

1. PURPOSE AND NEED

This chapter describes the primary objectives for the Interstate Bridge Replacement program.

1.1 Importance of the I-5 Corridor and the Interstate Bridge

As the only continuous north-south interstate route on the West Coast connecting the Canadian and Mexican borders, Interstate 5 (I-5) is vital to the local, regional, state, and national economies. At the Columbia River, I-5 provides a critical economic connection to two major ports, deepwater shipping, upriver barging, two transcontinental rail lines, and much of the region's industrial land. Truck-hauled freight movement over the I-5 Columbia River crossing is critical for these industrial centers, for regional employment, and to the regional and national economies.

The I-5 crossing provides the primary transportation link between Vancouver and Portland, and it is the only direct connection between the downtown areas of these cities. Residents of Vancouver and Portland drive, ride buses, bike, and walk across the I-5 Interstate Bridge for work, recreation, shopping, and entertainment. In 2019 there were an average of 144,000 trips over the bridge each weekday by car, transit, bicycle, and walking. The Interstate 205 (I-205) crossing, about 6 miles east, is the only other crossing over the Columbia River within the Portland-Vancouver metropolitan region and serves more as a suburban bypass than a link to the metropolitan areas.

1.2 Confirming the I-5 Columbia River Crossing Project's Purpose and Need

More than two decades of planning and analysis have been spent evaluating transportation deficiencies in the Interstate Bridge Replacement (IBR) program vicinity (see Figure 1-1). These studies have identified a variety of transportation mobility and safety problems. For additional details on these studies and their findings, please see Section 1.2 of the *Interstate 5 Columbia River Crossing Project Final Environmental Impact Statement and Final Section 4(f) Evaluation* (CRC 2011a).

The Purpose and Need statement for the Columbia River Crossing (CRC) Project was developed by the CRC Task Force¹ and the joint lead agencies.² Please see Chapter 1 of the CRC Project Final Environmental Impact Statement (EIS) to learn more about how the Purpose and Need was developed and about agency and public input (CRC 2011a). As part of the National Environmental Policy Act (NEPA) process, the IBR program began working with regional and local partner agencies and the public in early 2021 to review the Purpose and Need that was adopted for the CRC Project. The IBR program brought the Purpose and Need as well as the Vision and Values (identified in Section 1.5) to partner agencies³ and the program's three advisory groups⁴ to discuss

¹ The CRC Task Force was a 39-member group formed in 2005 comprised of leaders representing a broad cross section of Washington and Oregon communities. Public agencies, businesses, civic organizations, neighborhoods, and freight, commuter, and environmental groups were represented on the task force. The group met 23 times over the course of the project development phase to advise the CRC project team and provide guidance and recommendations at key decision points. The task force concluded its work in summer 2008 after making its recommendation on the locally preferred alternative.

² Federal Highway Administration, Federal Transit Administration, Oregon State Department of Transportation (ODOT), Washington State Department of Transportation, Oregon Metro (Metro), Southwest Washington Regional Transportation Council (RTC), Tri-County Metropolitan Transportation District (TriMet), and Clark County Public Transportation Benefit Area (C-TRAN).

³ C-TRAN, TriMet, Metro, RTC, the Cities of Portland and Vancouver, and the Ports of Portland and Vancouver.

⁴ The Executive Steering Group, Community Advisory Group, and Equity Advisory Group. The advisory groups are detailed in Chapter 6 of this Supplemental Draft EIS.

Interstate Bridge Replacement program

1 the transportation needs identified for the CRC Project. These transportation needs were also brought to the
2 public for comment during an online open house, virtual community briefings, and an online survey. In
3 mid-2021, the program announced that these efforts validated that the six transportation needs identified in
4 the CRC Purpose and Need statement still exist today, and that the values identified in the Vision and Values
5 document remain community values. **Thus, the Purpose and Need statement for the IBR program, provided
6 below, remains the same as documented in the 2008 Draft EIS, 2011 Final EIS, and 2011 Record of Decision
7 (ROD) for the CRC Project.**

8 1.3 Purpose and Need for the IBR Program

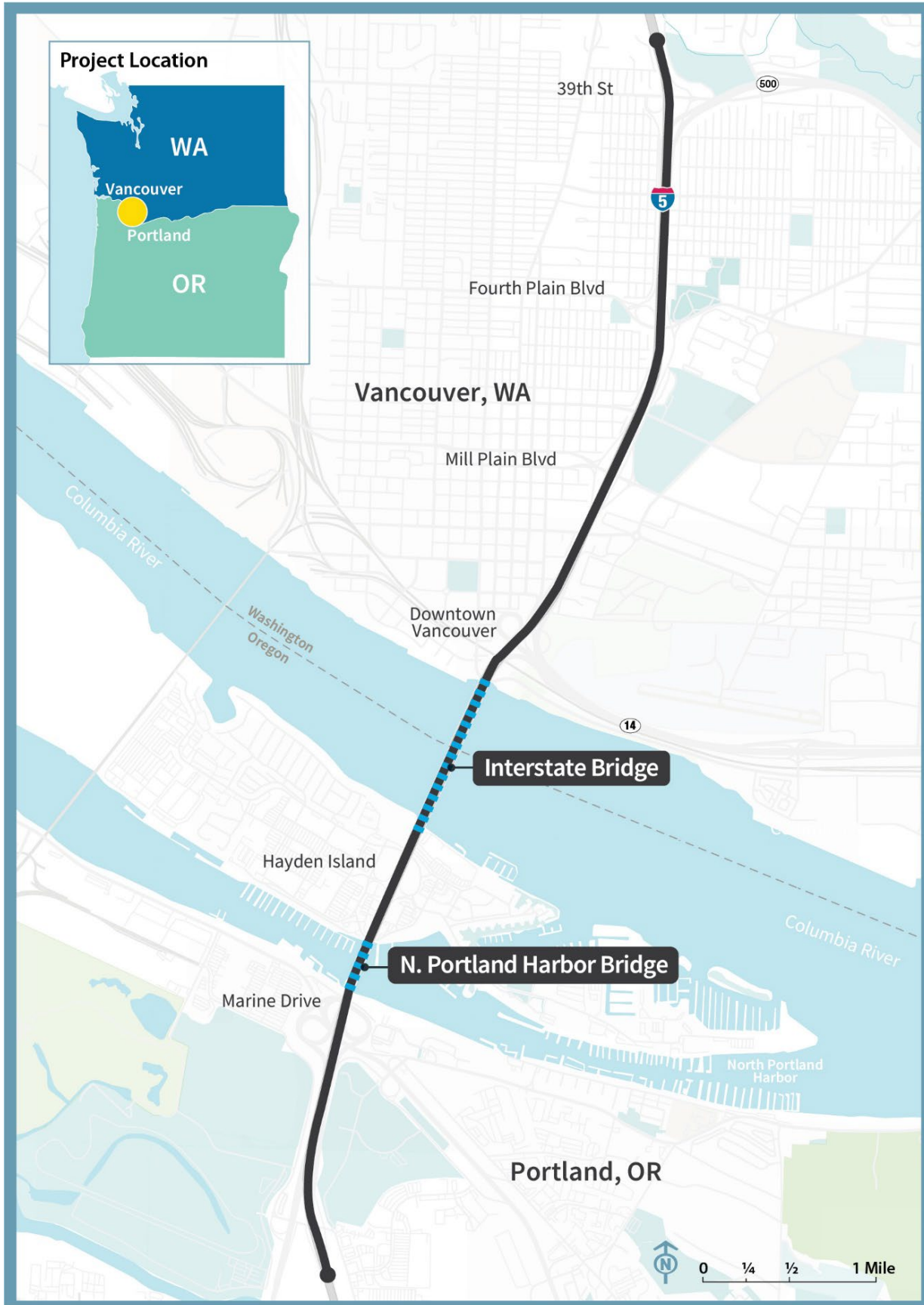
9 One of the first and most important steps of any major project is to define why the project has been initiated
10 and what problem(s) it seeks to address. The Purpose and Need statement provides this definition for projects
11 complying with NEPA and serves as the basis for defining how project alternatives will be developed and
12 evaluated. A reasonable alternative must address the needs specified in the Purpose and Need statement for
13 the alternative to be considered in an EIS; thus, the Purpose and Need is an influential statement that guides
14 future development of the project.

15 The Purpose and Need statement for the IBR program, developed by the lead agencies, project sponsors, and
16 CRC Task Force, can be found in Sections 1.3.1 and 1.3.2. As previously noted, the statement was reviewed
17 and validated during the IBR program phase. The text of the Purpose and Need has not been edited from its
18 original wording, with the exception of references to the name of the program. More recent data and
19 supplemental information are provided in sidebars and footnotes.

20 1.3.1 Program Purpose

21 The purpose of the proposed action is to improve I-5 corridor mobility by addressing present and future travel
22 demand and mobility needs in the program area. The program area extends from approximately Columbia
23 Boulevard in the south to SR 500 in the north (Figure 1-1). Relative to the No-Build Alternative, the proposed
24 action is intended to achieve the following objectives: (a) improve travel safety and traffic operations on the
25 I-5 crossing's bridges and associated interchanges; (b) improve connectivity, reliability, travel times, and
26 operations of public transportation modal alternatives in the program area; (c) improve highway freight
27 mobility and address interstate travel and commerce needs in the program area; and (d) improve the I-5 river
28 crossing's structural integrity (seismic stability).

1 Figure 1-1. Program Vicinity



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Interstate Bridge Replacement program

1.3.2 Program Needs

Note to reviewers: We cannot change the original wording of the Purpose and Need. Any clarifications or updated info should be provided in sidebars or footnotes.

The specific needs to be addressed by the proposed action include:

- Growing travel demand and congestion:** Existing travel demand exceeds capacity in the I-5 Columbia River crossing and associated interchanges. This corridor experiences heavy congestion and delay lasting 4 to 6 hours daily⁵ during the morning and afternoon peak travel periods and when traffic accidents, vehicle breakdowns, or bridge lifts occur. Due to excess travel demand and congestion in the I-5 corridor, many trips take the longer, alternative I-205 route across the river. Spillover traffic from I-5 onto parallel arterials such as Martin Luther King Jr. Boulevard and Interstate Avenue increases local congestion. In 2005, the two crossings⁶ carried 280,000 vehicle trips across the Columbia River daily. Daily traffic demand over the I-5 Interstate Bridge is projected to increase by more than 35 percent during the next 20 years, with stop-and-go conditions increasing to approximately 15 hours daily if no improvements are made.
- Impaired freight movement:** I-5 is part of the National Truck Network, and the most important freight highway on the West Coast, linking international, national and regional markets in Canada, Mexico and the Pacific Rim with destinations throughout the western United States. In the center of the program area, I-5 intersects with the Columbia River's deep water shipping and barging as well as two river-level, transcontinental rail lines. The I-5 Interstate Bridge provides direct and important highway connections to the Port of Vancouver and Port of Portland facilities located on the Columbia River as well as the majority of the area's freight consolidation facilities and distribution terminals. Freight volumes moved by truck to and from the area are projected to more than double over the next 25 years. Vehicle-hours of delay on truck routes in the Portland-Vancouver area are projected to increase by more than 90 percent over the next 20 years. Growing demand and congestion will result in increasing delay, costs and uncertainty for all businesses that rely on this corridor for freight movement.

The duration of congestion on the I-5 Interstate Bridge has roughly doubled over the past 14 years. In 2019, the I-5 corridor experienced heavy congestion and delay in both directions lasting up to 10 hours daily (compared with 4 to 6 hours daily in 2005).

Daily traffic demand over the I-5 Interstate Bridge is projected to increase by more than 25% during the next 25 years.

In 2005, there were 280,000 vehicle trips that crossed the Columbia River daily, of which 134,000 used the I-5 Interstate Bridge. By 2019, these trips increased to 313,000 vehicle trips daily, of which 143,400 used the I-5 Interstate Bridge.

Vehicle trips include those made in single-occupancy vehicles, high-occupancy vehicles, trucks, and transit vehicles (buses).

In 2019, over 14,000 freight trips carrying \$71 million in commodities traveled across the I-5 Interstate Bridge each weekday. Freight volumes moved by truck to and from the area are projected to more than double over the next 25 years.

Deficiencies such as narrow lanes and shoulders as well as short merging, diverging, and weaving distances reduce the efficiency and safety of freight truck movement.

⁵ The hours of congestion and delay refers to the total number of hours that the corridor experiences congestion. Congestion on a highway occurs when average speeds are below 35 miles per hour.

⁶ The two crossings are the I-5 Interstate Bridge and the I-205 bridge.

- 1 • **Limited public transportation operation, connectivity, and reliability:** Due to limited public transportation
2 options, a number of transportation markets are not
3 well served. The key transit markets include trips
4 between the Portland Central City and the city of
5 Vancouver and Clark County, trips between
6 north/northeast Portland and the city of Vancouver and
7 Clark County, and trips connecting the city of
8 Vancouver and Clark County with the regional transit
9 system in Oregon. Current congestion in the corridor
10 adversely impacts public transportation service
11 reliability and travel speed. Southbound bus travel
12 times across the bridge are currently up to three times
13 longer during parts of the AM peak compared to
14 off-peak. Travel times for public transit using general
15 purpose lanes on I-5 in the program area are expected
16 to increase substantially by 2030.
- 18 • **Safety and vulnerability to incidents:** The Interstate
19 Bridge and its approach sections experience crash rates
20 more than 2 times higher than statewide averages for
21 comparable facilities. Incident evaluations generally
22 attribute these crashes to traffic congestion and
23 weaving movements associated with closely spaced
24 interchanges and short merge distances. Without
25 breakdown lanes or shoulders, even minor traffic
26 accidents or stalls cause severe delay or more serious
27 accidents (Figure 1-2).

In 2005, southbound bus travel times across the bridges were up to three times longer during parts of the AM peak compared to off-peak times. As of 2019, bus travel times are four times longer.

If the bridges are not replaced, travel times for public transit using general purpose lanes on I-5 in the program area are expected to increase by 50% by 2045 as a result of increased congestion.

In 2005, the I-5 Interstate Bridge and its approach sections experienced crash rates more than two times higher than statewide averages for comparable facilities. As of 2019, crash rates are three times higher. Crashes in the IBR program area could increase by over 50% by 2045 if no improvements are made.

There were six fatal crashes in the program area between 2015 and 2019.

28 **Figure 1-2. Accident Blocking the I-5 Interstate Bridge**



Interstate Bridge Replacement program

- 1 • **Substandard bicycle and pedestrian facilities:** The
2 bike/pedestrian lanes on the I-5 Columbia River bridges are
3 about 3.5 to 4 feet wide, narrower than the 10-foot standard,
4 and are located extremely close to traffic lanes, thus impacting
5 safety for pedestrians and bicyclists (Figure 1-3). Direct
6 pedestrian and bicycle connectivity are poor in the program
7 area.

8 **Figure 1-3. Bicycle and Pedestrian Path on the I-5 Interstate**
9 **Bridge**



The existing shared-use paths are narrower than current standards and are not compliant with the Americans with Disabilities Act. The paths are in close proximity to traffic lanes; this increases bicyclist and pedestrian exposure to vehicular traffic, noise, and emissions.

The existing bridges lack the seismic ductility (the extent to which a structure can undergo movement without failing) of similar modern bridges, and both bridge spans are supported by hundreds of timber piles that sit within loose sand that can liquefy during a strong earthquake. The combined effect—settlement and lateral movement—would prove devastating to the bridge spans in the event of an earthquake and likely trigger their collapse even if the bridge managed to survive the shaking.

- 10
- 11 • **Seismic vulnerability:** The existing I-5 Interstate Bridge is
12 located in a seismically active zone. They do not meet current
13 seismic standards and are vulnerable to failure in an
14 earthquake.

15 1.4 Compliance with NEPA Regulations

16 The Notice of Intent to prepare a supplemental EIS was published on **date tbd** and formally reopened the
17 NEPA process that previously concluded with the 2011 ROD (CRC 2011b) and NEPA re-evaluations prepared in
18 2012 and 2013. Per the requirements of 23 CFR 771.130(a), the Federal Highway Administration (FHWA) and
19 Federal Transit Administration (FTA) concluded that a supplemental EIS was necessary based on a 2021 NEPA
20 re-evaluation (IBR 2021) that considered changes to existing conditions, regulations, policies, and potential
21 design modifications to the CRC Locally Preferred Alternative (LPA). The LPA, as selected in the 2011 ROD and
22 revised as documented in the 2012 and 2013 re-evaluations, included replacing the existing bridges with two

1 stacked, fixed-span bridges over the Columbia River; the bridges would include dedicated space for light rail
2 transit and a shared-use path, among other improvements.

3 This Supplemental Draft EIS evaluates the Modified LPA that was created through a collaborative process with
4 partner agencies, tribes, and the public to identify an updated solution that reflects the current and future
5 conditions of the region. The Modified LPA is described in Chapter 2, and the development of the Modified LPA
6 is detailed in Appendix C.

7 U.S. Department of Transportation NEPA regulations require the development of an agency coordination plan
8 to outline how the IBR program will work with the public, stakeholder groups, and local, state, and federal
9 agencies with an interest in the program (23 CFR 771.123). The IBR program Agency Coordination Plan was
10 first drafted in 2021 and has undergone periodic review and revisions since that time. Appendices A and B of
11 this Supplemental Draft EIS document how this program has coordinated with agencies, tribes, and the public
12 to date.

13 During the CRC Project, interested federal, state, and local agencies and tribal governments served as
14 cooperating and participating agencies and tribes as defined in Section 6002 of SAFETEA-LU during the NEPA
15 process. These designations allow federal, state, and local agencies and tribes to have a formal role in the
16 environmental review process.

17 In October 2022, FHWA and FTA sent invitations to agencies and tribal governments with an interest in the
18 program area to reinvoke them to be a cooperating agency, participating agency, or participating tribe for the
19 IBR program.

20 Cooperating agencies are federal agencies invited to participate in the development of an EIS and may use
21 this document to fulfill the NEPA review requirements for their permit or approval decision. The following
22 agencies are serving as cooperating agencies for the IBR program:

- 23 • National Oceanic and Atmospheric Administration National Marine Fisheries Service
- 24 • National Park Service
- 25 • U.S. Army Corps of Engineers
- 26 • U.S. Coast Guard
- 27 • U.S. Environmental Protection Agency
- 28 • Washington State Department of Archaeology and Historic Preservation

29 Participating agencies and tribes are federal, state, and local agencies and tribal governments that have an
30 interest in the program under review.

31 The following agencies are designated as participating agencies for the program:

- 32 • Federal Aviation Administration
- 33 • U.S. Fish and Wildlife Service
- 34 • U.S. General Services Administration
- 35 • Oregon Department of Environmental Quality
- 36 • Oregon Department of Fish and Wildlife
- 37 • Oregon Department of Land Conservation and Development
- 38 • Oregon Department of State Lands
- 39 • Oregon State Historic Preservation Office

Interstate Bridge Replacement program

- 1 • Washington State Department of Ecology
- 2 • Washington State Department of Fish and Wildlife
- 3 • Washington State Department of Natural Resources
- 4 • City of Portland
- 5 • City of Vancouver
- 6 • Port of Portland
- 7 • Port of Vancouver USA
- 8 • Multnomah County Drainage District

9 The following are federally recognized tribes identified as participating tribes for the program:

- 10 • Confederated Tribes and Bands of the Yakama Nation
- 11 • Confederated Tribes of Siletz Indians of Oregon
- 12 • Confederated Tribes of the Colville Reservation
- 13 • Confederated Tribes of the Grand Ronde Community of Oregon
- 14 • Confederated Tribes of the Umatilla Indian Reservation
- 15 • Confederated Tribes of the Warm Springs Reservation of Oregon
- 16 • Cowlitz Indian Tribe
- 17 • Nez Perce Tribe
- 18 • Nisqually Indian Tribe
- 19 • Spokane Tribe of the Spokane Reservation

20 During the CRC project, the NEPA joint lead agencies worked with a group of state and federal agencies likely
21 to have permitting or approval authority over one or more elements of the project. The group was referred to
22 as the Interstate Collaborative Environmental Process group, or InterCEP. Details on InterCEP and agency
23 coordination during the CRC project can be found in the CRC Final EIS (CRC 2011a). In a continuation of this
24 collaborative effort, the IBR program is hosting an ongoing series of inter-agency working groups with federal,
25 state, and local agencies and tribes. Each working group focuses on a different environmental topic, such as
26 endangered species, and provides an opportunity for the agencies, tribes, and IBR program to collaborate on
27 potential solutions and seek early consensus on permitting requirements. Additional details on the working
28 groups can be found in Appendix A.

29 Cooperating agencies, participating agencies, participating tribes, and the public have been given
30 opportunity for formal comment on several important elements of this program. These opportunities are
31 described in Appendix A, Agency and Tribal Coordination, and Appendix B, Public Involvement. For the formal
32 comment opportunities provided during the CRC Project, please see Chapter 1 of the CRC Final EIS.

33 1.5 Vision and Values

34 During the CRC Project, the joint lead agencies, with the help and recommendation of the CRC Task Force,
35 developed a vision for how to address the Purpose and Need and the values they would follow in doing so.

36 These values, along with the Purpose and Need, were instrumental in defining the evaluation criteria used
37 during the development of the range of alternatives evaluated in the CRC Project's EIS (see Sections 2.6
38 through 2.8 of the CRC Final EIS for information on this process).

1 As with the Purpose and Need statement, the IBR program worked with regional and local partner agencies
 2 and the public to review and comment on the Vision and Values. Opportunities for the public to comment
 3 included an online open house, virtual community briefings, and an online survey. The outcome of these
 4 efforts was the confirmation that the Vision and Values listed below remain community values.

5 The following is a statement of the IBR program vision:

6 *The Interstate Bridge Replacement (IBR) program Vision provides the foundation for*
 7 *developing criteria and performance measures that will be used to evaluate the IBR program*
 8 *alternatives. The IBR program NEPA process will include consideration of crossing*
 9 *infrastructure; multimodal transportation; connectivity; high-capacity transit; land use;*
 10 *funding; community and business interests; under-represented, low income, and minority*
 11 *communities; commuter and freight mobility; maritime mobility; and the environment.*

12 Values that have guided this program’s development and framed identification and evaluation of alternatives
 13 are noted below.

14 1.5.1 Community Livability

- 15 • Supporting a healthy community.
- 16 • Supporting a healthy and vibrant mix of residential, commercial, industrial, recreational, cultural, and
 17 historic areas land uses.
- 18 • Supporting aesthetic quality that achieves the level of a regional landmark.
- 19 • Recognizing the history of the community surrounding the program area, supporting improved
 20 community cohesion, and avoiding neighborhood disruption.
- 21 • Preserving parks, historic and cultural resources, and green spaces.

22 1.5.2 Mobility, Reliability, Accessibility, Congestion Reduction, and Efficiency

- 23 • Providing congestion reduction and mobility, reliability, and
 24 accessibility for all users, and recognizing the requirements
 25 of local, intra-corridor, and interstate movement now and in
 26 the future.
- 27 • Providing an efficient transportation system through
 28 transportation system management, encouraging reduced
 29 reliance on single-occupancy vehicles, improving incident
 30 management, and providing increased capacity measures.

Reliability refers to consistency or dependability in travel times as measured from day-to-day and/or across different times of the day.

Mobility refers to the ability to easily move between different locations.

Modal refers to the various methods (or modes) of transportation such as motor vehicle, transit, walking, cycling, rolling, or other means.

31 1.5.3 Modal Choice

- 32 • Providing modal choice for users of the river crossing
 33 including highway, transit, high-capacity transit, bicycle,
 34 and pedestrian modes.

35 1.5.4 Safety

- 36 • Ensuring safety for vehicles (trucks, cars, emergency, and transit), pedestrians, bicyclists, river users, and
 37 air traffic at the crossing.

Interstate Bridge Replacement program

1 1.5.5 Regional Economy and Freight Mobility

- 2 • Supporting a sound regional economy and job growth.
- 3 • Enhancing the I-5 corridor as a global trade gateway by addressing the need to move freight efficiently
- 4 and reliably through the program area, and allowing for river navigational needs.

5 1.5.6 Stewardship of Natural and Human Resources

- 6 • Respecting, protecting, and improving natural resources including fish, wildlife habitat, and water quality.
- 7 • Supporting improved air quality.
- 8 • Minimizing impacts of noise, light, and glare.
- 9 • Supporting energy efficiency through design, construction, and use.

10 1.5.7 Distribution of Impacts and Benefits

- 11 • Ensuring the fair distribution of benefits and adverse effects of the program for the region, communities,
- 12 and neighborhoods adjacent to the program area.

13 1.5.8 Cost-Effectiveness and Financial Resources

- 14 • Ensuring cost-effectiveness in design, construction, maintenance, and operation.
- 15 • Ensuring a reliable funding plan for the program.

16 1.5.9 Bi-State Cooperation

- 17 • Fostering regional cooperation and planning.
- 18 • Supporting existing growth management plans in both states.
- 19 • Supporting balanced job growth.

20 1.6 Next Steps

21 The community will have an opportunity to review this Supplemental Draft EIS and provide feedback during
22 the public review and comment period (dates to be added). The design of the proposed improvements may
23 be further refined based on findings and public input, which will be addressed in a combined Supplemental
24 Final EIS and Amended ROD issued by FHWA and FTA. The design of the Modified LPA will be developed to a
25 level of detail that will allow the IBR program to apply for permits and update cost estimates. The
26 IBR program will continue to work and foster relationships with agencies, tribes, and the public through
27 completion of the program.

1.7 References

Note to Reviewers: Section 1.7, References, will not be in Chapter 1. It is included here until references for all the chapters are combined into the final references list.

CRC (Columbia River Crossing). 2011a. Interstate 5 Columbia River Crossing Project Final Environmental Impact Statement and Final Section 4(f) Evaluation. Available at: <https://www.wsdot.wa.gov/accountability/ssb5806/environmental-process-and-permitting.htm>. Accessed January 12, 2023.

CRC. 2011b. Interstate 5 Columbia River Crossing Project Record of Decision. FHWA-WA-EIS-08-01-F. Available at: <https://www.wsdot.wa.gov/accountability/ssb5806/environmental-process-and-permitting.htm>. Accessed January 12, 2023.

IBR (Interstate Bridge Replacement program). 2021. Re-Evaluation of the Interstate-5 Columbia River Crossing Final Environmental Impact Statement and Record of Decision (2011; re-evaluated in 2012 and 2013). Available at: https://www.interstatebridge.org/media/oikjjhz0/2021-12-29-ibr-reevaluation-final-version-signed_remediated.pdf. Accessed January 12, 2023.

Interstate Bridge Replacement program

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