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SUBJECT: Development of the Range of Alternatives

The purpose of this memorandum is to briefly summarize the process employed by the Columbia River Crossing (CRC) project team to develop the range of alternatives being evaluated in the Draft Environmental Impact Statement (DEIS), and to seek concurrence from Federal Transit Administration and Federal Highway Administration to proceed with this range of alternatives. This memorandum is a summary of the process used to develop the range of alternatives; however there are several attachments that are referenced throughout that provide additional details.

In 2001, Governors Gary Locke and John Kitzhaber established a bi-state task force of 28 community members, business representatives, and elected officials to address concerns about congestion on I-5 between Portland and Vancouver. This task force published a strategic plan in 2002 (see Attachment A) recommending substantial transportation improvements between I-405 in Portland and I-205 north of Vancouver. The CRC project was initiated in September 2005 to advance the recommendations of this planning effort. Since this time, CRC project staff has worked closely with the public, stakeholders, and local jurisdictions to develop, evaluate, and narrow a wide range of options to address this project's purpose and need.

In 2005, a combination of public scoping, stakeholder involvement, and project staff input developed the project's Purpose and Need (see Attachment B) and identified more than 70 potential options that could possibly satisfy it. These options were evaluated and screened by project staff during the first half of 2006 that resulted in a shorter list of promising transit and highway options. These options were then shared with outside stakeholders. Highway and transit options were then combined into 12 multi-modal alternatives that represented a reasonable range of transit and highway combinations to evaluate their performance. These 12 alternatives received extensive public and agency input and analysis. In November 2006, based on this input and analysis, project staff recommended advancing a range of alternatives to the DEIS that included two high capacity transit (HCT) modes—Light Rail Transit (LRT) and Bus Rapid Transit (BRT), and one river crossing alternative—replacement bridge (with design options of upriver or downriver). Subsequent public and stakeholder feedback revealed a desire by some stakeholders for a wider range of options to be evaluated in the DEIS, prompting the inclusion of supplemental bridge options in the range of alternatives. The range of alternatives currently being evaluated in the DEIS are as follows:

1. No Build
2. Replacement Bridge and BRT with complementary Express Bus service
3. Replacement Bridge and LRT with complementary Express Bus service
4. Supplemental Downstream Bridge and BRT with complementary Express Bus service
5. Supplemental Downstream Bridge and LRT with complementary Express Bus service

In addition, project staff will be evaluating a range of tolling options for the river crossing.

Early Alternative Development and Screening

In October 2005, the CRC Task Force adopted a Vision and Values Statement (see Attachment C) that outlines broad goals and priorities for this project and served as a basis for developing criteria and performance measures to evaluate alternatives. In collaboration with local agency sponsors, the CRC Task Force¹, state and federal permitting agencies, and the project team developed the Evaluation Framework (see Attachment D). The Evaluation Framework outlines a process for narrowing a wide range of possible alternatives to a short list to be evaluated in the DEIS and ultimately to the selection of a preferred alternative. The first step in this process was to identify transportation components (i.e., river crossing types and transit modes) that could be packaged into alternatives. Over 70 such components were identified in the 2002 I-5 Transportation and Trade Partnership Final Strategic Plan and through public and stakeholder outreach.

After identifying components, project staff performed two rounds of evaluation and screening to narrow these options in preparation for packaging them into full alternatives. The initial screening effort in April 2006, “Step A” (see Attachment E), narrowed over 70 components using a pass/fail test to eliminate ideas that did not meet the purpose and need of the project. A second round of screening in June 2006, “Step B” (see Attachment F), evaluated the performance of the remaining components in relation to criteria specified in the Evaluation Framework. Components were scored on the following adopted values:

- Community livability and human resources
- Mobility, reliability, accessibility, congestion reduction, and efficiency
- Modal choice
- Safety
- Regional economy, freight mobility
- Stewardship of natural resources
- Distribution of benefits and impacts

Ultimately, all of the components that entered Step B screening remained. Step B screening did not highlight any clearly superior options or reveal any new fatal flaws, and many of the less significant weaknesses could likely be mitigated with design refinements.

The Task Force and general public participated in the Step A/Step B screening process through formal and informal comment and dialogue. The Task Force concurred with the results of the screening and the list of components brought forward for the next step.

Alternative Packages Development and Screening

The early screening efforts identified several promising options for further study. The best-performing river crossing options appeared to be a replacement bridge and a supplemental arterial or Interstate bridge. Express Bus, BRT, and LRT were the best performing transit modes. These components were packaged into 12 alternative packages. They were designed to assess how they perform generally, and to see how individual features perform in different combinations. Each alternative package included a river crossing type and transit mode(s), as well as specific designs to improve safety, freight movement, highway operations, and bicycle and pedestrian access. The 12 alternatives are listed below:

¹ The CRC Task Force is a 39-member stakeholder advisory group comprised of leaders from a broad cross section of southwest Washington and Portland, Oregon communities interested in the project. This group has representation from public agencies, businesses, civic organizations, neighborhoods, and freight, commuter and environmental groups.

	Alternative Package Themes	River Crossing Type	High Capacity Transit Mode	Function of Existing Bridges	Function of New Bridge
#1	No Action	Existing bridges	None	I-5	N/A
#2	Minimum Investment: TDM/TSM Emphasis	Existing bridges	None	I-5	N/A
#3	Maximum Transit Ridership, Minimum I-5 improvements	Supplemental arterial	LRT	I-5	Arterial + LRT
#4	Balanced Transit/Highway Improvements with LRT	Supplemental Interstate	LRT	Arterial + LRT	I-5
#5	Balanced Transit/Highway Improvements with BRT-Full	Supplemental Interstate	BRT-full	Arterial + BRT	I-5
#6	Balanced Transit/Highway Improvements with BRT-Lite	Supplemental Interstate	BRT-Lite	Arterial + BRT	I-5
#7	Maximum Vehicle Capacity	Supplemental Interstate	None	Arterial	I-5
#8	Balanced Transit/Highway Improvements with LRT	Replacement bridge	LRT	N/A	I-5 & LRT
#9	Balanced Transit/Highway Improvements with LRT	Replacement bridge	LRT	N/A	I-5 & LRT
#10	Balanced Transit/Highway Improvements with BRT-Full	Replacement bridge	BRT-full	N/A	I-5 & BRT
#11	Balanced Transit/Highway Improvements with BRT-Lite	Replacement bridge	BRT-Lite	N/A	I-5 & BRT
#12	Maximum Vehicle Capacity	Replacement bridge	None	N/A	I-5

Note: BRT-full is Bus Rapid Transit with mostly exclusive right-of-way
BRT-lite is less capital-intensive with much less exclusive right-of-way

Project staff used the criteria outlined in the Evaluation Framework to assess the performance of each alternative. This assessment focused on the performance of river crossing types and transit modes. Other elements of alternatives, such as interchange configurations and transit alignments were used for modeling traffic and transit but were not individually screened. These elements would be later developed for alternatives assessed in the DEIS.

Overall, multi-modal packages performed the best. Alternatives that did not include a combination of both highway and transit improvements were not recommended to be carried into the DEIS. Options that contained only transit improvements without bridge capacity or those with new bridge capacity that did not include transit improvements did not meet the purpose and need established for the project.

Analysis revealed (see Attachment G) that a replacement bridge performed best on nearly all criteria, and that BRT and LRT performed best for transit, particularly when paired with complementary Express Bus service. In November 2006, staff recommended (see Attachment H) to the CRC Task Force that the DEIS evaluate: 1) No Build, 2) Replacement Bridge with BRT and Express Bus, and 3) Replacement Bridge with LRT and Express Bus. The CRC Task Force gave a preliminary recommendation to further develop these alternatives in preparation for evaluation in the DEIS. The Task Force also recommended the project team undertake a substantial public involvement effort to gauge public opinion on the staff recommendation.

Development of the Range of Alternatives

In January 2007, staff launched an intensive public involvement effort to present the screening results and receive comments on the staff recommendation. The public and most agencies generally agreed with the recommendation but some, including the Oregon and Washington State Historic Preservation Offices, felt it did not include a wide enough range of options. There was interest in seeing the evaluation results of an alternative that would reuse the existing I-5 bridges. This interest led the Task Force to form

a subcommittee in February 2007 to explore how the existing I-5 bridges could be reused and still meet the project's Purpose and Need.

The subcommittee and the project staff found that the best option for reusing the existing bridges is to place northbound I-5 traffic and bicycles and pedestrians on the existing bridges and include HCT and southbound I-5 traffic on a new supplemental crossing (see Attachment I for a description of the subcommittee process). The Task Force adopted the subcommittee's recommendation in March 2007.

Staff incorporated the March 2007 Task Force recommendation by including two more alternatives. Both alternatives would carry I-5 traffic as specified by the Task Force recommendation (southbound traffic on the new supplemental crossing and northbound traffic on both existing I-5 bridges), but differ in their HCT mode; the fourth alternative includes BRT on the new supplemental bridge and the fifth alternative includes LRT. This resulted in the following alternatives for evaluation in the DEIS:

1. *No Build*: This alternative includes the same 2030 population and employment projections and the same reasonably foreseeable projects used in the build alternatives outside the project area.
2. *Replacement Bridge with BRT*: This alternative would replace the existing I-5 bridges with a new crossing either upstream or downstream of the current I-5 alignment. This new crossing would carry Interstate traffic, BRT, and bicycles and pedestrians. Transit would include an all-day BRT system that would operate in an exclusive guideway from Vancouver to the Expo Center station where it would connect to the existing Yellow MAX Line. Express Bus service and local and feeder bus service would be increased to serve the added transit capacity.
3. *Replacement Bridge with LRT*: The same as the previous alternative except that LRT would be used as the HCT mode. LRT has the same alignment options, and similar station locations and requirements as those for the BRT alternative. Operational options, such as headways, would differ, and this system would integrate with the Yellow MAX Line without requiring transit patrons to transfer.
4. *Supplemental Bridge with BRT*: This alternative would use both existing I-5 bridges for northbound Interstate traffic and bicycles and pedestrians. A new crossing would carry southbound Interstate traffic and BRT. The existing I-5 bridges would be re-stripped to provide two lanes on each bridge and allow for an outside safety shoulder for disabled vehicles. Three lanes would be for through traffic and one would be an auxiliary lane. Four southbound I-5 lanes and BRT would be provided on a new downstream supplemental bridge. The southbound lanes would include three through lanes and one auxiliary lane. Interchanges would be modified to improve intersection performance in accordance with operational analysis that balances the mainline improvements. Express Bus service and local and feeder bus service would be increased to serve the added transit capacity.
5. *Supplemental Bridge with LRT*: The same as the previous alternative except that LRT would be used as the HCT mode. LRT has the same alignment options, and similar station locations and requirements as the BRT alternative. Operational details, such as headways, may differ, and this system would integrate with the Yellow MAX Line without requiring transit patrons to transfer.

The DEIS will also evaluate the potential impacts and performance of a variety of tolling options.

Federal Concurrence

We appreciate your ongoing assistance and support with the Columbia River Crossing project. With this memorandum, we are seeking your concurrence on the range of alternatives being advanced into the DEIS, and the process that led up to those alternatives. If you have any questions or comments, please call Kris Strickler (360.816.2201) or Heather Gundersen (360.816.2199).

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