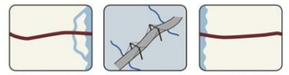

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Introduction

The Interstate-5 Columbia River Crossing Project has moved from the initial planning ~~and schematic concept development~~ phase of work into the first steps of the National Environmental Policy Act (NEPA) environmental analysis. One of the first steps in the environmental analysis is to identify the scope of the forthcoming analysis. Many factors will influence the scope of work including the potential business and neighborhood impacts; complexity of engineering issues; potential wildlife impacts; potential termini of the project; and the degree of public concern. Knowing the scope of these issues, the environmental impact analysis team can develop a project scope of work and public involvement process that responds appropriately. To identify these issues, the environmental analysis team will hold scoping meetings with interested stakeholders and the affected public agencies and jurisdictions. The purpose of these meetings (with both the agencies, jurisdictions and public stakeholders) is to review and discuss:

- What has been completed in the past and what is currently known about the corridor;
- The upcoming activities and timelines;
- Any potential solutions that have not been considered to date; and
- The initial concerns, opportunities and constraints related to the different concepts ~~schematics~~ that have been developed to date.

There are a series of standard steps (Figure 1) that the environmental process will follow after the scoping meetings. All of these steps will include extensive public involvement. This Concept Report has been prepared as a summary document to assist with the initial scoping meetings. It is a reference tool for agencies, jurisdictions, and public stakeholders to use to quickly come up to speed and understand the context for the upcoming environmental analysis.

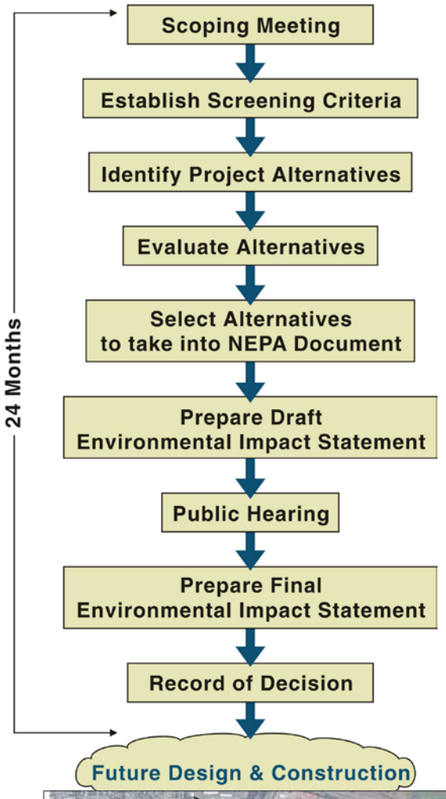
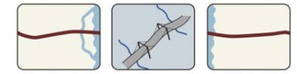


Figure 1 - NEPA Process First box should be plural: Scoping Meetings

The I-5 Columbia River Crossing (CRC) Partnership was established in 1999 to consider potential solutions to congestion on the I-5 corridor between Portland and Vancouver. In 2001, a Governor's Task Force was established to guide the development of a strategic plan for the corridor and a public involvement process was convened to provide input to the plan. At that time, 20 schematic concepts were identified as possible ways to alleviate~~decrease~~ congestion on the I-5 corridor between I-84 and I-205. Subsequently, the CRC Partnership consolidated the 20 schematic concepts into nine ~~full corridor~~ schematic concepts focused on the I-5 corridor from the I-84 junction in Portland to the I-205 junction north of Vancouver, Washington. A great deal of analysis was conducted on the nine full corridor schematic concepts, which culminated in 2002 with a Task Force decision to pursue an I-5 corridor concept that included:

- Three through lanes in each direction on I-5 including southbound through Delta Park;
- A multi-modal approach that included transit improvements (a~~A~~ phased light rail loop in Clark County in the vicinity of the I-5, SR500/4th Plain and I-205 corridors was their recommendation), transportation demand management (TDM) and transportation system management (TSM) strategies;
- An additional span or a replacement bridge for the I-5 crossing of the Columbia River, with up to two additional lanes in each direction for merging (for a total of up to 10 highway lanes crossing the river) and two light rail tracks;
- Interchange improvements and additional merging lanes where needed between SR500 in Vancouver and Columbia Boulevard in Portland. These improvements included a full interchange at Columbia Boulevard, which is already being constructed; and
- Additional analysis and concept development on I-5 between Columbia Boulevard and SR 500. This came to be known as the Bridge Influence Area (BIA). Within the BIA, eight schematic concepts were developed that could potentially address forecast travel needs. These eight schematic concepts were consolidated into four representative schematic concepts, and these four schematic concepts were analyzed in greater detail.
- In addition, the Task Force recommended that a variety of funding strategies be investigated in the next phase so the strategic plan's vision can be implemented.

The past work ended with a series of public meetings to present findings and the development of the Final Strategic Plan for the Interstate-5 Corridor, which was published in June 2002 and is available at www.i-5partnership.com. That plan summarizes all of the project analyses, findings and recommendations.



Overview of Process to Date

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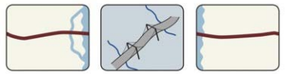

To~~In~~ prepar~~cing~~ for the formal scoping phase of the I-5 Columbia River Crossing Environmental Analysis, the Kittelson & Associates, Inc. (KAI) consultant team was retained by ODOT and WSDOT to review ~~complete a~~ conceptual engineering and environmental analys~~ei~~s ~~review of~~rom all the previous documents prepared since 1999. That information has been completely reviewed, compiled, and inventoried into the I-5 CRC Web-Integrated Database for easy access. To define the status and level of detail currently available for initiating the NEPA process, tha~~te~~ evaluation of the material has been documented in several technical memoranda.

In addition, to fill a gap left by the Strategic Plan, the KAI consultant team conducted a survey of Columbia River vessels to determine the size and necessary clearance requirements of the existing vessels navigating on the Columbia River~~, the KAI consultant team conducted a survey of Columbia River vessels~~. The survey showed that the tallest vessels extend no more than 104 feet above the waterline, and most vessels extend approximately 80 feet above the water line. To further define the window or space through which increased crossing capacity must pass, t~~T~~his information was supplemented by an assessment of the rail, aviation, and river level vertical constraints in the vicinity of the existing bridges. The available vertical clearance above the Columbia River is constrained by the Pearson Field flight path and airspace, and the BNSF railroad rail line, which has 25-foot clearance requirements over the rail line. In addition, the Columbia River water level can fluctuate nearly 16 feet. Appendix A includes a summary graphic of these issues.

A significant amount of work has been conducted since 1999. The KAI team has been able to acquire much, but not all of the past work. Therefore, it is possible that as the scoping and environmental process proceeds, information may be revealed that was not available to the KAI team at the time of this work and that may modify~~change~~ some of the information summarized in this report.

Where Are We Now?

Now that all the past work has been compiled and evaluated, the current position of the project becomes clear:

- The past work is comprehensive and has included a broad array of ideas.
- There are currently 11 schematic concepts for crossing the Columbia River. These include single-deck and double-deck bridges, maintaining or eliminating the existing bridges, a tunnel, and new fixed or lift-span bridges.
- There are currently four roadway alignment strategies for Interstate 5 on the Oregon and Washington side of the river.
- While the Strategic Plan identified light rail as their preferred transit improvement, the NEPA process will require the further study of a range of transit improvements, including bus rapid transit and light rail.
- There are several environmental and engineering considerations that will need to be addressed during the NEPA process.
- As the environmental process proceeds, the schematic concepts developed thus far should be considered as potential pieces of a puzzle (see Figure 2) for developing NEPA project alternatives. The schematic concepts have been developed to represent desired connections, and serve as examples of possible options. ~~The first step as the project proceeds will be pulling together the different pieces to develop a series of alternatives for consideration.~~ Comprehensive agency, jurisdiction, and public stakeholder input will help identify issues as alternatives are developed.

As recommended in the Strategic Plan, p~~P~~roject financing will also be a consideration in the forthcoming environmental work and it is likely that tolling options will be considered as a possible source for project construction and operations. Two options that may be studied include: Tolling I-5 Only, and Tolling I-5 and I-205.

The first tolling scenario would assume that only I-5 is tolled in both the northbound and southbound directions, providing a toll-free alternative route on I-205. The second tolling scenario, I-5 and I-205 combined, would assume that both I-5 and I-205 were tolled, but only in one direction, either northbound or southbound. Assuming these potential scenarios are studied in the Environmental Impact Statement (EIS), all tolling-related facilities and impacts, including freeway widening to serve toll collection plazas, toll collection plazas, buildings, lighting and other facilities, would be included in the study.

A decision as to which, if any, of the tolling options to include in the environmental studies will be made during~~through~~ "project scoping." Decisions related to implementation will occur as part of the environmental impact analysis.

What Next?

The ~~schematic~~ concepts that have been developed thus far will be used to develop a series of NEPA alternatives for detailed public discussion, environmental analysis, engineering analysis and cost analysis. In this scoping step, the goal is to flush out as many concerns as possible so that the environmental impact study team will be able to develop a project approach to appropriately address the concerns raised in the scoping process.

To support this effort, thi~~s~~e Concept Report includes a description of the river-crossings information prepared to date (Table 1), a schematic orientation to the possible future alignments of Interstate 5 to support the different bridge concepts (Figures 2 & 3), and an overview of the environmental and engineering considerations developed thus far (Figures 4 & 5). Finally, the report includes an overview of the next steps in the process.

Pieces of the Bridge Influence Area Puzzle

Figure 2 schematically shows the I-5 Columbia River Crossing concepts, and the possible Interstate 5 approach and alignments strategies that could support various river crossings on the Oregon and Washington approaches. Not all of the river crossings concepts will fit with all of the approach and alignment schematic strategies and vice versa. As the project moves further into NEPA, the strengths of different concepts and alignment strategies will be pulled together to develop alternatives that meet the purpose and need of the project while minimizing the environmental and community impact.

Comment [RD1]: We need to explain how we got from 8 concepts in the last section to 11 in this section

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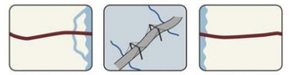

Figure 2 - Overview of Interstate 5 Columbia River Crossing Concepts and Approach and Alignment Strategies

Thesedrawings were developed as part of the I-5 Strategic Plan. The fact that the High Capacity Transit (HCT) components of these concepts are represented by rail tracks is not an indication that light rail is the only HCT option that will be considered as part of the Columbia River Crossing Project.

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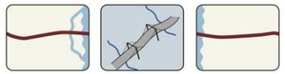


River Crossing Concepts

Crossing Characteristic	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6	Concept 7	Concept 8	Concept 9	Concept 10	Concept 11
Crossing Type	Double-deck Bridge (High Capacity Transit on lower deck)	Single-deck Bridge	Double-deck Bridge	Double-deck Bridge	Single-deck Bridge	Double-deck Bridge (High Capacity Transit on lower deck)	Single-deck Bridge	Single-deck Bridge	Tunnel	Could be developed as Concepts 3, 4, 5, or 8 (shown as Concept 5)	Two Single-deck Bridges
Location	West of existing bridges	Near existing east bridge	Near existing bridges	East of existing bridges	East of existing bridges	West of existing bridges	Vehicle bridge east of existing bridges.	East of existing bridges	East of existing bridges	Could be developed as Concepts 3, 4, 5, or 8 (shown as Concept 5)	One immediately west of existing bridges and one further west near existing BNSF
Northbound Traffic	Existing bridges (five-lanes)	New bridge (five-lanes)	Lower-deck (five-lanes)	Upper-deck (five-lanes)	Three-lanes on east side of new bridge	Two lanes on new bridge and three lanes on existing northbound bridge	New three-lane bridge. Possible HOV, express or reversible lane traffic on existing northbound I-5 bridge.	Three-lanes on the east side of new bridge	Two-lanes in Tunnel Arterial Traffic on Existing Bridges	Could be developed as Concepts 3, 4, 5, or 8 (shown as Concept 5)	Three-lanes on existing east bridge; arterial traffic on new bridges
Southbound Traffic	Upper-deck (five-lanes)	Existing bridges (five to six -lanes)	Upper-deck (five-lanes)	Lower-deck (five-lanes)	Three-lanes on west side of new bridge)	Two lanes on new bridge and three lanes on existing southbound bridge	Existing southbound I-5 bridge. Possible HOV, express or reversible lane traffic on existing northbound I-5 bridge.	Three-lanes on the west side of new bridge	Two-lanes in Tunnel Arterial Traffic on Existing Bridges	Could be developed as Concepts 3, 4, 5, or 8 (shown as Concept 5)	Three-lanes on existing west bridge; arterial traffic on new bridges
High Capacity Transit	Lower deck of new bridge	New bridge west of existing bridges	Retrofitted existing southbound bridge	New fixed span bridge west of new structure	New lift span bridge west of existing bridges	On lower deck of new bridge	New bridge west of existing bridges	On retrofitted existing southbound I-5 bridge.	New bridge west of existing bridges	Could be developed as Concepts 3, 4, 5, or 8 (shown as Concept 5)	On new arterial bridges immediately west of existing bridges
Lift Span?	Yes; Over existing channel	Yes; Over existing channel	Yes; Over existing channel This concept could be converted to an elevated lift span concept over the existing shipping	No – fixed span. Requires relocation of shipping channel to mid-river This concept could be converted to an elevated lift span concept over the existing shipping channel	Yes; Over existing channel This concept could be converted to an elevated lift span concept over the existing shipping channel.	Yes; Over existing channel	Yes; Over existing channel	Yes; Over existing channel This concept could be converted to an elevated lift span concept over the existing shipping channel.	Yes: Over Existing Channel	No – Fixed Span	Yes; Over existing channel
Separate Collector-Distributor Roads or Arterial Crossings	No	No	No	No (See Concept #3)	Yes, Retrofitted	No	No	Yes, Northbound Bridge	Yes	No	Yes
New Rail Freight Bridge	No	No	No	Potentially	Existing, No	No	No	No	No	No	No

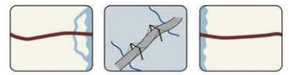


Table 1 provides a description of the 11 Columbia River Crossing schematic~~s~~ concepts that have been considered to date. Figure 3 provides an illustration of the schematic concept~~s~~. The possible crossing~~s~~ concepts include single or double deck bridges, a tunnel, additional bridges for high capacity transit or new arterials, lift and fixed spans, and bridges on either the east or west side of the existing bridges.

Table 1 - Columbia River Crossing Schematic Concept Descriptions

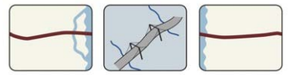
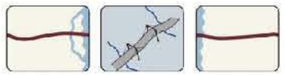


Figure 3 - Interstate 5 Columbia River Crossing Schematic Concepts

Thesedrawings were developed as part of the I-5 Strategic Plan. The fact that the High Capacity Transit (HCT) components of these concepts are represented by rail tracks is not an indication that light rail is the only HCT option that will be considered as part of the Columbia River Crossing Project.

NOTE: while table 1 describes HCT in Concept 9 as a new bridge west of the existing bridges, there is no picture of that HCT component in the drawing of concept 9



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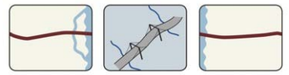

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Environmental and Engineering Considerations

As the project evolves, specific project area covered by the project ~~limits~~ will be developed consistent with requirements set forth by NEPA. However, for the purpose of the work that has been conducted thus far, the I-5 Columbia River Crossing project extends from the Victory Boulevard interchange in Oregon to the SR-500/39th Street Interchange in Washington. Planning and subsequent improvements at the Columbia Boulevard interchange are currently underway as part of a different project. Figures 4 and 5 also show potential footprint impacts for Interstate 5. This has been estimated, for discussion purposes only, as an area within 200 feet of approximate current right of way. This potential footprint is not certain but has been shown for the purposes of identifying possible impacts.

Environmental Considerations

Figure 4 illustrates the currently known environmental considerations that should be explored as the project evolves. The considerations range from possible neighborhood and business impacts, to fish and wildlife impacts, to potential wetland and park impacts. These and many other issues will be raised and discussed at the agency, jurisdiction and public stakeholder scoping meetings.

Engineering Considerations

Engineering considerations are shown in Figure 5. Vertical clearance requirements (e.g., marine vessels, aviation, river level) will directly influence the type of bridge and the ~~amount of connectivity~~ connections between Interstate 5 and SR 14, Marine Drive, and Downtown Vancouver. In addition, the distance between current interchanges is relatively short on both Oregon and Washington approaches – this will influence the possible interchange forms, possible connections between the interchanges, and the degree of connectivity to the surrounding roadways. These and many other issues will be considered as part of the project scoping process, to ensure that the environmental impact study team has sufficient knowledge to develop a project plan that appropriately addresses the identified issues.

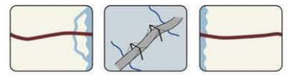
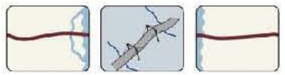


Figure 4 - I-5 Columbia River Crossing Environmental Considerations



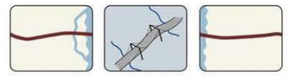
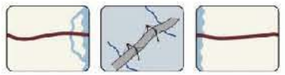
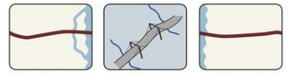


Figure 5 - I-5 Columbia River Crossing Engineering Considerations





Resource Materials

The information presented herein is based on the compilation and summary of many years of work conducted by the Columbia River Crossing Partnership. This work has been compiled into a database available on the web and into a series of technical memoranda available from the Oregon Department of Transportation and/or the Washington State Department of Transportation on request. The information comprising~~included~~ in these materials includes:

- Schematic representations of the broad array of concepts considered as part of the process (insert hyperlink to the presentation with the 20 concepts) insert link to 20 concepts PowerPoint;
- Preliminary traffic and environmental analyses for many of the previously developed concepts;
- Preliminary designs of several different I-5 alignment concepts associated with different bridges. These concepts have been developed to varying levels of detail. In Oregon the concepts were developed to test engineering feasibility and constructability. In Washington, the concepts were developed to convey the desired degree of connectivity from the river crossing and Interstate 5 to the surrounding roadways. In both cases further analysis and design is required to be able to understand and document environmental and engineering impacts (insert hyperlink to the concept designs);
- A summary of the type of marine vessels traveling on the river and the vertical clearance requirements (insert hyperlink to boat survey);
- An estimate of the vertical envelop within which a bridge could be constructed accounting for marine traffic clearance requirements, flight path and air space requirements, and BNSF railroad clearance requirements (insert hyperlink to vertical clearance memo);
- An assessment of the impacts related to implementing tolling at the Columbia River Crossing (hyperlink to DEA tolling memo); and
- An assessment of the opportunities and constraints associated with constructing a tunnel across the Columbia River (hyperlink to DEA tolling memo).

Next Steps

As the environmental process begins agency, jurisdiction and public stakeholders input on the schematic concepts developed thus far will guide the NEPA process. With significant input during the scoping phase of the project, it will be possible for the environmental analysis team to develop a program of analysis and community involvement that will address as many concerns as possible.

Appendix A – I-5 Columbia River Crossing Vertical Bridge Constraint Analysis

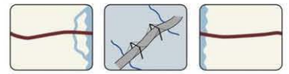


Figure A-1 -I-5 Columbia River Crossing Vertical Bridge Constraint Analysis