MEETING TITLE: Project Sponsors Council

DATE: February 6, 2009, 10 a.m. – 12 p.m.

LOCATION: ODOT Region 1, 123 NW Flanders, Portland, OR 97209, Public Meeting

Room A and B (first floor)

TIME	AGENDA TOPIC	
10:00 - 10:10 a.m.	Welcome and Introductions	
10:10 – 10:45 a.m.	Number of Add/Drop Lanes Summary: Recap by CRC on public outreach on number of lanes Response by CRC to any outstanding questions	
10:45 – 11:30 a.m.	Discussion of Deferral for Number of Lanes Decision	
11:30 – 12:00 p.m.	Draft Schedule Review for Key Decisions and Future PSC Meetings	
12:00 p.m.	Adjourn	
Next Meeting: March 6, 2009, WSDOT SW Region Headquarters		

TRANSIT DIRECTIONS from PORTLAND:

From SW 4th between Alder & Washington, board 33 Fremont to Gateway TC, get off at NW Everett & 2nd, walk 0.1 mile northeast to 123 NW Flanders St. TriMet serves the downtown Portland area, visit TriMet, www.trimet.org, 503-238-RIDE for detailed transit directions from your starting location.

TRANSIT DIRECTIONS from VANCOUVER:

From the Vancouver Mall Transit Center, board the #4 bus (Fourth Plain WB), get off at Delta Park/Vanport MAX station. Board MAX Yellow line to City Center. Get off at Old Town/Chinatown MAX Station, walk 0.2 mile north to 123 NW Flanders St, For detailed trip planning, please contact C-TRAN, www.c-tran.com.

Meeting facilities are wheelchair accessible and children are welcome. Individuals requiring reasonable accommodations may request written material in alternative formats or sign language interpreters by calling the project team at the project office (360-737-2726 and 503-256-2726) one week before the meeting or calling Washington State's TTY telephone number, 1-800-833-6388.



MEETING TITLE: Project Sponsors Council (PSC) DATE: January 9, 2009, 10:00 am - 12:00 pm

LOCATION: Washington State Dept. of Transportation (WSDOT), SW Region

11018 NE 51st Circle, Vancouver WA

ATTENDEES:

Adams, Sam	Mayor, City of Portland	
Bragdon, David	Council President, Metro	
Brandman, Richard	ODOT CRC Project Director	
Dengerink, Hal (Chair)	Chancellor, Washington State University, Vancouver	
Ficco, Doug	WSDOT CRC Project Director (for Don Wagner)	
Garrett, Matthew	Director, Oregon Department of Transportation	
Hansen, Fred	General Manager, TriMet	
Hewitt, Henry (Chair)	Past chair, Oregon Transportation Commission	
Leavitt, Tim	Chair of the Board of Directors, C-TRAN	
Pollard, Royce	Mayor, City of Vancouver	
Stuart, Steve	Vice-chair, SW Washington Regional Transportation Council	

Note: Paula Hammond and Don Wagner were dealing with regional and statewide flooding issues and were unavailable to attend.

Note: Meeting materials and handouts referred to in this summary can be accessed online at: http://www.columbiarivercrossing.org/ProjectPartners/PSCMeetingMaterials.aspx

Welcome and introductions

Co-chair Hal Dengerink said the purpose of today's meeting is not to make a decision but rather to continue the discussion from the December 5 meeting on the number of lanes for the corridor. There will be plenty of time for discussion at this meeting, he said, allowing the PSC to make a decision at their Feb. 6 meeting.

No changes were proposed for the draft summary of the Dec. 5, 2008 meeting.

Add/drop lanes decision process

To continue discussion from the last meeting, project co-director Richard Brandman directed PSC members to the handout titled Action items from December 5 Project Sponsors Council Meeting. He introduced CRC consultant traffic engineering manager, David Parisi, to review the project's responses to these action items. More detail is available in the handout.

Travel demand and tolling

David Parisi explained that travel demand models use total vehicle operating costs rather than fuel costs alone.

Mayor Sam Adams asked if it is true that tolls encourage motorists to consolidate their trips, known as trip chaining. Parisi replied ves and that tolling also produces a shift toward transit ridership, as well as some trips being shifted to off-peak hours or not being made at all. Parisi added that more time will be spent during a future meeting on the sensitivity of travel demand to toll prices.

Councilmember Tim Leavitt asked if it is true that tolling reduces mostly the off-peak trips. Parisi replied yes. Commissioner Steve Stuart said it would be interesting to see the differential between modes and how that affects freight mobility.

Mayor Adams asked at what geographic point in the bridge influence area vehicles will be tolled and wondered how that would affect traffic operations, including whether local traffic would stay on local

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streets. He also asked if the tolling location would affect residents and visitors differently. Parisi answered that some of this is still to be determined as part of the tolling plan.

Transit impacts

Co-director Richard Brandman discussed how more transit service in the corridor could affect auto demand and the number of highway lanes. He said there are three ways to increase transit ridership in the corridor. First would be increasing the number of park and ride lots, which can be challenging since lots are most easily placed in areas where the land use allows it rather than in downtown Vancouver. Greater lot capacity could perhaps be found if light rail were extended in the future. A second way would be increasing feeder bus service that connects to light rail. The project is already recommending an extensive feeder bus system that will require a public vote to fund and it will be difficult to add more at this point. Third would be getting more "walk-on" riders to the transit system which would occur in the future with transit oriented development close to the stations or line extensions. In sum, the project has maximized potential ridership through project design. Significant increases in transit ridership would be difficult in the short term.

The project is poised to host public meetings to gather input on light rail station locations, alignment, and park and ride locations. There will be a light rail walking tour and public workshop on Jan. 10 and the workshop will be repeated on Jan. 14. The input will be shared with the project's Vancouver Working Group, a citizen advisory committee focused on transit issues.

Fred Hansen said there is a "ceiling" in terms of additional feeder bus service being able to feed into light rail. He asked staff to explain how close the project is to that ceiling, including if money were not an obstacle to feeder bus service.

Project co-director Doug Ficco explained that the draft environmental impact statement contained a supplemental bridge alternative in which feeder bus service was doubled but only increased ridership on light rail by about 10-15 percent. Hansen replied with some discussion of light rail "trippers," or extra train cars, and potential headway times of as short as two minutes.

Mayor Adams asked CRC staff to provide analysis of feeder bus service and an answer to how additional investment affects people's choices to park and ride light rail over the bridge. He said TriMet has had great success in increasing ridership after improving the frequency of service. Adams requested information on trip originations/destinations in order to see the trips that cannot be served by transit today.

Co-director Brandman turned the discussion to the stacked transit/highway bridge option. Co-director Ficco said only the 10 or 12 lane option would work with the stacked bridge design using a segmental concrete design. Other bridge types such as a truss system could accommodate any of the lane options.

Councilmember Leavitt said there are two key points to remember regarding transit and the decision on number of lanes. Trips not expected to be on light rail will be served by C-TRAN's express bus service which will move better with 12 lanes. A 12-lane bridge is also going to provide more opportunity for managed lanes in the future, he said. He asked for more information on which designs allow an efficient express bus system and managed lanes.

Environmental differences

CRC staff said that, relative to environmental effects, the differences between the eight, 10, and 12-lane options are minimal. There is some difference in footprint and pier sizes, but they are slight.

Cost-related issues

Staff explained that the eight-lane option would cost about \$85 million less than the 10-lane option. The 10-lane option would cost \$100-\$150 million less than the 12-lane option. More than 40,000 jobs could be created over the life of the project, including the induced jobs created as a result of the construction period. This is based on standard formulas, but they are more conservative than the U.S. Chamber of Commerce's methodology. The value of truck freight traffic on I-5 is expected to grow.

Mayor Royce Pollard asked what percentage of project cost does a savings of \$185 million dollars represent. Brandman said it would be a percentage out of a total project cost of about \$3.1 billion (equal to about 6 percent).

Metro Councilor David Bragdon said the additional capital cost of add/drop lanes should be viewed in the context of the bridge structure itself, not in the context of the entire project area. So the add/drop lanes become something like a 10-15 percent increase in cost, not just, say, 5 percent. Co-director Brandman replied that if you reduce the number of add/drop lanes on the bridge, you also affect the number of add/drop lanes throughout the five-mile project corridor. The number provided was the total cost reduction reflecting the entire corridor, he said.

Commissioner Stuart said it would be interesting to look at each add/drop lane segment and assign a cost to it. On Hayden Island, for instance, he wondered how much three add/drop lanes would be worth to people. He asked for information on the comparative benefits of eight, 10, and 12 lanes in terms of mobility and safety.

Truck freight

Commissioner Stuart asked for the numbers of freight vehicles crossing the river relative to the number of automobiles, not just the dollar value of freight (related to the size of a freight vehicle).

Co-director Brandman explained that the project's Freight Working Group decided not to pursue creation of freight-only lanes because such an approach works only on the inside lanes, not the outside lanes, and trucks in the project area tend to rely on the outside lanes due to all the on/off movements.

Fred Hansen asked if the project could consider any structural tools to preserve freight mobility, such as truck-only on-ramp lanes. He doesn't want to see trucks in the same position in 30 years as they are today. Brandman replied that improvements to the Marine Drive interchange are a good example of efforts the project has made to improve freight mobility. Co-director Ficco said it's possible in the future that the project could consider truck-only access, or "queue jumps," from Marine Drive.

Hansen said the Freight Working Group's logic seems to be to build more lanes in order to reduce future congestion for trucks. But he wonders if there are operational, engineering, or transportation demand management measures to achieve that, rather than simply more lanes.

Induced growth and land use

Co-director Brandman said CRC is not like some highway projects around the U.S. that create induced demand and suburban sprawl. Rather, he said, it includes elements such as transit, bike and pedestrian improvements, transportation demand management, tolling, and congestion pricing, making it far from a typical 1950s highway project. He referred to the matrix handout comparing the number of lanes. With more lanes, such as 12, there is actually less diversion from I-5 to I-205, meaning fewer vehicle miles traveled. He said his role is not to sell PSC members on a particular number of lanes, but he does want them to understand the thorough analysis that was done.

Jeff Heilman, CRC consultant environmental manager, gave an overview of the memo *Impacts of the CRC Project on Land Uses in Oregon and Washington*, focusing on Table 1, "Factors associated with highway projects that influence induce auto travel and sprawl" (see handout for more detail). He enumerated those factors and how in most cases the project does not exhibit them.

Commissioner Stuart asked if there is a chart with an x and y axis showing where the "sweet spot" is with toll vs. time. Brandman said it is not available yet but will be in the near future, though not at the next meeting.

Mayor Adams said he is interested in knowing the triggers and regulations for expansion of the urban growth boundary in southwest Washington. Councilor Bragdon said what has happened in downtown Vancouver with investment in mixed-use development is impressive, even without light rail.

Mayor Adams asked if the project could provide a matrix comparing tolling costs and number of lanes (similar to the one titled *Traffic effects of 8, 10, and 12 lane scenarios*).

Co-chair Henry Hewitt asked what is the absolute and percentage increase or decrease on the jobshousing balance as a result of the project.

Presentation and discussion on greenhouse gas expert panel findings

Heilman explained the role, activities, and findings of an expert review panel convened by the CRC project, per the request of project partners. The panel was tasked with reviewing and evaluating the methodology and findings of greenhouse gas emissions related to the CRC project.

The panel found the CRC analysis and findings to be reasonable and commended the efforts of staff to conduct a greenhouse gas emissions analysis for a single project. The panel agreed with the CRC finding that the locally preferred alternative would generate lower greenhouse gas emissions than the no build alternative. The panel also provided recommendations to refine the model for the Final EIS, primarily to provide a more comprehensive understanding of traffic-related emissions.

The full report is available online at:

http://www.columbiarivercrossing.org/FileLibrary/TechnicalReports/GHG PanelReport 010809.pdf

Discussion on recommendation process for add/drop lanes

The discussion below paraphrases PSC members' comments. It is not a verbatim transcript.

Co-chair Dengerink asked PSC members what information they need prior to the next meeting to make a decision on the number of add/drop lanes.

Commissioner Stuart said he would like to see the cost breakdown associated with each add/drop lane segment so the PSC can compare the regional operational benefits. It would show how the region would benefit from specific pieces of the puzzle – for instance there's a freight benefit at Mill Plain. This seems like a more helpful way to show cost-benefit analysis, he said. This is especially important for the final add/drop lane – the long one – with the 12 lane option, he said.

Mayor Pollard read from the project's original *Purpose and Need Statement* to remind the group of the key project criteria, and added that he is prepared to make a decision and hopes this group can make a decision at the next PSC meeting.

Councilor Leavitt said he is pleased with the data provided. He is not interested in compromising safety, economic and operational benefits for a multi-modal system. He is interested in hearing any more information that comes out, but said he is prepared on behalf of C-TRAN to make a decision on the number of lanes. Councilor Leavitt is supportive of 12 lanes for the reasons he expressed earlier related to the express bus system and managed lanes.

Co-chair Dengerink said he is not going to ask for PSC members' final decisions today on number of lanes, because there is still some additional public outreach to be done on this topic.

Mayor Adams said he still has to discuss this with Portland City Council, but shared his initial thoughts. Portland City Council and Metro will hold a joint work session on this matter (Jan. 26, 10:00 am, Portland City Hall council chambers) prior to a Portland City Council public hearing on the topic (Jan. 29, 2:00 pm, Portland City Hall council chambers).

Mayor Adams is interested in seeing more active, hands on management of the region's transportation system, from both sides of the Columbia River. He wants to see the cooperative bi-state relationship become some kind of joint, bi-state regional transportation authority to actively manage the transportation system.

With the information that about 70 percent of trips originate or exit within the five-mile project area, he said, it is possible for him to stretch to support 10 lanes, but he would need to have feedback from the upcoming work sessions with Metro and Portland City Council.

He also would like to know where tolling would occur – at the on-ramps or bridge – and how that affects travel patterns. For instance, if the tolls were placed on the on-ramps, how many trips would avoid I-5 and use local streets instead? The auxiliary lane from Interstate Ave. to Main Street is five miles long. When it begins to walk like a duck and quack like a duck, he said, it becomes a through lane.

Councilor Bragdon invited PSC members from the Washington side to attend the Jan. 26 joint work session between Metro and Portland City Council. CRC project staff's memo in the meeting materials (*Impacts of the CRC Project on Land Uses in Oregon and Washington*) is the best document Councilor Bragdon has seen so far in this process. It contains not just data, he said, but wisdom. It goes a long way to addressing his concerns, but it does rely on tolling. Councilor Bragdon said he needs pricing and a mechanism for setting rates and monitoring the system because it affects demand. It's not wise to repeat the problems of the 1970s with overbuilding freeways, he said, but also not wise to re-fight the same battles.

He can conceive of a 10-lane bridge that is properly priced and guarded against future changes (with provisions to avoid unintended consequences.) He said he is ready to make a decision and believes 10 lanes can work.

Table 2 of the land use memo was glossed over a bit by staff, he said, but it contains excellent information on how downtown Vancouver can benefit from transit-oriented development. A mechanism is needed on how toll pricing would be managed and set to maintain the positive outcomes sought by all. Six very diverse jurisdictions, including his own, support this project, but the lingering concern is how the additional capacity is managed and priced, he said.

ODOT Director Garrett said CRC staff have done a great job presenting the data. The PSC needs to look at the engineering and politics and decide what is doable. He said he is ready to make a decision.

Hansen said if members start at 12 lanes as a way to think about it and take out a lane, is it like taking out the sixth lane or the fourth lane? From an operational standpoint, he said it would be helpful to know.

Hewitt said he thinks the next PSC meeting should include a discussion about what happens to functionality of the interchanges, because he believes it has little to do with the bridge and more with the interchanges.

Commissioner Stuart said the SR 520 project in the Puget Sound region has put together a community discussion of tolling and pricing. He advocated for a proposal in the Washington Legislature to put together a similar process for the CRC project. That discussion should start very soon, he said.

Mayor Adams said the greenhouse gas analysis was excellent, but it compares against the No Build alternative. He would prefer to see comparisons to best practices around the world rather the No Build as a baseline. He would also like to see best practices on having a bi-state regional transportation authority. Other information he requested was information on availability of parking spots at park and rides, since he said we can't increase transit use with those parking spaces. Lastly, he would like information on how feeder buses would affect transit ridership.

Councilor Bragdon said he would like to see more information on how pricing is related to facility performance.

Mayor Pollard asked other PSC members to get all their questions to the staff. He said a third bridge won't be built in our lifetimes and the region should plan for the future. At this point, he said he has no direction from Vancouver City Council on 10 vs. 12 lanes, but he will at the next meeting. He doesn't want to spend any more money or effort on the eight lane option and would like to see it taken off the table.

Mayor Adams said he is neither authorized nor ready to do that.

Commissioner Stuart said he would like to send a letter to the Washington legislature to start the discussion on tolling.

Next meeting

Friday, February 6, 2009 | 10:00 am – 12:00 pm Oregon Department of Transportation 123 NW Flanders Street, Portland, Oregon



Action Items from January 9, 2009 Project Sponsors Council Meeting:

Action Items	Response:	
Tolling		
Analysis of tolling scenarios and dynamics: Sensitivity of travel demand to toll prices Effects of tolling prices on freight, passenger vehicles and facility performance What is the optimum range that balances traffic demand to toll rates? Effects of different tolls for each of the three lane configurations	The following was provided to PSC on January 9 and addresses the sensitivity of travel demand to toll prices. Higher tolls on I-5 have two material impacts: 1) the number of trips crossing the Columbia River decrease as the toll rates increase, and 2) the amount of trips diverted to I-205 increase The baseline toll rate structure applied in the Draft Environmental Impact Statement (EIS) assumes a \$2.00 peak-period toll (2006 \$) per direction, \$1.50 in the "shoulder" periods at either side of the peak, and \$1.00 in the evening/early morning hours. These rates are applied in each direction (so round-trip is twice the rates shown) and increase at the Consumer Price Index (2.5% per year). These rates are in line with many similar toll bridges in the United States. Analyses have found that toll revenues can be increased (i.e., higher toll rates offset lower traffic volumes) by raising the toll rates up to a point; the toll revenues begin to decline at toll rates about twice the baseline rate structure. However, when toll rates are raised, the largest percentage reduction in trip volumes occurs in off-peak hours and off-peak directions, and for non-work discretionary trips. Thus, the reduced volumes associated with higher rates do not translate into a reduced need for the I-5 bridge add/drop lanes, because the impact to the peak volume crossing the bridge is minimal (see response below). If both I-5 and I-205 are tolled, traffic volumes on I-5 increase compared to the baseline volumes that were used in the Draft EIS when only I-5 is tolled. Trips that diverted to I-205 to avoid the toll would shift back to I-5. Effects of tolling prices on freight, passenger vehicles, transit ridership and facility performance: In addition to the above, preliminary analyses indicated that at a \$3.00 toll (in 2006 \$) per direction in current dollars, peak period/peak direction trips across the Columbia River would be about 2% less than with a \$2.00 toll (roughly 8% reduction on I-5 crossings, but an increase in I-205 crossings	
	CRC has completed preliminary work on tolling price impacts with additional analysis planned	

Tolling location: • Where would tolls be assessed? • If tolls were on on-ramps, would local traffic stay on local streets? • Does tolling location affect residents and visitors differently?	 over the next six months. However, we do know that transit ridership is more constrained by access issues related to the number of park and ride spaces, feeder bus systems, and length of alignments, rather than the price of tolls. Where would tolls be assessed? Current plans are to use 100% electronic toll collection via a gantry that would be placed on the river crossing bridge. Tolls would be collected only from vehicles that cross the Columbia River. This is the most efficient way to capture the toll for all users of the bridge. If tolls were on on-ramps, would local traffic stay on local streets? First, current federal statutes and FHWA guidelines do not allow tolling Interstate highways, including on or off-ramps, except for replacement bridges. Guidelines require toll collection to be associated with the Interstate improvements. Second, if tolling ramps were allowed, it would have minimal impact on cross river trips at the bridge. About 70% of the vehicles crossing the I-5 bridge either enter or exit I-5 within the project limits. In addition, most vehicles that enter an I-5 on-ramp close to the Columbia River crossing will cross the bridge. Does tolling location affect residents and visitors differently? Collecting tolls at the on-ramps rather than on the Columbia River Bridge would only affect the small number of local trips on I-5 that don't cross the river. If tolls were placed on southbound on-ramps in the I-5 Bridge Influence Area north of the river and on northbound on-ramps in the I-5 Bridge Influence Area south of the river, "short" interstate trips (e.g., a northbound trip entering I-5 at Victory/Denver and exiting at Hayden Island, or a southbound trip entering I-5 at Victory/Denver and exiting at Hayden Island, or a southbound trip entering I-5 at Victory/Denver and exiting at Hayden Island, or a southbound trip entering I-5 at Victory/Denver and exiting at Hayden Island, or a southbound trip entering I-5 at Victory/Denver
Traffic	
What is the number of freight vehicles crossing the river relative to the number of cars, not just the dollar value of freight?	Traffic counts conducted for the Interstate Bridge in 2005 showed an average of 134,000 vehicles each weekday. Automobiles, pick-ups and motorcycles accounted for 123,000 vehicles, or 91.8% of the vehicle mix. Large trucks accounted for 11,000 vehicles, or 8.2% of the vehicle composition.
	Over the 25-year period from 2005 to 2030, overall traffic volumes are estimated to increase to 178,000 vehicles each weekday, a 33% increase. Automobile, pick-up and motorcycle traffic is estimated to increase by 29% (to 158,600 vehicles), while large truck traffic is estimated to

	increase by 77% (to 19,400 vehicles).	
	Due to their size and maneuverability, large trucks, on average, operate equivalent to 2.5 passenger cars on highways such as I-5 within the Bridge Influence Area. Based on "passenger car equivalents", in 2005, trucks comprised 18.3% of the traffic across the Interstate Bridge. By 2030, trucks are estimated to comprise 23.4% of bridge traffic in "passenger car equivalents."	
Provide additional data on the topics in the traffic effects matrix: • If we start at 12 and take out a lane, how does it operate – what are the differences in speeds, safety, etc.? • What happens to the functionality of the interchanges under the different lane options? Are there traffic backups?	In summary, compared to the 12-lane bridge option the 10-lane bridge option would: Create five mainline "hot spot" areas: Northbound I-5 between Hayden Island off-ramp and Marine Drive on-ramp Northbound I-5 between Mill Plain/Fourth Plain off-ramp and SR 14 on-ramp Southbound I-5 between Fourth Plain off-ramp and SR 500 on-ramp Southbound I-5 between SR 14 off-ramp and Mill Plain on-ramp Southbound I-5 approaching Hayden Island off-ramp Result in speed differentials of 10-15 mph at the "hot spots". Result in 1.5 hours of additional I-5 Bridge congestion per day Result in about 12 percent more vehicular lane changes on I-5 over the five-mile study area. Reduce service levels one to two levels Increase crashes by approximately 20 percent Increase cut-through traffic on Vancouver and Portland arterials for vehicular trips Reduce the potential for future regional HOV/managed lane system across the river	
Information on the high number of trips entering and leaving I-5 within the bridge influence area.	In 2005, a license plate study that captured vehicles entering the I-5 Bridge Influence Area was conducted. The study determined that of southbound traffic crossing the Interstate Bridge, 25% travels completely through the study area, 11% enters I-5 from north of SR 500 and exits at a ramp just south of the bridge, 40% enters a ramp just north of the bridge and travels on I-5 beyond Victory/Denver, and 24% enters I-5 just north of the bridge and exits just south of the bridge. Overall, 75% of the southbound traffic across the Interstate Bridge enters and/or exits a ramp within the Bridge Influence Area. The license plate study found that of northbound traffic crossing the Interstate Bridge, 32% travels completely through the study area, 22% enters I-5 from south of Victory/Denver and exits a ramp just north of the bridge, 8% enters a ramp just south of the bridge and travels on I-5 beyond SR 500, and 38% enters I-5 just north of the bridge and exits just south of the bridge. Overall, 68% of the northbound traffic across the Interstate Bridge enters and/or exits a ramp within the Bridge Influence Area. Currently, almost 90% of northbound traffic entering I-5 from the Victory/Denver and Marine Drive ramps cross the I-5 Bridge (100% of northbound traffic entering from Hayden Island uses	

	the I-5 Bridge). In the southbound direction, 68% of traffic entering from SR 500, 78% of traffic from Fourth Plain Boulevard, and 91% of traffic from Mill Plain Boulevard cross the I-5 Bridge (100% of southbound traffic entering from SR 14/City Center uses the I-5 Bridge). This illustrates that only a small percentage of Interstate traffic could actually travel along local streets in North Portland and in Vancouver to avoid the toll should tolls be placed on bridge influence area on-ramps versus the Interstate bridge.	
Transit		
Would increasing feeder bus service increase ridership across the river? Would increasing frequency increase ridership?	The C-TRAN bus system included in the CRC modeling assumes adequate bus to light rail connections in downtown Vancouver. The level of bus service has already been adjusted to meet the growth of demand. Additions in service beyond the increase due to growth would achieve diminishing returns in both ridership and reductions of the CRC project cost/benefit ratio due to the cost of increased bus service. During the initial phase of the Draft EIS evaluation, these findings were evident in the supplemental bridge option that was studied. In this case, increases in transit ridership were realized in intra-Clark County, with minimal increases in cross river trips when frequencies were dramatically increased.	
What is the return in ridership for additional park and ride investment, additional parking spaces?	The proposed park and ride capacity balances the desire for increased ridership with the impacts of park and ride facilities on project cost, traffic, and downtown character. The number, size, and location of the proposed park and rides were determined to meet reasonable transit demand without overwhelming roadways and the character of downtown Vancouver, or increasing capital and maintenance costs to a level that reduces the cost effectiveness criteria of the project.	
Origin/destination of potential riders: What trips are accommodated and what ridership needs aren't being met at this time?	There is significant latent demand for park and ride trips between Vancouver and Portland. Early modeling showed that over 5,000 commuters would park and ride if there were no restrictions at lots in the corridor. The high level of demand justifies the park and ride spaces already included in the current project; however, the proposed size of the 3 park and rides will not accommodate the total projected demand. There are several ways to capture additional demand for future projects:	
	Extend the light rail line sometime in the future allowing more people to walk to the train station	
	Add more park and ride spaces along the light rail route in future projects	
	3) In the long-term, growth in employment and housing in downtown Vancouver will provide greater ridership density at stations. This growth may occur gradually and is not projected to reach the ridership density required to eliminate park-and-rides spaces prior to the opening of light rail.	
	4) Combinations of the above	
	Extension: The Locally Preferred Alternative (LPA) adopted by the CRC partner agencies and jurisdictions sets the light rail terminus at Clark College. Any potential extensions could be	

	accomplished with future projects.	
	<u>More spaces</u> : The LPA park and ride capacity (2,900 spaces) was determined by balancing the demand for transit access of suburban riders and the impacts of park and ride facilities on project cost, traffic generation, and downtown Vancouver character. Adding more park and ride spaces may be possible but would likely increase local impacts to an unacceptable level.	
Which designs allow an efficient express bus system and managed lanes?	Express buses operating on I-5 will have more reliable travel times when there is less congestion. AM and PM hours of congestion are estimated at 7-9 hours for 8-lanes, 5-7 hours for 10 lanes, and 3.5 – 5.5 hours for the 12-lane option. Therefore the 12-lane option provides more reliability for express buses.	
Costs		
What is the cost difference between for the 8, 10, and 12 lane scenarios? What are the benefits for each in terms of mobility and safety improvements?	The 12-lane facility is estimated to cost about \$100 million more than the 10-lane option, and the 8-lane option would save about \$85 million more than the 10-lane option (2008 \$). Following are estimated cost differences between the 10 and 12-lane options: I-5 Mainline South (Oregon): \$11 million I-5 Mainline North (Washington): Between \$19 and \$36 million Fourth Plain Interchange (Washington): \$5 million NE 29 th St/NE 33 rd St (Washington): Between \$0 to \$1 million River Crossing Structure: Between \$65 to \$81 million River Crossing Structure: Between \$65 to \$81 million These benefits are associated with each option (more data can be found in the traffic matrix presented at the last meeting): 8-lane option: 7 to 9 hours of congestion a day, 300 crashes a year and 9,000 cars diverting to I-205 to avoid congestion on I-5. The trips going to I-205 go at least eight miles out of direction, consuming more fuel and slightly increasing the amount of vehicle miles traveled over the 12-lane option. 10- lane option: 5 to 7 hours of congestion, 240 crashes a year, and 4,500 cars diverting to I-205. 12-lane option: 3.5 to 5.5 hours of congestion, 200 crashes and 3,000 vehicles diverting to I-205.	
What structural changes could be made to help freight movement, separate from a freight-only travel lane and from improvements that will help all vehicles?	Many structural elements are being considered to facilitate truck freight movement, including but not limited to provision of low profile (minimized grade) on- and off-ramps, enhanced vertical clearances of structures (bridges), larger curb radii, and on-ramp truck bypass lanes. The project's Freight Working Group, consisting of freight representatives from throughout the Portland-Vancouver metropolitan area, is assisting in identifying potential locations for freight-related structural changes.	

Induced Demand	
What are the regulations for expansion of urban growth boundaries in Washington and in Oregon?	Oregon Urban Growth Boundaries: [taken from Metro's website] Metro is responsible for managing the Portland metropolitan region's urban growth boundary and is required by state law to have a 20-year supply of land for future residential development inside the boundary. Every five years, the Metro Council is required to conduct a review of the land supply and, if necessary, expand the boundary to meet that requirement.
	Washington Urban Growth Areas: Washington's Urban Growth Areas (UGA) act in a similar way to Oregon's UGBs. In Washington, counties must maintain Comprehensive Plans with zoning and UGAs that will accommodate projected housing and employment growth over the next 20 years. All development ordinances, capital facility plans, and environmental regulations must be in compliance and consistent with Comprehensive Plans. During periodic Comprehensive Plan updates, counties and cities work with the State to set a 20-year population and employment forecast. Most of the growth is allocated to the UGAs, and is distributed in patterns and densities based upon local plans and zoning code. When urban growth areas have less land than is necessary for the projected growth, jurisdictions review local zoning and development standards to identify ways in which infill development, transit oriented development, and other strategies can accommodate the projected growth. If these measures cannot accommodate all of the projected growth, the county develops an amendment to the UGAs. The decision on where to set the new urban growth boundary follows an open public planning process. The cities and counties shepherd an agreement on the Comprehensive Plan through their respective Planning Commissions and Councils. The Board of County Commissioners has the authority to resolve disagreements and set the urban growth boundaries. Revisions to the UGAs can be appealed to the State Growth Management Hearings Board. An appeal to the Hearings Board can result in remanding a decision to expand a UGA back to the respective county for further reconsideration to ensure compliance with the Growth Management Act.
What is the absolute and percentage increase/decrease on the jobs-housing balance as a result of the project?	In 2001 as part of the I-5 Partnership Study that preceded CRC, Metro modeled 2020 population and employment distribution in the region that would result from adding capacity to I-5 throughout (and beyond) the current CRC project area, and extending light rail to Clark College. This scenario is different than the CRC LPA, as it added capacity to a greater stretch of I-5 (between 134 th Street in Vancouver and Going Street in Portland) and did not have a toll. Thus, the model's prediction of redistribution of jobs and housing is likely higher than the effects of CRC, but similar in character. The model didn't show changes in residential distribution because it assumed a fixed housing supply; rather it showed changes in residential real estate values based on changes in demand for housing throughout the region. This modeling of future 2020 conditions showed a reallocation of jobs to the I-5 corridor, with approximately 1000 more jobs in Clark County from elsewhere in the Portland-Vancouver region, and approximately 4000 more jobs in North and Northeast Portland from elsewhere in the region. For comparison, in 2002, Clark County had an estimated 170,000 jobs. Current

	forecasts estimate there will be approximately 138,000 new jobs by 2024. The model also indicated a 3% greater increase in home values in Clark County and north Portland (about a 0.12% change per year).	
Greenhouse Gases		
Use best practices to reduce greenhouse gas emissions instead of comparing to no build.	Both Oregon and Washington have established guidelines for reduction of greenhouse gas emissions and are developing strategies to achieve established goals. The CRC project, as part of the regional transportation system, will benefit from laws and regulations that are established by the states to achieve these goals. Key CRC project elements related to tolling, adding light rail, providing pedestrian/bicycle connectivity, and a vigorous transportation demand management (TDM) program will also aid in achieving these goals.	
	Many of the inherent elements of this project contribute to the goals in both states for reduction in greenhouse gases, and the project is committed and open to new ideas throughout the life of the project.	
Bi-State Transportation Authority		
What are best practices for creating and operating a bi-state, regional transportation authority?	There are a variety of mechanisms that can be used to ensure bi-state cooperation on transportation issues. They range from more informal inter-local agreements and memorandum of understandings/agreements, to development of formal bi-state compacts that may require congressional approval. Through the informal mechanisms, ODOT and WSDOT have a long-history of bi-state cooperation in building and operating Columbia River bridges. Throughout the United States, independent or quasi-independent toll authorities have been established as special local districts or state entities to develop, own, operate, and finance the facilities that they govern. These districts/entities are granted the authority to set toll rates, but also are given full financial responsibility for the use of the tolls; including capital, operating and financing costs. For example the Golden Gate Bridge authority (which is a special local district) was first created to fund, construct, and operate the Golden Gate Bridge, and in doing so the taxpayers of the district approved backing the initial construction bonds with a property tax within the district. The Port Authority of NY and NJ was created by both states, and is also financially responsible for the facilities it owns and operates. While the Port Authority does not have taxing powers, it must do its own financing without state or taxpayer assistance, and the governors of both states have review and veto power over all actions of the Board. The Bay Area Toll Authority has the authority to administer certain toll revenues to implement legislatively approved improvements on state-owned bridges, but does not have any authority to set tolls. Toll setting on BATA bridges has required legislative and voter approval.	



Memorandum

January 30, 2009

To: Project Sponsors Council

From: Richard Brandman, ODOT CRC Project Director

Doug Ficco, WSDOT CRC Project Director

Subject: Public comments on add/drop lanes, October 1, 2008 - January 26, 2009

Introduction

This document provides a summary of public comments related to add/drop lanes received by the CRC project from October 1, 2008, to January 26, 2009.

Add/drop lane comments were submitted through a variety of means, including paper and electronic copies of comment forms, comments transcribed during public events, and electronic communications and documents emailed directly to the project office.

Copies of all the comments received are available upon request.

What We Heard

Comment Summary

From October 1 through January 26, 75 members of the public submitted comments about add/drop lanes (see Table 1). The number of add/drop lane comments peaked in December, coinciding with two open houses which were designed, in part, to specifically solicit opinions about these lanes.

Table 1.

Month	Number of Commenters on Add/Drop Lanes	Total Number of Commenters in Month	% of Commenters who Commented on Add/Drop Lanes
Oct-08	1	7	14%
Nov-08	4	22	18%
Dec-08	46	101	46%
Jan-09	24	78	31%
Total	75	208	36%

Of the 75 add/drop lane comments, 62 were supportive or critical of these lanes (see Table 2). Commenters described their preferences in a wide variety of ways, with the majority not indicating support for a specific number of add/drop lanes.

To facilitate understanding of preferences given, Table 2 groups similar responses together. For example, the preference category "Importance of Add/Drop lanes" includes all general comments in support of add/drop lanes, including comments in support of additional vehicular capacity beyond what exists today and comments supporting as "many lanes as possible." The category "Concerns about Add/Drop Lanes" includes all general comments expressing reservations about add/drop lanes, including total opposition to add/drop lanes and support for minimizing the number of add/drop lanes. In those cases where commenters supported a specific number of add/drop lanes, that information is also included in Table 2.

As can be seen in Table 2, commenters stating preferences tended to favor more, as opposed to fewer, add/drop lanes. However, as only 36 percent (see Table 1) of all commenters during this period discussed add/drop lanes, Table 2 may not be representative of the opinions of commenters in general or the broader community.

Table 2.

Add/Drop Lane Preferences	Quantity Received
"Importance of Add/Drop Lanes"	23
6 add/drop lanes	19
4 add/drop lanes	5
2 or 4 add/drop lanes	2
2 add/drop lanes	2
"Concerns about Add/Drop Lanes"	11
Total	62

Representative Responses

The verbatim public comments below are representative of the 75 public comments received regarding add/drop lanes:

Preferences for More Add/Drop Lanes

- Keeping the number of highway lanes to 4 or 6 is a waste of time. The constant traffic jams waste more fuel and create more pollutants...
- Reality is with tighter emission standards and more fuel efficient vehicles in the future the greenhouse gas issue will become a non-issue
- This project is much more than a commuter bridge... it serves the whole community.
 And not just the local community: the entire west coast of the United States relies on the I-5 corridor for commercial and personal transportation
- ... it's a bridge that will last at least 100 years. While I don't want to trivialize the \$100 million dollars that it takes to go from 10 lanes (an absolute minimum) to 12 lanes, it is an incredible value, giving 17% more capacity for only 2.4% more cost
- Build for the future growth... 12 lanes! It would be a shame to spend all this money on a bridge that was inadequate in capacity from the initial design phase...
- Highway safety should not be minimized. The 12-lane option is the safest, and therefore should be the option of choice...

- Do not kill commerce based on a false notion that the bridge can be used to control land use planning in Clark County
- Important to have as many add/drop lanes as possible. This will allow those of us who live and shop near the island to do so... efficiently...

Preferences for Fewer Add/Drop Lanes

- ... more lanes equals more pollution. With the current six lanes of traffic, afternoon smog is far beyond unhealthful
- Automobile use is on the decline, and MAX will reduce it further. I can't see more than one add/drop lane going north and one going south
- No more than six lanes [no add/drop lanes]. Portland can't accommodate a surge of new traffic. Need to enforce the 50 mph speed limit to lower accidents
- We would like to see the bridge no wider than 5-lanes each way... one less lane each way amounts to about 15% fewer vehicles idling next to our neighborhood (Arnada); a substantial improvement in our thinking
- The 12-lane option decreased the projected usage of the light-rail and other public transit alternatives and therefore, in my opinion, should be avoided
- I am not sure about 12 lanes because it would induce more Oregonians to move to Clark County, inducing even more growth than we already have
- Since most of the traffic exits and enters near the bridge, find and support other ways to get them across – reducing VMT should be a priority without increasing lanes (transit, tolls, HOV)
- Want less than 12 lanes. Concerned about traffic increase at Rose Quarter

Additional Considerations

In addition to support and opposition, comments were also received regarding factors to consider when making decisions about add/drop lanes. The comments below are representative of the broad range of factors discussed by commenters.

- Minimal impact to adjacent neighborhoods, maximum traffic flow
- The impact to existing business/recreation...
- Visibility of exit signs
- Keeping costs in check
- If there are 12 lanes built, one in each direction should be devoted (and physically restricted) to thru traffic at least to I-84 or beyond. The federal legitimate justification for federal funding is not for in city commuter traffic but to keep thru traffic moving fast...
- Incident management and tolls to manage traffic



Memorandum

February 4, 2009

TO: CRC Project Sponsors Council

FROM: CRC Freight Working Group

SUBJECT: Number of Lanes Decision/Implications to Movement of Freight and Goods

Framework

As an integral link in the Interstate highway system, the CRC project area¹ is vital to the movement of freight and people up and down the west coast, as well as within the Portland/Vancouver region. The CRC project is analyzing the appropriate number of lanes to safely and efficiently move the very high number of auto and truck trips that are entering and exiting I-5 in a very short congested area, as well as accommodating the high overall number of trips on the Interstate itself.

There are seven high volume interchanges within the project area. The area warrants a standard two-mile spacing to accommodate the heavy automobile and truck volumes; however this area has nine interchanges in a five and a half mile stretch. The merging and weaving created by these closely spaced interchanges creates unsafe and congested conditions. This section of I-5 has the highest accident rate of any Interstate highway in the entire state of Oregon. By 2030 the number of automobiles is expected to increase by almost 30%, while the number of freight trucks is expected to increase by almost 80%. Congestion is expected to last 15 hours a day if no improvements are made and accidents are forecast to double.

The add/drop lanes being considered are the extension of existing add/drop lane and new lanes that would connect the closely spaced interchanges with the heaviest on/off volumes. They would provide better access to areas that have reduced development capacity, such as the Marine Drive corridor and Hayden Island; as well to improve safety and manage the operation of the freeway. The intent is not to add capacity, but to improve safety and match the flow of traffic to the north and south.

Congestion

By year 2030, truck freight traffic across the I-5 bridge and in the project area is expected to increase at about twice the rate of non-truck freight traffic. Freight haulers try to avoid high periods of congestion. Consequently, a great deal of freight movement occurs in the off-peak hours. The critical freight-related problem being addressed by the CRC project is the duration of the period of congestion on I-5. Under the No-Build alternative, congestion would last about 15 hours, essentially eliminating the peak midday freight hauling period.

The CRC project will help reduce these impacts to varying degrees, in part depending on the number of add/drop lanes within the most congested segments of the study area:

Under the 8-lane corridor option, congestion on the I-5 Bridge would last for <u>seven to nine hours</u> each weekday in 2030, which still would have a substantial impact on the peak midday freight-hauling periods, but to a lesser extent than the No-Build alternative. Key freight traffic routes and interchanges including Mill Plain Boulevard, SR 14, and Marine Drive would be affected.

2/4/2009

1

¹ Five mile bridge influence is from Victory Boulevard in Oregon to SR 500 in Washington.

- The 10-lane corridor option provides a more substantial benefit to freight movement than the 8-lane option; I-5 Bridge congestion would last for <u>five to seven hours</u> in 2030, with congestion affecting Mill Plain Boulevard, SR 14, and Marine Drive, but to a lesser extent than the 8-lane option. 10-lane option has five "hot spots" that inhibit smooth, safe traffic flow.
- With the 12-lane option, the period of delay at the I-5 Bridge would be reduced to 3.5 to 5.5 hours in 2030, with all of the congestion occurring during peak commute periods and not during midday freight peaks. Thus, the 12-lane option provides the greatest benefit to freight movement.

Safety

Trucks are currently involved in over twice as many collisions on a per vehicle basis, than other vehicles. However, trucks only comprise about 8% of total daily traffic. Compared to the 12-lane option, the 10-lane option would result in 20 percent more collisions and the 8-lane option would result in 50 percent more collisions. Options with fewer add/drop lanes would increase the number of "forced lane changes" along this critical highway segment (e.g., under the 10-lane option over 10% more lane changes, including movements for trucks, would occur compared to the 12-lane option). Today, almost 40% of truck collisions on this segment of highway involve sideswipes.

- 12% of crashes in I-5 Bridge Influence Area involved at least 1 truck
- 39% of truck crashes involved sideswipes, compared to 14% for all vehicles
- 30% of truck crashes involved injuries

Cost

The difference in capital costs between the 10 and 12-lane options is estimated to be approximately \$100 million (2008 mid-year costs). The 8-lane option would be approximately \$85 million less than the 10-lane. These numbers would increase by about 35-40% when inflated to the mid-year of construction (2014).

Effects on Local Streets/Adjacent Neighborhoods

Today, during the AM peak hour up to 600 vehicles cut through local streets to avoid I-5 congestion. Many exit I-5 at the Main Street off-ramp and travel south on Main Street to downtown Vancouver destinations or before re-entering I-5 in downtown Vancouver at Mill Plain Boulevard and City Center entrances. Similar effects occur on local streets in Portland during the PM peak period for northbound traffic. Although specific models have not been run to compare the amount of cut-through traffic for the various lane options, it is assumed that 12-lane option would have the least amount of cut-through traffic and an 8-lane option would have the most. Impacts from the 10-lane option would fall in between.

Value of Freight

In 2005, 22.5 million tons of freight crossed the Interstate Bridge. According to the *Commodity Flow Forecast Update and Lower Columbia River Cargo Forecast* report, the estimated value of truck freight was \$1,800 per ton, averaged across all commodity classifications. In other words, the value of freight crossing the Interstate Bridge in 2005 was \$40.6 billion (\$40,600,000,000).

About three-quarters of trucks crossing the Interstate Bridge enter and/or exit an interchange in the I-5 project area. This means approximately \$30.5 billion worth of commodities crossing the bridge enter or exit on of the seven CRC project interchanges each year. Freight is expected to grow by 77 percent between 2005 an 2030. By 2030, the value of freight crossing the I-5 Bridge will increase to \$71.7 billion

(year 2005 dollars). \$53.8 billion worth of this freight will originate or exit from an interchange in the I-5 project area.*2

Conclusion

The extensive analysis shows that the 12-lane bridge option (three through lanes and three add/drop lanes) demonstrates the greatest efficiency and safety to both car and truck drivers.

It is critical to our region's economy that the CRC project demonstrates significant improvements to safety, capacity and velocity for efficient freight movement. Safety, speed and efficiency are priorities for the movement of people and commerce within the CRC's five mile bridge study area. The 12-lane bridge option best addresses the significant challenges this project seeks to address.

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²CRC estimated truck-specific benefits for the Columbia River Crossing project, recognizing that FHWA had not yet issued final guidance on the calculation methodology. The analysis was done only for the 12-lane supplemental bridge option, but provides an estimate of the scale of project benefits related to trucks. The present value (2007\$) was estimated at \$170 million with about 75% of the total related to travel time savings. Accident cost savings was 13% of the total and remaining savings were attributed to vehicle operating costs, emission costs, and bridge lift time savings. The inflated values of the truck-specific benefits through year 2040 were estimated at \$350 million. Although no estimates were made for the 8 and 10-lane options, since travel time savings represents the greatest savings, the benefits would be less for these options.



U.S. Department of Transportation

Federal Highway Administration

530 Center Street N.E. Suite 100 Salem, Oregon 97301 (503) 399-5749

January 23, 2009 In Reply Refer To: HPP S001(250)

Paula J. Hammond, Secretary Washington State Department of Transportation 310 Maple Park Avenue SE PO Box 47300 Olympia WA 98504-7300

Matthew Garrett, Director Oregon Department of Transportation 355 Capitol St. N.E., Rm 135 Salem, OR 97301-3871

RE: Interstate 5 Columbia River Crossing Project; 10 vs. 12 Lane Bridge

Dear Secretary Hammond and Director Garrett:

We are writing to express the Federal Highway Administration's (FHWA) support for a 12-lane Columbia River Bridge option. The locally preferred alternative endorsed by the six sponsoring agencies consists of a replacement crossing and an extension of the existing light rail transit to Clark College. One of the more critical design decisions that has to be made as we progress forward, is the number of lanes this new facility will carry.

As you know Interstate 5 serves as the only continuous north-south Interstate corridor on the West Coast. The efficient operation of this designated *Corridor of the Future* is critical to growing our local, regional, and national economies while providing the safe and efficient mobility travelers expect.

On May 2, 2008, the Draft Environmental Impact Statement (DEIS) for this project was published, providing evaluation of reasonable alternatives for meeting the project's purpose and need. In this DEIS, six local sponsoring agencies and two Federal co-lead partners committed to the following objectives as reflected in the purpose and need statement:

- a) Improve travel safety and traffic operations on the Interstate 5 crossing's bridges and associated interchanges;
- b) Improve connectivity, reliability, travel times and operations of public transportation modal alternatives in the bridge influence area;



- c) Improve highway freight mobility and address Interstate travel and commerce needs in the bridge influence area; and
- d) Improve the Interstate 5 river crossing's structural integrity.

Currently, a healthy discussion is taking place between the communities and the Project Sponsors Council. To aid that discussion, the Columbia River Crossing Project team has provided data from a host of design studies conducted during the development of the DEIS. Replacement crossings studied included three through travel lanes (matches existing cross section) and three auxiliary lanes in each direction, for a total of 12 lanes on the crossing. Auxiliary lanes improve operational efficiency and safety by providing motorists greater distances for ramp merging and diverging movements. In fact, the data indicate that a 10-lane crossing (three through lanes and two auxiliary lanes in each direction) would increase predicted crashes by 20% when compared to a 12-lane crossing. Crashes on an eight-lane crossing (three through lanes and one auxiliary lane in each direction) are predicted to increase by 50% when compared to a 12-lane crossing.

Congestion is another critical factor to be considered. A 12-lane facility serves the travel demand substantially better than a 10-lane facility and lessens congestion by two hours per day. Throughput on the Interstate is dependent on these interchanges operating safely and efficiently.

We believe the 12-lane bridge best meets the safety, operations, connectivity, reliability, freight mobility, and commerce needs for this Interstate corridor. We do, however, acknowledge the practical constraints for a project of this magnitude and in this setting. We understand the sensitive nature of these discussions and appreciate the opportunity to provide a Federal perspective.

Daniel M. Mathis, P.E.

Division Administrator

Federal Highway Administration

Division Administrator

Oregon Division

cc:

FTA (Rick Krochalis, Regional Administrator)

WSDOT (Doug Ficco)

(Don Wagner)

(Richard Brandman) ODOT