1. PURPOSE AND NEED

This chapter describes the primary purpose 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 of the United States 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 industrial centers, for employment, and for the regional and national economies.

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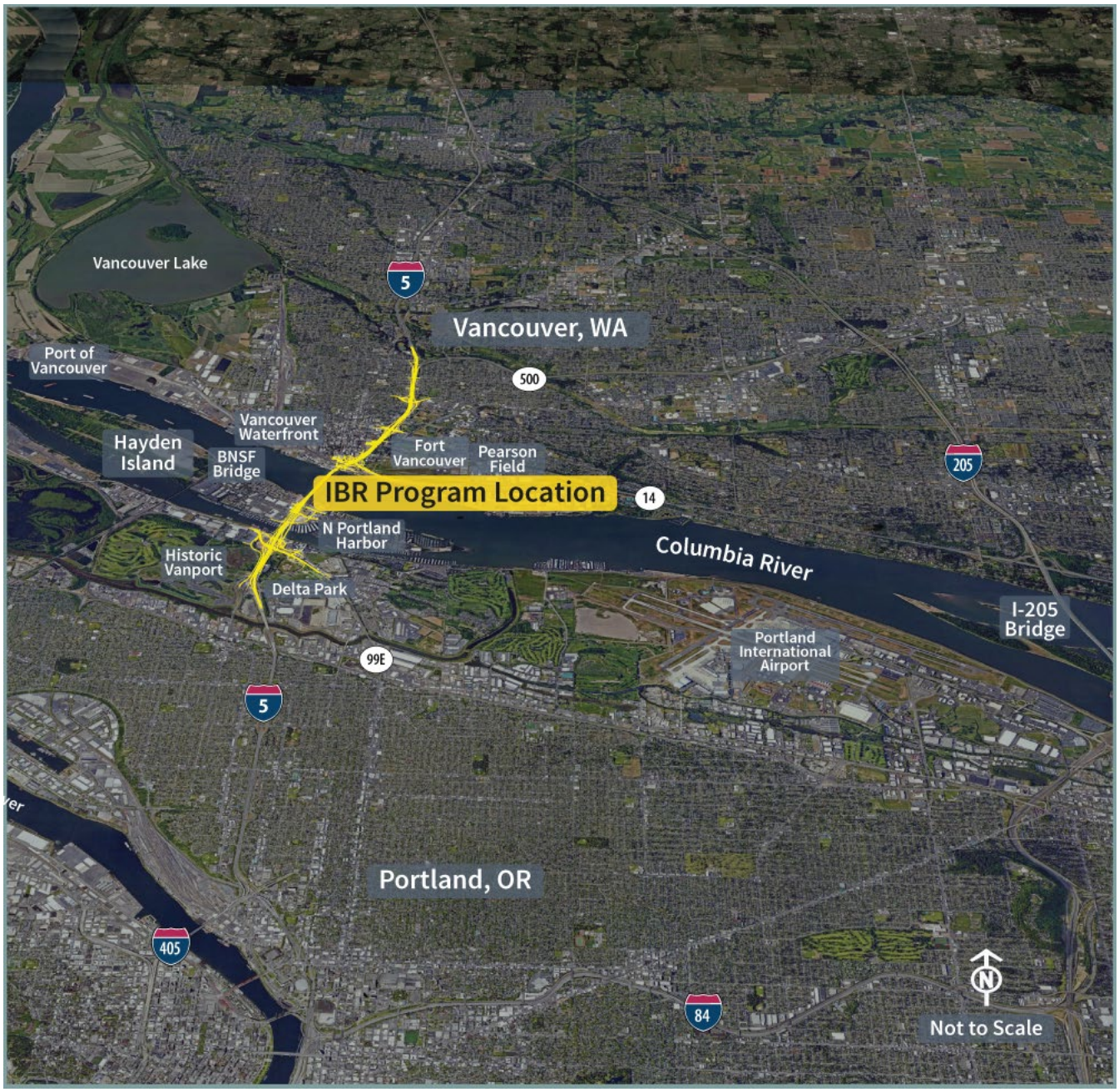
The Interstate Bridge provides the primary transportation link between Vancouver, Washington, and Portland, Oregon, and it is the only direct connection between the downtown areas of these cities. Residents of Vancouver and Portland drive, ride buses, bicycle, and walk across the Interstate Bridge for work, recreation, shopping, and entertainment. In 2019,[1] 143,400 trips were taken over the bridge each weekday by car, transit, bicycle, and walking. The Interstate 205 (I-205) Glenn Jackson Bridge, about 6 miles east, is the only other crossing over the Columbia River within the Portland-Vancouver metropolitan area. I-205 provides important connectivity for the region—particularly eastside suburban areas—but provides a less direct link between the downtown hubs in Portland and Vancouver.

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

The Interstate Bridge Replacement (IBR) Program is a renewal of the previously suspended Columbia River Crossing (CRC) project, which completed the National Environmental Policy Act (NEPA) process with a signed Record of Decision (ROD) in 2011 and two re-evaluations in 2012 and 2013. Numerous studies conducted for the CRC project and past planning studies in this section of I-5 (see Figure 1-1), 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).

[1] 2019 is used as the baseline year for most of the existing conditions data because it provides a more accurate baseline than more recent years, which were influenced by restrictions related to the COVID-19 pandemic.

Figure 1-1. Program Vicinity



The Purpose and Need statement for the CRC project was developed by the CRC Task Force[2] and the joint lead agencies.[3] 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 NEPA process, the IBR Program began working with regional and local partner agencies and the public in

[2] The CRC Task Force was a 39-member group formed in 2005 that was composed 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 CRC project development phase to advise the 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.

[3] The joint lead agencies for the CRC project were the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Oregon Department of Transportation (ODOT), Washington State Department of Transportation (WSDOT), Oregon Metro (Metro), Southwest Washington Regional Transportation Council (RTC), Tri-County Metropolitan Transportation District (TriMet), and Clark County Public Transportation Benefit Area (C-TRAN).

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 agencies[4] and the Program's three advisory groups[5] to discuss the transportation needs identified for the CRC project. These transportation needs were also brought to the public for comment during an online open house, virtual community briefings, and an online survey.

In mid-2021, the IBR Program announced that these efforts confirmed that the six transportation needs identified in the CRC Purpose and Need statement still exist today, and that the values identified in the Vision and Values document remain community values. This was documented in a third NEPA re-evaluation (IBR 2021b) that was prepared in 2021 to evaluate the effect of changes in conditions and regulations since 2013, as well as potential design changes. **Thus, the Purpose and Need statement for the IBR Program, provided below, remains the same as documented in the 2011 Final EIS and 2011 ROD for the CRC project.** Please see the 2021 Community Engagement Summary Report (IBR 2021a) and the NEPA re-evaluation (IBR 2021b) for additional details on how community partner outreach and public engagement helped confirm the Purpose and Need statement.

1.3 Purpose and Need for the IBR Program

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

The Purpose and Need statement for the IBR Program, developed by the lead agencies, project sponsors, and CRC Task Force, can be found in Sections 1.3.1 and 1.3.2. The text of the Purpose and Need has not been edited from its original wording, with the exception of references to the name of the Program. More recent data and supplemental information are provided in sidebars and footnotes. [6]

1.3.1 Program Purpose

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

[4] C-TRAN, TriMet, Metro, RTC, the Cities of Portland and Vancouver, and the Ports of Portland and Vancouver.

[5] The Executive Steering Group, Community Advisory Group, and Equity Advisory Group. The advisory groups are detailed in Chapter 6 of this Draft Supplemental EIS (SEIS).

[6] Transportation data provided in the sidebars are from the IBR Program Transportation Technical Report. Due to the influence of the COVID-19 pandemic on travel patterns between 2020 and 2023, the IBR Program is following industry standards and using 2019 as the baseline year for the existing conditions section of this SEIS. The exception to using 2019 data is outputs from the Metro/RTC regional travel demand model which are from 2015. Metro and RTC had not yet updated their base-year model from 2015 to 2020 when this analysis was completed.

1.3.2 Program Needs

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

- **Growing travel demand and congestion:** Existing travel demand exceeds capacity on the Interstate Bridge and associated interchanges. This corridor experiences heavy congestion and delay lasting 4 to 6 hours daily[7] during the morning and afternoon peak travel periods and when traffic crashes, 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 crossings[8] carried 280,000 vehicle trips across the Columbia River daily. Daily traffic demand over the Interstate Bridge is projected to increase by more than 35% 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 channels, as well as two river-level, transcontinental rail lines. The 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% 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.

In 2005, 280,000 vehicle trips crossed the Columbia River daily (northbound and southbound) in the Portland-Vancouver metropolitan region, of which 134,000 used the Interstate Bridge. By 2019, the total number of vehicle trips that crossed the Columbia River had increased to 313,000 per day, of which 143,400 used the Interstate Bridge.

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

The duration of congestion on the Interstate Bridge roughly doubled from 2005 to 2019. In 2019, the I-5 corridor experienced heavy congestion and delay in both directions lasting up to almost 12 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% by 2045.

In 2019, more than 14,000 freight trips carrying over $132 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 increase by 50% to 75% by 2045.

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.

[7] The hours of congestion refers to the total number of hours that the corridor experiences congestion. During the CRC project, congestion was defined as occurring when travel speeds were below 35 mph. ODOT and WSDOT are in the process of refining the definition of congestion with congestion occurring when speeds are below 45 miles per hour and severe congestion when speeds are below 35 miles per hour. Therefore, the IBR Program has defined congestion as speeds below 45 miles per hour.

[8] The two crossings are the I-5 Interstate Bridge and the I-205 Glenn Jackson Bridge.

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

In 2005, southbound bus travel times across the Interstate Bridge were up to three times longer during parts of the AM peak (i.e., morning high traffic period) than during off-peak times. As of 2019, bus travel times were four times longer during the AM peak.

If the Interstate Bridge is not replaced, travel times for public transit using general-purpose lanes on southbound I-5 during the AM peak are expected to increase by 2045 as a result of increased congestion.

In 2005, the 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 were three times higher than average. Crashes in the IBR Program area could increase by almost 30% by 2045 if no improvements are made.

There were seven fatal crashes in the Program area between 2015 and 2019.

Figure 1-2. Crash Blocking the Interstate Bridge

- **Substandard bicycle and pedestrian facilities:** The bicycle/pedestrian lanes on the Interstate Bridge are about 3.5 to 4 feet wide, narrower than the 10-foot standard, and are located extremely close to traffic lanes, thus impacting safety for pedestrians and bicyclists (Figure 1-3). Direct pedestrian and bicycle connectivity are poor in the Program area.

Figure 1-3. Bicycle and Pedestrian Path on the Interstate Bridge

Compliance with the Americans with Disabilities Act (ADA) varies for the existing shared-use paths. The paths comply with the maximum gradient (4.7%), and there are no objects that overhang or protrude into the path. However, the paths do not comply with guidelines for curb ramps (both in number and design), width, passing spaces, cross slope, or railing height (FHWA 2001; U.S. Access Board 2013). The paths are also near traffic lanes; this increases bicyclist and pedestrian exposure to vehicular traffic, noise, and emissions.

- **Seismic vulnerability:** The existing Interstate Bridge is located in a seismically active zone. It does not meet current seismic standards and is vulnerable to failure in an earthquake.

The existing Interstate Bridge was designed before modern seismic design codes were established. The foundations are likely to displace during a strong earthquake, resulting in the collapse of the bridge spans into the Columbia River. In addition, the movable span lift towers would be overstressed due to the inertia of the concrete counterweights and would collapse onto the bridge, causing the adjacent spans to fail. This collapse potential is due to the fact that hundreds of timber bridge support piles sit within loose sand that can liquefy during an earthquake.

All new federally funded highway bridges are required to be designed to the current edition of the AASHTO Guide Specifications for Load-and-Resistance Factor Design (LRFD) Seismic Bridge Design (AASHTO 2022). In addition, State Departments of Transportation (DOTs) typically adopt local practices to address potential geologic hazards in the region (e.g., the Cascadia Subduction Zone). State DOTs may also prescribe elevated levels of seismic performance based on the importance of the structure as it relates to public safety, national defense, and economic investment, as is the case for the Interstate Bridge.

1.4 Compliance with NEPA Regulations

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) are the joint federal lead agencies for the IBR Program and are responsible for preparing the environmental documentation and overseeing the NEPA process. Additional NEPA joint lead agencies include the Oregon and Washington State Departments of Transportation (ODOT and WSDOT), Southwest Washington Regional Transportation Council (RTC), Oregon Metro (Metro), Clark County Public Transportation Benefit Area (C-TRAN), and Tri-County Metropolitan Transportation District (TriMet).

The notice to prepare a Supplemental EIS (SEIS) was published in the Federal Register on April 5, 2023 to advise other federal, state, and local agencies; tribes; and the public that an SEIS was being prepared for the IBR Program. Per the requirements of 23 Code of Regulations (CFR) 771.130(a), FHWA and FTA prepared a NEPA re-evaluation in 2021 that considered changes to existing conditions, including regulations, community priorities, and the physical environment (IBR 2021b). The CRC Locally Preferred Alternative (LPA), as selected in the 2011 ROD and revised in the 2012 and 2013 re-evaluations, included replacing the existing Interstate Bridge with two stacked, fixed-span bridges over the Columbia River; the new bridges would include dedicated space for light-rail transit and a shared-use path, among other improvements.

This Draft SEIS evaluates the Modified LPA, which was created through a collaborative process with partner agencies, tribes, and the public to identify an updated solution that reflects the current and future conditions of the region. The Modified LPA is described in Chapter 2.The development of the Modified LPA is detailed in Section 2.5.1, which summarizes the differences between the CRC LPA and the Modified LPA; this is further detailed in Appendix D.

FHWA and FTA are required to develop an agency coordination plan to outline how the IBR Program will work with the public; tribes; and local, state, and federal agencies with an interest in the Program (23 CFR 771.123). The IBR Program Agency Coordination Plan was first drafted in 2021 and has undergone periodic review and revisions since that time. Appendices A and B of this Draft SEIS document how the Program has coordinated with agencies, tribes, and the public to date.

> Development of the Modified LPA is described in Section 2.5. This section summarizes the changes that have occurred since 2013 that led to modifications in the design and highlights the differences between CRC project components and IBR Program components.

During the CRC project, interested federal, state, and local agencies and tribal governments served as cooperating and participating agencies and tribes as defined in Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) during the NEPA process. These designations allow federal, state, and local agencies and tribes to have a formal role in the environmental review process.

In October 2022, FHWA and FTA sent invitations to agencies and tribal governments with an interest in the Program area to reinvite them to be cooperating agencies, participating agencies, or participating tribes for the IBR Program.

Cooperating agencies are federal agencies invited to participate in the development of an EIS and may use this document to fulfill the NEPA review requirements for their permit or approval decision. In addition to federal agencies, a state or local agency or a Native American tribe may, by agreement with the lead agencies, also become a cooperating agency or tribe. The following agencies are serving as cooperating agencies for the IBR Program:

- National Oceanic and Atmospheric Administration National Marine Fisheries Service
- National Park Service

- U.S. Army Corps of Engineers
- U.S. Coast Guard
- U.S. Environmental Protection Agency
- Washington State Department of Archaeology and Historic Preservation

Participating agencies and tribes are federal, state, and local agencies and tribal governments that have an interest in the Program under review. Each participating agency or tribe has the opportunity to participate in Program meetings, open houses, and workshops, in addition to reviewing and providing comments on certain NEPA milestones and activities. Participating agencies and tribes are invited to:

- Participate in the NEPA process starting at the earliest possible time. Participation includes providing comments and responses on NEPA documents, reviewing studies or methodologies on only the areas within the special expertise or jurisdiction of the agency or tribe, and advising on the level of detail for the analysis of impacts.
- Identify, as early as practicable, environmental issues of concern regarding the IBR Program.
- Provide meaningful and timely input on unresolved issues.
- Comment on the proposed NEPA schedule.

Designation as a participating agency or tribe does not imply Program support and, if applicable, does not provide an agency or tribe with increased oversight or approval authority beyond its statutory limits. The following agencies are designated as participating agencies for the Program:

- Federal Aviation Administration
- U.S. Fish and Wildlife Service
- U.S. General Services Administration
- Oregon Department of Environmental Quality
- Oregon Department of Fish and Wildlife
- Oregon Department of Land Conservation and Development
- Oregon Department of State Lands
- Oregon State Historic Preservation Office
- Washington State Department of Ecology
- Washington State Department of Fish and Wildlife
- Washington State Department of Natural Resources
- City of Portland
- City of Vancouver
- Port of Portland
- Port of Vancouver USA
- Urban Flood Safety and Water Quality District

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

- Confederated Tribes and Bands of the Yakama Nation

- Confederated Tribes of Siletz Indians of Oregon
- Confederated Tribes of the Colville Reservation
- Confederated Tribes of the Grand Ronde Community of Oregon
- Confederated Tribes of the Umatilla Indian Reservation
- Confederated Tribes of the Warm Springs Reservation of Oregon
- Cowlitz Indian Tribe
- Nez Perce Tribe
- Nisqually Indian Tribe
- Spokane Tribe of the Spokane Reservation

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

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

1.5 Vision and Values

During the CRC project, the joint lead agencies, with the help and recommendation of the CRC Task Force, developed a vision for how to address the Purpose and Need and the values they would follow in doing so. As previously noted, the values identified in the CRC Vision and Values statement remain community values. **Thus, the Vision and Values statement for the IBR Program, provided below, remains the same as documented in the 2011 Final EIS and 2011 ROD for the CRC project.**

The text of the Vision and Values statement has not been edited from its original wording, with the exception of references to the name of the Program.

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

As with the Purpose and Need, the IBR Program worked with regional and local partner agencies and the public to review and comment on the Vision and Values. Opportunities for the public to comment included an online open house, virtual community briefings, and an online survey.[9] The outcome of these efforts was the confirmation that the Vision and Values listed below remain community values.

The following is a statement of the IBR Program vision:

[9] Additional details on public engagement opportunities are described in Appendix B, Public Involvement.

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

Values that have guided this Program's development and framed identification and evaluation of alternatives are noted below.

1.5.1 Community Livability

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

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

- Providing congestion reduction and mobility, reliability, and accessibility for all users, and recognizing the requirements of local, intra-corridor, and interstate movement now and in the future.
- Providing an efficient transportation system through transportation system management , encouraging reduced reliance on single-occupancy vehicles, improving incident 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.

1.5.3 Modal Choice

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

1.5.4 Safety

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

1.5.5 Regional Economy and Freight Mobility

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

1.5.6 Stewardship of Natural and Human Resources

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

1.5.7 Distribution of Impacts and Benefits

- Ensuring the fair distribution of benefits and adverse effects of the Program for the region, communities, and neighborhoods adjacent to the Program area.

1.5.8 Cost-Effectiveness and Financial Resources

- Ensuring cost-effectiveness in design, construction, maintenance, and operation.
- Ensuring a reliable funding plan for the Program.

1.5.9 Bi-State Cooperation

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

1.6 Next Steps

The community will have an opportunity to review this Draft SEIS and provide feedback during the public review and comment period. The design of the proposed improvements, including the selection of specific design options, may be further refined based on findings and public input, which will be documented in the Final SEIS and an Amended ROD issued by FHWA and FTA. The design of the Modified LPA will be developed to a level of detail that will allow the IBR Program to apply for permits and update cost estimates. The IBR Program will continue to work and foster relationships with agencies, tribes, and the public through completion of the Program.