

# CHAPTER 1

## Project Purpose and Need

*This chapter describes the primary objectives for the I-5 Columbia River Crossing (CRC) project.*

### 1.1 Importance of the I-5 Corridor and the Columbia River Crossing

As the only continuous north-south Interstate 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, deep-water shipping, up-river barging, two transcontinental rail lines, and much of the region's industrial land. Truck-hauled freight movement onto, off of, and 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 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 bridges for work, recreation, shopping, and entertainment. On average, 135,000 trips over the I-5 bridges occur each day by car, transit, bicycle, and walking. The 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.

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## 1.2 Developing the Purpose and Need for the I-5 Columbia River Crossing Project

Defining the Purpose and Need for a project such as the CRC is a crucial step in designing and evaluating alternatives. The Purpose and Need for this project was based on previous planning studies, solicitation of public input, and coordination with stakeholder groups.

More than a decade of planning and analysis has evaluated transportation deficiencies in the I-5 CRC project area. These studies have identified a variety of transportation mobility and safety problems, many of which are being addressed by the I-5 CRC project.

High-capacity transit in the I-5 corridor through north Portland and Vancouver has been studied periodically since the early 1990s. In 1993, the Federal Transit Administration (FTA), in cooperation with Metro, began studying high-capacity transit in the “South/North Corridor,” which stretches from Clackamas and Milwaukie, Oregon to Vancouver, Washington. FTA and Metro published the South/North Corridor Project Draft Environmental Impact Statement (DEIS) in 1998. This document identified a variety of alignments and length options for a light rail corridor connecting Milwaukie, downtown Portland, north Portland, and downtown Vancouver.

In 2001, the Washington and Oregon governors appointed an I-5 Portland/Vancouver Transportation and Trade Partnership Task Force of community members, business representatives, and elected officials to address concerns about congestion on I-5 between Portland and Vancouver. The Task Force developed a plan to improve transportation in the I-5 corridor between the I-405 interchange in Portland and the I-205 interchange north of Vancouver, and adopted the Final Strategic Plan on June 18, 2002. The following represents a partial list of recommendations that were developed based on this 2002 Plan:

- Expand I-5 to include three through-lanes (and not more than three) in each direction between the Fremont Bridge in Portland and the I-205 interchange in Salmon Creek, including the area through Delta Park and north of downtown Vancouver.
- Introduce a phased light rail loop in Clark County in the vicinity of the I-5, SR 500/Fourth Plain, and I-205 corridors.
- Provide an additional bridge or a replacement crossing for the I-5 crossing of the Columbia River, with up to two additional auxiliary lanes in each direction to accommodate merging traffic (for a total bridge width of ten lanes), as well as two light rail tracks.
- Improve interchanges and add merging lanes within the Bridge Influence Area (BIA) between SR 500 in Vancouver and Columbia Boulevard in Portland, including a full interchange at Columbia Boulevard.
- Improve capacity for freight rail.
- Encourage bi-state coordination of land use and transportation issues to reduce highway demand and protect corridor investments.

- Involve communities along the corridor to ensure that final project outcomes are equitable.
- Establish a Community Enhancement Fund for use in the impacted areas along the I-5 Corridor in Washington and Oregon.

These recommendations led to more focused study and the development of the I-5 CRC proposal. Many of the transportation-related recommendations are reflected in the CRC Purpose and Need, while others are reflected in the Vision and Values or in the development of alternatives and the design of the LPA. For example, one of the recommendations from the I-5 Transportation and Trade Partnership was to “Establish a community enhancement fund for use in the impacted areas in the I-5 Corridor in Washington and Oregon.” The intent of this recommendation was to fund actions “in addition to any impact mitigation costs” that would benefit the community in the impact area of subsequent projects. Of the first two projects to emerge from the Partnership Study, both of which are now constructed, one of them – the I-5 Delta Park project – chose to incorporate this recommendation by providing a separate account for funding such actions; the funds were used to plant trees and improve conditions for bicyclists and pedestrians. The CRC project is addressing this recommendation by funding, and incorporating into the project itself, design features that provide community benefits that are in addition to mitigation for project impacts. This approach is often referred to as “context sensitive design.” For CRC, this includes incorporating features such as the Community Connector (a “lid” over I-5) in Vancouver, extensive bicycle and pedestrian facility connections and improvements throughout the corridor, enhanced community connectivity on Hayden Island, and the addition of a new local traffic connection between Hayden Island and the Portland mainland. Located in the impacted areas of the I-5 corridor, these and other elements that provide community benefits beyond impact mitigation are described as part of the project in Chapter 2 of this Final Environmental Impact Statement (FEIS).

On September 27, 2005, the FTA and Federal Highway Administration (FHWA) published a Notice of Intent to prepare an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) and initiated the public scoping process in the Federal Register Vol. 70, No. 186. Public and stakeholder input played an important role in the development of this project’s Purpose and Need. Beginning in early 2005, and concentrated in the fall of 2005, the CRC project team worked with stakeholder groups and held public meetings to solicit feedback on how to define the overall goals and objectives of this project.

The CRC project team worked with the community to form the CRC Task Force (see sidebar) as a broad group of stakeholders representative of the range of interests affected by the project. This group met regularly with the CRC project team to provide advice and recommendations on all project milestones thus far. Meetings with this group throughout 2005 and into early 2006 provided important input during the formation of the Purpose and Need statement. In addition, a series of public open houses during the fall of 2005 provided more input from the public regarding how the project should define its goals and objectives.

### **CRC Task Force**

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The 39-member CRC Task Force formed in 2005 and 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 to advise the CRC project team and provide guidance and recommendations at key decision points, and then sunsetted in summer 2008 after making their recommendation on the locally preferred alternative (LPA). The Public Involvement Appendix of this FEIS lists the CRC Task Force members.

The CRC project team also worked with many other local, state, and federal agencies to ensure that the purpose of this project would not conflict with other local and regional goals and would not predispose itself to an alternative that would be difficult for agencies to permit or approve. Section 1.4 provides more detail on how this project has worked with local, state, and federal agencies in compliance with current federal regulations. The federal co-lead agencies for this project, the FTA and the FHWA, were also instrumental in the development of the project's Purpose and Need. Appendix A of this FEIS document provides further details, describing the agencies this project is working with and the coordination processes with this diverse group.

The previous transportation planning studies of the CRC project area provided the underlying scope of this project, while coordination with stakeholder groups, the public, and a variety of local, state, and federal agencies provided important input on defining the specific needs this project should address and the purpose it should accomplish.

## 1.3 Purpose and Need for the I-5 Columbia River Crossing Project

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 developed by the lead agencies, project sponsors, and CRC Task Force is provided below.

### 1.3.1 Project 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 CRC Bridge Influence Area (BIA). The BIA extends from approximately Columbia Boulevard in the south to SR 500 in the north (Exhibit 1.3-1). 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 crossing's bridges and associated interchanges; b) improve connectivity, reliability, travel times, and operations of public transportation modal alternatives in the BIA; c) improve highway freight mobility and address interstate travel and commerce needs in the BIA; and d) improve the I-5 river crossing's structural integrity (seismic stability).

### 1.3.2 Project Need

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 daily 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 bridge 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 carried 280,000 vehicle trips across the Columbia River daily. Daily traffic demand over the I-5 crossing 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.

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The transportation data included in this section are explained in detail in Chapter 3, and in greater detail in the CRC Traffic Technical Report and CRC Transit Technical Report.

#### Vehicle Trips

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Of the 280,000 vehicle trips that crossed the Columbia River daily in 2005, 134,000 vehicles utilized the I-5 Interstate bridges while 146,000 used I-205. The figure includes trips made in single-occupancy vehicles (SOV), high-occupancy vehicles (HOV), trucks, and transit vehicles (buses).

Exhibit 1.3-1

**Columbia River Crossing Project Area**



Dimensions are approximate. This exhibit shows the extent of the Bridge Influence Area and the location of Locally Preferred Alternative project elements.

Exhibit 1.3-2

**Accident Blocking the I-5 Bridge****Congestion and Safety**

Congestion not only causes delays for travelers, but also increases the risk of accidents. Right now, accidents are more than twice as likely to occur during peak travel periods as during off-peak periods. The number of cars using the I-5 crossing is predicted to increase by more than 35% by 2030. Accident rates in the CRC project area could double if nothing is done to improve existing conditions.

- 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 project 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 crossing 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.
- 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 the 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 a.m. peak compared to off-peak. Travel times for public transit using general purpose lanes on I-5 in the BIA are expected to increase substantially by 2030.

- **Safety and vulnerability to incidents:** The I-5 river crossing and its approach sections experience crash rates more than 2 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 (Exhibit 1.3-2).
- **Substandard bicycle and pedestrian facilities:** The bike/pedestrian lanes on the I-5 Columbia River bridges 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 (Exhibit 1.3-3). Direct pedestrian and bicycle connectivity are poor in the BIA.

Exhibit 1.3-3

### Bicycle and Pedestrian Path on I-5 Bridge



## Seismic Vulnerability

The Panel Assessment of Interstate Bridges Seismic Vulnerabilities Technical Report (2006) identified liquefaction of the supporting soils as the primary hazard posed to the bridge during a seismic event. This is due to the existing bridges' foundation being set in sandy soils and not extending to the deeper bedrock.

- **Seismic vulnerability:** The existing I-5 bridges are located in a seismically active zone. They do not meet current seismic standards and are vulnerable to failure in an earthquake.



## 1.4 Compliance with SAFETEA-LU

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) authorizes the federal surface transportation programs for highways, highway safety, and transit for the 5-year period from 2005 through 2009. Absent a replacement authorization bill, Congress has extended SAFETEA-LU several times, with the current iteration set to expire on October 1, 2011. SAFETEA-LU includes many provisions for the U.S. Department of Transportation (USDOT), and includes a section (Section 6002) dedicated to the environmental review process.

SAFETEA-LU requires the development of a coordination plan to outline how the CRC project will work with the public, stakeholder groups, and local, state, and federal agencies with an interest in the project. The coordination plan was first drafted in 2005 and has undergone periodic review and revisions since that time. Appendices A and B of this FEIS document how this project has worked with agencies, tribes, and the public to date.

Section 6002 of SAFETEA-LU added a new term for certain stakeholder agencies, called “participating agencies,” in major transportation projects. This concept allows state, local, and tribal agencies to have a more formal role in the environmental process of these projects. The CRC project team sent out participating agency invitations in January 2006 to tribal governments with an interest in the project area and to state and local governments. Nineteen agencies and tribal governments accepted the invitation to be participating agencies:

- City of Vancouver
- Clark County Community Development Department
- Clark Public Utilities
- Confederated Tribes of Grand Ronde
- Cowlitz Indian Tribe
- Oregon Department of Land Conservation and Development
- Portland Fire & Rescue
- Portland Office of Neighborhood Involvement
- Portland Police Bureau
- Portland Parks and Recreation
- Portland Bureau of Water Works
- Portland Bureau of Development Services
- Portland Bureau of Planning (subsequently changed to Portland Bureau of Planning and Sustainability)
- Portland Bureau of Environmental Services
- Portland Development Commission
- Vancouver Housing Authority
- Washington Department of Ecology (Ecology)
- Washington Department of Fish and Wildlife (WDFW)
- Washington Department of Archaeology and Historic Preservation (DAHP)

Cooperating agencies are federal agencies invited to participate in the development of this FEIS and may use this document to cover the NEPA review requirements for their permit or approval decision. Cooperating agencies have an elevated status in the NEPA process, which includes an opportunity to contribute expertise in the development of methodology and analysis of impacts associated with project alternatives. In accordance with NEPA regulations, and upon request of a lead federal agency, any other federal or state agency which has jurisdiction or a special expertise with respect to any environmental issue may become a Cooperating agency.

The Cooperating agencies are:

- U.S. Department of Defense, U.S. Army Corps of Engineers (USACE)
- U.S. Department of Transportation, Federal Aviation Administration (FAA)
- U.S. Department of Homeland Security, U.S. Coast Guard (USCG)
- U.S. Department of the Interior, National Park Service (NPS)
- U.S. General Services Administration (GSA)
- Washington State Department of Archaeology and Historic Preservation (DAHP)

The CRC project has also worked with another group of state and federal agencies that are likely to have permitting or approval authority over one or more elements of this project. This group is referred to as the Interstate Collaborative Environmental Process group, or InterCEP. The InterCEP group has assisted the project in many ways, including identifying applicable environmental information early in the analytical process and providing technical expertise on state and federal regulations such as Section 106 of the National Historic Preservation Act (NHPA) and the Endangered Species Act (ESA). Work with InterCEP has increased communication with these agencies, avoided duplication with other federal, state, tribal, and local procedures, and established a mechanism for addressing intergovernmental issues.

In January 2006, the InterCEP Agreement was signed by WSDOT, ODOT, FHWA, FTA, and 12 resource agencies from Oregon, Washington, and the federal government. This agreement formally established the InterCEP group, defined obligations of the signatory agencies and the CRC project, and described the process for communication and collaboration within this group.

The following resource agencies signed the InterCEP Agreement:

- U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS)
- U.S. Department of Defense, U.S. Army Corps of Engineers (USACE)
- U.S. Environmental Protection Agency (EPA)
- U.S. Department of the Interior, U.S. Fish and Wildlife Service (USFWS)
- Washington State Department of Ecology (Ecology)
- Washington State Department of Fish and Wildlife (WDFW)
- Washington State Department of Archaeology and Historic Preservation (DAHP)

- Oregon Department of Fish and Wildlife (ODFW)
- Oregon Department of Land Conservation and Development (DLCD)
- Oregon Department of State Lands (DSL)
- Oregon State Historic Preservation Office (SHPO)
- Oregon Department of Environmental Quality (DEQ)

Participating agencies and InterCEP agencies have been given opportunity for formal comment on several important elements of this project:

- Purpose and Need – InterCEP agencies had an opportunity to comment on the Purpose and Need in November and December 2005. The feedback that they provided resulted in minor edits to clarify and streamline the text of the Purpose and Need. The Purpose and Need statement was sent to the participating agencies in the invitation letter, and discussion was held at a meeting in late January 2006.
- Methodologies – The CRC project solicited input on the methodologies to be used to analyze the various environmental effects of each alternative in the DEIS through the development of Methods and Data Reports. All cooperating, participating, and InterCEP agencies were integrally involved in developing these reports from March through October 2006.
- Range of alternatives – The CRC project held several meetings with InterCEP and participating agencies during the fall of 2006 and winter of 2007 to discuss the range of alternatives to be evaluated in the DEIS. Agency input on resources and impacts helped inform the rating and screening of the alternatives, as well as refine the alternatives for the DEIS.
- Draft EIS – The CRC project solicited input from InterCEP agencies on the impact analysis and findings prior to issuing the DEIS, and then solicited input on the DEIS from all agencies during the public comment period. Agencies provided feedback specific to the resources and issues of concern that they wanted addressed in the DEIS, and to inform the selection of the Preferred Alternative.
- Preferred Alternative – The CRC project solicited input from InterCEP agencies on the preferred alternative. WDFW, Ecology, ODFW, DSL, SHPO, USACE, and USFWS concurred on the preferred alternative, while EPA and DEQ waived their right to concur or not concur, and DAHP, DLCD, and NMFS abstained from this concurrence opportunity.
- Mitigation Plan – InterCEP members provided input on proposed mitigation for natural resource impacts, and were given the opportunity to concur or not concur on the mitigation plan by May 26, 2010, which was the designated concurrence point. The project has committed to the mitigation measures contained within the plan. DSL, ODFW, WDFW, and USFWS concurred on the mitigation plan, and DLCD waived their right to concur or not concur. NMFS, DAHP, SHPO, Ecology, EPA, USACE, and DEQ abstained.
- Final EIS – The CRC project solicited input from InterCEP agencies on the impact analysis and findings as part of the development of this FEIS. InterCEP and coordinating agencies were given 30 days to review and provide comments on the Administrative Draft of the FEIS on July 12, 2011.

## 1.5 Vision and Values

The CRC project co-lead agencies, with the help and recommendation of the CRC Task Force, developed a vision for how to address the CRC's Purpose and Need and the values they would follow to develop a solution. These values, along with the Purpose and Need, were instrumental in the development of evaluation criteria used during the development of the range of alternatives evaluated in this DEIS (see Sections 2.6-2.8 for information on this process).

The following is a statement of the CRC project vision:

*The Columbia River Crossing Vision provides the foundation for developing criteria and performance measures that will be used to evaluate the I-5 Bridge Influence Area alternatives. The Columbia River Crossing Project 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 project's development and framed identification and evaluation of alternatives are noted below.

### **Community Livability**

- Supporting a healthy community.
- Supporting a healthy and vibrant land use mix of residential, commercial, industrial, recreational, cultural, and historic areas.
- Supporting aesthetic quality that achieves a regional landmark.
- Recognizing the history of the community surrounding the I-5 BIA, supporting improved community cohesion, and avoiding neighborhood disruption.
- Preserving parks, historic and cultural resources, and green spaces.

### **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, improved incident management, and increased capacity measures.

### **Modal Choice**

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

### **Safety**

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

**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 I-5 BIA, and allowing for river navigational needs.

**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.

**Distribution of Impacts and Benefits**

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

**Cost-effectiveness and Financial Resources**

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

**Bi-state Cooperation**

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

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