property for the project. Most of the property is in public ownership, but there are three private owners that the acquisition will focus upon. Since the Port of Hood River is an Oregon local government with no jurisdiction in Washington state, the Port will be reliant on our Washington state partners to help in negotiating any ROW acquisition. This is a high risk item, but the project does not require full acquisition to allow the project to continue at this time. There are governance issues in play as well and there is consensus among the bi-state local governments to find a governance structure that allows Washington governments to participate in future bridge decisions. These relationships will be critical as the project moves past the INFRA phase and into larger capital needs.

At this time, there are no financial needs as all matching funds have been obligated and legislative approval is not required for future eligible expenditures. 

VII. Small Project Requirements

A. COST EFFECTIVENESS

There is a significant non-federal contribution to the eligible estimated costs of this INFRA project. More than half the cost of the \$10.83M project will be borne by the State of Oregon and the Port of Hood River. The cost effectiveness of the federal investment is double what it would be if there was no non-federal leverage.

The effect of this project on regional mobility is significant since it affects maritime barge traffic, truck/freight movement, rail crossings and bike/pedestrian access across the Columbia River.

In 2016, a Maintenance and Repair plan identified over \$50-million in needed capital improvements over the next 15 years. Based upon a 2018 preliminary cost estimate produced by Mott McDonald, the cost of a new bridge (with 50% construction contingency) is estimated to be \$271.8-million in 2021 dollars¹³. The \$5-million federal investment will help in applying as much of the budgeted amount for O&M into bridge replacement.

B. MARITIME MOBILITY

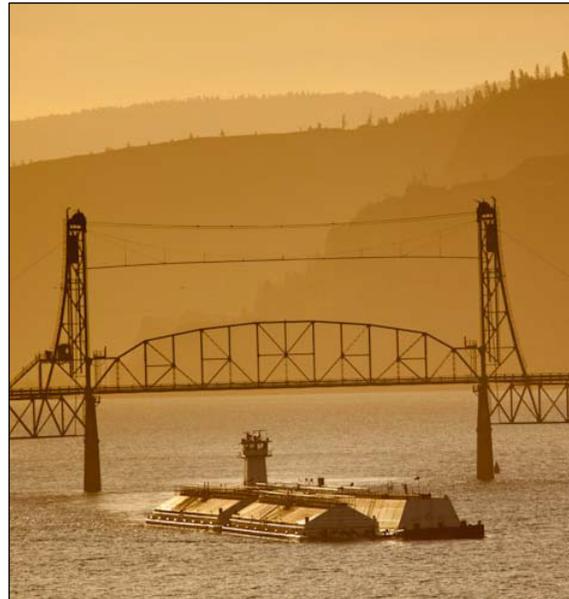
According to Rob Rich, VP of Marine Services for Shaver Transportation – one of the leading barge companies on the Columbia River – “the Hood River Bridge is universally recognized as one of the two most hazardous transit points for danger to vessels or the structure itself due to its navigational obstruction.” Two events have made this a treacherous part of the river.

In November 2006, the Hood River blew a rock-and-debris cork off the slope of Mount Hood and sent millions of tons of water, mud and debris down the valley creating the sandbar that nearly extends to the federal channel.

The White Salmon River was freed in October 2011 when PacifiCorp contractors detonated charges that began the removal of the 125-foot high Condit Dam. An estimated 2.3-million cubic yard of sediment settled into the north side of the Columbia River¹⁴

These two events have made barge pilots navigate a serpentine route around the deposits and through the 246-foot opening of the current 1924 bridge. Compounded by winds that average in the upper teens to upper 20s¹⁵, it’s no wonder that barge pilots found this stretch of the Columbia so daunting.

Case in point, the U.S. Coast Guard (USCG)



¹³ Heydenrych, Paul, *SR-35 Columbia River Crossing – Estimate Report*, Portland, OR: Mott McDonald, May 8, 2018.

¹⁴ Pesanti, Dameon, *Condit Dam: Life after the breach*, Vancouver, WA: The Columbian, Oct. 23, 2016.

¹⁵ *Weather and Conditions*, Hood River, OR: newwindkiteboarding.com, Feb. 21, 2020.

noted that a tugboat pushing three empty grain barges ran one of them into the south pier in 2009.¹⁶ Though the bridge wasn't damaged, the barge was. Increasing the size between piers from 246-feet to 450-feet will make navigating the mid-Columbia region easier for the thousands of barges that make the trip under the bridge every year.

C. VEHICLE FREIGHT MOBILITY

The current bridge is weight restricted to 80,000 lbs. A fully loaded fruit truck hauling fresh pears for processing weighs on average 105,500 lbs. A 2015 report by Columbia River Port Engineers notes that, "Detours either upstream or downstream from the HR Bridge could involve trips of 45 miles or more. The toll at the Hood River Bridge is a bargain as compared to the costs incurred in diverting to the Bridge of the Gods (which is weight limited at 80,000 lbs.), I-205, the bridge at The Dalles or at Biggs Junction." (The Hood River Bridge assesses tolls for trucks based on the axle count of the vehicle combinations. A typical tractor and trailer with five axles will pay \$5.00. Each additional axle is assessed at \$1.00 per axle.)

The current bridge width is only 19.5-feet substandard by any regard. Most interstate bridges are a minimum of 33-feet. With no shoulders or bike/pedestrian path, it's extremely dangerous for recreational vehicles, trucks and trailers and wider vehicles to get past one another. Bridge railing replacement is another constant battle as trucks frequently rub against the railings. Federal Highways has rated the bridge as "functionally obsolete" and is working with the Port and ODOT to move this project forward on to replacement. *

¹⁶ Associated Press, *Barge pushed by tug hits pylon of Hood River Bridge over Columbia*, Hood River, OR: The Oregonian, March 28, 2009.

Benefit-Cost Analysis

Overview

The BCA methodology used in this analysis is consistent with the U.S. Department of Transportation, *Benefit-Cost Analysis Guidance for Discretionary Grant Programs*, January 2020 guidelines. The detailed cost and benefit assumptions are provided in this BCA Appendix¹⁷, and have been prepared by independent professional engineers and economists. **Exhibit.1.1** describes the types of benefits included in the analysis.

Exhibit 1.1: Benefit-Cost Analysis Overview

Topic	Description
Current Status, Baseline Condition & Problem to be Addressed	Hood River Bridge, located in the Columbia River Gorge National Scenic Area is reaching the end of its useful life. Narrow lanes, limited access, low speeds, rapidly increasing deferred O&M costs, and constrained horizontal clearance for barges inhibit freight and vehicle traffic. The Port of Hood River is spearheading a bistate Bridge Replacement Project which will provide a more efficient linkage between Washington and Oregon and freight corridors (I-84 and Hwy. 14). The new bridge will include wider lanes, an increased speed limit and pedestrian infrastructure, both of which are not existent presently. Additionally, the new bridge will widen horizontal barge clearance which currently makes this area among the most difficult to traverse on marine highway 84.
Changes to Baseline Conditions & BCA Alternatives Analysis	Alternatives in the BCA include: Alt 1: No build , where the current bridge design and weight restrictions limit freight movement, EMS vehicles experience delays and horizontal lift spans elements create barge conflicts. Alt 2: Build as proposed: higher speed limit, weight restrictions lifted, lower out of direction freight movement, horizontal clearance improved, barge conflicts eliminated, and increased throughput for all travel modes.
Types of Impacts/Benefits	National freight mobility benefits include: reduced truck miles of travel, reduced travel times for trucks, barges, and passenger vehicles, reduced operational costs, reduced accident costs, lower insurance costs, and residual value of the capital assets in year 50. Environmental benefits include enhanced air quality within the National Scenic Area.
Population Affected by Impacts/Benefits	The following parties will benefit from this improvement: Oregon & Washington commodity shippers; Port of Hood River (OR) and Port of Bingen (WA) industrial businesses and their employees; and millions of residents/visitors within the National Scenic Area.
BCA Economic Benefit Methodology	BCA findings are monetized in terms of: reduced truck/barge/passenger vehicle operation costs; reduced accident costs; reduced pollutants; and residual value of capital assets over a 75-year time frame. Benefits are discounted by 7%.

¹⁷ Chase, Todd, *FY 2020 INFRA Grant Discretionary Program Benefit-Cost Analysis*, Portland, OR: FCS Group, February 13, 2020.

BCA Summary

The results of the BCA analysis indicate a positive B-C ratio. As shown in **Exhibit 1.2**, the **BCA ratio is 2.5:1 with 7% discount rate for Phase 2 elements** (for which these INFRA funds will be used). Long-term BCA results with a 7% discount rate indicate an overall B-C ratio of 1.2:1, with all costs provided by state and local funding sources.

Exhibit 1.2: BCA Results

Economic Competitiveness	Phase 2 only		Phases 2 & 3	
	BCA with zero discount rate	BCA with 7% discount rate	BCA with zero discount rate	BCA with 7% discount rate
Toll Revenues Dedicated to New Bridge Project (@90%)	\$26,799,868	\$23,499,499	\$722,321,296	\$144,160,408
Vehicle O&M Savings, Passenger Vehicles	\$0	\$0	\$397,734,843	\$60,463,555
Value of Travel Time Savings, Passenger Vehicles	\$0	\$0	\$114,753,923	\$17,444,864
Value of Travel Time Savings, Trucks	\$0	\$0	\$794,205	\$120,735
Truck Fuel Cost Savings per Year	\$0	\$0	\$870,293	\$132,302
Truck Maintenance Cost Savings (excludes fuel & driver time)	\$0	\$0	\$1,553,390	\$236,146
State of Good Repair (cost avoidance)				
Roadway Maintenance Cost Savings Per Year (trucks)	\$0	\$0	\$791,021	\$120,251
Net Bridge O&M Cost Avoidance	\$0	\$0	\$66,353,614	\$7,656,694
Net Insurance Cost Savings	\$0	\$0	\$29,374,655	\$3,389,608
Safety Benefits (cost avoidance)				
Change in Truck Accident costs (injuries)	\$0	\$0	\$14,503,341	\$2,204,794
Change in Truck Accidents costs (fatalities)	\$0	\$0	\$205,462	\$31,234
Barge related cost avoidance (operations/delays)	\$0	\$0	\$14,270,149	\$1,646,665
Barge related cost avoidance (property damage)	\$0	\$0	\$12,924,848	\$1,491,428
Environmental Sustainability (truck related)				
Volatile Organic Compounds (VOC)	\$0	\$0	\$6,337	\$963
Nitrogen Oxide (NOx)	\$0	\$0	\$47,679	\$7,248
Particulate Matter (PM)	\$0	\$0	\$70,002	\$10,642
Value of Bridge in Year 50				
Remaining life of Bridge in year 50	\$0	\$0	\$147,741,558	\$3,123,398
Summary of Benefits				
Economic Competitiveness factors (net change)	\$26,799,868	\$23,499,499	\$1,238,027,950	\$222,558,010
State of Good Repair (cost avoidance)	\$0	\$0	\$96,519,290	\$11,166,553
Safety (cost avoidance)	\$0	\$0	\$41,903,799	\$5,374,121
Environmental Air Quality factors (net change)	\$0	\$0	\$124,019	\$18,853
Remaining life of Bridge in year 50	\$0	\$0	\$147,741,558	\$3,123,398
Summary of Benefits	\$26,799,868	\$23,499,499	\$1,524,316,615	\$242,240,935
Summary of Costs	(\$10,833,333)	(\$9,505,624)	(\$295,483,115)	(\$207,505,709)
Net Benefits over 50 Years	\$15,966,535	\$13,993,875	\$1,228,833,500	\$34,735,227
Benefit Cost Ratio (calculated)	2.4738	2.4722	5.1587	1.1674
Benefit Cost Ratio (rounded)	2.5:1	2.5:1	5.2:1	1.2:1

Source: Hood River Bridge Benefit Cost Analysis, Appendix B, February 2020.

The entire BCA can be found as an appendix to this document. 

Appendices

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Other Resources

Pacific Northwest Waterways Association Fact Sheet: <http://www.pnwa.net/factsheets/CSRS.pdf>

YouTube Video “Oil Train Derailment I Was There” (Bridge crossing segment begins at minute 4:00): <https://www.youtube.com/watch?v=iYLugyWEI4w>

Draft Environmental Impact Study 2003: <http://www.rtc.wa.gov/studies/sr35/docs/deis-es.pdf>

Type, Size and Location Study 2011: <http://www.rtc.wa.gov/studies/sr35/docs/sr35Report20111007.pdf>

List and Links to All Studies Completed Prior to INFRA: <http://www.rtc.wa.gov/studies/sr35/>

HNTB Study of Structural Considerations for Pedestrian Crossing on the Existing Bridge: <http://portofhoodriver.com/wp-content/uploads/2016/04/Bridge-Pedestrian-Crossing-Study.pdf>

Columbia River Port Engineers Study on Heavy Truck Use of Hood River Interstate Bridge: <http://portofhoodriver.com/wp-content/uploads/2016/12/c.Attachment.PoHR-Report-20150902.pdf>

Letters of Support

Sen. Chuck Thomsen, Ore. Dist. 26 – R; and Rep. Anna Williams, Ore. Dist. 52 – D. Joint Letter.

Sen. Curtis King, Wash. Dist. 14 – R; Rep. Gina Mosbrucker, Wash. Dist., 14 – R; and Rep. Chris Corry, Wash. Dist. 14 – R. Joint Letter.

Exec. Dir. Matt Ransom, SW Washington Regional Transportation Council.

Comm. David Sauter, Klickitat (Wash.) County; Comm. Rich McBride, Hood River (Ore.) County; Mayor Marla Keether, White Salmon (Wash.); Mayor Betty Barnes, Bingen (Wash.); Mayor Kate McBride, Hood River (Ore.); and Commission President John Everitt, Port of Hood River (Ore.). Joint Letter.

V.P. Marine Services Robert D. Rich, Shaver Transportation, Portland, Ore.

General Manager Olga Kaganova, Port of Cascade Locks, Cascade Locks, Ore.

Additional letters may be sent directly to Secretary Chao.

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