Bridge Investment Program – Planning, Bridge Projects, and Large Bridge Projects
Opportunity No. 693JJ322NF00009

Hood River–White Salmon Bridge Replacement Project

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1. PROJECT APPLICATION

1.1. Basic Project Information

Project Name	Hood River-White Salmon Interstate Bridge Replacement Project
Eligibility Criteria	
Project Description (Replacement, Rehabilitation, Preservation, or Protection projects, including bridge bundling and NBIS culvert replacement and rehabilitation)	The Port of Hood River (the Port) and Klickitat County (County) propose to replace the Hood River-White Salmon Interstate Bridge (the Project). The Project spans the Columbia River between Hood River, Oregon, and Bingen and White Salmon, Washington, which is approximately 60 miles east of Portland, Oregon. The existing Hood River-White Salmon Interstate Bridge (locally known as the Hood River Bridge) was built in 1924 and a lift span was added to the bridge in 1938 to respond to higher water elevations in the pool behind Bonneville Dam. The bridge approaches tie into the federal, state, and local transportation facilities within the city limits of White Salmon and Hood River. The existing bridge is owned and maintained by the Port, which collects tolls from most vehicles. The overall need for the project is to rectify current and future transportation inadequacies and deficiencies associated with the existing bridge. The Federal Highway Administration (FHWA) sufficiency rating for the existing bridge is "functionally obsolete" and needs high priority corrective actions. Specific needs are as follows: • Present Capacity: substandard width and operational issues are causing traffic congestion on the bridge and at both approaches • Future Transportation Demand: the existing bridge is not designed to meet future travel demand for vehicles • Bicycle and Pedestrian Facilities: lack of bicycle and pedestrian facilities limits multi-modal mobility • Safety: narrow lanes and lack of shoulder create real and perceived safety hazards • Social Demands/Economic Development: the existing bridge restricts the current and projected flow of goods, labor and consumers across the river • Legislation: comply with federal funding obligation Transportation Equity Act for the 21st Century (TEA-21), the Washington State Legislature designation of the SR-35 corridor, and Oregon HB 2017

	• River Navigation: the substandard horizontal clearance creates difficulties for safe vessel navigation • Seismic Deficiencies: the existing bridge does not meet current seismic standards and is vulnerable to a seismic event The Project will support a thriving economy and livable communities and the existing bridge would be removed. The Port and County are requesting $100 million in BIP funds towards the estimated total Project construction cost of $500 million, with BIP investment representing 20% of total Project costs. Project construction would take approximately 6 years, with 3 years to construct the replacement bridge and another 3 years to remove the existing bridge. The existing bridge is on the National Bridge Inventory under 23 U.S.C. 144(b).
BIP Request Amount (minimum grant award is $2.5 million)	Exact amount in year-of-expenditure dollars: $100,000,000.00
Total Project Cost (total project cost cannot exceed $100 million for Bridge Projects)	Estimate in year-of-expenditure dollars: $500,000,000
Applicant:	Port of Hood River and Klickitat County
Maintenance Commitment	The Port of Hood River can commit to certify the maintenance of the new bridge with costs covered by tolls.
Bike and Pedestrian Accommodation required by 23 U.S.C. 217(e)	The project will provide a barrier-separated shared-use path on the west side of the bridge deck. This would offer a safe new facility for people who want to walk or bike between Oregon and Washington and connect the existing Waterfront Trail in Oregon.
Additional Project Information	
State(s) in which project is located	Oregon and Washington
Does the project serve an urban or rural community?	Rural
List all Project Co-Applicants.	Klickitat County

Identify the Lead Applicant (who will be also the applicant responsible for administration of BIP funds if application is selected and point of contact for the application.)	Kevin Greenwood Bridge Replacement Project Director Port of Hood River
Was an application for USDOT discretionary grant funding for this project previously submitted?	Yes. Hood River-White Salmon Interstate Bridge Replacement Project. INFRA Grant (2022) Hood River-White Salmon Interstate Bridge Replacement, INFRA 2020 Hood River/White Salmon Interstate Bridge Replacement Pre-Construction Phase 2 2020 BUILD Transportation Planning Grant
Is the project located (entirely or partially) in Federal or USDOT designated areas?	• Hood River Opportunity Zone (9503) • Hood River Empowerment Zone (4102795030)

1.2. National Bridge Inventory Data

Identification	
Item 1 – State Code & Name	41 Oregon
Item 8 – Structure Number	06645 002C06462
Item 5A – Record Type	1
Item 3 – County Code & Name	27 Hood River County
Item 6 – Feature Intersected	Columbia River
Item 7 – Facility Carried	I-84 White Salmon
Item 16 - Latitude	45.430565
Item 17 – Longitude	-121.294165
Classification	
Item 112 – NBIS Bridge Length	Y
Item 104 – Highway System of Inventory	1
Item 26 – Functional Classification	14
Item 110 – Designated National Network	0
Item 21 – Maintenance Responsibility	32
Item 22 – Owner	32
Age and Service	
Item 27 – Year Built	1924
Item 106 – Year Reconstructed	0

Item 42 – Type of Service	1
Item 28A – Lanes on the Structure	2
Item 29 – Average Daily Traffic	12,861
Item 109 – Average Daily Truck Traffic	28
Item 19 – Bypass, Detour Length	64
Structure Type and Material	
Item 43 – Structure Type, Main	15
Condition	
Item 58 – Deck Condition	5
Item 59 – Superstructure Condition	5
Item 60 – Substructure Condition	5
Item 61 – Channel and Channel Protection	7
Item 62 – Culverts	N
Geometric Data	
Item 49 – Structure Length	1346.6
Item 50 – Curd of Sidewalk Widths	0
Item 51 – Bridge Roadway Width, curb-to-curb	5.7
Item 52 – Deck Width, out-to- out	5.9
Item 32 – Approach Roadway Width	6.7
Item 47 – Inventory Route, Total Horizontal Clearance	6.1
Item 53 – Minimum Vertical Clearance over Bridge Roadway	4.8
Item 54 – Minimum Vertical Underclearance	N
Item 55 – Minimum Lateral Underclearance on Right	0
Item 56 – Minimum Lateral Underclearance on Left	0
Navigation Data	
Item 111-Pier Protection – 4	4
Item 39- Navigation Vertical Clearance – 41.1	41.1
Item 40 – Navigation Horizontal Clearance – 76.8	76.8
Load Rating and Posting	
Item 70 – Bridge Posting	1
Item 41 – Structure Open, Posted, or Closed to Traffic+	P
Appraisal	
Item 113 – Scour Critical Bridges	4
Inspections	
Item 90 – Inspection Date	720

1.3. Project Selection Criteria

Criteria #1: State of Good Repair
This project contributes to the State of Good Repair criteria by repairing deficiencies in the 100-year-old bridge such that it will increase weight limit for vehicles and will enable the Port to avoid major near-term operations and maintenance costs needed to maintain current lift span elements and keep operations moving effectively. Recent ratings by the FHWA indicated the need for high priority corrective action. The Federal Highway Administration (FHWA) sufficiency rating is 18.9, or "functionally obsolete." FHWA also rated the condition of the structure, deck geometry and vertical and horizontal clearance as a 2 or 3 indicating the need for high priority corrective actions.
Criteria #2: Safety
This project contributes to the Safety criteria by providing wider travel lanes to reduce the chance for collisions, especially for wider semi-trucks and large recreational vehicles. It will provide pedestrians and bicycle facilities, which are currently lacking.
Criteria #3: Mobility and Economic Competitiveness
This project contributes to the Mobility and Economic Competitiveness criteria by reducing the number of forced longer alternate freight trips (up to 50 additional miles) due to size and weight restrictions found on the current bridge. Forecasts show that increased weight limits from the completed project are expected to increase truck usage by 15% during year of opening.
Criteria #4: Climate Change, Resiliency, and the Environment
This project contributes to the Climate Change, Resilience, and the Environment criteria by providing new separated access for pedestrians and bicyclists, including increasingly popular e-bikes, where none exists today. It will provide nominal CO_2 emissions during routine maintenance. The new bridge will also improve aquatic life by controlling road runoff from the bridge, which would be collected and treated before discharge into the Columbia River and reduce the number of in-water piers.
Criteria #5: Equity, Partnership, and Quality of Life
This project contributes to the Equity, Partnership, and Quality of Life criteria by serving populations categorized as low-income households, minority Hispanic/Latino, and Native Americans, which are higher than the county average. Additionally, Native Americans must use the bridge to travel to and use the White Salmon Treaty Fishing Access site and the East White Salmon Fish Processing Facility. If the project is not constructed, maintenance costs are expected to increase, and likely require increases in toll rates, which would have an adverse effect on disadvantaged environmental justice populations, including low-income households.
Criteria #6: Innovation
This project contributes to the Innovation criteria as follows: • Providing conduit for broadband communication between the two communities. • Include all electronic tolling using license plate recognition; and • Incorporation of a computerized maintenance management system

1.4. Project Costs

Project Costs – Provide information detailing the costs associated with the project. These costs will be used to determine eligible award amount, how the project supports financial goals of the program, and other factors. More information on this section can be found in Section D.2.d.III of the NOFO.	
BIP Request Amount	Exact Amount in year-of-expenditure dollars: $100,000,000
Estimated Total of Other Federal funding (excluding BIP Request)	Estimate in year-of-expenditure dollars: $93,500,000
Estimated Other Federal funding (excluding BIP) further detail	Hood River/White Salmon Interstate Bridge Replacement Pre-Construction • Phase 2 2020 BUILD Transportation Planning Grant (Discretionary), $5,000,000 • Hood River-White Salmon Interstate Bridge Replacement Project. INFRA Grant (2022) (Discretionary), $88,500,000[1]
Estimated non- Federal funding	State of Washington SB 5974: $75 million State of Washington SB 5689: $1.5 million State of Washington 2023: $33.5 million State of Oregon 2023: $110 million Future Toll Revenues: $85 million
Future Eligible Project Cost (Sum of BIP request, Other Federal Funds, and non-Federal Funds, above.	$498 million
Previously incurred project costs (if applicable)	Estimate in year-of-expenditure dollars: $6 million
Total Project Cost (Sum of "previous incurred" and "future eligible"	Estimate in year-of-expenditure dollars: $504 million
If more than one bridge, will bridge bundling be used to deliver the Project?	Not Applicable.
If proposed project utilizes bundling, Cost of Unbundled Projects	Not Applicable.

1.5. Benefit-Cost Analysis

Benefit Cost Analysis– Submit the requested information in Section D.2.d.V for the DOT to conduct a review of the benefit-cost analysis for the project and provide a summary of the analysis.

[1] The Port requested $195 million. This value reflects funding amount needed should the BIP award $100 million to the project.

BCA results for this project indicate an overall BCA ratio of 5:1 (at no discount rate) and a BCA of 1.1:1 (at 7% discount rate)**.** Project benefits amount to over $2.3 billion (0% discount rate) and $333 million (at 7% discount rate).

1.6. Project Readiness and Environmental Risk

Project Readiness and Environmental Risk– Submit the requested information in Section.E.2.b.iii for the DOT to conduct a review of the project readiness and environmental risk criteria for the project and provide a summary. If project includes multiple bridges, indicate the information for each bridge included in the application and what impact would occur on the timeframes if the project were unbundled.	
Other Federal Funding and Non-Federal Funding Secured	Yes, the Port has obtained a $5 million 2020 BUILD grant and $76.5mil from the State of Washington. This is in additional to State of Oregon funds used to complete the NEPA process.
NEPA Status – Indicate if the determination will likely be the result of a Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Statement (EIS)	The State Route (SR) 35 Columbia River Crossing Draft EIS was published in 2003. The environmental review phase of the Project was put on hold after the comment period ended in 2004 due to lack of funding for additional work. The NEPA process was restarted in 2018 when a reevaluation was conducted and the need for a Supplemental Draft EIS was determined. The Draft Supplemental EIS was published on November 20, 2020. The Port and FHWA have completed the administrative draft the Final Supplemental EIS with publication anticipated by the end of 2022 upon conclusion of the Section 106, ESA consultation and tribal consultation processes. (Technical document links provided in Appendix A)
Is the project currently programmed in the: • TIP • STIP • MPO Long Range Transportation Plan • State Long Range Transportation Plan	Oregon STIP 2021-2024: https://www.oregon.gov/odot/STIP/Documents/OnlineSTIP_Public.pdf Oregon State Freight Plan 2017. Appendix J: https://www.oregon.gov/odot/Planning/Documents/OFP-2017-Amended.pdf Klickitat County (Wash.) Regional Transportation Plan: https://www.rtc.wa.gov/reports/rtp/Rtp2018Klickitat.pdf
Is right-of-way acquisition necessary?	Right-of-way is necessary and the process is expected to begin once authorization is provided after completion of the Final Supplemental EIS. This will occur no later in 2025.

Right-of way acquisition considerations.	If right-of-way must be acquired for the project: Would right-of-way acquisition require relocation of any people or businesses? Yes, the Port of Hood River operations building may require relocation. If yes, are people or businesses being relocated members of traditionally underserved and underrepresented populations (Environmental Justice communities)? No, the building is occupied by Port staff.
Design Status	Planned or Actual Start of Preliminary Design Date: January 2023 Planned or Actual Completion of Preliminary Design Date: March 2024 Planned or Actual Start of Final Design Date: March 2024 Planned or Actual Completion of Final Design Date: June 2026
Anticipated Construction Start Date:	Date: June 2026
Anticipated Project Completion Date:	Date: June 2032
The summary on project readiness and environmental risk demonstrates that in terms of the schedule, the project is moving assertively to meeting its goals. For instance, the Port and FHWA are in the process of completing the Supplemental Final EIS, which will close out the environmental phase in 2022. Near-term approval of this document reduces risk that project will not meet its schedule. The Port has selected a consultant for Project Management Services and will initiate a selection of the A/E consultant by the end of 2022. This will allow the project to be ready for construction in the second half of 2026 and begin use of BIP funds at that time. The Project's Federal and non-Federal source are fully committed or there is demonstrated funding available to cover contingency/cost increases. The Project is in the process of completing the Final Supplemental EIS with completion expected by the end of 2022.	

1.7. Project Priority Considerations

Project Priority Considerations: Does the application support any of the DOT Priority Considerations – Bridge Projects listed in Section E.2.b of the NOFO? If the applications support one or more of the considerations for the FY22 submissions, describe which consideration(s) is supports and how. In the discussion below, reference to previous sections in which additional information was detailed to support the consideration(s).

This application supports the following priority considerations by addressing as highly responsive for many of the criteria DOT priority criteria, including but not limited to State of Good Repair and Safety. More specifically, the existing Hood River – White Salmon Bridge is considered "functionally obsolete" and does not meet current design standards with substandard lane widths, the lack of shoulders and includes no provisions for bicycles and pedestrians who are banned from crossing the bridge. The Port has obtained commitments for significant funds toward the replacement bridge, but federal funds are necessary to support the substantial funding needs of the project that exceed the ability of the local community to support. This bridge connects two states and freight routes and is an important part of the regional transportation network. The Final Supplemental EIS and Record of Decision will be completed by 2022, the Port has hired a management consultant and has dedicated funds to move the project into the next phase of design in 2023.

2. SUPPLEMENTAL NARRATIVE
2.1. Project Description. Location, and Parties

Project Description

The Port of Hood River (the Port) and Klickitat County (County) propose to replace the Hood River-White Salmon Interstate Bridge (the Project). The Project spans the Columbia River between Hood River, Oregon, and Bingen and White Salmon, Washington, which is approximately 60 miles east of Portland, Oregon. The existing Hood River-White Salmon Interstate Bridge (locally known as the Hood River Bridge), as in seen in **Figure 2-1**, was built in 1924 and a lift span was added to the bridge in 1938 to respond to higher water elevations in the pool behind Bonneville Dam. The bridge approaches tie into the federal, state, and local transportation facilities within the city limits of White Salmon and within the urban growth boundary of the City of Hood River. The Hood River Bridge has had tolls since 1924. The toll is the primary resource for funding bridge operations and maintenance. The existing bridge is owned and maintained by the Port, which collects tolls from most vehicles; public transit vehicles are exempt.

The existing bridge is nearing the end of its serviceable life and is obsolete for modern vehicles with height, width, and weight restrictions and is also a navigational hazard for marine vessels. Recent ratings by the FHWA indicated the need for high priority corrective action. The Federal Highway Administration (FHWA) sufficiency rating is 18.9, or "functionally obsolete." FHWA also rated the condition of the structure, deck geometry and vertical and horizontal clearance as a 2 or 3 indicating the need for high priority corrective actions.

The bridge has no sidewalks or bicycle lanes for non-motorized travel and would likely not withstand a large earthquake. The Port estimates that a catastrophic event could occur to the bridge prior to 2045 that would result in its collapse. A new, replacement bridge would provide a safe and reliable way for everyone to cross or navigate the Columbia River—by car, truck, bus, bicycle, on foot, or on the water.

The Project would construct a replacement bridge, as seen in

Figure 2-2, would support a thriving economy and livable communities and the existing bridge would be removed. The Port and County are requesting $100 million in BIP funds towards the estimated total Project construction cost of $500 million, with BIP investment representing 20% of total Project costs. Project construction would take approximately six years, with three years to construct the replacement bridge and another three years to remove the existing bridge.

Figure 2-1. The Current Hood River Bridge from Waubish Rd. in White Salmon

Figure 2-2. Visualization of New Bridge Concept

Tribal communities have been present in the Columbia River Gorge since time immemorial. Fishing, hunting, and gathering were and continue to be central practices of their culture. Specifically, fishing for salmon, steelhead, lamprey, sturgeon, and other species has been a focus of their presence along the Columbia and in the Gorge. Fish caught in the Columbia River provide sustenance and ceremonial resources that were and continue to be of great importance to indigenous tribes on the river.

The Columbia River is used by four tribes with reserved rights, commonly referred to as the Columbia River treaty tribes and include the Warm Springs, Confederated Tribes of the Umatilla Indian Reservation, the Yakama Nation, and the Nez Perce Tribe. The tribes have exclusive rights to commercial fishing on this area of the Columbia River. The tribes use sites on both sides of the river and the bridge itself for fishing and utilize designated and non-designated areas on both sides of the river for supporting activities such as fish sales, processing, boat access and camping. The existing bridge provides an important connection for tribal members to utilize their treaty rights.

If the bridge were to close, either at the end of its operational life or because of damage from an unforeseen event, tribal fishers that cross the bridge to reach the fishing sites or processing facility would have to travel over 20 miles one-way to cross the Columbia River using The Dalles Bridge or the Bridge of the Gods.

Location: The Hood River –

Figure 2-3. Location of Hood River-White Salmon Interstate Bridge, Oregon

The Hood River - White Salmon Interstate Bridge, as seen in **Figure 2-3**, is a critical freight and commuter link in the heart of the Columbia River Gorge Natural Scenic Area (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 in Oregon Congressional District 2 and Washington Congressional District 3. The community of Hood River is an Opportunity Zone (9503) and Empowerment Zone (4102795030). Census Tract 9503, Klickitat County, Washington is a Historically Disadvantaged Community.

The 4,418-foot-long bridge connects the 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-BIP Phase 1 DEIS sited the new bridge directly west of the current bridge, with approaches at or just west of their current locations.

As seen in **Figure 2-4**, the bridge provides the only connection for 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). For truck traffic over 80,000 lbs., there is 95 miles of isolation between I-205 and US-197. Other important routes connected by the bridge are Oregon Highway's. 35 and 30, and Washington SR 141, U.S. Marine Highway M-84, the Pacific Coast Trail, as well as the soon to be completed Historic Columbia River Highway State Trail. Pedestrian and bicycle users need to travel over 40 miles out of direction to legally cross the river.

Figure 2-4: The Hood River Bridge Connects SR-14 in Washington to I-84 in Oregon

Project Partners

The Port of Hood River will serve as the lead applicant, project manager, and award recipient. The Port is the current bridge owner and a member of the Bi-State Bridge Working Group. Klickitat County is a co-applicant and constitutional local government to the northin Washington State, a member of the Bi-State Bridge Working Group, and will lead the engineering selection process and technical advisory commitee. Other project partners assisting with the delivery of this Project through technical support, funding or support are shown in **Table 1**.

Table 1. Project Partners

Partner	Role
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
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 WA Regional Transportation Council	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 connection 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)	Coordinates tribal fishing among Yakama Nation (YN), Confederated Tribes of the Umatilla Indian Reservation (CTUIR), Confederated Tribes of Warm Springs (CTWS), and the Nez Perce Tribe (NPT)

A wide range of support from local, regional, state, and federal officials, as well as private sector partners, is evident in the letters of support for the BIP Project provided in Appendix B. The major project supporters include:

- Washington State Legislators (14th District)
- Washington State Dept. of Transportation
- SW WA Regional Transportation Council
- City of White Salmon, WA
- Klickitat County, WA
- Mid-Columbia Economic Dev. Council
- Port of Klickitat, WA
- White Salmon Business Alliance
- Mt. Adams Resources Stewards
- SDS Lumber Co.
- A.J. Zelada, Board Member Friends of the Historic Columbia River Highway
- Oregon Department of Transportation.
- Bi-State Bridge Replacement Com.
- City of Bingen, WA
- City of Hood River, OR
- Hood River County, OR
- Klickitat County Dept. of Emergency Mgmt.
- Region 1 Area Commission on Transportation
- Oregon Business & Industry
- Mt. Adams Chamber of Commerce
- Providence Hood River Memorial Hospital
- Green Diamond Management Company

2.2. Detailed Project Budget

A summary of funding source and use is shown in **Table 2** and expenditure by fiscal year is shown in **Table** 3. A detailed preliminary cost estimate including cost escalation and contingencies was completed by the Port in late 2021 and is included in the technical document links

Table 2. Project Budget Summary by Source and Use

	Other Federal Sources ($Million)	BIP Funds ($million)	Non-Federal Sources ($million)	Total ($million)
Design/Preliminary Engineering	$5.00		$17.50	$22.50
Right-of-Way			$5.80	$5.80
Programmatic Costs			$38.50	$38.50
Construction	$88.50	$100.00	$138.90	$327.40
Post Design Engineering			$6.70	$6.70
Contingency			$97.50	$97.50

Table 3. Expenditures by Fiscal Year

	FY22	FY23	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	Total
Design/ Preliminary Engineering	$1,983,100	$4,645,006	$5,636,556	$4,942,471.44	$ -	$ -	$ -	$ -	$ -	$ -	$22,546,224
Right-of-Way			$5,768,970								$5,768,970
Programmatic Costs	$3,506,746	$3,506,746	$3,506,746	$3,506,746	$3,506,746	$3,506,746	$3,506,746	$3,506,746	$3,506,746	$3,506,746	$38,574,208
Construction				$35,603,856	$148,081,872	$57,730,936	$42,251,060	$19,308,217	$17,107,323	$7,281,575	$327,364,839
Post Design Engineering					$2,090,016	$2,090,016	$2,514,526	$1,428,916	$673,856		$6,707,314
Contingency			$28,184,661		$35,811,761		$16,774,011		$16,774,011		$97,544,444
TOTAL	$5,489,846	$8,151,752	$43,096,933	$39,110,602	$189,490,396	$61,237,682	$65,046,343	$24,243,879	$38,061,936	$10,788,321	$498,506,000

2.3. Project Outcome Criteria

Criteria 1: State of Good Repair

Vehicle Freight Mobility

The last load rating analysis of the Hood River Bridge was conducted in 2020 as part of a directive from FHWA requiring all states to evaluate the structural capacity of all bridges carrying Specialized Hauling vehicles and other load factors. Extensive structural analysis of the nearly 100-year-old structure was carried out by ODOT's engineers, which identified deficiencies in some bridge components that required a lower load rating. Based on this analysis, the load ratings for the Hood River Bridge were updated as described in **Table 4**[2]. These changes went into effect starting March 3, 2021.

Table 4. Load Ratings

Type	Prior Weight Limit	New Weight Limit
Type 3: 3-axle Single-unit truck	25 tons	24 tons
Type 3S2: 5-axle tractor/trailer	40 tons	32 tons
Type 3-3: 6-axle combo truck/trailer	40 tons	32 tons
SU4: 4 axle SHV	27 tons	22 tons
SU5: 5 axle SHV	31 tons	24 tons
SU6: 6 axle SHV	34.75 tons	25 tons
SU7: 7 axle SHV	38.75 tons	25 tons

FHWA/ODOT Ratings

The Federal Highway Administration (FHWA) has kept records on bridges for many generations. Sufficiency rating is an old rating that established eligibility for funding. A score below 50 was eligible for replacement and below 80 was eligible for rehabilitation. The most recent rating conducted in 2022 was 18.9 with the bridge described as "functionally obsolete." The Administration also rated the condition of the structure, deck geometry and vertical and horizontal clearance. These are rated as 2 or 3 indicating the need for high priority corrective actions.

Life Cycle Cost Analysis

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 Modeling & Future Expenditures for the Hood River – White Salmon Bridge"[3] 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).

In 2016, a Maintenance and Repair plan identified over $50 million in needed capital repairs over the next 15 years. The 2022 preliminary cost estimate identified the cost of a new bridge at $498.5 million in 2022 dollars (with 30% construction contingency). By using tolls generated by

[2] https://portofhoodriver.com/new-weight-limit-imposed-on-hood-river-white-salmon-interstate-bridge/

[3] *Deterioration, Moeling & Future Expenditures for the Hood River -White Salmon Bridge Replacement*: HNTB, 2011. Print. Rep. Hood River: ODOT, WSDOT, SW Washington RTC, 2014.

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. All Electronic Tolling (AET) will also save on costs related to toll collection and will be a feature of the new bridge as well. This project will assist in improving freight rail infrastructure on the Burlington Northern Santa Fe (BNSF) Railway on the Washington shore by replacing the 85-year-old crossing to provide more vertical clearance.

As part of the financing of the new bridge, the Port will be working with the USDOT TIFIA program to identify a favorable financing plan. The current bridge has a mechanical lift that has a long history of operational concerns. The new bridge concept utilizes a fixed height bridge that will significantly reduce the maintenance costs of the lift span and eliminate bridge lifts for vessels and maintenance reducing travel delays and the risks associated with lift span failures. In addition, the steel grate will be removed and replaced with concrete. The Port spends tens of thousands of dollars every year welding the bridge deck requiring lane closures. Wider shoulders will also prevent damage to the side rail. In 2020, the Port spent almost $200,000 replacing damaged guard rail on the bridge.

Though the bridge is safe, it has not had a thorough seismic evaluation. The bridge is in a high seismic area. A replacement bridge would be built to modern standards reducing the chances of a catastrophic event in the case of a significant earthquake. A new bridge would allow for the bike/ped path to temporarily be converted to emergency vehicle use and would include shoulders. This would also address access issues in the case of accidental lane closures.

Criteria 2: Safety

Maritime Mobility

Safety is a concern for commercial vessels navigating underneath the Bridge. 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 an even more 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 removed the 125-foot-high Condit Dam. An estimated 2.3-million cubic yards of sediment settled on the north side of the Columbia River.[4]

These two events have made barge pilots navigate a serpentine route around the deposits and through the substandard 246-foot-wide opening of the current bridge. Compounded by winds that average in the upper 20s[5], barge pilots find this stretch of the Columbia daunting. In his testimony to the Oregon state legislature on January 25, 2016, Eric Burnette, Executive Director

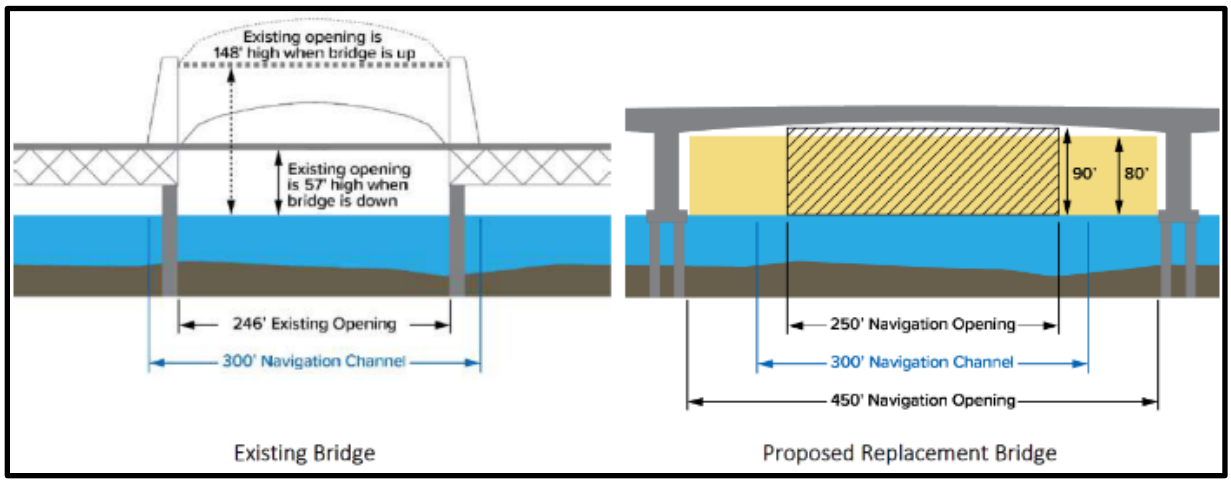
[4] Pesanti, Dameon, Condit Dam: Life after the breach, Vancouver, WA: The Columbian, Oct. 23, 2016.
[5] Weather and Conditions, Hood River, OR: newwindkiteboarding.com, Feb. 21, 2020

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."*[6]

Case in point, the U.S. Coast Guard (USCG) noted that a tugboat pushing three empty grain barges ran one into the south pier in 2009.7 Though the bridge was not damaged, the barge was. In September 2015, the bridge's north lift span pier was hit, causing at least $1.1 million in damage and closure of the lift span until repairs could be completed. Increasing the size between piers from 246 feet to 450 feet will make navigating the bridge area easier for the thousands of barges that make the trip every year. The USCG has issued a Preliminary Navigation Clearance Determination indicating that the design of the bridge supports reasonable navigation needs. Figure 2-5 shows the current and proposed improvements to the bridge opening.

Figure 2-5: Navigation Clearance of Existing Bridge and Proposed Replacement Bridge



Travel Lane Mobility

The current Supplemental Draft Environmental Impact Statement (Supplemental Draft EIS) has identified the project area and analyzed crash data. The current bridge is unsafe in many ways. Though there have not been any known fatalities and significant accidents when they happen, they tend to be minor because of the low speeds; however, the qualitative examples often are enough to make the point. Currently, the travel lanes are only 9 feet, 4-3/4 inches wide. A typical

[6] 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.
[7] Associated Press, Barge pushed by tug hits pylon of Hood River Bridge over Columbia, Hood River, OR: The Oregonian, March 28, 2009.

semi-truck in the United States is 8-1/2 feet wide, not counting side view mirrors. Many stories have been told of mirrors being mangled or torn off while passing semi-trucks.

For the project area, the most recent study found 11 crashes in Washington and 39 crashes in Oregon. In Washington, 36 percent of these crashes were injury related, and in Oregon, the rate of injury collisions was higher at 51 percent.

Safety concerns felt by drivers are not fully captured by the crash data. Members of the public have reported driver anxiety on the Hood River Bridge due to narrow lanes, as seen in **Figure 2-6**, and steel grating, and discomfort with traveling near oncoming vehicles, especially larger trucks, buses, trailers, and recreational vehicles. Often travelers will avoid making the crossing. Additionally, the historical crash data may not capture vehicle damage such as scratches or side mirror contact.

Figure 2-6: Narrow Lanes and Trucks Conflict

Large recreational vehicles are advised to cross at Cascade Locks, Oregon or The Dalles, Oregon, over twenty miles away. Special arrangements for wide load crossings can be made only by calling port staff in advance and requiring flaggers and pilot cars. Existing conditions of the bridge can potentially impact law enforcement agencies and emergency service providers in the area. Because there are no shoulders available on the existing bridge, drivers cannot pull over to allow emergency response vehicles to pass.

Active Transportation: The bridge does not currently have a dedicated bike/pedestrian facilities and are prohibited from using the bridge. There are not viable crossing options as these users need to travel over 20 miles (one way) to cross at The Dalles or Cascade Locks. It is not unusual for pedestrians to illegally walk across the bridge at night only to encounter dangerous cars passing on the 4,418-ft. long bridge. The Project would include a dedicated and protected path for pedestrian and bicyclists.

Criteria 3: Mobility and Economic Competitiveness

The Bridge is a key economic corridor for the Lower Columbia River providing access for freight traveling to regional and national markets across the bridge and in barges on the river below. Freight that must currently find alternative routes due to size and weight restrictions must travel approximately 50 additional miles or more. Cargo vessels traveling on the Columbia River must navigate a bridge with standards not up to modern requirements.

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.[8] Over 4.3 million vehicles crossed the Hood River Bridge in 2019. Traffic levels have reached record highs

[8] Assumes five 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.

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.

Truck Freight Impacts

As noted earlier in the application, ODOT recently reduced the load limits crossing the bridge. The following describes the effects on the local industries dependent on the bridge and impacts with weight and size restrictions:

FRUIT - Some orchardists, especially in the lower valley, haul bins across the bridge to Underwood Fruit. Based on a few interviews, the reduced weight limit would result in a few less bins on some larger hauls using Type 3 vehicles. This might require one or two additional trips per fruit calls during harvest.

LOGS - Log trucks often transit the bridge in both directions. They typically haul at or just above 40 tons. It would be difficult for log trucks to haul at much less than full capacity so a weight limit of 32 tons could have a very significant impact. These trucks could use an alternative bridge to cross the Columbia River, but this is significant out-of-direction travel and not likely.

SHV - Concrete mixers and dump trucks use the Bridge on occasion. From one initial interview, it appears that the impacts of a weight restrictions to 22 and 24 tons (SHV classes associated with concrete mixers and large dump trucks) would be significant if these vehicles are hauling full loads.

GENERAL - At various times, typical semi-trucks use the bridge. We believe it is not uncommon for the GVW of these vehicles to exceed 40 tons and some undoubtedly haul at or near the Oregon legal limit of 52.5 tons. This is a vehicle type where we have very limited hard data on weight and almost no way to obtain it.

The replacement bridge would remove all weight restrictions and allow for the more efficient flow of goods and services along the Columbia River corridor.

Key Industry Clusters

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 Bridge is estimated to be $75 million, not including high-value UAV components. Studies 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 Draft EIS describes the impact of bridge closure if the current bridge reaches the end of its serviceable life and must 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]

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 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 fails to serve the recreational interests of cyclists and pedestrians drawn to the NSA.

The Draft Supplemental 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 multimodal facilities and would enable bi-state connections to trails and sidewalks."

Maritime Impacts

The Bridge is a key crossing for commercial cargo traveling on the lower Columbia River. 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. The Hood River Bridge is one of the most challenging bridges on the Columbia River System for barge operators. Only one vessel can navigate the opening at a time, even though 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.

The Bridge replacement will provide a minimum vertical clearance of 80 feet which is greater than the existing bridge with the lift span lowered. The horizontal bridge opening for the navigation channel would be 450 feet, greater than the existing 300-foot wide federally recognized navigation channel. Centered within this 450-foot opening, there would be a 250-foot-wide opening with a vertical clearance of 90 feet. Like the existing bridge, the replacement

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

bridge would cross the navigation channel at roughly a perpendicular angle but would provide more horizontal clearance. The USCG has issued a preliminary determination that the needs of navigation will be met by the Project.

Criteria 4: Climate Change, Resiliency, and the Environment

If the Project is not constructed, forecasted traffic volumes are expected to grow up to 2 percent per year. This growth translates to an estimated 54 percent increase in traffic volumes by 2045 compared to existing (2018) traffic volumes, or the approximate equivalent of 90,000 additional vehicles using the bridge each year. Compared to existing conditions, congestion at several intersections in the area of potential impacts (API) would substantially worsen. Further, vehicles would need to detour 21 to 25 miles to an alternative route if the bridge were to close due to a catastrophic event. For direct impacts, 4.0 metric tons of carbon dioxide equivalent (CO_2e) annually is estimated from routine maintenance of the existing bridge. Over time, increased traffic volume, worsened congestion, and potential closures will contribute to rising greenhouse gas emissions; however, the Supplemental DEIS found that these impacts would be indirect and negligible. If the Project is constructed, the Supplemental DEIS found that the Project would generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special MSAT concerns. For direct impacts, 5.0 metric tons of CO_2e annually is estimated from routine maintenance.

Outside of minimal greenhouse gas emissions impacts, the greater impact lies with reducing automobile dependence. The current bridge does not have any pedestrians and bicycle access. The Project, however, provides pedestrian and bicycle connectivity using sidewalks and bicycle lanes and a shared use path, which is likely to decrease noise, dust, air pollution, and emissions, as well as additional traffic on detour routes. In the long-term, the Project would result in direct benefits to pedestrians and bicyclists.

The new access facility would offer a new facility for people who want to walk or bike between Oregon and Washington and connect with the existing Waterfront Trail in Oregon; no toll would be charged to pedestrians and bicyclists traveling on the shared use path. In addition, the Project would provide direct benefits to transit service with standard vehicle lanes and a higher design speed that would be expected to slightly improve travel times for transit service providers using the bridge. Service reliability could also be improved due to the presence of shoulders for disabled vehicles.

Depending on toll rates and transit costs, higher toll rates could potentially result in shifting some individuals from using their personal vehicles to cross the river to via nonmotorized travel or taking transit, potentially resulting in slight increases in transit ridership.

Finally, there is a tangible benefit for the ecology and river setting because of the Project's construction. 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 Draft Supplemental EIS 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…."

Criteria 5: Equity, Partnership and Quality of Life

The Hood River Bridge provides the only direct transportation connection between the cities of Hood River, Oregon, and White Salmon and Bingen, Washington. This single connection is an integral link between these cities, as well as the counties of Hood River, Klickitat, and Skamania (eastern portion), which enables this cross-river region to function interdependently.

Freight destined to and originating from businesses on the Washington side of the river is often transported across the Hood River Bridge because of the faster and more efficient travel on I-84 located on the Oregon side of the river compared to SR 14, a two-lane Washington state highway with slower speeds due to tighter curves and multiple tunnels with height restrictions. Even if the origin and destination of the goods are both in Washington or other points north, crossing the Hood River Bridge, traveling 55 miles west on I-84, and connecting to I-205 in Portland to travel back to Washington typically reduces travel time and cost for freight shipments. The existing bridge, thus, provides economic value for the businesses and industries in the Washington portion of the Mid-Columbia region through its vital connection to the interstate highway system (i.e., I-84, I-205, I-5, and I-82).

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). Alternate routes across the river would require an additional 45- to 60-minute 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.

Economic growth and development of the local communities is tied to transportation system linkage that the existing bridge provides between the two Washington cities and Hood River, Oregon, and the nearby Oregon and Washington major highways (SR 14 and I-84). Because of narrow lanes and a bridge load limitation, the existing bridge restricts the flow of goods and does not accommodate larger vehicles. The impact on truck mobility affects the movement of goods (most notably perishable goods) from local ports to local and non-local markets. Commuters and consumers are dissatisfied with the congestion and perceived safety hazards of the existing bridge.

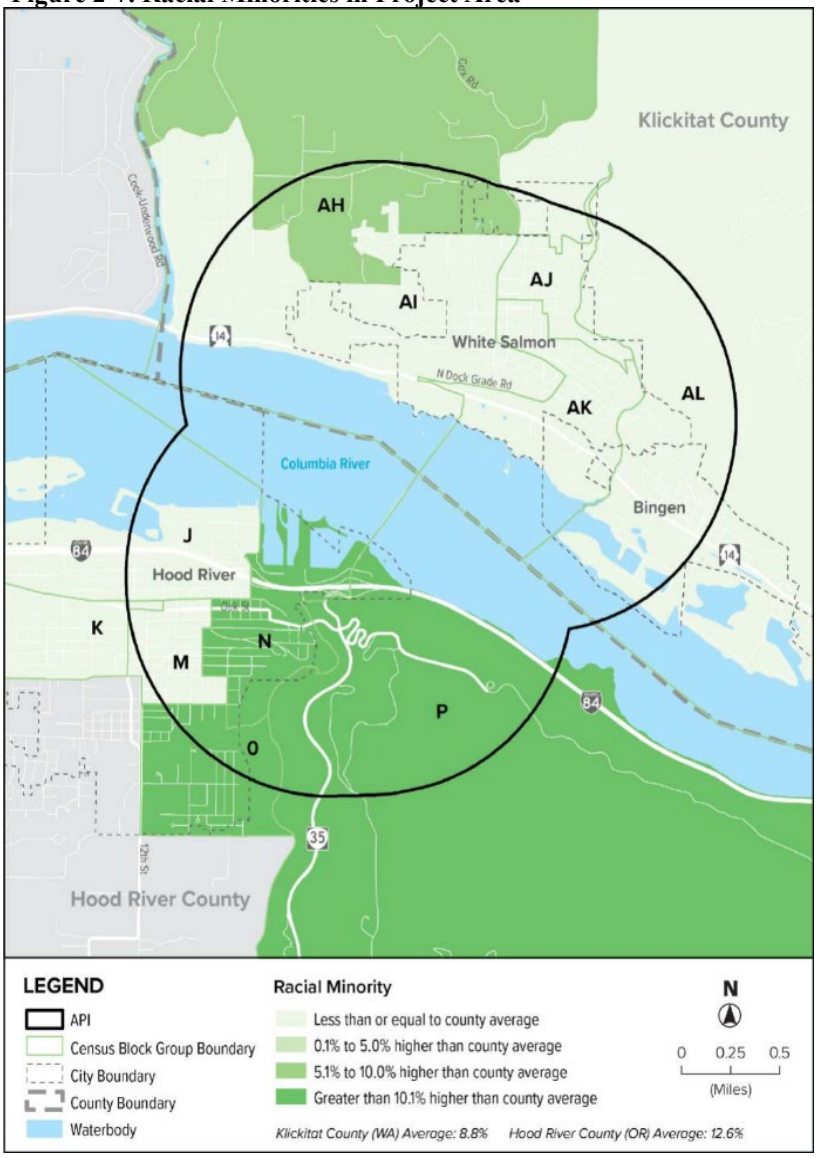
Local and regional economic growth and development that is dependent on adequate transportation infrastructure would be enhanced by diversifying and expanding the use of this

crossing rather than diverting prohibited traffic or dissatisfied users to other crossings approximately 20 miles east and west of the Hood River Bridge.

Impacts On Environmental Justice Populations

The environmental justice populations in the Project Area include low-income households, minorities, and Hispanic/Latino populations that reside within the API and the Native Americans who travel to and use the White Salmon Treaty Fishing Access Site (TFAS) and East White Salmon Fish Processing Facility. The proportion of low-income households, minorities, and Hispanic/Latino populations within the API are higher than county averages; and these populations are more highly concentrated in the cities near the bridge: Bingen and White Salmon, Washington, and Hood River, Oregon. The 2010 U.S. Census data and American Community Survey estimates (2013-2017) indicate a greater proportion of racial minorities living south and east of the bridge in the City of Hood River.

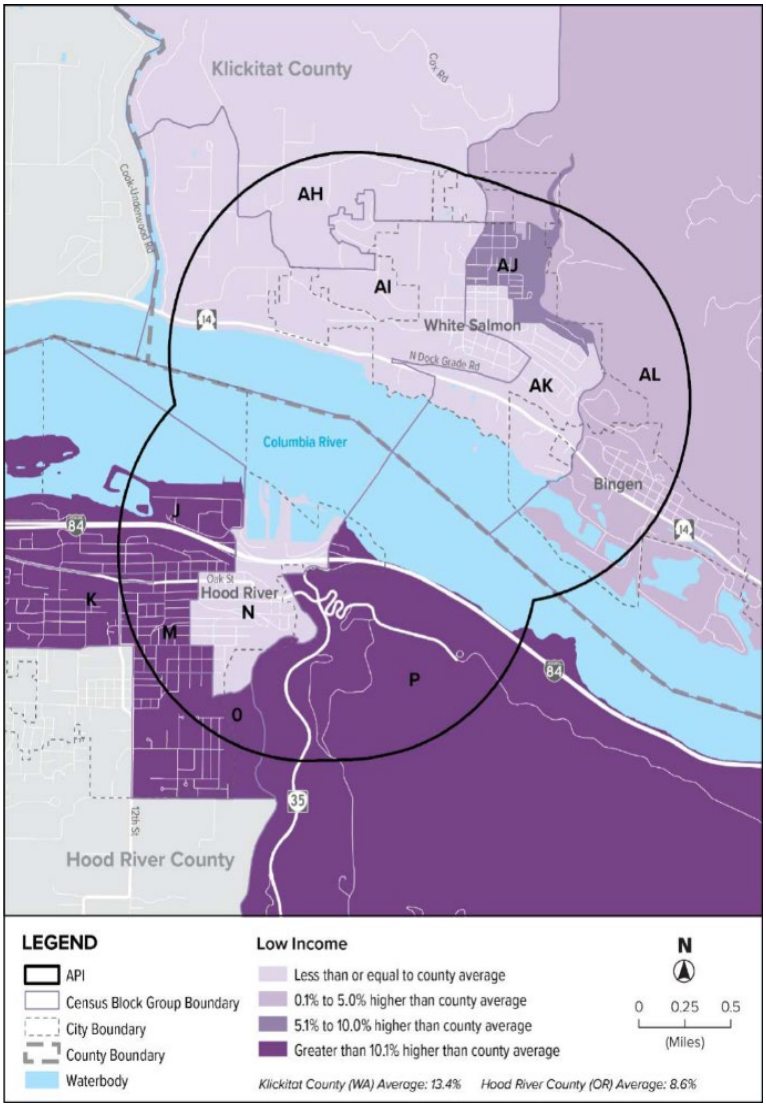
Figure 2-7. Racial Minorities in Project Area



As shown in **Figure 2-7**, Hispanic/Latino populations reside on both sides of the Columbia River, with concentrations in the City of Bingen, downtown White Salmon, and areas west and east of the bridge connection in the City of Hood River. Seasonal, and temporary camping by tribal members commonly occurs at the White Salmon TFAS. The average proportion of low-income households in Klickitat County is 13.4 percent, whereas the proportion of low-income households in Bingen is 18.8 percent.

As shown in **Figure 2-8**, Hood River County has a lower average of low-income households (8.6), but most of the areas directly surrounding the City of Hood River's downtown core have averages of low-income households ranging from 10.0 percent to 23.7 percent. If the Project is not constructed, maintenance costs would be expected to increase as the bridge ages, which could substantially influence toll rates. Increases in tolls would have an adverse direct impact to environmental justice populations, which could result in a financial burden on low-income households. Further, bridge closures would have significant time and cost impacts on environmental justice communities. If using an alternate crossing would be too costly or time-consuming for individuals, they could need to seek other employment or services. Closure of the bridge would sever the route frequently used by tribal fishers that access the Columbia River. Some Hispanic/Latino extended families live on both sides of the Columbia River; thus, short- and long-term closures of the bridge would disrupt travel for family gatherings, including traditional Sunday family dinners. Additionally, St. Mary's Catholic Church and the Mercado Guadalajara (Mexican grocery store) are in the City of Hood River; travel to these locations by Hispanics/Latinos would also be disrupted.

Figure 2-8. Low-Income Communities in Project Area



Criteria 6: Innovation

Innovation Area #1: Innovative Technology

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.

Innovation Area #2: Innovative Project Delivery

With less and less public funds available for infrastructure projects, the Port expects to evaluate and analyze alternative project delivery methods. The Port anticipates evaluating its options to have a better understanding of which project delivery methods would help the Port accomplish the goals for the Project. It will be critical to have a clear understanding of the best procurement and contractual models moving forward. Alternative project delivery options will include public-private partnerships (P3).

Innovation Area #3: Innovative Financing

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.

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 summarized in Table 4.

Innovation Area #4 All Electronic Tolling / License Plate Recognition

With the recent COVID restrictions on human-to-human interaction, All Electronic Tolling (AET) will provide operational efficiencies as well as limiting the spread of disease. AET provides several benefits including reduced operating costs, uninterrupted traffic flow and a cleaner environment. AET uses small radio frequency identification tags (RFID) on vehicles (also known as transponders) in conjunction with video tolling technology, which uses License Plate Recognition (LPR) software to read license plates as vehicles pass by. These images can be matched to state vehicle registration databases for billing, giving new residents, tourists and late adopters the opportunity to use the toll bridge as needed – even without a transponder. In a way, AET brings the same type of efficiency to toll collection as the bar code scanner did to the checkout line – but with no human intervention required.

Innovation Area #5: Computerized Maintenance Management System

Computerized maintenance management system (CMMS) is a software package that maintains a computer database of information about a facility's maintenance operations. This information is intended to help maintenance workers do their jobs more effectively (for example, determining which machines require maintenance and which storerooms contain the spare parts they need) and to help management make informed decisions (for example, calculating the cost of replacement of stormwater collection membranes versus preventive maintenance for each collection vault, possibly leading to better allocation of resources).

2.4. Benefit-Cost Analysis

The Benefit-Cost Analysis (BCA) methodology for this analysis is consistent with the U.S. Department of Transportation, *Benefit-Cost Analysis Guidance for Discretionary Grant Programs*, March 2022 guidelines. The detailed cost and benefit assumptions are provided in Appendix C and have been prepared by independent professional engineers and economists. Analysis spreadsheets are provided in Appendix D.

Table 5. BCA Analysis Overview

Topic	Description
Current Status, Baseline Condition & Problem to be Addressed	The Hood River Bridge is reaching the end of its useful life. Narrow lanes, 64,000 truck weight limit, no bicycle/pedestrian 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 bicycle/pedestrian infrastructure. 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 Columbia River Gorge National Scenic Area, and improved health benefits with added bicycle and pedestrian facilities.
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; health benefits from bicycle and pedestrian trips, and residual value of capital assets over a 50-year time frame (from project opening). All benefits and costs are discounted by 7%.

BCA results for this project indicate an overall BCA ratio of 5:1 (0% discount rate) and a BCA of 1.1:1 (7% discount rate). Project benefits amount to over $2.3 billion (0% discount rate) and $333 million (7% discount rate).

Table 6 summarizes the project benefits and Primary net benefits are summarized below and provided in detail in the Appendix C: Benefit-Cost Analysis Technical Memorandum. for the following categories:

- Economic Competitiveness (with significant freight mobility benefits for barge/truck transportation and reduced out of direction travel for goods and commodities).
- Health Benefits (with significant increases in bicycle and pedestrian trips)
- State of Good Repair (with avoided bridge operations/maintenance costs)
- Safety Benefits (from reduced truck and barge accidents)
- Environmental Benefits (improved air quality from reduced out of direction travel)
- Residual Value (based on the useful life of the new bridge)

Table 6. Summary of Benefits and Costs

Economic Competitiveness Summary of Benefits	BCA with no discount rate	BCA with 7% discount rate
Economic Competitiveness factors (net change)	$1,701,367,307	$243,692,915
State of Good Repair (cost avoidance)	$134,967,893	$12,634,120
Safety (cost avoidance)	$62,102,486	$6,328,163
Environmental Air Quality factors (net change)	$292,484	$34,182
Change in Health Benefit with Bike/Ped facilities	$181,202,910	$21,176,882
Remaining lift of bridge in year 50	$271,424,754	$49,355,126
Summary of Benefits	**$2,351,357,832**	**$333,221,388**
Summary of Costs	**($496,092,548)**	**($318,509,968)**
Net Benefits over 50 years	$1,855,265,284	$14,711,420
Benefit Cost Ratio (calculated)	**4.74**	**1.05**
Benefit Cost Ratio (rounded)	**5:1**	**1.1:1**

2.5. Project Readiness and Environmental Risk

Project Schedule

A project schedule showing the major phases of project development and construction is shown in Appendix E. The Port and FHWA are in the process of completing the Supplemental Final EIS which will close out the Environmental Review phase in 2022. The Port has selected a consultant for Project Management Services and will initiate a selection of the Architectural and Engineering consult by the end of 2022. This will allow the Port to be ready for Construction in the second half of 2026 and begin use of the BIP funds. A significant driver of the project schedule is the stringent environmental regulations for working in the Columbia River. Only part of the year is available for in-water work which extends the construction and bridge demolition timeframes.

There are several outstanding issues that will need to be resolved prior to publishing the combined Final EIS and ROD. Issues still to be resolved include:

- Obtain a biological opinion from National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) to complete Endangered Species Act (ESA) Section 7 consultation. The Port has submitted a Biological Assessment to NOAA Fisheries for consideration. NOAA Fisheries has completed a draft opinion that indicates the project can proceed without jeopardizing listed species, but staff changes have resulted in the need to rewrite sections. This has delayed finalization of the process but is not expected to change outcomes.
- Complete compliance with the NHPA Section 106 process by finalizing the Memorandum of Agreement to resolve adverse effects to the Hood River Bridge. The Port with assistance from ODOT has completed final drafts of this agreement. The Port is working to address remaining items with affected tribes and is expected to reach resolution by the end of 2022.
- Reaching agreements with treaty tribes on impacts and mitigation for cultural resources and treaty fishing rights. The Port, FHWA, and ODOT have conducted extensive outreach with

affected tribes and have received general support for the project and obtaining agreements is expected to take time due to required process, but a positive outcome is anticipated.

Federal Transportation Requirements Affecting State and Local Planning

The Project has been included in relevant state and local planning documents, including the following:

- Oregon STIP 2018-2021 (No. 21280): https://www.oregon.gov/odot/STIP/Documents/OnlineSTIP_Public.pdf
- Oregon State Freight Plan 2017. App J; https://www.oregon.gov/odot/Planning/Documents/OFP-2017-Amended.pdf
- Klickitat County (Wash.) Regional Transportation Plan, 2018; https://www.rtc.wa.gov/reports/rtp/Rtp2018Klickitat.pdf
- City of Hood River Transportation System Plan, amended 2021;
- https://cityofhoodriver.gov/wp-content/uploads/bsk-pdf-manager/2021/07/Hood-River-TSP-Amended-4_2021.pdf
- Pacific NW Waterways (PNWA) Maritime Projects, 2022
- https://www.pnwa.net/wp-content/uploads/2022/01/2022-PNWA-Projects.pdf.

Environmental Risk

NEPA Status

The State Route (SR) 35 Columbia River Crossing Draft EIS was published in 2003. The environmental review phase of the Project was put on hold after the comment period ended in 2004 due to lack of funding for additional work. The NEPA process was restarted in 2018 when a reevaluation was conducted and the need for a Supplemental Draft EIS was determined. The Draft Supplemental EIS was published on November 20, 2020. The Port and FHWA have completed the administrative draft the Final Supplemental EIS with publication anticipated by the end of 2022 upon conclusion of the Section 106, ESA consultation and tribal consultation processes.

Status of Reviews, Approvals, and permits by other agencies

Appendix F lists the anticipated permits and status.

Environmental Studies

The USCG issued a Preliminary Navigation Determination 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, the 2010 Bridge Type, Size and Location Study and the Biological Assessment.

Discussions with Department

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 Carol Snead, Environmental Project Manager, Oregon Dept. of Transportation (ODOT). We have had bi-monthly project meetings since the Port, FHWA and ODOT were named co-lead agencies for the NEPA process. Coordination has occurred throughout the NEPA process.

Public Engagement

Since its inception in 1999, planning and development of the build alternatives for the Project have included an active public involvement component as well agency coordination and tribal consultation. Early planning efforts were guided by a unique collaborative partnership between the FHWA and three advisory committees. Various outreach methods were utilized to collect meaningful information, including public meetings, opinion surveys, stakeholder interviews, media releases, and a Project-based website.

During the Supplemental Draft EIS process, activities were undertaken to comply with NEPA. The Federal NEPA lead agency was FHWA and cooperating agencies included the USCG, WSDOT, ODOT, and Southwest Washington RTC. Agencies and the public had an opportunity to identify issues and concerns during a 30-day scoping period and at scoping meetings held during this period. All agencies, tribes, and the public had an opportunity to review and comment on the Draft EIS.

The FHWA is conducting government-to-government tribal consultation in coordination with ODOT. The FHWA initiated tribal consultation for the Draft EIS consistent with Section 106 of the NHPA and with Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments) in December 2000. This Consultation was re-initiated in 2019 and FHWA and ODOT have consulted with four Columbia River treaty tribes (the Yakama Nation, the Warm Springs, the CTUIR, and the Nez Perce Tribe) as well the Cowlitz Indian Tribe, CTSI, and the Confederated Tribes of the Grand Ronde Community of Oregon. In addition, consultation on treaty fishing rights on the Columbia River has been undertaken by ODOT and FHWA with the Columbia River treaty tribes.

In coordination with local cities and counties, the Port established the Bi-State Bridge Replacement Committee. The committee is a discussion body that helps the project team conducting the post-NEPA phases of bridge replacement. As local political leaders in the mid-Columbia region, committee members will provide guidance and direction to the project team (Port of Hood River staff and consultants) on key inputs as funding becomes available. Committee meetings are open to the public, agendas and materials are published on the Port's website and meetings are recorded and provided online.

Technical Feasibility

Engineering and Design Studies and Activities

In 2011, a Bridge Type, Size, and Location Study (TS&L) began. Bridge concepts were analyzed to identify the concept that best meets the needs of the region. This phase resulted in a recommended bridge type and specific design criteria. The TS&L evaluated three different bridge types including a steel girder, segmental box and tied arch. Based on the evaluation criteria which included design, cost, risk aesthetics and environmental impacts the segmental box alternative was selected as shown in Figure 11. Engineering was also conducted as part of the Supplemental Draft EIS to information the NEPA process.

Design Criteria

Design criteria were negotiated as part of the Type, Size and Location Study (TS&L) in during the EIS process. FHWA – Washington Division was the lead federal sponsor for this phase and the study resulted in design criteria for a preliminary preferred alternative. With cost and aesthetics serving as a key evaluation criterion, the concrete segmental box girder bridge was evaluated as the recommended and most constructible alternative. **Table 7** illustrates the results of the evaluation for bridge design against the chosen criteria.

Figure 2-9. Rendering of Segmental Box Bridge Type

Table 7. Bridge Design Criteria Evaluation

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%		✔	✔

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, and the Preferred Alternative (Alt EC-2) was again advanced as the most feasible alternative.

The Project is unique in that it spans two states and several local jurisdictions. Certain design criteria were established as fundamental or foundational. **Table 8** illustrates the final design criteria:

Table 8. Final Design Criteria

Design Element	Criteria
Functional Class	Principal Arterial
Design Speed	40 mph
Shoulder widths	8 feet
Lane widths	12 feet
Navigation Clearance	450 vertical feet, 80 feet vertical across width of opening and 90 feet across center 250 feet.
Shared Use Path	12 feet plus viewing areas
General Design Criteria	AASHTO LRFD

Basis for the Cost Estimate

A preliminary cost estimate (PCE) was updated in 2022. The PCE update includes an itemized breakdown of construction bid items with quantities and unit costs and consideration of the anticipated construction schedule, escalation of costs, risk register and other elements.

Title VI / Civil Rights Compliance

The Port of Hood River and Klickitat County commit to compliance with the Americans with Disabilities Act, Title VI of the Civil Rights Act of 1964, and all other civil rights requirements in the execution of this project.

Project Risks and Mitigation Strategies

Project risks and mitigation strategies is shown in **Table 9**.

Table 9. Potential Risks and Mitigation Strategies

Risk	Description	Mitigation Strategy
Treaty Fishing Site Access	Risk of local objections to site of Project in relation to treaty access	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 Acquisition	Risk of private owner objections to ROW	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 is consensus among the bi-state local governments to find a governance structure that allows Washington governments to participate in future bridge decisions.

Financial Completeness Assessment

The total cost of the project is $498.5 million based on the preliminary cost estimate completed in 2022.

The Port has identified the following non-federal sources of funds for the project:

- State of Washington - $110,000,000 including $75,000,000 from Senate Bill 5974 and $1,500,000 from Senate Bill 5689 both passed in 2022. The remaining source is from Washington State through the 2023 legislative session.
- State of Oregon - $110,000,000 from the Oregon State 2023 legislative session.
- Port of Hood River - $85,000,000 from toll revenue

While it is too early to state with certainty the anticipated source of the remaining Washington funding, the Washington 2021-2023 state transportation capital budget was approximately $4.3 billion prior to passage of the multi-billion Move Ahead Washington program that will be included in the upcoming biennium budget. Given the scale of state funding available for transportation capital investment in Washington, there is a reasonable opportunity to secure the remaining $35 million funding commitment.

In Oregon, several factors may converge in the 2023 to create the opportunity for the state funding commitment for the project as part of, or in conjunction with, a larger state transportation funding package. Oregon has a history of approving large transportation investment packages about every 6-8 years with the last such package was approved in 2017. In addition, there is momentum for the Oregon legislature to consider a large funding commitment I-5 Interstate Bridge Replacement (IBR) program during the 2023 session. While funding for the Project is not directly tied to the to the IBR Program, the Oregon legislature's consideration of a major funding commitment to the IBR program may create a unique opportunity for consideration of funding for the Project. In addition, the major funding commitment for the Project from Washington State increases the likelihood of a funding commitment from Oregon. The House Transportation Committee leadership is considering establishing a funding commitment for the Project as a pilot project to for the recently approved bi-state bridge authority.

Federal funds in place or anticipated for the project in addition to the $100,000,000 BIP request are:

- BUILD 2020 (awarded) - $5,000,000
- INFRA 2022 - $88,500,000 ($195,000,000 requested)

For maintenance and operations, the Port will continue to impose tolls on the project to pay for both capital costs and future maintenance activities. Because the project will not include a lift span and the structure will be modern and code compliance future maintenance costs should be substantially less than costs currently incurred by the Port.

3. APPENDICES

A: Technical Document Links
B: Letters of Support
C: Benefit-Cost Analysis Technical Memorandum
D: Benefit-Cost Analysis Spreadsheets
E: Detailed Project Schedule
F: Anticipated Permits and Status

APPENDIX A

HOOD RIVER- WHITE SALMON REPLACEMENT BRIDGE PROJECT

TECHNICAL DOCUMENT LINKS

Oregon STIP 2021-2024: https://www.oregon.gov/odot/STIP/Documents/OnlineSTIP_Public.pdf

Oregon State Freight Plan 2017, Appendix J: https://www.oregon.gov/odot/Planning/Documents/OFP-2017-Amended.pdf

Klickitat Co. Regional Transportation Plan: https://www.rtc.wa.gov/reports/rtp/Rtp2018Klickitat.pdf

Supplemental Draft EIS: https://portofhoodriver.com/wp-content/uploads/2020/11/Hood-River-WhiteSalmon-Interstate-Bridge-Replacement-Project-SDEIS-0_compressed.pdf

Supplemental Draft EIS Technical Documents: https://cdxapps.epa.gov/cdx-enepaII/public/action/eis/details?eisId=314171

Preliminary Cost Estimate Documents: https://portofhoodriver.com/wp-content/site-uploads/bridgereplacement/2022 02 24 Project Cost Estimate Executive Summary.pdf

https://portofhoodriver.com/wp-content/uploads/2022/03/7.Project-Cost-Estimate-DocumentMemorandum.pdf https://portofhoodriver.com/wp-content/uploads/2022/03/7A.PCE-Scope-Assumptions.pdf https://portofhoodriver.com/wp-content/uploads/2022/03/7B.Project-Cost-Estimate-Update.pdf https://portofhoodriver.com/wp-content/uploads/2022/03/7C.PCE-KMC-Cost-Estimate-Udpate.pdf

https://portofhoodriver.com/wp-content/uploads/2022/03/7D.PCE-Basis-Project-Doc-ReviewReport.pdf https://portofhoodriver.com/wp-content/uploads/2022/03/7E.PCE-Cost-Risk-Register.pdf https://portofhoodriver.com/wp-content/uploads/2022/03/7G.PCE-Schedule-Update.pdf

Preliminary Navigation Clearance Determination: https://portofhoodriver.com/wp-content/siteuploads/bridge-replacement/2020 01 21 USCG Preliminary Navigation Determination.pdf

Type Size & Location Study: https://portofhoodriver.com/wp-content/site-uploads/bridgereplacement/2011 Type%2C Size %26 Location Study.pdf

Type Size & Location Design Criteria: https://portofhoodriver.com/wp-content/site-uploads/bridgereplacement/2010 09 17 Bridge TS%26L Design Criteria.pdf

Feasibility Study (2004): https://portofhoodriver.com/wp-content/site-uploads/bridgereplacement/2004 SR-35 Crossing Feasibility Study Final Report.pdf

Draft Environmental Impact Statement (2003): https://portofhoodriver.com/wp-content/siteuploads/bridge-replacement/2003 Draft Environmental Impact Statement.pdf

Traffic and Revenue Forecast: https://portofhoodriver.com/wp-content/site-uploads/bridgereplacement/2019%2002%2022%20Stantec%20Sketch%20T%26R%20Analysis.pdf

APPENDIX B

HOOD RIVER- WHITE SALMON REPLACEMENT BRIDGE PROJECT

Letters of Support

CITY OF BINGEN

August 4, 2022

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

I am writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's Bridge Investment Grant Program (BIP). The grant sought would help replace the nearly century-old Hood River-White Salmon Interstate Bridge – connecting Oregon and Washington in the rural Columbia River Gorge National Scenic Area.

The Port of Hood River and its community partners in Washington state are seeking an BIP grant in the amount of $100 million to complete design and begin construction to replace this obsolete but critical rural transportation link. A recent study concluded that a fully programmed facility will cost nearly $500-million.

There are a number of reasons why this bi-state bridge should be replaced:

- The state of Washington has already committed $80M to the project.
- Oregon has committed $10M to the project; both states are prepared to commit significantly more funding to the project in 2023.
- NEPA and tribal consultation will be completed later this year.
- Both Oregon and Washington decision makers are in agreement that bridge replacement is the number one priority for the mid-Columbia region.
- This bridge fills a 45 mile gap between bridges and a 75 mile gap between unrestricted bridges for commercial traffic.
- Both sides of the river in this region operate as a singular cultural, economic, and political community.
- This project would be environmentally positive with the addition of a bike/pedestrian facility, storm water collection system, standardized lane widths and shoulders, seismic resilience and safer maritime travel under the bridge.

The City of Bingen hopes that the US Dept. of Transportation will consider funding this $100-million application for the replacement of this important bridge.

Respectfully,

Catherine Kiewit
Mayor, City of Bingen

Hood River – White Salmon BRIDGE REPLACEMENT PROJECT

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

August 4, 2022

RE: BI-STATE SUPPORT FOR $100M BIP GRANT APPLICATION

Dear Secretary Buttigieg,

The Oregon and Washington local governments that we represent have been working together for the last twenty years to replace the century-old Hood River-White Salmon Bridge. In 2018, we came together to form the Bi-State Working Group (BSWG) as a unified political voice to support the ongoing effort to replace the bridge. Both sides of the Columbia River Gorge are united in our support for **this $100-million grant application from the Bridge Investment Discretionary Grant (BIP) Program.**

The current bridge is functionally obsolete, weight-restricted, seismically deficient, and a hazard for maritime freight on the Columbia River. Repair costs continue to grow year over year, and unless construction on a new bridge is underway by 2026, $50 million will need to be spent on the current bridge over the next fifteen years to provide for its continued safe operation. Replacing the Hood River-White Salmon Bridge is vital to the local economy, and to the safety of our communities on both sides of the river.

Since this time we have received $80-million in appropriations from Washington state and $10-million from Oregon state. We anticipate final financial appropriation coming through the 2023 legislative cycles in both states. The current bridge is a toll facility and we anticipate that the new bridge will be as well. Though this group is committed to financing the balance of the funding through tolls, it's imperative that we keep the tolls as low as possible for our mid-Columbia residents.

The current administration's commitment to infrastructure funding is appreciated and as a recent preliminary cost estimate anticipates the bridge cost to be near $500-million, every dollar is needed to keep tolls as low as possible. This funding will leverage the commitments received from both states as well.

We respectfully request your support for this application so that we can expedite the construction of this critical bridge located in the middle of the Columbia River Gorge National Scenic Area.

Sincerely,

Jacob Anderson, Commissioner
Klickitat County (Wash.)

Bob Benton, Commissioner
Hood River County (Ore.)

Marla Keethler, Mayor
City of White Salmon (Wash.)

Kate McBride, Mayor
City of Hood River (Ore.)

Catherine Kieweit, Mayor
City of Bingen (Wash.)

Mike Fox, Commission
Port of Hood River (Ore.)

cc:

The Honorable Ron Wyden,
United States Senate

The Honorable Jeff Merkley,
United States Senate

The Honorable Patty Murray,
United States Senate

The Honorable Maria Cantwell,
United States Senate

The Honorable Peter DeFazio,
United States House of Representatives

The Honorable Cliff Bentz,
United States House of Representatives

The Honorable Earl Blumenauer,
United States House of Representatives

The Honorable Jaime Herrera Beutler,
United States House of Representatives

The Honorable Dan Newhouse,
United States House of Representatives

rideCATbus.org

CAT

Columbia Area Transit
224 Wasco Loop
Hood River, OR 97031

May 28, 2022

The Honorable Pete Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

RE: Hood River-White Salmon Interstate Bridge Replacement MPDG grant application

Dear Secretary Buttigieg,

The Hood River County Transportation District is the public transit agency for Hood River County – we provide local services throughout Hood River County and make regional connections to the Portland/Vancouver Metro area, The Dalles, Oregon and across the river to White Salmon and Bingen. We write to express our support for the Port of Hood River and Klickitat County joint application to the U.S. Department of Transportation's Multimodal Projects Discretionary Grant (MPDG) grant program. If successful, this award will help fund construction of a new bridge across the Columbia River that will replace the nearly century-old Hood River-White Salmon Interstate Bridge.

Originally constructed in 1924 the nearly mile-long steel structure is functionally obsolete and in dire need of replacement. At least once a month transit vehicles that run across the bridge need to replace mirrors because the narrow travel lane width (barely nine feet wide) does not accommodate two larger vehicles comfortably. The weight restricted bridge has no shoulders, prohibits bicycle and pedestrian access, and is the only cross bridge access between Oregon and Washington for 20 miles. The Bridge carries a sufficiency rating of less than 20. Despite its poor and obsolete condition, this piece of critical infrastructure serves as the lifeblood of the rural but growing Mid-Columbia Region – a region that encompasses most of the federally designated Columbia River Gorge National Scenic Area. Our transit services as well as our partner agencies on both sides of the river rely on this bridge to ensure residents and businesses living and operating on both sides of the river, as well as the more than 2.5 million visitors have access to transit for their travel.

Early efforts to develop a replacement bridge were initiated in 1999 when the Washington State Congressional delegation helped secure $1.4 million in federal funding for a feasibility study, draft environmental impact statement (DEIS) and a type, size and location (TS&L) study focused on a new crossing between Hood River, Oregon and White Salmon, Washington. Following that initial push, the project moved slowly until 2017 when the Oregon state legislature appropriated $5 million to complete a Final EIS and carry out other project

rideCATbus.org

CAT

Columbia Area Transit
224 Wasco Loop
Hood River, OR 97031

development activities. A Record of Decision on the current project is now expected to be issued by FHWA in the next year.

In 2020, the project received a $5 million BUILD grant to assist with project engineering and design. In 2021, the States of Oregon and Washington each appropriated $5 million for additional engineering and design work. Most recently, during the just completed 2022 session, the Washington state legislature appropriated $75 million to complete engineering and initiate construction funding. During the most recent state legislative sessions in Oregon and Washington, both legislative bodies also authorized the creation of a new a new bi-state bridge authority to develop a governance and management structure for a new Hood River-White Salmon Interstate Bridge.

If successful, this $195 million MPDG grant will build on the nearly $100 million that has already been secured for this project and leverage additional construction funding from a variety of sources. A Bi-State Bridge Working Group, made up of local elected leaders in both Oregon and Washington anticipates that final construction funding will come from a mixture of Washington and Oregon bonds, federal and local funding, tolls and potentially a public-private partnership. Construction is targeted to begin in 2026. Preliminary cost estimates developed earlier this year show a fully programmed cost of $500 million to build the new bridge and dismantle the existing bridge.

This project demonstrates that both Oregon and Washington, as well as many communities and stakeholders therein, support the project. Furthermore, past Congressional support demonstrates the historical and consistent bipartisan support. We believe this request aligns particularly well with each of the three programs that make up the MPDG NOFO and ask that you give this application your full and fair consideration.

Sincerely,

Amy Schlappi
Executive Director
Hood River County Transportation District
Dba Columbia Area Transit

Congress of the United States
Washington, D.C. 20515

August 4, 2022

The Honorable Pete Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

RE: Port of Hood River, Oregon's Hood River-White Salmon Interstate Bridge Replacement BIP grant application

Dear Secretary Buttigieg,

We write to express our support for the Port of Hood River's application to the U.S. Department of Transportation's Bridge Investment Grant (MPDG) Program. If successful, this award will help fund construction of a new bridge across the Columbia River that will replace the nearly century-old Hood River-White Salmon Interstate Bridge.

We are all members of the Region 1 Area Commission on Transportation. Area Commissions on Transportation are advisory groups chartered by the Oregon Transportation Commission. ACTs play a key advisory role in the development of the state's Statewide Transportation Improvement Program of which we have all been involved. This bridge continues to be the number one priority for the members of the Region 1 ACT that live in Hood River County.

The original almost one-mile-long interstate bridge – built in 1924 – is functionally obsolete and in dire need of replacement. The weight restricted bridge has no shoulders, prohibits bicycle or pedestrian access, and has travel lanes that are barely nine feet wide. It carries a sufficiency rating of less than 20. Despite its poor and obsolete condition, this piece of critical infrastructure serves as the lifeblood of the rural but growing Mid-Columbia Region – a region that encompasses most of the federally designated Columbia River Gorge National Scenic Area. Residents and businesses living and operating on both sides of the river, as well as visitors drawn the national scenic area must travel 20 miles in either direction to reach the next nearest river crossing.

Early efforts to develop a replacement bridge were initiated in 1999 when the Washington State Congressional delegation helped secure $1.4 million in federal funding for a feasibility study, draft environmental impact statement (DEIS) and a type, size and location (TS&L) study focused on a new crossing between Hood River, Oregon and White Salmon, Washington. Following that initial push, the project moved slowly until 2017 when the Oregon state legislature appropriated $5 million to complete a Final EIS and carry out other project development activities. A Record of Decision on the current project is now expected to be issued by FHWA later this year.

CITY OF HOOD RIVER

211 2nd Street, Hood River, OR 97031 Phone: 541-386-1488

August 4, 2022

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

I'm writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's Bridge Investment Grant (BIP) Program. The grant sought would help replace the nearly century-old Hood River-White Salmon Interstate Bridge – connecting Oregon and Washington in the rural Columbia River Gorge National Scenic Area.

The Port of Hood River and its community partners in Washington state are seeking an BIP grant in the amount of $100 million to complete design and begin construction to replace this obsolete but critical rural transportation link. A recent study concluded that a fully programmed facility will cost nearly $500-million.

There are a number of reasons why this bi-state bridge should be replaced:

- The state of Washington has already committed $80M to the project.
- Oregon has committed $10M to the project; both states are prepared to commit significant more funding to the project in 2023.
- NEPA and tribal consultation will be completed later this year.
- Both Oregon and Washington decision makers are in agreement that bridge replacement is the number one priority for the mid-Columbia region.
- This bridge fills a 45-mile gap between bridges and a 75-mile gap between unrestricted bridges for commercial traffic.
- Current seismic construction standards will make a new bridge the critical link between Oregon and Washington when the Cascadia earthquake happens.
- Both sides of the river in this region operate as a singular cultural, economic, and political community.
- This project would be a positive environmentally with the addition of a bike/pedestrian facility, storm water collection system, standardized lane widths and shoulders, seismic resiliency and safer maritime travel under the bridge.

The City of Hood River hopes that the US Dept. of Transportation will consider funding this $100-million application for the replacement of this important bridge

Sincerely,

Kate McBride, Mayor
City of Hood River

In 2020, the project received a $5 million BUILD grant to assist with project engineering and design. In 2021, the States of Oregon and Washington both appropriated $5M apiece for additional engineering and design work. Most recently, during the just completed 2022 session, the Washington state legislature appropriated $75 million to complete engineering and initiate construction funding. During the most recent state legislative sessions in Oregon and Washington, both legislative bodies also authorized the creation of a new a new bi-state bridge authority to develop a governance and management structure for a new Hood River-White Salmon Interstate Bridge.

If successful, this $100 million BIP grant will build on the nearly $100 million that has already been secured for this project and leverage additional construction funding from a variety of sources. A Bi-State Bridge Working Group, made up of local elected leaders in both Oregon and Washington anticipates that final construction funding will come from a mixture of Washington and Oregon bonds, federal and local funding, tolls and potentially a public-private partnership. Construction is targeted to begin in 2026. Preliminary cost estimates developed earlier this year show a fully programmed cost of $500-million to build the new bridge and dismantle the existing bridge.

We believe this request aligns particularly well with each of the three programs that make up the BIP NOFO and ask that you give this application your full and fair consideration.

Sincerely,

Michael Oates, Commission Chair
HOOD RIVER COUNTY

Jess Groves, Commission Chair
PORT OF CASCADE LOCKS

Erick Haynie, Council member
CITY OF HOOD RIVER

Jon Davies, Partner
COLUMBIA RIVER INSURANCE

Megan Ramey, Active Mobility Safety Coordinator
MAY STREET ELEMENTARY

Cc: Kris Strickler, Director, Oregon Dept. of Transportation
Rian Windsheimer, Manager, ODOT Region 1

Hood River County Board of Commissioners

Jeff Hecksel, County Administrator

601 State Street · Hood River, OR 97031· (541) 386-3970 · FAX (541) 386-9392

COMMISSIONERS

Michael Oates– Chair
Karen Joplin – District No. 1
Arthur Babitz – District No. 2
Robert Benton– District No. 3
Les Perkins – District No. 4

May 16, 2022

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary, Buttigieg:

We are writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's Multimodal Projects Discretionary Grant (MPDG) program. The grant sought would help replace the nearly century-old Hood River-White Salmon Interstate Bridge – connecting Oregon and Washington in the rural Columbia River Gorge National Scenic Area.

The Port of Hood River and its community partners in Washington state are seeking an MPDG grant in the amount of $195 million to complete design and begin construction to replace this obsolete but critical rural transportation link. A recent study concluded that a fully programmed facility will cost nearly $500-million.

There are several reasons why this bi-state bridge should be replaced:

- The state of Washington has already committed $80M to the project.
- Oregon has committed $10M to the project; both states are prepared to commit significant more funding to the project in 2023.
- NEPA and tribal consultation will be completed later this year.
- Both Oregon and Washington decision makers are in agreement that bridge replacement is the number one priority for the mid-Columbia region.
- This bridge fills a 45 mile gap between bridges and a 75 mile gap between unrestricted bridges for commercial traffic.
- Both sides of the river in this region operate as a singular cultural, economic, and political community.
- This project would be a positive environmentally with the addition of a bike/pedestrian facility, storm water collection system, standardized lane widths and shoulders, seismic resiliency and safer maritime travel under the bridge.

The Hood River County Board of Commissioners hopes that the US Dept. of Transportation will consider funding this $195-million application for the replacement of this important bridge

Sincerely,

DocuSigned by:
Michael J. Oates
59708B871C71447...

Michael J. Oates, Chair
Hood River County Board of Commissioners

Cc: Port of Hood River

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

I am writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's Bridge Investment Grant (BIP) Program. The grant sought would help replace the nearly century-old Hood River-White Salmon Interstate Bridge – connecting Oregon and Washington in the rural Columbia River Gorge National Scenic Area.

The Port of Hood River and its community partners in Washington State are seeking an BIP grant in the amount of $100 million to complete design and begin construction to replace this obsolete but critical rural transportation link. A recent study concluded that a fully programmed facility will cost nearly $500-million.

There are a number of reasons why this bi-state bridge should be replaced:

- The state of Washington has already committed $80M to the project.
- Oregon has committed $10M to the project; both states are prepared to commit significantly more funding to the project in 2023.
- NEPA and tribal consultation will be completed later this year.
- Both Oregon and Washington decision makers are in agreement that bridge replacement is the number one priority for the mid-Columbia region.
- This bridge fills a 45 mile gap between bridges and a 75 mile gap between unrestricted bridges for commercial and emergency vehicle traffic.
- Both sides of the river in this region operate as a singular cultural, economic, and political community.
- Public safety agencies on both sides of the river provide emergency mutual aid response to one another for major incidents that this project would benefit.
- This project would be environmentally positive with the addition of a bike/pedestrian facility, storm water collection system, standardized lane widths and shoulders, seismic resilience and safer maritime travel under the bridge.

I ask that the US Dept. of Transportation consider funding this $100-million application for the replacement of this vital link to provide for commerce and public safety between our communities.

Respectfully,

Jeff King, Director
Klickitat County
Department of Emergency Management
9-1-1 Dispatch

KLICKITAT COUNTY
BOARD OF COUNTY COMMISSIONERS
115 W COURT, ROOM 201, GOLDENDALE WASHINGTON 98620 • FAX 509 773-6779 • VOICE 509 773-4612
JACOB ANDERSON, DISTRICT #1
DAVID M. SAUTER, DISTRICT #2
DAN CHRISTOPHER, DISTRICT #3

August 4, 2022

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

The Klickitat County Board of Commissioners are writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's Bridge Investment Grant (BIP) Program. The grant sought would help replace the nearly century-old Hood River-White Salmon Interstate Bridge – connecting Oregon and Washington in the rural Columbia River Gorge National Scenic Area.

The Port of Hood River and its community partners in Washington state are seeking an BIP grant in the amount of $100 million to complete design and begin construction to replace this obsolete but critical rural transportation link. A recent study concluded that a fully programmed facility will cost nearly $500-million.

There are a number of reasons why this bi-state bridge should be replaced:

- The state of Washington has already committed $80M to the project.
- Oregon has committed $10M to the project; both states are prepared to commit significant more funding to the project in 2023.
- NEPA and tribal consultation will be completed later this year.
- Both Oregon and Washington decision makers agree that bridge replacement is the number one priority for the mid-Columbia region.
- This bridge fills a 45 mile gap between bridges and a 75 mile gap between unrestricted bridges for commercial traffic.
- Both sides of the river in this region operate as a singular cultural, economic, and political community.
- This project would be a positive environmentally with the addition of a bike/pedestrian facility, storm water collection system, standardized lane widths and shoulders, seismic resiliency and safer maritime travel under the bridge.

The Klickitat County Board of Commissioners hope that the US Dept. of Transportation will consider funding this $100-million application for the replacement of the Hood River- White Salmon Bridge.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
Klickitat County, Washington

Jacob Anderson, Chairman

Dan Christopher, Commissioner

David M. Sauter, Commissioner

August 4, 2022

Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

Mid-Columbia Economic Development District (MCEDD) is writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's Bridge Investment Grant (BIP) Program. The grant sought would help replace the nearly century-old Hood River-White Salmon Interstate Bridge – connecting Oregon and Washington in the rural Columbia River Gorge National Scenic Area.

The Port of Hood River and its community partners in Washington State are seeking an BIP grant in the amount of $100 million to complete design and begin construction to replace this obsolete but critical rural transportation link. A recent study concluded that a fully programmed facility will cost nearly $500 million.

This project is again the top priority in the regional Columbia Gorge Comprehensive Economic Development Strategy, prepared by the MCEDD Board of Directors. The ranking indicates the considerable impact this project will have throughout the region as this bridge provides a critical transportation link businesses and communities depend upon for emergency response, worker commute, freight transport, tourism, and access to healthcare and educational services.

Besides this strong bi-state prioritization, there are a number of additional reasons why this bi-state bridge should be replaced:

- The State of Washington has already committed $80M to the project. Oregon has committed $10M to the project; both states are prepared to commit significantly more funding to the project in 2023.
- NEPA and tribal consultation will be completed later this year.
- This bridge fills a 45-mile gap between bridges and a 75-mile gap between unrestricted bridges for commercial traffic.
- This project would be environmentally positive with the addition of a bike/pedestrian facility, storm water collection system, standardized lane widths and shoulders, seismic resilience and safer maritime travel under the bridge.

MCEDD hopes that the US Dept. of Transportation will consider funding this $100-million application for the replacement of this important bridge.

Respectfully,

Jessica Metta
Executive Director

802 Chenowith Loop Road, The Dalles, OR 97058 - 541-296-2266 Phone - 541-296-3283 Fax - www.mcedd.org

Mt. Adams
CHAMBER OF COMMERCE
AND VISITOR CENTER

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

August 4, 2022

Dear Secretary Buttigieg,

I am writing to support the Port of Hood River's application for a $100-million Bridge Investment Grant Program (BIP) to replace the Hood River-White Salmon Bridge.

The current toll bridge is a critical link for our regional bi-state economy, but it is also functionally obsolete, weight-restricted and seismically deficient. If construction of the new bridge is not underway by 2026, the existing bridge will need $50-million in repairs and rehabilitation over the next 15 years to remain safe and operational.

The replacement of the Hood River-White Salmon Bridge is vital for the economy in our region. Our local agriculture businesses rely on the bridge to delivery their crops to local packing facilities local on either side of the bridge as well as truckers who rely on the bridge when hauling our local crops to retailers and consumers around the world. The narrow lanes and current weight restrictions of the bridge are a deterrent to efficient shipment of our crops and other industrial size loads.

Having a safe option for pedestrians and bicyclists to cross the river is needed desperately.

The Mt Adams Chamber Board of Directors and I are strongly supportive of the region's efforts to secure $100-million through the federal bridge program. This funding would leverage existing and forthcoming commitments from both the states of Oregon and Washington and could increase the speed of which this bridge could be replaced.

Sincerely and with thanks for your consideration,

Tammara

Tammara Tippel
Executive Director
Mt. Adams Chamber of Commerce

Mt. Adams Resource Stewards

Jay McLaughlin
Executive Director
Mt. Adams Resource Stewards
PO Box 152
Glenwood, WA 98619

August 4, 2022

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

I am writing to support the Port of Hood River's application for a $100-million Bridge Investment Grant Program (BIP) to replace the Hood River-White Salmon Bridge.

The current toll bridge is a critical link for our regional bi-state economy, but it is also functionally obsolete, weight-restricted and seismically deficient.

My organization has been working for nearly 20-years on rural community sustainability issues, particularly around forestry, wildfire and climate resiliency. What remains of our timber industry is essential to managing public and private lands alike and access to markets for logs that are often sourced from projects that create fire breaks and improve forest health. Often these projects struggle to be economically viable due to excessive haul distances that result from weight restrictions associated with this major crossing of the Columbia River that could be used to shorten haul distance between the forest and milling infrastructure. Furthermore, the added travel distance contributes to increased emissions associated with trucking.

I am strongly supportive of the region's efforts to secure a $100-million through the federal bridge program. This funding would leverage existing and forthcoming commitments from both the states of Oregon and Washington and could increase the speed of which this bridge could be replaced.

Sincerely,

OREGON BUSINESS & INDUSTRY OBI

1149 Court Street NE
Salem, OR 97301

503.580.1964
800.452.7862

oregonbusinessindustry.com
obi@oregonbusinessindustry.com

August 4, 2022

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg:

Oregon Business & Industry (OBI) is a statewide general business association representing 1,600 members who collectively employ more than 250,000 Oregonians in a wide variety of sectors and from all parts of our state. OBI is the Oregon affiliate for the U.S. Chamber of Commerce, the National Association of Manufacturers, and the National Retail Federation.

Oregon currently has acute transportation investment needs so that we are able to move people and goods safely and efficiently. I am writing to express support for the Port of Hood River's application for a $100-million Bridge Investment Grant Program (BIP) to replace the Hood River-White Salmon Bridge.

The current toll bridge is a critical link for our regional bi-state economy, but it is also functionally obsolete, weight-restricted and seismically deficient. If construction of the new bridge is not underway by 2026, the existing bridge will need $50-million in repairs and rehabilitation over the next 15 years to remain safe and operational.

The replacement of the Hood River-White Salmon Bridge is vital for the future of many economic sectors in the region. Narrow lanes and current weight restrictions on the bridge are a deterrent to moving any kind of freight, hinder robust local tourism, reduce access to healthcare, and generally negatively affect the safety and resiliency of the Columbia River Gorge.

OBI is strongly supportive of the region's efforts to secure a $100-million through the federal bridge program. This funding would leverage existing and forthcoming commitments from both the states of Oregon and Washington and could increase the speed at which this bridge could be replaced.

Angela Wilhelms
President & CEO

August 4, 2022

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

We are writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's Bridge Investment Grant (BIP) Program. The grant sought would support the replacement of the nearly century-old Hood River-White Salmon Interstate Bridge that connects Oregon and Washington in the rural Columbia River Gorge National Scenic Area.

The Port of Hood River and its community partners in Washington state are seeking an BIP grant in the amount of $100 million to complete design and begin construction to replace this obsolete but critical rural transportation link.

The original interstate bridge – built in 1924 – is functionally obsolete. It has no shoulders, no bicycle or pedestrian access, and travel lanes that are just over 9 feet wide. It carries a sufficiency rating of less than 20. Efforts to replace the structure have been underway since the early 1990s, as the economy and quality of life for the bi-state communities on both sides of the Columbia River are heavily dependent on this interstate crossing.

In 1999, the Washington State Congressional delegation helped to secure $1.4 million in federal funding for a feasibility study, draft environmental impact statement (DEIS) and a type, size and location (TS&L) study focused on a new crossing between Hood River and White Salmon. Following that initial push, the project moved forward slowly until the Oregon Legislature passed HB 2017 in 2017, appropriating $5 million to complete a Final EIS and carry out other project development activities. In 2020, the project received a $5 million BUILD grant, and the state legislatures of Oregon and Washington each appropriated $5 million during the 2021 session for pre-engineering. During the 2022 session, the Washington state legislature appropriated an additional $75 million to complete engineering and begin construction.

This $100 million BIP grant request will leverage these state and local funds to complete engineering and fun a major piece of construction for the new interstate bridge. The region anticipates that final construction funding will come from a mixture of Washington and Oregon state allocations, local tolling bond revenue, and potentially a public-private partnership to make the bridge's replacement a reality prior to the end of 2029 at the latest. A Preliminary

Cost Estimate was concluded earlier this year showing a fully programmed cost of $500 million to build the new bridge.

We hope you will agree that it should not take nearly 30 years to plan for and construct a critical piece of rural infrastructure that serves as the lifeblood of the growing communities in the Mid-Columbia region – a region that contains 7,289 square miles and encompasses most of the federally designated Columbia River Gorge National Scenic Area.

Though this project is being requested by the Port of Hood River, the history of this project demonstrates that both Oregon and Washington, as well as many communities and stakeholders therein, support the project. Furthermore, past Congressional support demonstrates the historical and consistent bipartisan support. We urge you to give this project funding request your full consideration and support.

Sincerely,

Representative Anna Williams
Oregon State Legislature

Representative Daniel Bonham
Oregon State Legislature

Senator Chuck Thomsen
Oregon State Legislature

Port of Klickitat

August 4, 2022

The Honorable Pete Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

RE: Hood River-White Salmon Interstate Bridge Replacement BIP grant application

Dear Secretary Buttigieg,

The Port of Klickitat writes to express its support for the Port of Hood River and Klickitat County joint application to the U.S. Department of Transportation's Bridge Investment Grant (BIP) Program. If successful, this award will help fund construction of a new bridge across the Columbia River that will replace the nearly century-old Hood River-White Salmon Interstate Bridge.

Originally constructed in 1924 the nearly mile-long steel structure is functionally obsolete and in dire need of replacement. The weight restricted bridge has no shoulders, prohibits bicycle or pedestrian access, and has travel lanes that are barely nine feet wide. It carries a sufficiency rating of less than 20. Despite its poor and obsolete condition, this piece of critical infrastructure serves as the lifeblood of the rural but growing Mid-Columbia Region – a region that encompasses most of the federally designated Columbia River Gorge National Scenic Area. Residents and businesses living and operating on both sides of the river, as well as visitors from all over the world drawn to the area must travel 20 miles in either direction to reach the next nearest river crossing.

Early efforts to develop a replacement bridge were initiated in 1999 when the Washington State Congressional delegation helped secure $1.4 million in federal funding for a feasibility study, draft environmental impact statement (DEIS) and a type, size and location (TS&L) study focused on a new crossing between Hood River, Oregon and White Salmon, Washington. Following that initial push, the project moved slowly until 2017 when the Oregon state legislature appropriated $5 million to complete a Final EIS and carry out other project development activities. A Record of Decision on the current project is now expected to be issued by FHWA in the next year.

In 2020, the project received a $5 million BUILD grant to assist with project engineering and design. In 2021, the States of Oregon and Washington each appropriated $5 million for additional engineering and design work. Most

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Fax: 509-493-4257
www.portofklickitat.com

Good for business. Good for life.

recently, during the just completed 2022 session, the Washington state legislature appropriated $75 million to complete engineering and initiate construction funding. During the most recent state legislative sessions in Oregon and Washington, both legislative bodies also authorized the creation of a new bi-state bridge authority to develop a governance and management structure for a new Hood River-White Salmon Interstate Bridge.

If successful, this $100 million BIP grant will build on the nearly $100 million that has already been secured for this project and leverage additional construction funding from a variety of sources. A Bi-State Bridge Working Group, made up of local elected leaders in both Oregon and Washington anticipates that final construction funding will come from a mixture of Washington and Oregon bonds, federal and local funding, tolls and potentially a public-private partnership. Construction is targeted to begin in 2026. Preliminary cost estimates developed earlier this year show a fully programmed cost of $500 million to build the new bridge and dismantle the existing bridge.

This project demonstrates that both Oregon and Washington, as well as many communities and stakeholders therein, support the project. Furthermore, past Congressional support demonstrates the historical and consistent bipartisan support. We believe this request aligns particularly well with the BIP NOFO and ask that you give this application your full and fair consideration.

Sincerely,

Margie Ziegler
Executive Director

PROVIDENCE
Hood River
Memorial Hospital

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

August 4, 2022

Dear Secretary Buttigieg,

I am writing to support the Port of Hood River's application for a $100-million Bridge Investment Grant Program (BIP) to replace the Hood River/White Salmon bridge which spans the Columbia river between Oregon and Washington.

The current toll bridge is a critical link for our regional bi-state economy, but it is also functionally obsolete, weight-restricted and seismically deficient. If construction of the new bridge is not underway by 2026, the existing bridge will need $50-million in repairs and rehabilitation over the next 15 years to remain safe and operational.

Regarding health care, the bridge ensures patients can access the right care in emergency situations. Our hospital and the three hospitals surrounding us in the Columbia River Gorge, also rely on the Hood River/White Salmon bridge for staff to come to work from surrounding counties. When the bridge is closed for construction or due to weather conditions, it can make things difficult.

I am strongly supportive of the region's efforts to secure a $100 million dollars through the federal infrastructure program. This funding would leverage existing and forthcoming commitments from both the states of Oregon and Washington and could increase the speed of which this bridge could be replaced.

Sincerely,

Jeanie Vieira
Chief Executive Officer
Providence Hood River Memorial Hospital
P.O. Box 149
Hood River, OR 97031
541-387-6456

SDS Lumber Company
P.O. Box 266
Bingen, WA 98605
Ph (509) 493 -2155
Fax (509) 493-2535

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

August 4, 2022

Dear Secretary Buttigieg,

I am writing to support the Port of Hood River's application for a $100-million Bridge Investment Grant (BIP) Program to replace the Hood River-White Salmon Bridge.

The current toll bridge is a critical link for our regional bi-state economy, but it is also functionally obsolete, weight-restricted and seismically deficient. If construction of the new bridge is not underway by 2026, the existing bridge will need $50-million in repairs and rehabilitation over the next 15 years to remain safe and operational.

For over 75 years SDS Lumber has utilized the transportation benefits of the Hood River Bridge for hauling access for freight out of our facility, as well as for raw materials inbound from many suppliers. On any given day we can have as many as 125 semi trucks cross this bridge. The replacement of the Hood River-White Salmon Bridge is vital for the future of our manufacturing business which lies less than 2 miles from the bridge itself. Local hauling companies that haul raw materials and finished materials from our facility rely greatly on this asset as well to stay in business. The narrow lanes and current weight restrictions of the bridge are a deterrent to shipment of our products.

I am strongly supportive of the region's efforts to secure a $100-million through the federal bridge program. This funding would leverage existing and forthcoming commitments from both the states of Oregon and Washington and could increase the speed of which this bridge could be replaced.

Sincerely,

Mike Engel
SDS Lumber LLC
Manager

4900 NW Front Ave., Portland, OR 9210

August 6, 2022

The Honorable Pete Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

Dear Secretary Buttigieg,

I am Robert Rich, Vice President of Marine Services for Shaver Transportation Company, writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's *Bridge Investment Grant Program (BIP)* to support the replacement of the nearly century old Hood River (Ore.)-White Salmon (Wash) Interstate Bridge – located in the rural Columbia River Gorge National Scenic Area.

The Port of Hood River is seeking an BIP grant in the amount of $100 million to complete design and begin construction that must be completed before this obsolete but critical rural transportation link can be replaced. We couldn't be a bigger supporter of the Ports' efforts to expedite its' replacement.

We are a 6th generation 140-year-old tug and barge line operating a fleet of grain barges that regularly transit through this hazardous and outdated bridge. Of the 365 miles comprising the Columbia-Snake River navigation system, the Hood River Bridge is **universally recognized of one the two most hazardous transit points for danger to vessels or the structure itself due to its navigational obstruction.**

The original interstate bridge – built in 1924 – is functionally obsolete, with no shoulders, no bicycle or pedestrian access, travel lanes that are just over 9 feet wide, and carries a sufficiency rating of less than 48. Efforts to replace the nearly 100 year old structure have been underway since the early 1990s, as the economy and qualify of life for the bi-state communities on both sides of the Columbia River are heavily dependent on this interstate crossing.

In 1999, the Washington State Congressional delegation helped to secure $1.4 million in federal funding for a feasibility study, draft environmental impact statement (DEIS) and a type, size and location (TS&L) study focused on a new crossing between Hood River and White Salmon. Following that initial push, the project moved forward slowly until 2017 when the Oregon Legislature passed HB2017 appropriating $5 million to complete a Final EIS and carry out other project development activities. This $100 million BIP grant request will leverage the $75 million of Washington's state appropriation along with

another $20 million of local contribution to complete the FEIS, initiate the permitting and design/engineering process, and acquire right of way needed for the new interstate bridge. The region anticipates that final construction funding will come from a mixture of federal funds, Washington and Oregon bonds, local funding, and potentially a public private partnership to make replacement a reality prior to the end of 2029.

I am sure we can both agree that it should not take nearly 30 years to plan for and construct a critical piece of rural infrastructure that serves as the life blood of the local communities located in the Mid-Columbia region – a region that contains 7,289 square miles and encompasses most of the federally designated Columbia River Gorge National Scenic Area.

Though this project is being requested by the Port of Hood River, the history of this project demonstrates its true bi-state nature, and past Congressional support demonstrates true bi-partisan support for this project. I urge you to give this project funding request your full consideration and support. Thank you for your consideration.

Sincerely,

Robert D. Rich, V.P. Marine Services.

503-228-8850

PORT OF CASCADE LOCKS

August 6, 2022

The Honorable Pete Buttigieg
Secretary
U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

Dear Secretary Buttigieg,

On behalf of the Port Commission of the Port of Cascade Locks, I am writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's *Bridge Investment Program (BIP)* Grants program in the amount of $100 million to support the replacement of the nearly century old Hood River (Ore.)-White Salmon (Wash) Interstate Bridge – located in the rural Columbia River Gorge National Scenic Area.

The Hood River-White Salmon Interstate Bridge – built in 1924 – is functionally obsolete, with no shoulders, no bicycle or pedestrian access, travel lanes that are just over 9 feet wide, and carries sufficiency rating of less than 48. The Hood River-White Salmon Bridge is part of a very crucial network in the overall transportation system within the National Scenic Area, as well as Central and Eastern Washington and Oregon. There is a profound need for safe and efficient travel for locals, tourists and commercial transportation. Efforts to replace the nearly 100 year old structure have been underway since the early 1990s, as the economy and quality of life for the bi-state communities on both sides of the Columbia River are heavily dependent on this interstate crossing.

In 1999, the Washington State Congressional delegation helped to secure $1.4 million in federal funding for a feasibility study, draft environmental impact statement (DEIS) and a type, size and location (TS&L) study focused on a new crossing between Hood River and White Salmon. Following that initial push, the project moved forward slowly until 2017 when the Oregon Legislature passed HB2017 appropriating $5 million to complete a Final EIS and carry out other project development activities. This $100 million BIP grant request will leverage the $10 million of Oregon's state appropriation along with another $10 million of local contribution to complete the FEIS, initiate the permitting and design/engineering process, and acquire right of way needed for the new interstate bridge. The region anticipates that final construction funding will come from a mixture of federal funds, Washington and Oregon bonds, local funding, and potentially a public private partnership to make replacement a reality prior to the end of 2029.

I am sure we can both agree that it should not take nearly 30 years to plan for and construct a critical piece of rural infrastructure that serves as the life blood of the local communities located in the Mid-Columbia region – a region that contains 7,289 square miles and encompasses most of the federally designated Columbia River Gorge National Scenic Area. Providing for safe and efficient travel is critical for the population of the mid-Columbia Region and for the enjoyment of all visitors to the National Scenic Area.

Though this project is being requested by the Port of Hood River, the history of this project demonstrates its true bi-state nature, and past Congressional support demonstrates true bi-partisan

support for this project. I urge you to give this project funding request your full consideration and support. Thank you for your consideration.

Sincerely,

Olga Kaganova
General Manager
Port of Cascade Locks

1300 Franklin Street, Floor 1
P.O. Box 1366
Vancouver, WA 98666-1366

564-397-6067
564-397-6132 fax
https://www.rtc.wa.gov

August 4, 2022

Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

Dear Secretary Buttigieg:

The Southwest Washington Regional Transportation Council (RTC) is pleased to support the application submitted by the Port of Hood River for the U.S. Department of Transportation's Bridge Investment Grant (BIP) Program. The grant sought would help replace the nearly century-old Hood River-White Salmon Interstate Bridge, connecting Oregon and Washington in the Columbia River Gorge National Scenic Area.

The Port of Hood River and its community partners in Washington state are seeking an BIP grant in the amount of $100 million to complete design and begin construction to replace this obsolete bridge.

The replacement of the Hood River-White Salmon Interstate Bridge is the top priority project in the Klickitat County, Washington Regional Transportation Plan. This priority indicates the considerable impact that this bridge has as a critical transportation link.

Besides being a region priority in the mid-Columbia region, the state of Washington and Oregon have already committed $90M to the project, and both states are prepared to commit additional funding. NEPA and tribal consultation will be completed this year. The new bridge would be built to standards and would provide bike and pedestrian facilities, which are currently missing.

This project demonstrates true bi-state cooperation, with strong support in both Oregon and Washington. The region is ready to move forward with a replacement bridge, and strongly urge your support for this BIP grant.

Sincerely,

Matt Ransom
Executive Director

TIDEWATER

August 4, 2022

The Honorable Pete Buttigieg
Secretary, U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, D.C. 20590

Dear Secretary Buttigieg,

I am writing in support of an application submitted by the Port of Hood River (located in Hood River, Oregon) for the United States Department of Transportation's Bridge Investment Grant (BIP) Program to help fund the replacement of the Hood River Interstate Bridge between Bingen and White Salmon, Washington and Hood River, Oregon communities. This support is submitted on behalf of Tidewater Transportation and Terminals ("Tidewater"). We are the largest inland marine transportation company west of the Mississippi River and are celebrating our 90th anniversary this year. Our fleet of tugs and barges and skilled crewpersons provide transportation services to several businesses along the Columbia Snake River (CSR) System twenty-four hours a day, seven days a week, 365 days a year.

A new river crossing would provide the opportunity for a safer design with an emphasis on marine interface and public safety on the Columbia River. A modern bridge design could allow safer passages for commercial marine traffic by providing a wider channel width at the bridge itself. A more generous passage reduces the risk of a potential bridge allision, as well as reduces the potential of conflict between commercial vessels and other river users while vessel operators are lining up to make a bridge transit. Fewer pier obstructions and a taller commercial traffic span will help to ensure that public users and commercial industries safely coexist for many years to come.

The current bridge is nearly 100 years old and is nearing its serviceable life, not to mention it is functionally obsolete, with no shoulders, no bicycle or pedestrian access, and travel lanes that are just over nine feet wide, which cannot accommodate modern vehicle freight hauling truck configurations as well as some emergency response vehicles. Because the next nearest alternate crossing of the Columbia River is more than 20 miles away to the east or west, the Hood River Interstate Bridge, which is listed on the National Highway System, remains a primary freight route to residents, businesses, and commuters in economically disadvantaged Klickitat County, Washington.

The need to address social demands, economic development in the region, capacity, modal interrelationships, and safety with a replacement Hood River Interstate Bridge is very apparent. I implore you to give the Port of Hood River and Klickitat County's BIP application your full consideration and support. Thank you.

Sincerely,

Todd Busch

Todd Busch
President & CEO

6305 NW Old Lower River Road, Vancouver, WA 98660 • 360.693.1491 • www.tidewater.com

Agent for
SERIES ONE OF TWIN CREEKS TIMBER LLC
1040 Garland Drive, Suite 100
Bogart, GA 30622
greendiamond.com

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

I am writing to support the Port of Hood River's application for a $100-million Bridge Investment Program Grant (BIP) to replace the Hood River-White Salmon Bridge.

The current toll bridge is a critical link for our regional bi-state economy, but it is also functionally obsolete, weight-restricted and seismically deficient.

The replacement of the Hood River-White Salmon Bridge is vital for the future of timberland management in our region. As you can imagine, freight costs are a significant component of the cost of delivering logs to manufacturing facilities. In this region, both timberlands and forest products manufacturing facilities are located on both sides of the Columbia River. The ability to efficiently transport logs to any facility from all timberlands is crucial to business success. Each manufacturing facility may require specific logs at specific times, making transport across the river a key market component. In addition, the manufacturing facilities on both sides of the river need efficient access to all transportation infrastructure within the Columbia river corridor: (WA SR-14, I-84, UP RR, BNSF RR). The current weight and width restrictions deter efficient transportation of equipment (lowboy traffic) and logs within the region. Regional roads and trucks are capable of 88,000lb-105,500lb loads which the current bridge does not support. In many cases, equipment and products must utilize alternative crossings, adding significant freight cost.

I am strongly supportive of the region's efforts to secure a $100-million through the federal infrastructure program. This funding would leverage existing and forthcoming commitments from both the states of Oregon and Washington and could increase the speed of which this bridge could be replaced.

Sincerely,

Jon Cole
Area Manager, CBMA
541-490-5421

August 4, 2022

Washington State Legislature

August 4, 2022

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

We are writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's Bridge Investment Grant (BIP) Program. The grant sought would support the replacement of the nearly century-old Hood River-White Salmon Interstate Bridge – connecting Oregon and Washington in the rural Columbia River Gorge National Scenic Area.

The Port of Hood River and its community partners in Washington state are seeking an BIP grant in the amount of $100 million to complete design and begin construction to replace this obsolete but critical rural transportation link.

The original interstate bridge – built in 1924 – is functionally obsolete. It has no shoulders, no bicycle or pedestrian access, and travel lanes that are just over 9 feet wide. It carries a sufficiency rating of less than 20. Efforts to replace the structure have been underway since the early 1990s, as the economy and quality of life for the bi-state communities on both sides of the Columbia River are heavily dependent on this interstate crossing.

In 1999, the Washington State Congressional delegation helped to secure $1.4 million in federal funding for a feasibility study, draft environmental impact statement (DEIS) and a type, size and location (TS&L) study focused on a new crossing between Hood River and White Salmon. Following that initial push, the project moved forward slowly until 2017 when the Oregon Legislature passed HB2017 appropriating $5 million to complete a Final EIS and carry out other project development activities. In 2020, the project received a $5M BUILD grant and that States of Oregon and Washington both appropriated $5M apiece during the 2021 session for pre-engineering. During the 2022 session, the Washington state legislature via SB 5974 appropriated $75 million to complete engineer and begin construction.

This $100 million BIP grant request will leverage these state and local funds to complete engineering and serve as a major piece of construction for the new interstate bridge. The region anticipates that final construction funding will come from a mixture of Washington and Oregon bonds, local funding, and potentially a public-private partnership to make replacement a reality prior to the end of 2029 at the latest. A Preliminary Cost Estimate was concluded earlier this year showing a fully programmed cost of $500-million to build the new bridge.

We hope you will agree that it should not take nearly 30 years to plan for and construct a critical piece of rural infrastructure that serves as the lifeblood of the growing communities in the Mid-Columbia region – a region that contains 7,289 square miles and encompasses most of the federally designated Columbia River Gorge National Scenic Area.

Though this project is being requested by the Port of Hood River, the history of this project demonstrates that both Oregon and Washington, as well as many communities and stakeholders therein, support the project. Furthermore, past Congressional support demonstrates the historical and consistent bipartisan support. We urge you to give this project funding request your full consideration and support.

Sincerely,

Curtis King
Washington State Senator
14th Legislative District

Chris Corry
Washington State Representative
14th Legislative District

Gina Mosbrucker
Washington State Representative
14th Legislative District

WHITE SALMON BUSINESS ALLIANCE

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

August 4, 2022

Dear Secretary Buttigieg,

We are writing to support the Port of Hood River's application for a $100-million Bridge Investment Grant Program (BIP) to replace the Hood River-White Salmon Bridge.

The current toll bridge is a critical link for our regional bi-state economy, but it is also functionally obsolete, weight-restricted and seismically deficient. Without it, access to our community is virtually cut off to the Oregon side, absent a 20-mile drive in either direction to the next bridge. With our businesses relying on attracting some of the more than 2 million annual visitors to the Columbia Gorge National Scenic area, such a lack of access would have a devasting impact on the business of White Salmon.

Without the Hood River-White Salmon Bridge, the restaurants, wineries, breweries, and shops in the town of White Salmon would struggle to stay open. Even with the old, aged bridge, it is a barrier to entry for many tourists. The narrow bridge is consistently a talking point as to why many do not visit the Washington side. A new, wider bridge, built with walking and biking access as well, would increase the tourism visits to our town, allowing for sustainable growth for all the businesses.

We are strongly supportive of the region's efforts to secure a $100-million through the federal bridge program. This funding would leverage existing and forthcoming commitments from both the states of Oregon and Washington and could increase the speed of which this bridge could be replaced.

Sincerely,

Christopher Stiffler
President White Salmon Business Alliance
Owner Le Doubblé Troubblé Wine Co.

Christine Ellenberg
Owner Everybody's Brewing

Sarah Morton-Erasmus
Owner Arrowleaf Workshop
Owner Henni's Kitchen and Bar
Owner Pizza Leona

Jure Progba
Owner White Salmon Baking

Chris Jospeh
Owner Tarwater

City of White Salmon
Office of City Hall

August 4, 2022

The Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Dear Secretary Buttigieg,

I am writing in support of an application submitted by the Port of Hood River, Oregon for the U.S. Department of Transportation's Bridge Investment Grant (BIP) Program. The grant sought would help replace the nearly century-old Hood River-White Salmon Interstate Bridge, which connects the rural communities of White Salmon and Bingen, Washington, with Hood River, Oregon, serving as an essential link to not only our local communities and the region, but also the interstate movement of freight, commuters, and visitors within the Columbia Gorge National Scenic Area.

In short, our community depends on this bridge for its long-term sustainability and resiliency, which is why our city, county, and state have been active partners collaborating with the Port of Hood River to move this project forward. The Port is seeking an BIP grant in the amount of $100 million to complete design and begin construction to replace this obsolete but critical rural transportation link. A recent study concluded that a fully programmed facility will cost nearly $500 million.

The bi-state and bi-partisan support for this project so far illustrate the commitment to realizing construction of a new bridge and speaks to the dire urgency felt on the ground:

- The state of Washington has already committed $80M to the project.
- Oregon has committed $10M to the project; both states are prepared to commit significant more funding to the project in 2023.
- NEPA and tribal consultation will be completed later this year.
- Both Oregon and Washington decision makers agree that bridge replacement is the number one priority for the mid-Columbia region.
- This bridge fills a 45-mile gap between bridges and a 75-mile gap between unrestricted bridges for commercial traffic.
- Both sides of the river in this region operate as a singular cultural, economic, and political community: there are well over 10,000 separate farm operations that depend on shipments along the routes enhanced by this project, a quarter of our county's residents commute to neighboring Oregon counties for their jobs, and the Columbia Gorge National Scenic Area attracts over 2M visitors a year.
- This project addresses access issues with the addition of a bike/pedestrian lane, standardized lane widths and shoulders, and safer maritime travel under the bridge; safety issues with the addition of seismic resiliency and emergency vehicle access improvements; and environmental improvements including a stormwater collection system.

The topic of building resilient infrastructure is one that is just as urgent in rural communities such as ours as it is in larger urban centers. I appreciate the Biden Administration's commitment to expanding the available funding, and the U.S. Dept. of Transportation's streamlined process – under your leadership – that makes the pursuit of such funds more feasible for smaller-sized rural agencies.

The City of White Salmon hopes that the U.S. Dept. of Transportation will consider funding this $100-million application for the replacement of this important bridge

Sincerely,

Marla Keethler
Mayor

Honorable Secretary Pete Buttigieg
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, D.C. 20590

August 4, 2022

Dear Secretary Buttigieg,

This letter is in support of providing pedestrian and cycling access to cross the Columbia River at Hood River, OR to White Salmon, WA. This aspect should be included in the application of 100 million dollars for Notice of Funding Opportunity (NOFO), Bridge Investment Program (BIP) by Port of Hood River, Oregon.

The Historic Columbia River Highway (America's first scenic highway built in 1916-1922) is 75 miles long within Oregon and contains three towns/cities, Cascade Locks, Hood River, Mosier, and The Dalles. The only River crossing along the 75 mile Historic Highway between Oregon and Washington for pedestrians and cyclist paralleling the Historic Columbia River Highway is at Cascade Locks. Thankfully for hikers using the Pacific Crest Trail, the Cascade Locks Bridge of the Gods allows both pedestrians and cyclists to occupy the single travel lane across the River. And thankfully, there have been few crashes involving vulnerable road users over the years.

Prohibition of pedestrians and cyclists is a restriction. There is a large need for multiple Columbia River crossings allowing both pedestrians and cyclists to interconnect between Washington and Oregon.

One major reason is the near completion (expected in 2023) of Mitchell Point Tunnel in its facsimile reconstruction of the trail overlooking the river along the same height as the original HCRH Mitchell Tunnel sacrificed for the construction of the I-84 lanes. This tunnel will be an international attraction for people as they visit Oregon. Mitchell Tunnel is only 1.6 miles from Hood River. And this will be easy access on an ebike.

A second major reason is the e-bike. Not only is the easy access to Mitchell Tunnel but also White Salmon is a sister attraction. E-bikes have transformed a huge number of people cycling –not for athletic reasons- but for the joy of cycling. Witness the facts: In 2020, the estimate of e-bike sales was near 500,000. The growth rate from July 2020 to July 2021 was 240% while general cycling sales grew at a rate of 15%. Witness: Hood River where last October 2021 a dozen people attended a wedding for which was an e-bike ride at Hatfield trailhead along the HCRH. E-bikes enables many more people to enjoy cycling. Once the Mitchell Tunnel part of the trail is complete in 2023, it will not be the only attraction. E-bikes will allow crossing to/from White Salmon for an easy afternoon/lunch opportunity to both Hood River and Washington's White Salmon visitors. Imagine having a bump out in the middle of the Columbia to look up/down the River's majesty. Simple: more prosperity for both sides of the River.

And a tertiary reason, will forth coming is an application to Adventure Cycling to designate the HCRH a part of the US Bicycle Route System. (https://www.adventurecycling.org/routes-and-maps/us-bicycle-route-system/)

ZELADA

The entire Columbia Gorge is a very large destination. One has to recognize that many cyclists who come to visit our precious region bring family members. We need to broaden our thinking about supporting increasing numbers who turn to visit for authentic vacations. The economic coattails of cyclists is more than what cyclists spend in an area. Often the 'family' of the cyclists visit wineries, shop at boutiques, imbibe at pubs and breweries, and hike trails while the cyclist is that adventure some person wanting to cross both sides of the Columbia.

The fourth concern: This attitude and recognition of the need for a Gorge wide transportation plan has been recognized by Oregon Representative Earle Blumenauer's introduction in March 2022 of the bill, **H.R. 7665**. This proposed bill creates a Committee on Transportation and Infrastructure for the Columbia River Gorge Access Committee in coordination with the Columbia River Gorge Commission. This proposal includes a representative from the pedestrian and cycling representative at this table. This long needed planning to integrate and elevate the regional needs of the Columbia Gorge transportation needs will propel creation of integration along the 75 mile trail and highway for pedestrians and cyclists to have more than one lonely place to cross the river in Cascade Locks.

In effect this is the first stage to create a regional wide Columbia Gorge Transportation Plan. The intent is to create "a safe, equitable, and ecologically sustainable access to recreation, tourism, and residential, cultural, and economic opportunities in the Area." This effort dovetails support and integrates a parallel concept of increasing a "publicly-owned highway or bridge that provides or increases access to an agricultural, commercial, energy, or intermodal facility that supports the economy of a rural area." This fits the description of the eligible application for DOT's Bridge Investment Grant Program by Port of Hood River to consider a pedestrian and bikeway at Hood River.

Sincerely,

A. J. Zelada, OD
Present Board member,
Friends of the Historic Columbia River Highway
Troutdale, OR

Previous Board Member,
League of American Bicyclists
Washington DC

Previous Chair and Member,
Oregon Bicyclists and Pedestrian Advisory Committee
To Department of Transportation
Salem, OR

Present Member,
Multnomah County Bicycle and Pedestrian Advisory
Portland, OR

3424 NE 24th Avenue
Portland, OR 97212
503.318.2472
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ZELADA

References

https://www.adventurecycling.org/routes-and-maps/us-bicycle-route-system/

https://stateparks.oregon.gov/index.cfm?do=park.profile&parkId=197

https://stateparks.oregon.gov/index.cfm?do=park.profile&parkId=113

https://ajzelada.medium.com/back-to-bikes-the-5th-type-of-cyclist-515bc54351d4

https://www.congress.gov/bill/117th-congress/house-bill/7665
H.R. 7665 (IH) - Mt. Hood and Columbia River Gorge Recreation Enhancement and Conservation Act of 2022

BEFORE THE BOARD OF COUNTY COMMISSIONER

Klickitat County, Washington

IN THE MATTER OF }
AUTHORIZING THE SUBMISSION OF }
A JOINT $100-MILLION U.S. DOT BRIDGE }
INVESTMENT PROGRAM GRANT FOR THE}
REPLACEMENT OF THE HOOD RIVER}
BRIDGE. }

Resolution #_ 06822 _

WHEREAS, the Board of County Commissioners, meeting in regular session, and having before it the need to consider authorizing the submission of a Joint Grant application to the U.S. Department of Transportation Federal Highway Administration Bridge Investment Program for replacement of the Hood River-White Salmon Bridge; and

WHEREAS, Klickitat County is a member of the Bridge Replacement Bi-State Working Group along with the Port of Hood River, Cities of Bingen and White Salmon, Washington, City of Hood River, Oregon, and Hood River County, Oregon; and

WHEREAS, the Bridge Replacement Bi-State Working Group has agreed to be responsible for guiding project development, overseeing Phase 2 and Phase 3 work, providing for interagency coordination on all project issues, facilitating the implementation of the Bi-State Bridge Authority and, seeking the funding necessary to design, develop, and construct the replacement bridge; and

WHEREAS, this project is the highest rated project in the Klickitat County Regional Transportation Plan. The project demonstrates genuine bi-state cooperation, with strong support in Oregon and Washington.

NOW, THEREFORE, BE IT RESOLVED, that the Klickitat County Board of Commissioners hereby authorizes the submission of the Joint Grant application to the U.S. Department of Transportation Federal Highway Administration Bridge Investment Program for replacement of the Hood River-White Salmon Bridge.

Dated this 2nd Day of August 2022.

BOARD OF COUNTY COMMISSIONERS
Klickitat County, Washington

Jacob Anderson, Chairman

Absent
David M. Sauter, Commissioner

Dan Christopher, Commissioner

ATTEST:

Clerk of the Board

In and for the County of Klickitat,
State of Washington

APPENDIX C

HOOD RIVER- WHITE SALMON REPLACEMENT BRIDGE PROJECT

Benefit Cost Analysis Technical Memorandum

Appendix C

Hood River-White Salmon Interstate Bridge Replacement Project

FY 2022 USDOT Grant Discretionary Programs

Benefit-Cost Analysis

August 1, 2022

Prepared by FCS GROUP

www.fcsgroup.com

TABLE OF CONTENTS

Section I. BCA Summary

I.A. 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*, March 2022 (revised) guidelines. The detailed cost and benefit assumptions are provided in this BCA Appendix, 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, 64,000 truck weight limit, no bicycle/pedestrian 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, and improved health benefits with added bicycle and pedestrian facilities.
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; health benefits from bicycle and pedestrian trips, and residual value of capital assets over a 75-year time frame. All benefits and costs are discounted by 7%.

I.B. BCA SUMMARY

BCA results for this project indicate an overall BCA ratio of 5:1 (@ no discount rate) and a BCA of 1.1:1 (@7% discount rate). Project benefits amount to over $2.3 billion (0% discount rate) and $333 million (@7% discount rate).

Exhibit 1.2 BCA Results

	BCA with zero discount rate	BCA with 7% discount rate
Toll Revenues Dedicated to New Bridge Project	$706,455,337	$127,419,213
Vehicle O&M Savings, Passenger Vehicles	$731,315,482	$85,467,620
Value of Travel Time Savings, Passenger Vehicles	$253,839,604	$29,665,811
Value of Travel Time Savings, Trucks	$1,182,418	$138,187
Truck Fuel Cost Savings per Year	$6,525,425	$762,616
Truck Maintenance Cost Savings (excludes fuel & driver time)	$2,049,041	$239,468
State of Good Repair (cost avoidance)		
Roadway Maintenance Cost Savings Per Year (trucks)	$999,017	$116,753
Net Bridge O&M Cost Avoidance	$93,444,305	$8,730,958
Net Insurance Cost Savings	$40,524,571	$3,786,409
Safety Benefits (cost avoidance)		
Change in Truck Accident costs (injuries)	$22,106,858	$2,583,592
Change in Truck Accidents costs (fatalities)	$323,661	$37,826
Barge related cost avoidance (operations/delays)	$21,841,155	$2,040,726
Barge related cost avoidance (property damage)	$17,830,811	$1,666,020
Environmental Sustainability (truck related)		
Volatile Organic Compounds (VOC)	$8,003	$935
Nitrogen Oxide (NOx)	$110,630	$12,929
Particulate Matter (PM)	$173,851	$20,318
Health Benefits of Induced Bike/Ped Activity		
Change in Health Benefits with Bike/Pedestrian facilities	$181,202,910	$21,176,882
Value of Bridge in Year 50		
Remaining life of Bridge in year 50	$271,424,754	$49,355,126
Summary of Benefits		
Economic Competitiveness factors (net change)	$1,701,367,307	$243,692,915
State of Good Repair (cost avoidance)	$134,967,893	$12,634,120
Safety (cost avoidance)	$62,102,486	$6,328,163
Environmental Air Quality factors (net change)	$292,484	$34,182
Change in Health Benefits with Bike/Pedestrian facilities	$181,202,910	$21,176,882
Remaining life of Bridge in year 50	$271,424,754	$49,355,126
Summary of Benefits	**$2,351,357,832**	**$333,221,388**
Summary of Costs	**($496,092,548)**	**($318,509,968)**
Net Benefits over 50 Years	**$1,855,265,284**	**$14,711,420**
Benefit Cost Ratio (calculated)	**4.74**	**1.05**
Benefit Cost Ratio (rounded)	**5:1**	**1.1:1**

Source: *Hood River Bridge Benefit Cost Analysis, Appendix B, May 2022.*

Section II. PROJECT BENEFITS

This section describes the key assumptions regarding the anticipated annual project benefits associated with the no-build and build scenarios. **Exhibit 2.1** describes the types of benefits that are monetized in this report.

Exhibit 2.1

BCA Criteria	Benefit Category	Description	Monetized
State of Good Repair	Maintenance Costs	Project will reduce truck and passenger vehicle miles of travel and related bridge facility O&M costs.	Yes
Economic Competitiveness	Value of Travel Time Savings	Transportation costs reduced as truck and passenger vehicle miles are decreased.	Yes
	Freight Mobility and Reliability: National	Reduced long-distance truck operations results in fuel cost savings, energy independence and lower truck vehicle maintenance costs. Higher bridge height will enhance barge movements and prevent bridge strike incidents.	Yes
	Freight Mobility and Reliability: Regional	Reduced long-distance truck operations to regional shippers result in fuel cost savings and lower truck maintenance costs.	Yes
	Freight Mobility and Reliability: Local	Increased bridge usage will increase revenue at Port (dedicated to bridge financing); and result in more valuable bridge asset.	Yes
Environmental Sustainability	Emission Cost: Trucking	Project will reduce truck vehicle emissions with SMART tolls	Yes
	Emission Cost: Passenger Vehicles	Project will reduce passenger vehicle emissions with SMART tolls	Yes
Safety	Accident Cost	Project will reduce truck miles of travel and result in fewer accidents and fewer barge related bridge incidents.	Yes
Health	Heath care cost avoidance	Project will include bicycle and pedestrian facilities which will induce bicycle and pedestrian trips between Oregon and Washington	Yes
Innovation	Use of Innovative Technology and Operations	Project will optimize SMART tolling and create innovative bi-state partnership agreement.	No

II.A. NO-BUILD ALTERNATIVE

The Port of Hood River is spearheading a bistate Bridge Replacement Project which will provide a more efficient linkage between Washington and Oregon within the Columbia River Gorge National Scenic Area (NSA), and efficient connection with major highway and marine freight corridors (I-84 and Hwy. 14). Under the No Build Alternative, it is assumed that the current baseline design remains as is over the long-term with 64,000 lb. vehicle weight restrictions, horizontal lift span elements, and no separate bicycle/pedestrian connections.

The No-Build Alternative results in the following costs which can be reduced or eliminated if the INFRA Grant funds are obtained, and the project advances through Phase 2 and Phase 3.

- **Increased bridge operations and maintenance cost** investment by the Port of Hood River, which would not be required under the Build Alternative.
- **Continued use of the lift-span element with low horizontal clearance** levels for barges traveling under the bridge; which contributes to **occasional bridge strikes by barges** and related property damage and higher insurance costs for the bridge owner.
- **80,000 lb. weight restrictions** for trucks carrying commodities between Oregon and Washington; which results in **increased out of direction freight movement** as shippers must utilize other bridges located 35 to 50 miles away to get products to mills and markets.
- **Major delays and congestion** at the current bridge crossing. In 2019, there were over 4.3 million vehicles crossing on the Hood River Bridge (with an estimated 7 million passengers). Narrow travel lanes and tolling technology limitations result in significant vehicle delays, which would continue to worsen as population, employment and visitation increases over time within the National Scenic Area.
- **Increased highway and river barge accidents** as trucks must travel longer distances to reach other bridges with less restrictions and barges risk bridge strikes for the reasons mentioned above.
- **Reduced environmental air quality within the NSA** as trucks travel longer distances and vehicle delays at bridge crossing contribute to point-source pollution from vehicle related emissions.
- **No facilities for bicycles or pedestrians,** which places additional reliance on vehicle trips and results in increases in national health care costs.

These and other costs to the national economy and related BCA assumptions are further discussed below.

II.B. BUILD ALTERNATIVE

Over the past decade (from 1998 to 2021), the Port of Hood River and the Oregon Department of Transportation (ODOT) have invested $4.9 million in feasibility studies, conceptual design work, and draft environmental impact study (DEIS) analysis. Those elements are considered as Phase 1 and are not eligible for future grant funding.

Eligible project elements include work to be completed as part of Phase 2 and Phase 3.

Phase 2 includes final DEIS document, permitting approvals, preliminary engineering and execution of bi-state funding agreements. These elements are considered eligible for INFRA Grant funding and are to be completed between 2022 through 2031. Phase 2 will set the stage for Phase 3 activities.

Phase 3 includes final design, right of way acquisition, and project construction activities. These elements are expected to be primarily funded by local and state governments but would also be eligible for federal grant funding and is scheduled to occur between 2025 through 2031.

Once Phase 3 construction is complete, the permanent benefits that will result, starting in year 2032, includes significant increases in economic competitiveness, as measured by reduced truck miles of travel, reduced travel times, reduced operational costs for trucks and barges, reduced accident costs for trucks and barges, enhance environmental air quality within the NSA, increased toll revenues for the Port, and residual value of the capital assets.

Assumptions underpinning each of these benefits is briefly described below and provided in detail in **Appendix A**.

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 $43.2 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 $23.1 million over that same 30-year time frame). The difference ($20.0 million in year 2021 dollars) was divided by 30 in order to annualize the cost; the resulting product was applied to each year in the BCA (**Exhibit 2.2**).

Exhibit 2.2: O&M Cost Avoidance

Assumptions	BUILD	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	1.440865	1.440865	1.440865	ENR Seattle CCI 2011-2021 index
Annualized Escalation Factor			3.7%	ENR Seattle CCI 2011-2021 index
Aggregate O&M Costs over 30 Years (2021 Dollars)	$23,147,512	$43,162,022	$20,014,510	Calculated
Annualized O&M Cost	$771,584	$1,438,734	**$667,150**	Calculated

Reduced Bridge Strikes by Barges

Reduced barge strike damage savings are based on observed barge strike damage figures and an assumed reduction to zero of incidences of barge strikes. These strikes are in large part due to the aforementioned difficulty many barge operators have in navigating the bridge area. The last 10 years of confirmed barge strikes have resulted in $1.27 million in damage to the Hood River Bridge. This damage figure is divided by 10 to annualize the cost of barge strikes (**Exhibit 2.3**).

Exhibit 2.3: Bridge Damage Avoidance

Assumptions	BUILD	NO BUILD	Reduction	Source
Barge Strikes				
Annual Normalized Damage to Hood River Bridge Due to Strikes	$0	$127,304	**$127,304**	Port Staff

Lower Bridge Insurance Premiums

Benefits related to reductions in insurance payments are based on the insurance payments made by the Port of Hood River on the Hood River Bridge which are assumed to be reduced significantly once the new bridge with higher horizontal clearances and less vehicle weight restriction is constructed. In the no-build scenario, the Port is projected to pay $289,327 (on average) in supplemental annual premiums, as it has in the past. If the Hood River Bridge Replacement is completed, it is assumed that the Port will no longer have to pay supplemental insurance premiums (**Exhibit 2.4**).

Exhibit 2.4: Supplemental Insurance Premiums

Assumptions	BUILD	NO BUILD	Change	Source
Change in Annual Insurance Payment on Hood River Bridge	$0	$289,327	$289,327	Port Staff
Annualized Escalation Factor	3.7%	3.7%		ENR Seattle CCI 2011-2021 index

Freight Mobility

The new Hood River bridge will relieve improve truck and barge capacity and freight movements along the Columbia River Gorge highway and river corridor. This route is a national conduit for cargo moving to and from major metropolitan and port areas in Oregon and Washington (see photo below).

Columbia River barge capacity exists to handle additional freight movements.

Travel time savings are based on the difference in time spent traveling for trucks and passenger vehicles. This is determined multiplying the latest toll figures for vehicle crossings by anticipated crossing times to determine total time spent traveling across the bridge in a build and no-build scenario.

To Project the hours of travel time saved with the Build Alternative, it was assumed the average trip across the Hood River Bridge would be 15 miles per hour faster than the No Build alternative, given improved safety and design conditions, use of current SMART tolling, and an increased speed limit.

Additional freight related travel time savings are attributed to removal of current weight restrictions (change from 80,000 lbs to 105,500 lbs.) which is expected to result in an additional 15 percent of the current truck volume observed on the bridge is unable to cross the Hood River Bridge due to weight limits and were instead traveling to one of the closest non-weight restricted bridges (either in The Dalles or Portland).

Average distance and speeds observed between Hood River and either of the other two bridges were used to formulate the time savings to truck drivers traveling out of direction. To monetize the value of this time savings, the total time savings were multiplied by an inflation adjusted value of travel savings ($32 per hour for truck trips and $17.80 per hour for personal trips) provided by USDOT in its BCA guideline document. The product of that figure is then multiplied by the average occupancy of a vehicle (1.67 people per vehicle) as reported by the NHTSA. These figures are escalated at a rate of 1%-2% annually, based on long-term vehicle travel forecasts for completed for this project (**Exhibit 2.5**).

Exhibit 2.5: Truck and Passenger Vehicle Analysis

Assumptions for Year 1 Bridge Opening	NO BUILD	BUILD	Change
Travel Time Benefits			
Time to Cross the Hood River Bridge per Vehicle (minutes)	3.35	1.67	(1.67)
Time Spent Crossing the Hood River Bridge for Cars (2032)	18,304,712	9,152,356	(9,152,356)
Time Spent Crossing the Hood River Bridge for Trucks (2032)	471,487	235,744	(235,744)
Time Spent Crossing the Hood River Bridge for Motorcycles (2032)	83,283	41,642	(41,642)
Time Cost of Crossing Hood River Bridge for Cars	$8,253,595	$4,126,797	($4,126,797)
Time Cost of Crossing Hood River Bridge for Trucks	$231,029	$115,514	($115,514)
Time Cost of Crossing Hood River Bridge for	$22,486	$11,243	($11,243)
Change in Weight Restriction Benefits (2032)			
Truck Trips Across Hood River Bridge	125,000	211,600	86,600
Out of Direction Miles of Truck Travel	1,396,875	-	(1,396,875)
Hours of Out of Direction Truck Travel	25,773	-	(25,773)
New Trucks Avoiding out of Direction Travel	-	86,600	86,600
Miles of Out of Direction Truck Travel Avoided	-	25,773	25,773
Hours of Out of Direction Truck Travel Avoided	-	476	476
Truck Driver Travel Time Savings per year	-	$13,980	$13,980
Truck Fuel Gallons Savings per Year		13,834	13,834
Truck Fuel Cost Savings per Year		$77,151	$77,151
Truck Maintenance Cost Savings per yr (excludes fuel & driver time)		$24,226	$24,226
Roadway Maintenance Cost Savings Per Year		$11,812	$11,812

Barge travel time savings are based on the difference in time spent traversing the area around the Hood River Bridge. This area is considered one of the most difficult to navigate for vessels moving up and down the Columbia River, largely due to the current alignment of the bridge. Time cost for barge operators is determined by multiplying the observed barge traffic as reported by the Army Corps of Engineers by an assumed delay of 15 minutes. To monetize the value of this time savings, the total time savings were multiplied by an inflation adjusted value of travel savings ($29.40 per hour) provided by USDOT in its BCA guideline document (**Exhibit 2.6**).

Exhibit 2.6: Truck and Passenger Vehicle Analysis

Assumptions	BUILD	NO BUILD	Reduction	Source
Barge Time Savings				
Annual Barge Delay Due to Complications at Hood River Bridge (hours)	-	1,146	1,146	see Appendix A
Annual Cost of Delay to Barge Operators and Businesses	$0	$155,936	**$155,936**	calculated
Annualized Escalation Factor	3.72%	3.72%		ENR Seattle CCI 2011-2021

Please refer to Appendix A for a list of key assumptions.

Vehicle Fuel Cost and Maintenance Cost Analysis

Fuel use savings and vehicle maintenance cost savings are based on the difference in distance traveled in each alternative. That difference, the annual VMT savings attributable to constructing the Hood River Bridge Replacement Project, is multiplied by an IRS estimate for the cost of operating a passenger vehicle ($0.59 per mile). Truck freight trips utilize the U.S. Department of Transportation Resource Guide Table A4 assumption ($0.94 per mile). VMT figures are escalated at a rate of 1%-2%, based on long-term vehicle travel forecasts for completed for this project.

Safety

Accident-related health cost and property/vehicle damage reductions are a function of the difference in distance traveled in each alternative. That difference, the annual VMT savings attributable to the completion of the Hood River Bridge Replacement Project, is divided by 100 million and then multiplied by a fatal and injury accident per 100 million VMT using factors provided by the NHTSA. The result is the reduction in each kind of accident. The number of fatality crashes is multiplied by the value of a statistical life figure provided by USDOT in their BCA Guideline document. The injury crashes, since they have no specific severity designation, are based on the average of the valuation and probability figures provided in the USDOT BCA guidelines. VMT figures are escalated at a rate of 1%-2%, based on long-term vehicle travel forecasts for completed for this project **(Exhibit 2.7).**

Exhibit 2.7: Truck Related Accident Avoidance

Assumptions	Alternative 1: No Build	Alternative 2: Build	Reduction (Savings)
Out of direction Truck Miles avoided per year		25,773	25,773
Truck Accidents resulting in injuries per year		0.02	0.02
Truck Accidents resulting in fatalities per year		0.0003	0.0003
Annual Truck Accident Costs: Injuries		$261,374	**$261,374**
Annual Truck Accident Costs: Fatalities		$3,827	**$3,827**

Environmental Sustainability

Emission-related health cost reductions are a function of the difference in distance traveled in each alternative. That difference, the annual VMT savings attributable to the Hood River Bridge Replacement Project, are multiplied by emissions/VMT factors referenced in Table A6 of the USDOT BCA Guideline document. These emissions factors include volatile organic compounds, carbon monoxide, NOX, particulate matter and SOX. Emissions figures are each multiplied by their respective health cost per passenger mile (each of which is adjusted for inflation). VMT figures are escalated at a rate of 1%-2%, based on long-term vehicle travel forecasts for completed for this project.

Exhibit 2.8 indicates that eliminating out of direction freight movement by trucks would result in annual savings of $95 for VOCs, $1,308 for NOx, and $2,055 for PM, totaling $3,458 per year.

Exhibit 2.8: Truck Related Air Quality Benefits

Assumptions	Alternative 1: No Build	Alternative 2: BUILD	Reduction (Savings)
Out of direction Truck Miles avoided per year	-	25,773	25,773
Freight Volume Moved (tons per year)		2,719,009,456	2,719,009,456
Round Trip Miles avoided		74.5	75
Trucks Per Year		211,600	211,600
Truck Ton Miles Per Year		4,550,221,127	4,550,221,127
Grams Per Mile			
Volitile Organic Compounds (VOCs)		40,875	40,875
Nitrogen Oxide (Nox)		75,101	75,101
Particulate Matter (PM)		2,448	2,448
Economc Value of Emissions			
Volitile Organic Compounds (VOCs)		$95	$95
Nitrogen Oxide (Nox)		$1,308	$1,308
Particulate Matter (PM)		$2,055	$2,055
Total Annual Benefit	**$0**	**$3,458**	**$3,458**

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 **Exhibit 2.9**. Projected crossings were calculated by multiplying current crossings by annual crossing growth rates in a build (2%) and no-build (1%) 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.

Exhibit 2.9 reflects the net average tolls per mode of travel after accounting for discounts.

Exhibit 2.9: Bridge Tolling Assumptions

Port of Hood River Bridge Tolls				
NO BUILD	Northbound	Southbound	Average	Source
Cars	$2.00	$ -	$1.00	Port of Hood River
Motorcycles	$1.50	$ -	$0.75	
Trucks (per Axle)	$2.00	$ -	$1.00	
Port of Hood River Future Tolls				
BUILD	Northbound	Southbound	Average	Source
Cars	$2.50	$2.50	$2.50	Note 1
Motorcycles	$1.50	$1.50	$1.50	
Trucks (per Axle)	$2.50	$2.50	$2.50	

*Assumes $4.00 toll in both directions without discount, and $2.00 discount for passholders

Health Benefits

In accordance with BCA Guidelines, the BCA quantifies the health-related benefits of induced bicycle and pedestrian trips by the new bridge project. Under the no build alternative, no bicycle and pedestrian trips are allowed. With the proposed bridge design, there will be new dedicated facilities for bicycles and pedestrians. This will result in a significant increase in bicycle and pedestrian travel with the build alternative once the new bridge is complete.

The use of active transportation modes (e.g., walking and cycling) is expected to lead to improved cardiovascular health and other positive outcomes for users. A key health outcome from increased physical activity is a reduction in mortality risks for those users that are induced to active transportation modes from inactive modes. Appendix A, Table A-12 provides recommended values for monetizing reduced mortality risks associated with increased walking and cycling, on a per-trip basis. These assumptions include $7.08 and $6.31 in health benefits for bicycle and pedestrian trips, respectively. A blended average of $6.70 was utilized for BCA analysis purposes. The estimated bicycle and pedestrian trip volume is assumed to equate to 5% of passenger trips once the bridge is completed, with a seasonal variation as shown in the table below.

Winter	3%
Spring	5%
Summer	8%
Fall	5%
Annual Avg.	**5%**

Source: Port of Hood River

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 after accounting for depreciation. 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 capital investment was then discounted by 7% annually. As indicated in **Exhibit 2.10,** the portion of the project related to right-of-way and financing was separated out with zero discount rate applied in light of the fact that real estate and financing costs are not expected to depreciate over time.

Exhibit 2.10: Residual Value Analysis

Item	Right of Way & Financing Cost	Design & Construction Cost	Total Residual Value in Year 50
Total Project Cost (Design & Construction)			
Less ROW and Programming Cost Elements	$44,343,178		
Depreciable Cost Basis		$454,163,151	
Life Expectancy (years)		100	
Years remaining in year 50		50	
percent value remaining in year 50		50%	
Remaining Value in Year 50	$44,343,178	$227,081,576	**$271,424,754**

II.C. OTHER BENEFITS

In addition to the primary benefits that are quantified by this BCA, there would also be added benefits that have not been included in the BCA ratio at this time. Such secondary benefits include:

- Construction job creation attributed to project design and construction occupations.
- Permanent job creation for workers that reside primarily in rural communities of eastern Oregon and eastern Washington states.
- Improved competitiveness of U.S. Exports.
- Improved visitation and related spending within the Columbia River Gorge National Scenic Area.

Section III. Project Costs

This section identifies the basis of the capital cost estimates used in this BCA to construct the Hood River Bridge Replacement Project.

III.A. FUTURE ELIGIBLE COSTS

As shown in **Exhibit 3.1**, project cost elements include prior investment during the feasibility phase ($4.9 million), Design Phase ($10.8 million) and the Construction Phase ($482.8 million). Total grant-eligible costs for the design and construction phase equate to $498.5 million over the 2022 through 2025 timeframe.

Construction on the project will begin in 2026 and be completed by 2031. It is expected that bride opening will occur no later than 2032.

Exhibit 3.1 Project Capital Cost Estimates by Phase

		Grant Eligible Expenses		
Item	Feasibiity Phase (prior years)	Design Phase (2022-2025)	Construction Phase (2026-2031)	Total Grant Eligible Cost (2022-2031)
Construction	$ -	$ -	$ 254,234,207	$254,234,207
Design & Contruction Contingencies	$ -	$ -	$ 76,271,000	$76,271,000
Design Engineering	$ 4,916,885	$9,503,038	$5,411,077	$19,831,000
Post Design Engineering/C.S.S.	$ -	$ -	$ 6,611,000	$6,611,000
Cost Escalation	$ -	$ -	$ 97,215,944	$97,215,944
Programmatic Costs	$ -	$ 1,330,295	$ 43,012,883	$44,343,178
Total	**$4,916,885**	**$10,833,333**	**$482,756,111**	**$498,506,329**

Source: Port of Hood River, Engineer's Report.

After applying the 7% discount rate, the net present value of project is $318.5 million (please refer to **Appendix B**).

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APPENDIX A – BCA ASSUMPTIONS

Traffic-Related Assumptions					
Assumption Subject	Figure	Source Year of Figure	CPI Inflation Factor	Figure ($2020)	Source
All Purpose Hourly Value of Time	$17.80	2022	1.00	$17.80	Source: USDOT BCA Resource Guide Table A-3.
Business Hourly Value of Time	$29.40	2022	1.00	$29.40	Source: USDOT BCA Resource Guide Table A-3.
BTS Vehicle Occupancy per Vehicle Mile by Daily Trip Purpose Factor (Trucks)	1.00				Source: USDOT BCA Resource Guide Table A-3.
Passenger Vehicle Occupancy (Avg.)	1.67				Source: USDOT BCA Resource Guide Table A-4.
Hourly Cost of Vehicle Travel (Trucks)	$32.00	2022	1.00	$32.00	Source: USDOT BCA Resource Guide Table A-3.
Per Mile Cost of Operating a Vehicle (Trucks)	$0.94	2022	1	$0.94	Source: USDOT Resource Guide Table A-5
Value of a Statistical Life	$11,600,000	2022	1	$11,600,000	Source: USDOT Resource Guide Table 1

Fatality and Injury Rates per 100 Million VMT (trucks and passenger vehicles)			
Subject	2015		Source
Fatality Rate (Oregon)		1.28	NHTSA
Injury Rate		79	

% Probability of Injury Severity in a Crash with Unknown Injury Extent and Associated Economic Cost (Trucks)					
Severity of Injury	probability	Economic Cost of Injury (2022)	Weight	Economic Cost of Injury (2020$)	Source
No Injury (Prop. Damage only)	0.00300	$3,900	0.00		Source: USDOT Resource Guilde Table A-4
Minor Injury	0.00300	$77,200	0.00		Source: USDOT Resource Guilde Table A-1
Moderate Injury	0.04700	$302,600	0.05		Source: USDOT Resource Guilde Table A-1
Serious Injury	0.10500	$554,800	0.11		Source: USDOT Resource Guilde Table A-1
Severe Injury	0.26600	$554,800	0.27		Source: USDOT Resource Guilde Table A-1
Critical Injury	0.59300	$554,800	0.59		Source: USDOT Resource Guilde Table A-1
Death	1.00000	$11,600,000	1.00		Source: USDOT Resource Guilde Table A-1
# Accidents Reported (Unknown if	1.00000	$159,800	1.00		Source: USDOT Resource Guilde Table A-1
Crash Type: Injury				$302,600	Source: USDOT Resource Guilde Table A-1
Crash Type: Fatal				$12,837,400	Source: USDOT Resource Guilde Table A-1

Assumption Subject	Figure	Source
Bridge Length (Feet)	4,418	Port of Hood River estimate
Current Average Speed over bridge (MPH)	15	
Future Average Speed over bridge (MPH)	30	
Current Speed Limit (Feet per minute)	1,320	Calculated
Future Speed Limit (Feet per Minute)	2,640	
Avg. Travel Time Savings per Passenger Vehicle (Minutes)	(1.67)	
Cars crossing Bridge (2022)	4,852,920	Port of Hood River Toll data
Trucks Crossing Bridge (2022)	125,000	
Motorcycles Crossing Bridge (2022)	22,080	
Bike/Ped Crossings (2022)	-	
Anticipated Annual Growth in Bridge Traffic	0.8%	SR-35 Traffic Analysis Memo
Assumed Growth Rate in Build Scenario	2.0%	
Assumed Growth Rate in No-Build Scenario	1.0%	
Cars crossing Bridge (2032)	6,187,738	
Trucks Crossing Bridge (2032)	184,000	
Motorcycles Crossing Bridge (2032)	28,262	
Bike/Ped Crossings (2032)	320,000	
Current Weight Limit (Lbs.)	80,000	Port Staff
Future Weight Limit (Lbs.)	105,500	
Truck Weight (cargo in tons)	26	allowance
Fuel Efficiency for 80,000 Lb. Trucks (MPG)	5.4	Elsevier Journal Article "Comparing rail fuel efficiency with truck and waterway" Table 5
Fuel Efficiency for 100,000 Lb. Trucks (MPG)	4.9	
Truck Freight in Pounds Crossing Bridge (2015)	10,000,000,000	Calculated
Truck Freight in Pounds Crossing Bridge (2030)	22,323,800,000	
Trucks Crossing Bridge in 2030 (weight limits increased to 105,500 Lbs.)	211,600	
Average Distance of a Private Haul Truck Trip (Miles)	71	Trucking 101 An Industry Primer by TRB (Page 14)
Average Truck Speed on I-84 (MPH)	54.2	Energy.gov
Distance from Hood River to The Dalles Bridge (miles)	24.5	Calculated using Google maps
Distance from Hood River to I-205 Bridge (miles)	50	
Average Out of Direction Distance No Build	74.5	Calculated
Average Out of Direction Distance w/INFRA grant	0	
Increase in Trucks Expected on Hood River Bridge to Avoid Out of Direction Travel Under Higher Weight Limit	15%	Port of Hood River estimate
Health Benefit of Induced Walking Trips	$7.08	Source: USDOT Resource Guide Table A-12
Health Benefit of Induced Bicycle Trips	$6.31	Source: USDOT Resource Guide Table A-12
Average Benefit of Induced Walking/Bike Trips	$6.70	Calculated

Damage Costs for Pollutant Emissions			
Emission Type	Per Metric Ton (2020$)	Source Year of Figure	Source
Carbon Dioxide	$53	2022	Source: USDOT Resource Guide Table A-6
Volatile Organic Compounds (VOCs)	$2,100	2018	Source: USDOT Resource Guide Table A-6
Nitrogen Oxide (NOx)	$15,800	2022	Source: USDOT Resource Guide Table A-6
Particulate Matter (PM)	$761,600	2022	Source: USDOT Resource Guide Table A-6
Sulfur Dioxide (SO_2)	$42,300	2022	Source: USDOT Resource Guide Table A-6
Total	**$821,800**	2022	Source: USDOT Resource Guide Table A-6

Truck Pollutant Emissions (grams per mile)			
Emission Type	Truck		Source
Volatile Organic Compounds (VOCs)	1.586		EPA Report "Average In-Use Emissions from Heavy Duty Trucks, Table 1.
Nitrogen Oxide (NOx)	2.914		
Particulate Matter (PM)	0.095		
Sulfur Dioxide (SO_2)	n/a		

Passenger Vehicle Pollutant Emissions			
Emission Type	Grams per mile		Source
Volatile Organic Compounds (VOCs)	2.680		Small, K.A. & Kazimi, C (1994). On the Costs of Air Pollution from Motor Vehicles, Journal of Transport Economics and Policy, 29 (1995), pp 7-32.
Nitrogen Oxide (NOx)	2.914		
Particulate Matter (PM)	0.008		
Sulfur Dioxide (SO_2)	n/a		

Grams Per Ton	907,185
Short Tons per Metric Ton	1.1015

APPENDIX B – ANNUAL BCA BENEFITS

Years 0 to Completion

Summary of Benefits and Costs

Year:	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Discount Basis Year	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
New Bridge Years	Phase 1: Permitting and P.E.					Phase 2: Final Design					Phase 3: Final Design and Construction					1
Economic Competitiveness																
Truck Traffic						129,861	131,159	132,471	133,796	135,134	136,485	137,850	139,228	140,621	142,027	184,000
Light Vehicle Traffic						4,198,833	4,240,822	4,283,230	4,326,062	4,369,323	4,413,016	4,457,146	4,501,717	4,546,735	4,592,202	6,187,738
Net Increase in Truck Traffic																41,973
Change in Truck Miles of Travel																(1,396,875)
Change in Truck Travel Time																(25,773)
Change in Truck Ton-Miles																(18,159,375)
Change in Passenger Vehicle Travel Time (hours)																(288,217)
Net Change in Fuel Required (gallons)																(13,834)
Monitized Value of Economic Competitiveness																
Bridge Toll Revenues, No Build						$6,800,000	$6,868,000	$6,936,680	$7,006,047	$7,076,107	$7,146,868	$7,218,337	$7,290,520	$7,363,426	$7,437,060	$7,511,430
Bridge Toll Revenues, BUILD						$6,800,000	$6,868,000	$6,936,680	$7,006,047	$7,076,107	$7,146,868	$7,218,337	$7,290,520	$7,363,426	$7,437,060	$7,511,430
Change in Toll Revenues, BUILD						$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Toll Revenues Dedicated to New Bridge Project						$6,800,000	$6,868,000	$6,936,680	$7,006,047	$7,076,107	$7,146,868	$7,218,337	$7,290,520	$7,363,426	$7,437,060	$7,511,430
Vehicle O&M Savings, Passenger Vehicles																$8,646,496
Value of Travel Time Savings, Passenger Vehicles																$3,001,199
Value of Travel Time Savings, Trucks																$13,980
Truck Fuel Cost Savings per Year																$77,151
Truck Maint. Cost Savings (excl. fuel & driver time)																$24,226
State of Good Repair (cost avoidance)																
Roadway Maintenance Cost Savings Per Year (trucks)																$11,812
Net Bridge O&M Cost Avoidance																$667,150
Net Insurance Cost Savings																$289,327
Safety Benefits (cost avoidance)																
Change in Truck Accident costs (injuries)																$261,374
Change in Truck Accidents costs (fatalities)																$3,827
Barge related cost avoidance (operations/delays)																$155,936
Barge related cost avoidance (property damage)																$127,304
Net Environmental Impacts, Air Quality Benefits																
Volatile Organic Compounds (VOC)																$95
Nitrogen Oxide (NOx)																$1,308
Particulate Matter (PM)																$2,055
Heath Benefits of Facilities (bike/ped)																
Change in Bike/Ped Trips																320,000
Health Benefits of Induced Bike/Ped Activity																$2,142,400
Summary of Benefits																
Economic Competitiveness factors (net change)	$0	$0	$0	$0	$0	$6,800,000	$6,868,000	$6,936,680	$7,006,047	$7,076,107	$7,146,868	$7,218,337	$7,290,520	$7,363,426	$7,437,060	$19,274,483
State of Good Repair (cost avoidance)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$968,289
Safety (cost avoidance)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$548,441
Environmental Air Quality factors (net change)	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,458
Health Benefits of Induced Bike/Ped Activity	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$2,142,400
Summary of Annual Benefits	**$0**	**$0**	**$0**	**$0**	**$0**	**$6,800,000**	**$6,868,000**	**$6,936,680**	**$7,006,047**	**$7,076,107**	**$7,146,868**	**$7,218,337**	**$7,290,520**	**$7,363,426**	**$7,437,060**	**$22,937,071**
Value of Bridge in Year 50																
Remaining life of Bridge in year 50																
Summary of Total Benefits	**$0**	**$0**	**$0**	**$0**	**$0**	**$6,800,000**	**$6,868,000**	**$6,936,680**	**$7,006,047**	**$7,076,107**	**$7,146,868**	**$7,218,337**	**$7,290,520**	**$7,363,426**	**$7,437,060**	**$22,937,071**
Summary of Costs	**($983,377)**	**($983,377)**	**($983,377)**	**($983,377)**	**($983,377)**	**($1,950,000)**	**($1,083,333)**	**($3,250,000)**	**($4,550,000)**	**($24,137,806)**	**($96,551,222)**	**($96,551,222)**	**($72,413,417)**	**($91,723,661)**	**($96,551,222)**	**($2,413,781)**
Net Benefits (no discount rate)	**($983,377)**	**($983,377)**	**($983,377)**	**($983,377)**	**($983,377)**	**$4,850,000**	**$5,784,667**	**$3,686,680**	**$2,456,047**	**($17,061,698)**	**($89,404,354)**	**($89,332,885)**	**($65,122,896)**	**($84,360,235)**	**($89,114,162)**	**$20,523,291**
Net Benefits (w/@7% discount rate)	**($1,080,634)**	**($1,057,395)**	**($1,035,134)**	**($1,013,791)**	**($993,310)**	**$4,850,000**	**$5,406,231**	**$3,220,089**	**$2,004,866**	**($13,016,288)**	**($63,744,069)**	**($59,526,273)**	**($40,555,267)**	**($49,098,425)**	**($48,472,200)**	**$10,433,000**
Discount rate assumptions	0.91	0.93	0.95	0.97	0.99	1.00	1.07	1.14	1.23	1.31	1.40	1.50	1.61	1.72	1.84	1.97

Years 1-22 (after completion)

Summary of Benefits and Costs

Year:	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Discount Basis Year	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
New Bridge Years	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Economic Competitiveness																						
Truck Traffic	184,000	187,680	191,434	195,262	199,168	203,151	207,214	211,358	215,585	219,897	224,295	228,781	233,356	238,024	242,784	247,640	252,593	257,644	262,797	268,053	273,414	278,883
Light Vehicle Traffic	6,187,738	6,311,493	6,437,722	6,566,477	6,697,806	6,831,762	6,968,398	7,107,766	7,249,921	7,394,919	7,542,818	7,693,674	7,847,548	8,004,499	8,164,589	8,327,880	8,494,438	8,664,327	8,837,613	9,014,366	9,194,653	9,378,546
Net Increase in Truck Traffic	41,973	3,680	3,754	3,829	3,905	3,983	4,063	4,144	4,227	4,312	4,398	4,486	4,576	4,667	4,760	4,856	4,953	5,052	5,153	5,256	5,361	5,468
Change in Truck Miles of Travel	(1,396,875)	(1,424,813)	(1,453,309)	(1,482,375)	(1,512,022)	(1,542,263)	(1,573,108)	(1,604,570)	(1,636,662)	(1,669,395)	(1,702,783)	(1,736,838)	(1,771,575)	(1,807,007)	(1,843,147)	(1,880,010)	(1,917,610)	(1,955,962)	(1,995,081)	(2,034,983)	(2,075,683)	(2,117,196)
Change in Truck Travel Time	(25,773)	(26,288)	(26,814)	(27,350)	(27,897)	(28,455)	(29,024)	(29,605)	(30,197)	(30,801)	(31,417)	(32,045)	(32,686)	(33,340)	(34,006)	(34,687)	(35,380)	(36,088)	(36,810)	(37,546)	(38,297)	(39,063)
Change in Truck Ton-Miles	(18,159,375)	(18,522,563)	(18,893,014)	(19,270,874)	(19,656,292)	(20,049,417)	(20,450,406)	(20,859,414)	(21,276,602)	(21,702,134)	(22,136,177)	(22,578,900)	(23,030,478)	(23,491,088)	(23,960,910)	(24,440,128)	(24,928,930)	(25,427,509)	(25,936,059)	(26,454,780)	(26,983,876)	(27,523,554)
Change in Passenger Vehicle Travel Time (hours)	(288,217)	(293,981)	(299,860)	(305,858)	(311,975)	(318,214)	(324,579)	(331,070)	(337,692)	(344,445)	(351,334)	(358,361)	(365,528)	(372,839)	(380,296)	(387,902)	(395,660)	(403,573)	(411,644)	(419,877)	(428,275)	(436,840)
Net Change in Fuel Required (gallons)	(13,834)	(14,111)	(14,393)	(14,681)	(14,974)	(15,274)	(15,579)	(15,891)	(16,209)	(16,533)	(16,863)	(17,201)	(17,545)	(17,896)	(18,253)	(18,619)	(18,991)	(19,371)	(19,758)	(20,153)	(20,556)	(20,968)
Monitized Value of Economic Competitiveness																						
Bridge Toll Revenues, No Build	$7,511,430	$7,586,545	$7,662,410	$7,739,034	$7,816,425	$7,894,589	$7,973,535	$8,053,270	$8,133,803	$8,215,141	$8,297,292	$8,380,265	$8,464,068	$8,548,709	$8,634,196	$8,720,538	$8,807,743	$8,895,820	$8,984,779	$9,074,626	$9,165,373	$9,257,026
Bridge Toll Revenues, BUILD	$7,511,430	$7,661,659	$7,814,892	$7,971,190	$8,130,614	$8,293,226	$8,459,091	$8,628,273	$8,800,838	$8,976,855	$9,156,392	$9,339,520	$9,526,310	$9,716,836	$9,911,173	$10,109,396	$10,311,584	$10,517,816	$10,728,172	$10,942,736	$11,161,591	$11,384,822
Change in Toll Revenues, BUILD	$0	$75,114	$152,482	$232,156	$314,189	$398,637	$485,556	$575,002	$667,035	$761,714	$859,100	$959,254	$1,062,242	$1,168,128	$1,276,977	$1,388,859	$1,503,841	$1,621,996	$1,743,394	$1,868,109	$1,996,218	$2,127,796
Toll Revenues Dedicated to New Bridge Project	$7,511,430	$7,661,659	$7,814,892	$7,971,190	$8,130,614	$8,293,226	$8,459,091	$8,628,273	$8,800,838	$8,976,855	$9,156,392	$9,339,520	$9,526,310	$9,716,836	$9,911,173	$10,109,396	$10,311,584	$10,517,816	$10,728,172	$10,942,736	$11,161,591	$11,384,822
Vehicle O&M Savings, Passenger Vehicles	$8,646,496	$8,819,426	$8,995,815	$9,175,731	$9,359,246	$9,546,431	$9,737,359	$9,932,106	$10,130,749	$10,333,363	$10,540,031	$10,750,831	$10,965,848	$11,185,165	$11,408,868	$11,637,046	$11,869,787	$12,107,182	$12,349,326	$12,596,312	$12,848,239	$13,105,203
Value of Travel Time Savings, Passenger Vehicles	$3,001,199	$3,061,223	$3,122,447	$3,184,896	$3,248,594	$3,313,566	$3,379,837	$3,447,434	$3,516,383	$3,586,710	$3,658,445	$3,731,614	$3,806,246	$3,882,371	$3,960,018	$4,039,219	$4,120,003	$4,202,403	$4,286,451	$4,372,180	$4,459,624	$4,548,816
Value of Travel Time Savings, Trucks	$13,980	$14,260	$14,545	$14,836	$15,132	$15,435	$15,744	$16,059	$16,380	$16,707	$17,042	$17,382	$17,730	$18,085	$18,446	$18,815	$19,192	$19,575	$19,967	$20,366	$20,774	$21,189
Truck Fuel Cost Savings per Year	$77,151	$78,694	$80,268	$81,874	$83,511	$85,181	$86,885	$88,623	$90,395	$92,203	$94,047	$95,928	$97,847	$99,804	$101,800	$103,836	$105,912	$108,031	$110,191	$112,395	$114,643	$116,936
Truck Maint. Cost Savings (excl. fuel & driver time)	$24,226	$24,711	$25,205	$25,709	$26,223	$26,748	$27,283	$27,828	$28,385	$28,953	$29,532	$30,122	$30,725	$31,339	$31,966	$32,605	$33,257	$33,923	$34,601	$35,293	$35,999	$36,719
State of Good Repair (cost avoidance)																						
Roadway Maintenance Cost Savings Per Year (trucks)	$11,812	$12,048	$12,289	$12,535	$12,785	$13,041	$13,302	$13,568	$13,839	$14,116	$14,398	$14,686	$14,980	$15,280	$15,585	$15,897	$16,215	$16,539	$16,870	$17,207	$17,551	$17,902
Net Bridge O&M Cost Avoidance	$667,150	$691,968	$717,709	$744,407	$772,099	$800,821	$830,611	$861,509	$893,557	$926,797	$961,273	$997,032	$1,034,121	$1,072,590	$1,112,490	$1,153,874	$1,196,798	$1,241,318	$1,287,495	$1,335,389	$1,385,065	$1,436,589
Net Insurance Cost Savings	$289,327	$300,090	$311,253	$322,832	$334,841	$347,297	$360,216	$373,616	$387,514	$401,930	$416,881	$432,389	$448,474	$465,157	$482,461	$500,408	$519,023	$538,330	$558,356	$579,126	$600,670	$623,014
Safety Benefits (cost avoidance)																						
Change in Truck Accident costs (injuries)	$261,374	$266,602	$271,934	$277,372	$282,920	$288,578	$294,350	$300,237	$306,241	$312,366	$318,613	$324,986	$331,485	$338,115	$344,877	$351,775	$358,811	$365,987	$373,306	$380,773	$388,388	$396,156
Change in Truck Accidents costs (fatalities)	$3,827	$3,903	$3,981	$4,061	$4,142	$4,225	$4,310	$4,396	$4,484	$4,573	$4,665	$4,758	$4,853	$4,950	$5,049	$5,150	$5,253	$5,358	$5,465	$5,575	$5,686	$5,800
Barge related cost avoidance (operations/delays)	$155,936	$161,737	$167,753	$173,994	$180,466	$187,179	$194,142	$201,364	$208,855	$216,624	$224,683	$233,041	$241,710	$250,701	$260,027	$269,700	$279,733	$290,139	$300,932	$312,126	$323,737	$335,780
Barge related cost avoidance (property damage)	$127,304	$132,040	$136,951	$142,046	$147,330	$152,811	$158,495	$164,391	$170,506	$176,849	$183,428	$190,251	$197,329	$204,669	$212,283	$220,179	$228,370	$236,865	$245,677	$254,816	$264,295	$274,126
Net Environmental Impacts, Air Quality Benefits																						
Volatile Organic Compounds (VOC)	$95	$97	$98	$100	$102	$104	$107	$109	$111	$113	$115	$118	$120	$122	$125	$127	$130	$132	$135	$138	$141	$143
Nitrogen Oxide (NOx)	$1,308	$1,334	$1,361	$1,388	$1,416	$1,444	$1,473	$1,502	$1,533	$1,563	$1,594	$1,626	$1,659	$1,692	$1,726	$1,760	$1,796	$1,832	$1,868	$1,906	$1,944	$1,982
Particulate Matter (PM)	$2,055	$2,097	$2,139	$2,181	$2,225	$2,269	$2,315	$2,361	$2,408	$2,456	$2,506	$2,556	$2,607	$2,659	$2,712	$2,766	$2,822	$2,878	$2,936	$2,994	$3,054	$3,115
Heath Benefits of Facilities (bike/ped)																						
Change in Bike/Ped Trips	320,000	326,400	332,928	339,587	346,378	353,306	360,372	367,579	374,931	382,430	390,078	397,880	405,837	413,954	422,233	430,678	439,291	448,077	457,039	466,180	475,503	485,013
Health Benefits of Induced Bike/Ped Activity	$2,142,400	$2,185,248	$2,228,953	$2,273,532	$2,319,003	$2,365,383	$2,412,690	$2,460,944	$2,510,163	$2,560,366	$2,611,574	$2,663,805	$2,717,081	$2,771,423	$2,826,851	$2,883,388	$2,941,056	$2,999,877	$3,059,875	$3,121,072	$3,183,494	$3,247,164
Summary of Benefits																						
Economic Competitiveness factors (net change)	$19,274,483	$19,659,973	$20,053,172	$20,454,236	$20,863,321	$21,280,587	$21,706,199	$22,140,323	$22,583,129	$23,034,792	$23,495,488	$23,965,397	$24,444,705	$24,933,599	$25,432,271	$25,940,917	$26,459,735	$26,988,930	$27,528,708	$28,079,283	$28,640,868	$29,213,686
State of Good Repair (cost avoidance)	$968,289	$1,004,106	$1,041,251	$1,079,774	$1,119,725	$1,161,159	$1,204,129	$1,248,693	$1,294,911	$1,342,843	$1,392,553	$1,444,108	$1,497,575	$1,553,027	$1,610,536	$1,670,179	$1,732,036	$1,796,188	$1,862,720	$1,931,723	$2,003,286	$2,077,505
Safety (cost avoidance)	$548,441	$564,281	$580,620	$597,473	$614,858	$632,793	$651,297	$670,388	$690,086	$710,413	$731,389	$753,036	$775,377	$798,436	$822,237	$846,805	$872,167	$898,349	$925,380	$953,289	$982,106	$1,011,862
Environmental Air Quality factors (net change)	$3,458	$3,527	$3,598	$3,670	$3,743	$3,818	$3,894	$3,972	$4,052	$4,133	$4,215	$4,300	$4,386	$4,473	$4,563	$4,654	$4,747	$4,842	$4,939	$5,038	$5,139	$5,241
Health Benefits of Induced Bike/Ped Activity	$2,142,400	$2,185,248	$2,228,953	$2,273,532	$2,319,003	$2,365,383	$2,412,690	$2,460,944	$2,510,163	$2,560,366	$2,611,574	$2,663,805	$2,717,081	$2,771,423	$2,826,851	$2,883,388	$2,941,056	$2,999,877	$3,059,875	$3,121,072	$3,183,494	$3,247,164
Summary of Annual Benefits	**$22,937,071**	**$23,417,135**	**$23,907,594**	**$24,408,684**	**$24,920,650**	**$25,443,739**	**$25,978,209**	**$26,524,320**	**$27,082,341**	**$27,652,546**	**$28,235,218**	**$28,830,646**	**$29,439,125**	**$30,060,958**	**$30,696,458**	**$31,345,943**	**$32,009,741**	**$32,688,186**	**$33,381,623**	**$34,090,405**	**$34,814,893**	**$35,555,458**
Value of Bridge in Year 50																						
Remaining life of Bridge in year 50																						
Summary of Total Benefits	**$22,937,071**	**$23,417,135**	**$23,907,594**	**$24,408,684**	**$24,920,650**	**$25,443,739**	**$25,978,209**	**$26,524,320**	**$27,082,341**	**$27,652,546**	**$28,235,218**	**$28,830,646**	**$29,439,125**	**$30,060,958**	**$30,696,458**	**$31,345,943**	**$32,009,741**	**$32,688,186**	**$33,381,623**	**$34,090,405**	**$34,814,893**	**$35,555,458**
Summary of Costs	**($2,413,781)**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Benefits (no discount rate)	**$20,523,291**	**$23,417,135**	**$23,907,594**	**$24,408,684**	**$24,920,650**	**$25,443,739**	**$25,978,209**	**$26,524,320**	**$27,082,341**	**$27,652,546**	**$28,235,218**	**$28,830,646**	**$29,439,125**	**$30,060,958**	**$30,696,458**	**$31,345,943**	**$32,009,741**	**$32,688,186**	**$33,381,623**	**$34,090,405**	**$34,814,893**	**$35,555,458**
Net Benefits (w/@7% discount rate)	**$10,433,000**	**$11,125,312**	**$10,615,258**	**$10,128,736**	**$9,664,658**	**$9,221,982**	**$8,799,718**	**$8,396,920**	**$8,012,687**	**$7,646,160**	**$7,296,517**	**$6,962,978**	**$6,644,798**	**$6,341,265**	**$6,051,703**	**$5,775,464**	**$5,511,933**	**$5,260,522**	**$5,020,670**	**$4,791,843**	**$4,573,532**	**$4,365,251**
Discount rate assumptions	1.97	2.10	2.25	2.41	2.58	2.76	2.95	3.16	3.38	3.62	3.87	4.14	4.43	4.74	5.07	5.43	5.81	6.21	6.65	7.11	7.61	8.15

Years 23-50 (after completion)

Summary of Benefits and Costs

Year:	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081
Discount Basis Year	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
New Bridge Years	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Economic Competitiveness																												
Truck Traffic	284,460	290,149	295,952	301,872	307,909	314,067	320,348	326,755	333,291	339,956	346,755	353,691	360,764	367,980	375,339	382,846	390,503	398,313	406,279	414,405	422,693	431,147	439,770	448,565	457,536	466,687	476,021	485,541
Light Vehicle Traffic	9,566,117	9,757,439	9,952,588	10,151,640	10,354,672	10,561,766	10,773,001	10,988,461	11,208,230	11,432,395	11,661,043	11,894,264	12,132,149	12,374,792	12,622,288	12,874,734	13,132,228	13,394,873	13,662,770	13,936,026	14,214,746	14,499,041	14,789,022	15,084,803	15,386,499	15,694,229	16,008,113	16,328,275
Net Increase in Truck Traffic	5,578	5,689	5,803	5,919	6,037	6,158	6,281	6,407	6,535	6,666	6,799	6,935	7,074	7,215	7,360	7,507	7,657	7,810	7,966	8,126	8,288	8,454	8,623	8,795	8,971	9,151	9,334	9,520
Change in Truck Miles of Travel	(2,159,540)	(2,202,731)	(2,246,786)	(2,291,721)	(2,337,556)	(2,384,307)	(2,431,993)	(2,480,633)	(2,530,246)	(2,580,851)	(2,632,468)	(2,685,117)	(2,738,819)	(2,793,596)	(2,849,468)	(2,906,457)	(2,964,586)	(3,023,878)	(3,084,355)	(3,146,043)	(3,208,963)	(3,273,143)	(3,338,605)	(3,405,378)	(3,473,485)	(3,542,955)	(3,613,814)	(3,686,090)
Change in Truck Travel Time	(39,844)	(40,641)	(41,454)	(42,283)	(43,128)	(43,991)	(44,871)	(45,768)	(46,684)	(47,617)	(48,570)	(49,541)	(50,532)	(51,542)	(52,573)	(53,625)	(54,697)	(55,791)	(56,907)	(58,045)	(59,206)	(60,390)	(61,598)	(62,830)	(64,086)	(65,368)	(66,676)	(68,009)
Change in Truck Ton-Miles	(28,074,025)	(28,635,505)	(29,208,215)	(29,792,379)	(30,388,227)	(30,995,992)	(31,615,911)	(32,248,230)	(32,893,194)	(33,551,058)	(34,222,079)	(34,906,521)	(35,604,651)	(36,316,744)	(37,043,079)	(37,783,941)	(38,539,620)	(39,310,412)	(40,096,620)	(40,898,553)	(41,716,524)	(42,550,854)	(43,401,871)	(44,269,909)	(45,155,307)	(46,058,413)	(46,979,581)	(47,919,173)
Change in Passenger Vehicle Travel Time (hours)	(445,577)	(454,488)	(463,578)	(472,850)	(482,307)	(491,953)	(501,792)	(511,828)	(522,064)	(532,506)	(543,156)	(554,019)	(565,099)	(576,401)	(587,929)	(599,688)	(611,682)	(623,915)	(636,394)	(649,121)	(662,104)	(675,346)	(688,853)	(702,630)	(716,683)	(731,016)	(745,636)	(760,549)
Net Change in Fuel Required (gallons)	(21,387)	(21,815)	(22,251)	(22,696)	(23,150)	(23,613)	(24,085)	(24,567)	(25,058)	(25,559)	(26,070)	(26,592)	(27,124)	(27,666)	(28,220)	(28,784)	(29,360)	(29,947)	(30,546)	(31,157)	(31,780)	(32,415)	(33,064)	(33,725)	(34,399)	(35,087)	(35,789)	(36,505)
Monitized Value of Economic Competitiveness																												
Bridge Toll Revenues, No Build	$9,349,597	$9,443,093	$9,537,524	$9,632,899	$9,729,228	$9,826,520	$9,924,785	$10,024,033	$10,124,273	$10,225,516	$10,327,771	$10,431,049	$10,535,359	$10,640,713	$10,747,120	$10,854,591	$10,963,137	$11,072,769	$11,183,496	$11,295,331	$11,408,285	$11,522,368	$11,637,591	$11,753,967	$11,871,507	$11,990,222	$12,110,124	$12,231,225
Bridge Toll Revenues, BUILD	$11,612,519	$11,844,769	$12,081,665	$12,323,298	$12,569,764	$12,821,159	$13,077,582	$13,339,134	$13,605,917	$13,878,035	$14,155,596	$14,438,708	$14,727,482	$15,022,031	$15,322,472	$15,628,921	$15,941,500	$16,260,330	$16,585,536	$16,917,247	$17,255,592	$17,600,704	$17,952,718	$18,311,772	$18,678,008	$19,051,568	$19,432,599	$19,821,251
Change in Toll Revenues, BUILD	$2,262,922	$2,401,677	$2,544,141	$2,690,399	$2,840,536	$2,994,639	$3,152,797	$3,315,101	$3,481,643	$3,652,519	$3,827,824	$4,007,659	$4,192,122	$4,381,318	$4,575,352	$4,774,330	$4,978,362	$5,187,561	$5,402,040	$5,621,916	$5,847,307	$6,078,336	$6,315,127	$6,557,805	$6,806,501	$7,061,346	$7,322,475	$7,590,026
Toll Revenues Dedicated to New Bridge Project	$11,612,519	$11,844,769	$12,081,665	$12,323,298	$12,569,764	$12,821,159	$13,077,582	$13,339,134	$13,605,917	$13,878,035	$14,155,596	$14,438,708	$14,727,482	$15,022,031	$15,322,472	$15,628,921	$15,941,500	$16,260,330	$16,585,536	$16,917,247	$17,255,592	$17,600,704	$17,952,718	$18,311,772	$18,678,008	$19,051,568	$19,432,599	$19,821,251
Vehicle O&M Savings, Passenger Vehicles	$13,367,308	$13,634,654	$13,907,347	$14,185,494	$14,469,204	$14,758,588	$15,053,759	$15,354,835	$15,661,931	$15,975,170	$16,294,673	$16,620,567	$16,952,978	$17,292,038	$17,637,878	$17,990,636	$18,350,449	$18,717,458	$19,091,807	$19,473,643	$19,863,116	$20,260,378	$20,665,586	$21,078,897	$21,500,475	$21,930,485	$22,369,095	$22,816,476
Value of Travel Time Savings, Passenger Vehicles	$4,639,792	$4,732,588	$4,827,240	$4,923,785	$5,022,261	$5,122,706	$5,225,160	$5,329,663	$5,436,256	$5,544,981	$5,655,881	$5,768,999	$5,884,379	$6,002,066	$6,122,108	$6,244,550	$6,369,441	$6,496,830	$6,626,766	$6,759,301	$6,894,487	$7,032,377	$7,173,025	$7,316,485	$7,462,815	$7,612,071	$7,764,313	$7,919,599
Value of Travel Time Savings, Trucks	$21,613	$22,045	$22,486	$22,936	$23,394	$23,862	$24,339	$24,826	$25,323	$25,829	$26,346	$26,873	$27,410	$27,958	$28,518	$29,088	$29,670	$30,263	$30,868	$31,486	$32,115	$32,758	$33,413	$34,081	$34,763	$35,458	$36,167	$36,891
Truck Fuel Cost Savings per Year	$119,275	$121,660	$124,093	$126,575	$129,107	$131,689	$134,323	$137,009	$139,749	$142,544	$145,395	$148,303	$151,269	$154,294	$157,380	$160,528	$163,738	$167,013	$170,354	$173,761	$177,236	$180,781	$184,396	$188,084	$191,846	$195,683	$199,596	$203,588
Truck Maint. Cost Savings (excl. fuel & driver time)	$37,453	$38,202	$38,966	$39,746	$40,541	$41,351	$42,178	$43,022	$43,882	$44,760	$45,655	$46,568	$47,500	$48,450	$49,419	$50,407	$51,415	$52,444	$53,493	$54,562	$55,654	$56,767	$57,902	$59,060	$60,241	$61,446	$62,675	$63,929
State of Good Repair (cost avoidance)																												
Roadway Maintenance Cost Savings Per Year (trucks)	$18,260	$18,626	$18,998	$19,378	$19,766	$20,161	$20,564	$20,976	$21,395	$21,823	$22,259	$22,705	$23,159	$23,622	$24,094	$24,576	$25,068	$25,569	$26,080	$26,602	$27,134	$27,677	$28,230	$28,795	$29,371	$29,958	$30,557	$31,169
Net Bridge O&M Cost Avoidance	$1,490,029	$1,545,458	$1,602,948	$1,662,577	$1,724,424	$1,788,572	$1,855,106	$1,924,115	$1,995,691	$2,069,930	$2,146,930	$2,226,795	$2,309,631	$2,395,548	$2,484,662	$2,577,090	$2,672,957	$2,772,389	$2,875,521	$2,982,489	$3,093,436	$3,208,511	$3,327,866	$3,451,661	$3,580,061	$3,713,238	$3,851,369	$3,994,638
Net Insurance Cost Savings	$646,190	$670,228	$695,160	$721,020	$747,842	$775,661	$804,515	$834,443	$865,484	$897,679	$931,073	$965,708	$1,001,632	$1,038,892	$1,077,539	$1,117,623	$1,159,198	$1,202,319	$1,247,045	$1,293,434	$1,341,550	$1,391,455	$1,443,216	$1,496,903	$1,552,587	$1,610,343	$1,670,247	$1,732,379
Safety Benefits (cost avoidance)																												
Change in Truck Accident costs (injuries)	$404,079	$412,161	$420,404	$428,812	$437,388	$446,136	$455,059	$464,160	$473,443	$482,912	$492,570	$502,421	$512,470	$522,719	$533,174	$543,837	$554,714	$565,808	$577,124	$588,667	$600,440	$612,449	$624,698	$637,192	$649,936	$662,934	$676,193	$689,717
Change in Truck Accidents costs (fatalities)	$5,916	$6,034	$6,155	$6,278	$6,404	$6,532	$6,662	$6,796	$6,932	$7,070	$7,212	$7,356	$7,503	$7,653	$7,806	$7,962	$8,121	$8,284	$8,450	$8,619	$8,791	$8,967	$9,146	$9,329	$9,516	$9,706	$9,900	$10,098
Barge related cost avoidance (operations/delays)	$348,271	$361,227	$374,664	$388,602	$403,057	$418,051	$433,602	$449,732	$466,462	$483,814	$501,812	$520,479	$539,840	$559,922	$580,751	$602,355	$624,762	$648,003	$672,108	$697,110	$723,043	$749,940	$777,837	$806,772	$836,784	$867,912	$900,198	$933,685
Barge related cost avoidance (property damage)	$284,324	$294,900	$305,871	$317,249	$329,050	$341,291	$353,987	$367,155	$380,813	$394,979	$409,672	$424,912	$440,718	$457,113	$474,117	$491,754	$510,047	$529,020	$548,700	$569,111	$590,282	$612,240	$635,015	$658,637	$683,138	$708,551	$734,909	$762,247
Net Environmental Impacts, Air Quality Benefits																												
Volatile Organic Compounds (VOC)	$146	$149	$152	$155	$158	$162	$165	$168	$171	$175	$178	$182	$186	$189	$193	$197	$201	$205	$209	$213	$217	$222	$226	$231	$235	$240	$245	$250
Nitrogen Oxide (NOx)	$2,022	$2,063	$2,104	$2,146	$2,189	$2,233	$2,277	$2,323	$2,369	$2,417	$2,465	$2,514	$2,565	$2,616	$2,668	$2,722	$2,776	$2,831	$2,888	$2,946	$3,005	$3,065	$3,126	$3,189	$3,252	$3,318	$3,384	$3,452
Particulate Matter (PM)	$3,178	$3,241	$3,306	$3,372	$3,440	$3,508	$3,579	$3,650	$3,723	$3,798	$3,874	$3,951	$4,030	$4,111	$4,193	$4,277	$4,362	$4,450	$4,539	$4,629	$4,722	$4,816	$4,913	$5,011	$5,111	$5,213	$5,318	$5,424
Heath Benefits of Facilities (bike/ped)																												
Change in Bike/Ped Trips	494,713	504,608	514,700	524,994	535,494	546,204	557,128	568,270	579,636	591,228	603,053	615,114	627,416	639,965	652,764	665,819	679,136	692,718	706,573	720,704	735,118	749,821	764,817	780,113	795,716	811,630	827,863	844,420
Health Benefits of Induced Bike/Ped Activity	$3,312,107	$3,378,349	$3,445,916	$3,514,834	$3,585,131	$3,656,834	$3,729,970	$3,804,570	$3,880,661	$3,958,274	$4,037,440	$4,118,189	$4,200,552	$4,284,563	$4,370,255	$4,457,660	$4,546,813	$4,637,749	$4,730,504	$4,825,114	$4,921,617	$5,020,049	$5,120,450	$5,222,859	$5,327,316	$5,433,862	$5,542,540	$5,653,390
Summary of Benefits																												
Economic Competitiveness factors (net change)	$29,797,959	$30,393,919	$31,001,797	$31,621,833	$32,254,270	$32,899,355	$33,557,342	$34,228,489	$34,913,059	$35,611,320	$36,323,546	$37,050,017	$37,791,017	$38,546,838	$39,317,775	$40,104,130	$40,906,213	$41,724,337	$42,558,824	$43,410,000	$44,278,200	$45,163,764	$46,067,039	$46,988,380	$47,928,148	$48,886,711	$49,864,445	$50,861,734
State of Good Repair (cost avoidance)	$2,154,480	$2,234,311	$2,317,106	$2,402,975	$2,492,031	$2,584,394	$2,680,185	$2,779,533	$2,882,570	$2,989,432	$3,100,262	$3,215,208	$3,334,422	$3,458,062	$3,586,295	$3,719,289	$3,857,222	$4,000,278	$4,148,646	$4,302,526	$4,462,120	$4,627,642	$4,799,312	$4,977,359	$5,162,019	$5,353,539	$5,552,173	$5,758,186
Safety (cost avoidance)	$1,042,590	$1,074,322	$1,107,093	$1,140,940	$1,175,899	$1,212,009	$1,249,310	$1,287,842	$1,327,649	$1,368,775	$1,411,265	$1,455,168	$1,500,531	$1,547,407	$1,595,848	$1,645,908	$1,697,644	$1,751,115	$1,806,382	$1,863,507	$1,922,555	$1,983,595	$2,046,696	$2,111,930	$2,179,373	$2,249,103	$2,321,199	$2,395,746
Environmental Air Quality factors (net change)	$5,346	$5,453	$5,562	$5,673	$5,787	$5,903	$6,021	$6,141	$6,264	$6,389	$6,517	$6,647	$6,780	$6,916	$7,054	$7,195	$7,339	$7,486	$7,636	$7,788	$7,944	$8,103	$8,265	$8,430	$8,599	$8,771	$8,946	$9,125
Health Benefits of Induced Bike/Ped Activity	$3,312,107	$3,378,349	$3,445,916	$3,514,834	$3,585,131	$3,656,834	$3,729,970	$3,804,570	$3,880,661	$3,958,274	$4,037,440	$4,118,189	$4,200,552	$4,284,563	$4,370,255	$4,457,660	$4,546,813	$4,637,749	$4,730,504	$4,825,114	$4,921,617	$5,020,049	$5,120,450	$5,222,859	$5,327,316	$5,433,862	$5,542,540	$5,653,390
Summary of Annual Benefits	**$36,312,482**	**$37,086,354**	**$37,877,475**	**$38,686,256**	**$39,513,118**	**$40,358,494**	**$41,222,828**	**$42,106,575**	**$43,010,203**	**$43,934,190**	**$44,879,030**	**$45,845,228**	**$46,833,303**	**$47,843,786**	**$48,877,226**	**$49,934,182**	**$51,015,231**	**$52,120,965**	**$53,251,992**	**$54,408,935**	**$55,592,436**	**$56,803,153**	**$58,041,763**	**$59,308,959**	**$60,605,455**	**$61,931,986**	**$63,289,303**	**$64,678,182**
Value of Bridge in Year 50																												
Remaining life of Bridge in year 50																												**$271,424,754**
Summary of Total Benefits	**$36,312,482**	**$37,086,354**	**$37,877,475**	**$38,686,256**	**$39,513,118**	**$40,358,494**	**$41,222,828**	**$42,106,575**	**$43,010,203**	**$43,934,190**	**$44,879,030**	**$45,845,228**	**$46,833,303**	**$47,843,786**	**$48,877,226**	**$49,934,182**	**$51,015,231**	**$52,120,965**	**$53,251,992**	**$54,408,935**	**$55,592,436**	**$56,803,153**	**$58,041,763**	**$59,308,959**	**$60,605,455**	**$61,931,986**	**$63,289,303**	**$336,102,935**
Summary of Costs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Net Benefits (no discount rate)	**$36,312,482**	**$37,086,354**	**$37,877,475**	**$38,686,256**	**$39,513,118**	**$40,358,494**	**$41,222,828**	**$42,106,575**	**$43,010,203**	**$43,934,190**	**$44,879,030**	**$45,845,228**	**$46,833,303**	**$47,843,786**	**$48,877,226**	**$49,934,182**	**$51,015,231**	**$52,120,965**	**$53,251,992**	**$54,408,935**	**$55,592,436**	**$56,803,153**	**$58,041,763**	**$59,308,959**	**$60,605,455**	**$61,931,986**	**$63,289,303**	**$336,102,935**
Net Benefits (w/@7% discount rate)	**$4,166,535**	**$3,976,944**	**$3,796,056**	**$3,623,468**	**$3,458,799**	**$3,301,682**	**$3,151,768**	**$3,008,726**	**$2,872,238**	**$2,742,002**	**$2,617,730**	**$2,499,146**	**$2,385,990**	**$2,278,010**	**$2,174,968**	**$2,076,636**	**$1,982,798**	**$1,893,247**	**$1,807,786**	**$1,726,226**	**$1,648,387**	**$1,574,100**	**$1,503,199**	**$1,435,531**	**$1,370,945**	**$1,309,302**	**$1,250,464**	**$6,206,252**
Discount rate assumptions	8.72	9.33	9.98	10.68	11.42	12.22	13.08	13.99	14.97	16.02	17.14	18.34	19.63	21.00	22.47	24.05	25.73	27.53	29.46	31.52	33.73	36.09	38.61	41.32	44.21	47.30	50.61	54.16

APPENDIX D

HOOD RIVER- WHITE SALMON REPLACEMENT BRIDGE PROJECT

BENEFIT-COST ANALYSIS SPREADSHEETS

See separate spreadsheet electronic files.

APPENDIX E

HOOD RIVER- WHITE SALMON REPLACEMENT BRIDGE PROJECT

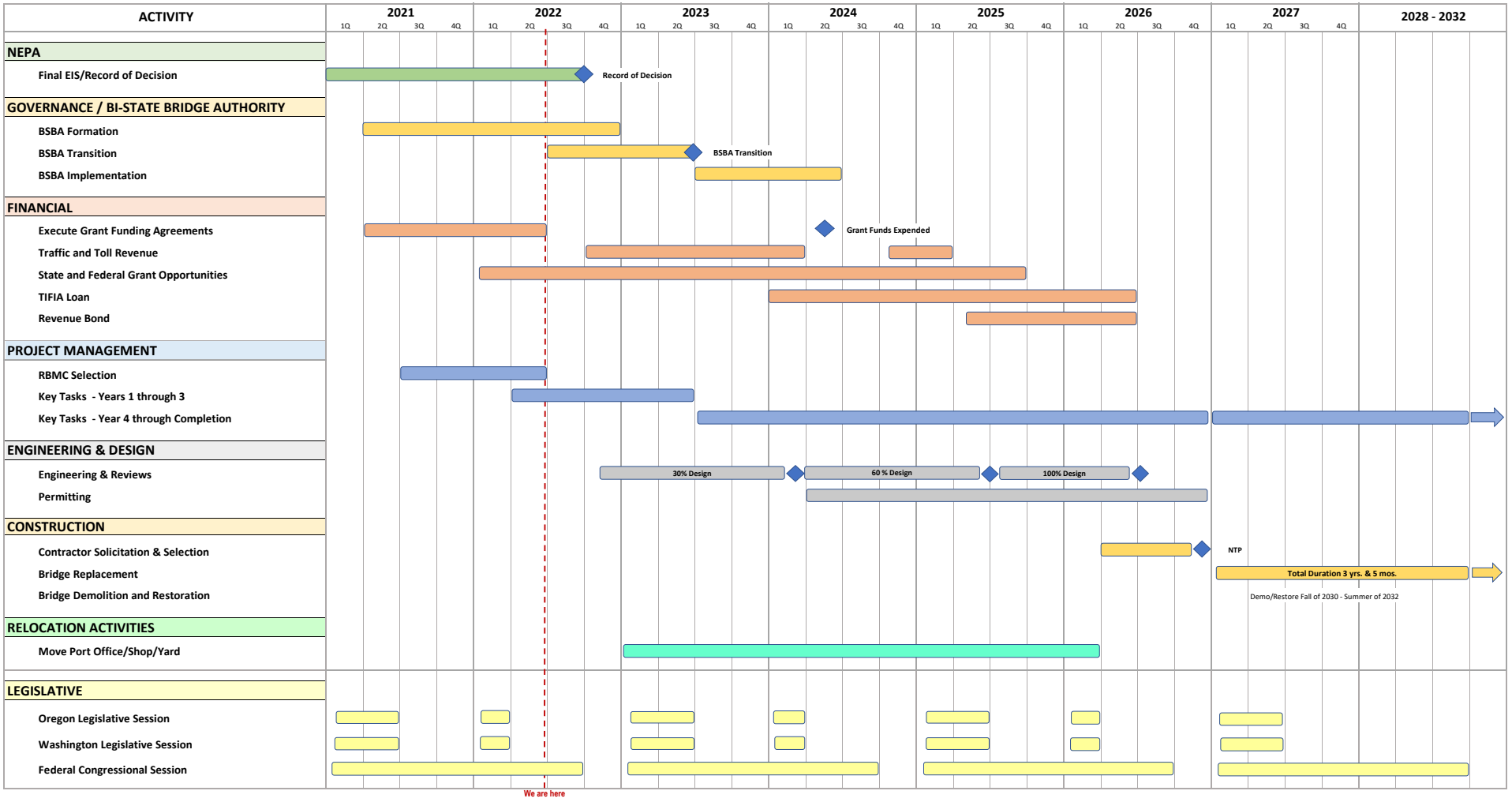
Detailed Project Schedule

Hood River – White Salmon
BRIDGE REPLACEMENT PROJECT

Port of Hood River

BRIDGE REPLACEMENT CONCEPT TIMELINE

Draft June 14, 2022



APPENDIX F

HOOD RIVER- WHITE SALMON REPLACEMENT BRIDGE PROJECT

REQUIRED PERMITS TABLE

No.	Jurisdiction	Permit Name/ Work Area	Permit Description	Legislative Reference	Regulatory Agency Contacts	Supporting Documentation and Procedures Required to Obtain Permit	Est. Approval Time	Validity/Exp.	Agency Fees	Preparation Costs	Additional Information
1a	Federal	USACE Section 10 Permit	The project will require a Permit from USACE in accordance with Section 10 of the Rivers and Harbors Act as the Columbia is a navigable waterway.	Rivers and Harbors Act (33 CFR Part 322)	**USACE** Portland District: Bill Abadie Regulatory Branch Chief 503.808.4370 William.D.Abadie@usace.army.mil Seattle District Bob Thomas, Acting Section Chief 206.764.3480 James.R.Thomas@usace.army.mil Permit PM TBD	• Joint Permit Application (including ~30% design plans) • Mitigation plan	12 to 18 months	5 years	N/A	$25,000 to $50,000	The Columbia River is a navigable waterway and Section 10 is applicable. No fees are charged for public projects.
1b	Federal	USACE Section 404 Permit	The project will require a permit from USACE in accordance with Section 404 of the Clean Water Act because the Columbia River is a water of the U.S. and fill is anticipated.	Section 404 of the Clean Water Act (33 CFR Part 323)							NWP No. 15 for USCG approved bridges may be applicable to the project. NWP No. 6 (Survey Activities) is also required for the geotechnical investigations.
2	Federal	USACE Section 408 Permit	USACE has the authority to review, evaluate, and approve all alterations, including crossings that could impact the channel to make sure the alterations are not harmful to the public and that the civil works projects will still meet their intended purposes.	33 U.S.C. 408	**USACE** Marci Johnson, Section 408 Program Manager, Portland District 503.8080.4765 Marci.e.johnson@usace.army.mil	Under the Section 408 process, the USACE will determine the technical data and analysis required for a complete application.	6 to 18 months	Not specified	Funds may be provided to the USACE in certain situations to expedite reviews	$25,000 to $100,000	A decision by the USACE cannot be finalized until after completion of the FEIS and the ROD. Section 408 review and authorization is critical to the design of the bridge. An initial written request for a Section 408 application pursuant to USACE Engineering Circular 1165-2-220 will be developed.
3	Federal	Section 7 Consultation	Federal agencies must consult with USFWS and NOAA Fisheries when actions have the potential to affect listed species. The Columbia River is habitat for multiple listed salmonids, Pacific eulachon, and green sturgeon.	Endangered Species Act 16 U.S.C. Section Chapter 35	**NOAA Fisheries** Contact TBD **USFWS** Contact TBD (see additional information)	• Biological Evaluation • Support documentation	135 days (target)	No expiration[1]	None	$25,000 to $50,000	Section 7 consultation must be completed prior to publication of the FEIS. The project location is on the border of the NOAA Interior Columbia Basin Office and Oregon and Washington Coastal Office. Coordination between the lead federal agency and NOAA Fisheries West Coast Region will be necessary to determine the appropriate region and assignment. Recently, a nearby project was handled by the Coastal Office. Similarly, the project is split between the Oregon and Washington Offices of USFWS. Coordination with the USFWS Pacific Region may be necessary to determine the lead USFWS office.
4	Federal	Section 9 Bridge Permit	This permit is required for new construction, reconstruction or modification of a bridge or causeway over a navigable waterway. The Columbia River is a navigable waterbody and this permit is required. The USCG may impose conditions relating to the construction, maintenance, and operation of these bridges in the interest of public navigation.	Section 9, Rivers and Harbors Act (33 USC 401) 33 CFR parts 114-115	**USCG District 13:** Mr. Steven Fischer, 206.220.7282 Steven.M.Fischer3@uscg.mil	• Project narrative and plans • Navigation Impact Report • Other supporting documentation	Not specified (assume 12 to 24 months)	3 years to initiate construction 5 years to finish the project. (subject to extension)	None specified	$100,000 to $250,000	Navigation Impact Report prepared and submitted to the USCG. USCG Preliminary Navigational Clearance Determination issued that validates the proposed navigation clearances of the bridge.
5	Federal	CRGNSA Consistency Review	Certain federal agency actions in the GRGNSA are subject to consistency review by the USFS CRGNSA office.	Section 14.d of the CRGNSA (16 U.S.C. §§ 544–544p)	**USFS** **CRGC** 541.308.1700	• Application form • Site Plan • Key viewing area checklist • Property owners within 200 feet • Project Description	TBD	TBD	None	$10,000 to 15,000	The requirement for this review including timelines for review and permit validity will be determined after consultation with the CRGC and USFS

[1] Subject to re-consultation is species status changes.

No.	Jurisdiction	Permit Name/ Work Area	Permit Description	Legislative Reference	Regulatory Agency Contacts	Supporting Documentation and Procedures Required to Obtain Permit	Est. Approval Time	Validity/Exp.	Agency Fees	Preparation Costs	Additional Information
6	State	State Environmental Policy Act (SEPA)	Review under SEPA required for all government actions (state and local agencies in Washington) that are not otherwise exempt. The replacement bridge project is not exempt.	RCW 43.21C WAC 197-11 Lead Agency Rules (TBD)	**TBD:** (Agencies could include City of White Salmon, Ecology, WSDOT, WDFW)	• SEPA checklist/EIS • Supporting Materials	TBD (based on process)	N/A	TBD	TBD	There is the potential for the NEPA process to fulfill obligations under SEPA. See WAC 197-11-610 for rules regarding use of NEPA documents. Once complete SEPA does not expire. Project or condition changes may dictate the need for supplement review depending on the length of time to construction. Fees and preparation costs will be determined based on lead agency
7	State	401 Water Quality Certification (WA)	Applicants seeking federal approval under Section 404 to conduct any activity that may result in a discharge (including dredge and fill material) in waters of the U.S. must receive water quality certification prior to issuance of the federal permit.	WAC 173-201A	**WA Department of Ecology:** Lori White, Central Region 509.454.4260 lori.white@ecy.wa.gov Gary Graff, Central Region 509.574.3992 gary.graff@ecy.wa.gov	• Joint Permit Application (including ~30% design plans) • Water quality specific information • Sediment quality	Up to 1 year. Typically 90 to 180 days.	Same time period as Section 10/404	No standard cost. Ecology may ask for a funding agreement to cover their staff time to review the project.	$10,000 to $15,000	Conditions of the Section 401 Certification become conditions of the Federal permit or license.
8	State	401 Water Quality Certification (OR)	Applicants seeking federal approval to conduct any activity that may result in a discharge (including dredge and fill material) in waters of the United States must receive water quality certification prior to issuance of the federal permit.	OAR 340, ORS 4648B	**OR Department of Environmental Quality:** Christensen, Sara 401 Water Quality Certification Coordinator 541-633-2007	• Joint Permit Application (including ~30% design plans) • Water quality specific information • sediment quality	Up to 1 year. Typically 90 to 180 days.	Same time period as Section 10/404	Up to $14,020 per month based on tier determined by state (see ORS 340.048-0055)	$15, 000 to $50,000	DEQ's review of a proposed project begins once the project is put on public notice by the USACE. This public notice also includes DEQ's public notice. It is anticipated that DEQ will assign a Type II review fee. This will be an item for discussion/confirmation once coordinated with the agency begins.
9	State	Removal-Fill Permit	Projects that will remove or place fill materials into waters of the State require a permit. Construction of the bridge will require authorization because removal and fill activities will occur.	ORS 196.795-990	**OR Department of State Lands:** Heidi Hartman (541) 388-6060 heidi.m.hartman@state.or.us	• Joint Permit Application (including ~30% design plans) • Mitigation plan	120 days	5 years; may be renewed	$774 plus volume based charge of up to $468	N/A	Preparation costs covered under other line items.
10	State	National Pollution Discharge Elimination System (NPDES) Construction Stormwater General Permit	Construction disturbing more than 1 acre of land will require a general or individual NPDES construction stormwater permit.	Clean Water Act (Title 33 U.S.C. 1251), RCW 90.48 ORS 468B	**WA—Ecology:** Central Region Clay Keown 360.407.6048 Clary.keown@ecy.wa.gov **OR—DEQ** Eastern Region Permit Coordinator Jackie Ray 541.278.4605 jackie.ray@state.or.us	• Application form • Land Use Compatibility Statement (Oregon only) • Erosion and Sediment Control Plan	60 days	As long as construction is underway	Ecology $707 to $2,634 per year (based on area) DEQ $308 (1 time application fee)	$10,000 to $15,000	Oregon refers to this permit as the 1200-C. Submit notice of intent at least 60 days prior to construction start.
11	State	WSDOT	The project will require a roadway connection to Highway 14 on the Washington Side. Depending on how the project is structured (i.e. ownership), it may result in the need to obtain specific authorization from WSDOT to make connections and place utilities in the WSDOT right-of-way.	WAC 468-34, 51	**WSDOT** Contact TBD	• State Highway Crossing Permit Application Checklist. • Project plans	TBD	Not specified	TBD	TBD	Timing and costs will be determined based on the lead agency for bridge construction and need for permit.

No.	Jurisdiction	Permit Name/ Work Area	Permit Description	Legislative Reference	Regulatory Agency Contacts	Supporting Documentation and Procedures Required to Obtain Permit	Est. Approval Time	Validity/Exp.	Agency Fees	Preparation Costs	Additional Information
12	State	Aquatic Use Authorization	Activities taking place on state-owned aquatic lands require a lease under the Aquatic Use Authorization.	RCW 79.105	**WA DNR:** Rivers District 360-577-2025 aquaticleasing.rivers@dnr.wa.gov	• Attachment E of JARPA form, Section 10/404 decision	6 months to 1 year	Typically 30 years	N/A	$25 application processing fee. Review rates depend on the type of agreement required.	Duration of authorization to be discussed during initial agency outreach. No lease or occupancy fees anticipated as it is public roadway.
13	State	Hydraulic Project Approval	Required for construction projects or activities in or near state waters including the Columbia River.	RCW 77.55, WAC 220-660	**WDFW Region 5:** Amber Johnson, Habitat Biologist 360.701.2738 Amber.Johnson@wdfwa.wa.gov Supervisor: Charles Stambaugh-Bowey 360.906.6764 Charles.Stambaugh-Bowey@dfw.wa.gov	• JARPA • Mitigation Plan	45 days	5 years (substantial progress within 2 years)	$150	$5,000 to $10,000	SEPA determination is required prior to approval.
14	State	Waterway Lease	Any person wanting to use state-owned submerged and submersible land that is subject to a lease or public facility license must apply for and obtain the required authorization.	OAR 141-082	**OR—DSL** **Eastern Region** Shawn Zumwalt 541.388.6033 shawn.zumwalt@state.or.us	• Application form, legal information, maps • Land Use Compatibility Statement approval from local jurisdiction	Submittal at least 60 days prior to need	30 years	N/A	$750	No lease or occupancy fees anticipated as it is public roadway.
15	Local	CRGNSA Consistency Review – Land Use Permit	New land uses within the CRGNSA are reviewed for consistency with county land use ordinances that implement the Management Plan for the CRGNSA. While Hood River County has adopted Article 75 as their NSA code, Klickitat County has not adopted an NSA ordinance, and the CRGC is implementing the CRGNSA General Management Plan for the county.	C	**Gorge Commission** Krystyna Wolniakowski, Executive Director 509.493.3323 Bryce Guske, Land Use Planner (Klickitat County reviews) 509.493.3323 ext 227 bryce.guske@gorgecommission.org **Hood River County** Eric Walker, Interim Director (541) 387-6840 Eric.walker@co.hood-river.or.us	• Application form • Cultural resources survey • Project description and site plan with elevation drawings and landscape details • Checklist of key viewing areas • List of property owners within a specified distance	180 to 360 days	2-year approval/plus 2-years to complete from start with potential for extension	**Hood River County** $1,670 with potentially higher fee for complex application. **CRGC:** N/A	$25,000 to $50,000	See permit plan for discussion of jurisdiction issues surrounding the bridge location. No fees are charged by the CRGC.
16	Local	Shoreline Substantial Development Permit (SSDP)	WA requires SSDPs for non-exempt development projects in shoreline jurisdiction per SMP. The north end of the bridge is located in the shoreline area of the Columbia River.	WSMC 18.30 WAC 173-27	**City of White Salmon, WA** Pat Munyan, City Administrator (serves as the planning lead) 509-493-1133 PatM@ci.white-salmon.wa.us	• JARPA, project narrative, site plans, special studies	6 months	2 years to start construction, 5 years to complete (can be extended)	$2,000	$25,000 to $50,000	The bridge is located in the Aquatic and Urban Conservancy designations. SSDPs are subject to a Type III review process (Planning commission review and recommendation to Council). The planning commission will conduct a public hearing. A permit through Klickitat County may be required as well depending on where City limits are determined to be.
17	Local	Shoreline Conditional Use Permit (SCUP)	New bridges are a conditional use per the City of White Salmon SMP.	WSMC 18.30 WAC 173-27	**City of White Salmon, WA** See contact info for Pat Munyan above. **Ecology:** Gary Graff, Central Region 509.574.3992	• JARPA, project narrative, site plans, special studies	6 to 9 months	2 years to start construction, 5 years to complete (can be extended)	$2,000	N/A	Preparation fees are reflected in the SSDP permit above (single application). SCUPs are subject to Type III review process with planning commission review and recommendation to Council, followed

No.	Jurisdiction	Permit Name/ Work Area	Permit Description	Legislative Reference	Regulatory Agency Contacts	Supporting Documentation and Procedures Required to Obtain Permit	Est. Approval Time	Validity/Exp.	Agency Fees	Preparation Costs	Additional Information
					gary.graff@ecy.wa.gov						by Council's recommendation to Ecology, who will make the final decision.
18	Local	Floodplain Review (White Salmon)	Required for new development within the special flood hazard area (Columbia River).	WSMC 15.28 and 18.10-500	**City of White Salmon** Pat Munyan See contact info above.	• Analysis demonstrating no increase in base flood elevation	3 to 6 months	180 days to start of construction	$650	$5,000 to $10,000	Replacement bridge is located in a floodplain Columbia River and will require a permit under this code requirement.
19	Local	Site Plan Review (City of Hood River)	Required for bridges that are not included in the City TSP	HRMC 17.03 and 17.20	**City of Hood River:** Dustin Nilsen, Planning Director 541.387.5210 d.nilsen@ci.hood-river.or.us	• Site Plan • Project Description • Natural Resources Overlay Application •	3-6 months	2 years with the ability for a single 1 year extension	$1,204 to $5,151	$10,000 to $15,000	Consider approaching the City if they are updating the TSP. The site plan review may be administrative or require a hearing before planning commission.
20	Local	Floodplain Review (Hood River)	Required for new development within the special flood hazard area.	HRMC 15.44	**City of Hood River:** See contact information above.	• TBD (not specified in code) Typically requires analysis of potential flood impacts	3-6 months	180 days to start of construction	TBD	$5,0000 to $10,000	A replacement bridge located in floodplain (Columbia River) will require a permit under this code requirement. City fee schedule does not include fees for this permit type.
21	Private	Rail Crossing	The north bridge landing will require a crossing of the BNSF mainline. BNSF requires authorization and an agreement for the crossing	BNSF Bridge Crossing Guide	**BNSF:** Stephan Semenick, Manager Public Projects (WA, ID., B.C.) 206.625.6152 m: 817.422.2486 stephen.semenick@bnsf.com	• See manual for process • Preliminary and Final Engineering Design • Construction and Maintenance Agreement	6 to 18 months	N/A	Cost Reimburse-ment for BNSF Costs	TBD	BNSF does not specific periods of validity. Preparation costs are part of the design efforts.

NOTES:

GLOSSARY:

CFR = Code of Federal Regulations
CRGC = Columbia River Gorge Commission
CRGNSA = Columbia River Gorge National Scenic Area
DEQ = Oregon Department of Environmental Quality
DSL = Oregon Department of State Lands
Ecology=Washington Department of Ecology
EIS = Environmental Impact Statement
ESA = Endangered Species Act
FEIS = Final Environmental Impact Statement
HRMC = Hood River Municipal Code
JARPA = Joint Aquatic Resource Permit Application
NA = Not Applicable
NEPA = National Environmental Policy Act
NOAA Fisheries = National Ocean and Atmospheric Administration Fisheries Division
NPDES = National Pollutant Discharge Elimination System
NWP = Nationwide Permit
OAR = Oregon Administrative Rules
OR = Oregon
ORS = Oregon Revised Statute
RCW=Revised Code of Washington
ROD = Record of Decision
SCUP = Shoreline Conditional Use Permit
SEPA = State Environmental Policy Act
SMP = Shoreline Master Program
SSDP = Shoreline Substantial Development Permit
TBD = To Be Determined
TSP = Transportation System Plan
US = United States
USACE = US Army Corps of Engineers
USC = US Code
USCG =US Coast Guard
USFS = US Forest Service
USFWS = US Fish and Wildlife Service
WA = Washington
WAC = Washington Administrative Code WDFW = Washington Department of Fish and Wildlife
WSDOT = Washington State Department of Transportation
WSMC = White Salmon Municipal Code