Revised 8/5/10

Columbia River CROSSING

Draft Agenda

MEETING TITLE: Project Sponsors Council Meeting

DATE: Monday, August 9, 2010

TIME: 10:00 a.m. – 12:30 p.m.

LOCATION: Oregon Department of Transportation Region 1
123 NW Flanders St, Portland, OR

TIME	AGENDA TOPICS
10:00 a.m.	Welcome • Approve March PSC meeting summary
10:05 a.m.	Review and finalize recommendations for Governors: • Metroscope • Hayden Island Interchange design • Alternative lane configuration on bridge • Performance measures
11:15 a.m.	Review CRC Independent Panel recommendations
12:00 p.m.	Review and finalize recommendations for Governors (cont.): • Post-construction travel demand management • Other issues • Adopt recommendations
12:30 p.m.	Adjourn

TRANSIT DIRECTIONS from PORTLAND:
From SW 4th and Yamhill, board MAX Red line to Airport. Exit at Old Town/Chinatown MAX Station. Walk west to 123 NW Flanders St.

TRANSIT DIRECTIONS from VANCOUVER:
From the Vancouver Mall Transit Center, board the #4 bus (Fourth Plain WB). Exit at Delta Park/Vanport MAX station. Board MAX Yellow line to City Center. Exit at Union Station / NW 5th and Glisan St. MAX station, walk 0.2 mile north to 123 NW Flanders St.

For detailed trip planning, please contact the two transit agencies: C-TRAN, www.c-tran.com, 360-695-0123, or TriMet, www.trimet.org, 503-238-RIDE.

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) in advance of the meeting or calling Washington State's TTY telephone number, 1-800-833-6388.

Columbia River CROSSING Draft Meeting Summary

MEETING: **Columbia River Crossing (CRC) Project Sponsors Council**

DATE: March 12, 2010, 10:00 am – 12:30 pm

LOCATION: Oregon Department of Transportation (ODOT)
123 NW Flanders, Portland, OR

ATTENDEES:

Hewitt, Henry (Co-chair)	Past chair, Oregon Transportation Commission
Adams, Sam	Mayor, City of Portland
Bragdon, David	Council President, Metro
Garrett, Matthew	Director, Oregon Department of Transportation
Hammond, Paula	Secretary of Transportation, Washington State
Leavitt, Tim	Board member, C-TRAN
Stuart, Steve	Chair, SW Washington Regional Transportation Council

ABSENT:

Fred Hansen	General Manager, TriMet

STAFF:

Brandman, Richard	ODOT CRC Project Director
Wagner, Don	WSDOT CRC Project Director

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

Welcome and approval of Dec. 4 meeting summary

Co-chair Henry Hewitt welcomed attendees. He noted that replacements for Co-chair Hal Dengerink and Vancouver City Council have not yet been identified.

Commissioner Steve Stuart requested to remove the Vancouver Light Rail Update from the agenda to ensure enough time for discussion of the Project Sponsors Council Work Plan. The Council agreed to revise the meeting agenda to reflect this change.

The January 22 Project Sponsors Council meeting summary was approved without changes.

Funding Projects of National and Regional Significance

Travis Brouwer, ODOT Federal Affairs Advisor, and Larry Ehl, WSDOT Federal Relations Manager, provided an overview of the process and methodology for funding Projects of National Significance (PNS). Topics included program background, the history of the two states' experience with the program, including impacts this may have had on local and regional funding requests, and Congress' intent and timeline for the program.

Strategy Overview

ODOT and WSDOT are requesting funding for the CRC's highway component in the PNS account to ensure that the project competes at the national level against other megaprojects rather than at the regional and local level against local and state project funding requests in the Portland/Vancouver metro region. There are no other projects in the Portland/Vancouver metro region or the rest of the state of Oregon that would be competitive in this program; however, there are several projects in Washington that could be competitive.

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We believe we have an excellent opportunity to secure significant funding for the project with regional support, and we believe the $400 million in federal highway program funds assumed in the finance plan is reasonable given our experience in securing megaproject funds in SAFETEA-LU, the current interest we've seen in funding projects of regional and national significance, and the likely growth in the size of the federal transportation program.

Our Experience in SAFETEA-LU/Creation of Projects of National and Regional Significance
There are two general types of earmarks:

- "Above the line"/megaproject earmarks, which provide large amounts of additional money for larger projects, and this funding does not come out of a state's normal formula funding.
- "Below the line", mainly known as High Priority Projects, which generally provide smaller amounts; these come out of formula money states, metro regions, and local governments otherwise would receive. Each member of Congress generally receives an allocation of funds to distribute to projects under this program.

These two types of earmarks are generally distributed separately, so there isn't a direct connection between what you get in one group and what you get in another.

In SAFETEA-LU Congress created the Projects of National and Regional Significance (PNRS) and National Corridor Infrastructure Investment programs as "megaproject" programs to provide funding to projects that are nationally or regionally important and therefore arguably deserve significant federal funding and which are unlikely to be completed without significant federal funding because of their size.

These two programs provided a total of $3.6 billion. Oregon and Washington received a total of $420 million in megaproject money in SAFETEA-LU from PNRS, Corridors, and the Bridge programs:

- Oregon received a total of $200 million to complement and extend the OTIA III State Bridge Program.
- Washington received $220 million in PNRS money for the Alaska Way Viaduct; Washington received this money in part because the region's congressional delegation and local stakeholders were united in their support for the request.

By comparison, $17.3 billion was provided for 5500 earmarks in the two main "below the line" earmark programs, so the vast majority of money is for smaller earmarks. Receiving significant megaproject earmarks didn't reduce earmarks for other state and local agency requests and didn't reduce formula funding for OR and WA:

- Oregon still received $332 million in earmarks for other projects.
- Washington received $299 million in money for state and local agency projects; about 2/3 of that went to projects in Puget Sound—the same region that contains the Alaska Way Viaduct.

Going Forward: Congressional Proposals and Their Impacts to CRC and Other Requests
In the House bill proposed by Chairman Oberstar and Congressman DeFazio, known as the Surface Transportation Authorization Act, these PNRS and Corridors programs are consolidated into a Projects of National Significance Program (PNS), and they are refocused and expanded significantly. The funding level would go from $3.6 billion for PNRS and Corridors in SAFETEA-LU to a proposed level of $25 billion—a nearly sevenfold increase.

Oberstar wants to refocus the program on projects of truly national significance; he dropped regional from the title and the selection criteria in the bill reflect this: The program's purpose is to fund projects that "generate national economic and mobility benefits, including improving economic productivity by facilitating international trade, relieving congestion, and improving transportation safety by facilitating passenger and freight movement" and "can not easily be addressed or funded through State apportionments of Federal surface transportation funds".

Unlike the TIGER program, the criteria focus on much larger projects and with a stronger freight focus. The criteria closely match the CRC because it is an Interstate route with heavy freight volumes and provides access to international ports. With support from the region we'll be more likely to be successful in this program and bring additional resources into the region to create jobs

Earmark Versus Discretionary
Chairman Oberstar does not want to earmark the PNS program; he wants to leave it to US DOT as a discretionary competitive grant program. If it's left as a discretionary program, we believe CRC will be very competitive, and $400 million would be very reasonable, as it's just 1.6% of the proposed funding level.

Two US DOT programs have demonstrated that significant grant awards are possible when US DOT has a lot of money in a discretionary program:

- In the New Starts program, grants are regularly running in the range of half a billion dollars, from a program that over the course of SAFETEA-LU had about $8 billion available
- The ARRA High Speed and Intercity Passenger Rail program had $8 billion available, and we saw six separate grants of at least half a billion dollars—including one for $1.1 billion (FL) and one for $2.25 billion (CA).

The ARRA TIGER program awards weren't as large, but the program funding level was significantly lower and wasn't as focused on megaprojects.

If PNS is earmarked, Congress will likely spread the money around a bit more, but $400 million— $200 million per state— is still a very reasonable request given the priority of the project for the two states and the positions our delegation members occupy on congressional authorizing, appropriations, and finance committees.

The budgetary environment is now very favorable to megaprojects. Between PNS and TIGER, Congress has shown they strongly support funding for major projects that have regional and national significance. The Obama Administration has also added to the chorus in support of paying for big projects by requesting $4 billion in the FY 2011 budget to create the National Infrastructure Innovation and Finance Fund, a hybrid grant program/infrastructure financing fund that would provide grants and loans, for major projects, so even though they don't have a bill yet they've shown their support for funding major projects.

Discussion
Co-Chair Hewitt noted that funding timeframes and timeframe for readiness could be different depending on whether the project is earmarked for funding or not. Larry Ehl responded that if this project is not earmarked, US DOT will be directed to develop a program and will likely deliver a process for competitive application 6-9 months after the bill becomes law.

Mayor Sam Adams asked about the priorities of the Senate's legislation. The Senate Environment and Public Works Committee has jurisdiction over the highway programs in the bill. Any bill they would write would address highway policy and funding issues. Committee Chair Sen. Boxer has not given indication of priorities, but is expected that priorities could include items such as air quality and freight.

Mayor Adams asked how revenues for this legislation are authorized and allocated. The House Ways and Means Committee authorizes these funds and the Senate Finance Committee would be responsible for how to spend the money.

Mayor Adams commented that there is time to complete more due diligence on the project given recent statements by US Transportation Secretary La Hood, Rep. DeFazio, and members of the administration with respect to urgency around funding legislation and/or raising taxes. Travis Brouwer responded that one concern with timing for potential legislation this year is that earmarks made in the original House bill are often carried forward to subsequent legislation. The previous surface transportation legislation, SAFTEA-LU, took two Congress sessions to pass. Mayor Adams added that contingent clauses can be put into legislation and clarified at a later date.

Washington Transportation Secretary Paula Hammond commented that Washington state could be competitive in the PNRL program with several projects, but that the state is committing to pursuing the CRC project for funding related to national significance.

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Mayor Tim Leavitt asked for clarification on the determination of a $400 million amount as a reasonable funding request and whether there are opportunities for further requests. Travis Brouwer responded that this was an iterative process between the two state DOTs. Originally the project had put forward a $400 million to $600 million figure. After conversations with the states' congressional delegations, they landed on $400 million as an amount that is reasonable and fundable. Secretary Hammond added that while STAA is a new source of revenue, the states are seeing pressure on the availability of federal funding and little interest in raising taxes. The Washington delegation has indicated that the Alaska Way Viaduct earmark of $225 million was generous. While the states would push for more funds, for CRC if possible, there is the possibility in this economy that funding could go down and not up. WSDOT is hearing positive things about the likelihood of FTA's full funding grant of $750 million. Larry Ehl added that as Congress and the administration create new grant programs, there may be other opportunities in the next couple of years for requesting a significant amount of federal funding.

ODOT Director Matthew Garrett asked about the project's readiness for funding and the relationship between funding sources and timing. Travis Brouwer said that the FTA process is ongoing and there is a desire to stay within that queue to get a full funding grant agreement to be in line as soon as possible for transit funding. Highway funding may diverge and lag a bit depending on whether the program is earmarked or discretionary, but they would be in a similar timeframe.

Council President David Bragdon asked about the likelihood the Senate will maintain the concepts in the House bill, passed in July. Larry Ehl responded that the Senate committee leadership has avoided answering this question, but there should be a better sense later this spring. The Senate could develop a bill without a revenue title, and then develop this piece at a later point. The timeframe for the funding bill is based on the original House version, so a Senate bill passed at the end of the year would essentially mean a five-year funding timeframe. Currently the Senate Committee is looking to work with stakeholders on reviewing the House bill. Council President Bragdon commented that the project partners should speak with a unified voice on these requests.

Council President Bragdon commented that applications for TIGER and American Reinvestment and Recovery Act (ARRA) funds were subject to significant technical criteria. He felt that new transportation funding should follow a technically defensible process, and that the CRC project would need to make a good case on technical merits including the local match and effort. Larry Ehl responded that some states did not fare well in the TIGER and ARRA programs and this has led to questions about this type of process versus earmarking; there will probably always be both types of funding.

Commissioner Stuart requested a summary of information about size of grants, fund amounts, and historic awards. He suggested that a seven-fold increase for projects of national significance and a recent history of larger awards may warrant an entirely new scale for funding requests. Commissioner Stuart asked what amount might be considered reasonable based on new funding availability circumstances. Secretary Hammond responded that she believes the congressional delegation was assuming these new sources in the $400 million figure. ODOT CRC Project Director Richard Brandman added that if the transportation bill includes a grant program the project would certainly look at the parameters and see if there was an opportunity to request more funding.

Mayor Adams requested to hear further about the feasibility of a contingent FTA request, if it helps the project in any way that FTA funding is more secure than highway money, and if there is any benefit in making this request now.

Transportation Demand Management

Transportation Demand Management (TDM) Committee members John Replinger, CRC staff, Matt Ransom, City of Vancouver, and Peter Hurley, City of Portland, provided a presentation on the work of the committee to develop a TDM program to support the project's construction period.

TDM is defined as modal shifts, trip substitution, and time shifts to reduce congestion and provide associated personal, social, and economic benefits. TDM is used by many utilities worldwide as a way to dampen demand and provide effective operating conditions without creating new infrastructure. The

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Committee reviewed examples of TDM programs in Washington and Oregon and elsewhere as they prepared their recommendations. The Committee learned from their review that monitoring is a key to TDM program success.

The TDM Committee focused on the construction period, but suggested a targeted three-phase CRC TDM program: pre-construction, construction and post-construction. The program would deliver a mix of strategies including expanded transit, vanpool, carpool, telecommute, bike/pedestrian, and flexible work schedules focused on peak period commuters using employer outreach and individualized marketing programs. An institutional structure would be developed to coordinate program delivery, monitor results, and adapt strategies.

The pre-construction phase of the program would be utilized to ramp-up for readiness during construction. The Committee's peak direction target is to reduce 1200-1700 trips per day. The cost of such a program is estimated at $9.1 million; annual operating costs during the construction period are estimated at $4.1 million. The Committee spent less time discussing the post-construction phase of the program.

The TDM Committee recognized several limitations to achieving these higher results and that policy decisions could increase the performance of the program. The lack of an existing HOV lane or ramp system could limit use of carpools/vanpools. Early tolling would also have an effect on TDM strategies. Park and ride capacity is currently limited and would require additional facility capacity to enhance performance.

The project includes many TDM components. Calculations for 2030 indicate the following results:

- *Transit* is forecast to carry 6,100 people northbound during the 4-hour PM peak period in 2030. This is 17 percent of total person trips, up from 6 percent in 2005.
- *Pedestrian* use of the bridge is forecast to increase at least seven-fold over 2005 use.
- *Bicycle* use of the bridge is forecast to increase by 240 to 1,700 percent over 2005 use.
- *Participants in carpools* are expected to increase by 36 percent.
- *Tolling* is predicted to reduce daily I-5 traffic by 17 percent relative to the no-toll scenario.

John Replinger commented that there is potential for the TDM Committee to focus its efforts further on the post-construction period if given direction by the Council.

Discussion
Commissioner Stuart asked whether use of heavy rail tracks/Amtrak trains during the construction period to enhance movement of traffic was considered. He noted this was a success story from the 1958 bridge construction. John Replinger noted that the rail system is at capacity and the focus of the transit component of the TDM program is to increase C-TRAN bus service to the Gateway and Delta Park connections.

Mayor Leavitt noted that one of the reasons people choose not to use public transit is the need for freedom of movement at their end destination. He asked if the Committee had considered employer support for the purchase of fleet vehicles or participation in car-share programs. Peter Hurley responded that there was recognition that a "last mile service" or shared vehicles would enhance a TDM program. The Committee did not come to the point of recommending an incentive for this, but did include outreach to specific employers depending on where they're located and the type of business. Director Garrett suggested that a "mobility hub" concept may be an opportunity.

Transportation Secretary Hammond commented that the PSC will continue their discussions around the assumptions related to a TDM program that are included in the modeling behind current project designs and her support for that approach. She requested base numbers around which congestion trip reductions are currently being implemented in the region and how successful they are. Matt Ransom responded that the focus of the proposed program would be working with Washington businesses and recognizing the interstate market. Co-Chair Hewitt recommended that regional commute trip reduction programs be placed on a future meeting agenda.

Mayor Adams asked for the costs and benefits of a "state of the art" TDM plan and a list of elements that would be included. This analysis should include what effect the program would have on bridge use and capacity and how long it could extend the life of the bridge.

Mayor Adams asked about the potential impacts of an HOV/HOT lane system from Wilsonville to SR 500 during or after the construction period.

Vancouver Light Rail Alignment Update

Per the PSC's recommendation, this agenda item was skipped.

Freight Update

Katherine Williams, Port of Portland, and Katie Brooks, Port of Vancouver, provided an update on freight transportation activity in the region and the relationship of freight movement to proposed project elements, including specific refinements made on the Oregon side of the project area.

Freight Mobility in the Project Area

The freight economy is important to the State of Oregon and dependent upon ability to move goods internally and to foreign markets. Major port facilities in Portland are located at the confluence of two major highways, two major rivers, and the Union Pacific and Burlington Northern Santa Fe railroads. The Rivergate industrial district is the only inter-modal container facility in the state of Oregon.

The Portland Vancouver region is the 14th largest metropolitan exporting region in the United States, and much larger than more populous cities such as Atlanta and Phoenix. Air, rail, and sea freight are all dependent upon trucking. All freight modes are expected to grow, but truck volume is expected to outpace rail. Congestion is expected to spread into the mid-day period, which is the peak-travel period for trucks. Estimates of impacts from congestion by 2020 are significant, including increased hours of delay on truck routes in the I-5 corridor, congested lane miles of truck routes, and the cost of truck delay. Avoiding these costs will allow companies to re-invest in their operations.

Washington is the most trade-reliant state in the country with one in four jobs in the state tied to trade. Goods that come into the region's ports are heading to destinations north and south on I-5 and eastward to destinations on I-84. The Port of Vancouver and the West Vancouver industrial areas comprise of the biggest employment centers in southwest Washington-51% jobs in Clark County generate or import, or utilize freight and goods.

A soon to be published Clark County Freight Mobility study and the CRC's own freight analyses have yielded insights into the movement of freight in the CRC project area. It was found that 56 percent of today's freight and goods movement within Clark County is by truck. Approximately 70 percent of trucks from the Port of Vancouver travel south bound on I-5 and approximately 48 percent of long distance trucks coming through the area either begin or end in the CRC project area. The Port of Vancouver is expected to grow in the next 10-15 years and truck trips are estimated to increase to 4000,000 per year from the current 184,000 per year. A significant number more trucks are using I-5 than I-205, due to industrial and commercial land use in the project area. Also, a higher percentage of trucks are using I-5 at off-peak times to increase reliability and shorten travel times. Also, with respect to safety it was found that 20 percent of crashes in project area involve one truck, but only trucks only comprise 8 percent of the total vehicles.

In discussions with the trucking industry, the bridge is seen as both a corridor for freight throughput, as well as an arterial crossing access to local destinations. Freight on the Washington side of the project area uses many interchanges, especially Mill Plain Boulevard, which is currently the only oversize freight load access. Fourth Plain Boulevard is increasingly being used by freight due to congestion at Mill Plain Boulevard. SR 14 is also and the C Street/Downtown interchanges are also used for access to I-205 and I-84.

Marine Drive Interchange
Katherine Williams addressed details of the proposed refinements at the Marine Drive interchange, including the phasing of an elevated northbound flyover ramp and southbound access ramp to Victory Boulevard. The Marine Drive interchange provides access to the only inter-modal container terminal in the region. There was some concern expressed by the Port and freight stakeholders in their discussions of the refinement proposal about the effect of a phased approach for the flyover ramp, specifically the possibility that Port assets in the area could be stranded and their value reduced if access was not accounted for in project designs.

The Port of Portland identified several goals for freight movement at the Marine Drive interchange, including adequate travel speeds, ramp designs that are geared towards freight mobility, limited traffic control interruptions, and adequate reserve traffic capacity to accommodate further development. Port and CRC staff studied traffic patterns at the Marine Drive interchange and reviewed a single point urban interchange (SPUI) design both with and without a flyover ramp. The Port feels as though the phased design will service their needs without the additional elements until somewhere between 2025 and 2030.

Discussion
Commissioner Stuart asked why the project is phasing elements for the highest priority interchange in Oregon and whether the Port of Portland would prefer that improvements be completed without phasing. Katherine Williams responded that while completing all improvements at once is optimal, the interchange cannot be rebuilt without mainline improvements and she recognizes that costs may create limitations.

Mayor Adams asked for more information about traded-sector trips, commenting that these are the most important types of trip. What types of freight use each interchange? What are the volumes of traded-sector freight at each of the interchanges in the BIA, and what are their destinations? Mayor Adams also asked for more information about the specific points of congestion on or off the freeway in the project area.

Council President Bragdon commented that as more capacity is added to the system, it will likely get filled by auto traffic. He asked for information on what features of the project give an advantage for freight- physical, pricing, TDM- and are recognized by policies. Katherine Williams offered that variable pricing is an important component of the project. In conversations with truckers, they expect operational benefits from tolling as a traffic management tool.

Mayor Adams asked for more information on the specific freight elements- dedicated, separated, targeted- that will extend reliable freight trip time.

Project Sponsor's Council Update, Including Discussion of Work Plan Status

PSC members discussed several updates, including the status of their work plan. Co-Chair Hewitt announced that names for an independent review panel are being submitted to the governors. There is no specific time frame for these appointments, but he is hopeful that a group will be identified in the near future. Co-Chair Hewitt suggested that Project Sponsors Council members convene to discuss their suggestions for a work plan. This discussion will focus on areas of agreement and disagreement and agreement on how to proceed. Members agreed to meet in the next two weeks to discuss these items.

Next meeting

Friday, April 23, 2010 | 10:00 a.m. – 12:30 p.m.

WSDOT SW Region, 11018 NE 51st Circle
Vancouver, WA

Workshop Summary

WORKSHOP: **Columbia River Crossing (CRC) Project Sponsors Council and Integrated Project Staff**

DATE: July 16, 2010, 10:00 am – 12:30 pm

LOCATION: Washington State Department of Transportation, SW Region
11018 NE 51st Circle
Vancouver, WA 98682

PROJECT SPONSORS COUNCIL ATTENDEES:

Hewitt, Henry	Co-Chair, Oregon
Horenstein, Steve	Co-Chair, Washington
Adams, Sam	Mayor, City of Portland
Garrett, Matthew	Director, Oregon Department of Transportation
Harris, Jeanne	City Councilor, City of Vancouver
Hammond, Paula	Secretary of Transportation, Washington State
Leavitt, Tim	Board Member, C-TRAN
Stuart, Steve	Chair, SW Washington Regional Transportation Council
Bragdon, David	Council President, Metro
McFarlane, Neil	General Manager, TriMet

INTEGRATED PROJECT STAFF:

Brandman, Richard	ODOT CRC project director
Brooks, Katy	Community Planning & Outreach Manager, Port of Vancouver
Cotugno, Andy	Policy Advisor, Metro
Patterson, Scott (for Jeff Hamm)	C-TRAN, Director of Development and Public Affairs
Lahsene, Susie	Regional Transportation and Land Use Manager, Port of Portland
Lookingbill, Dean	Transportation Director, SW Washington Regional Transportation Council
Rorabaugh, Thayer	Transportation Manager, City of Vancouver
Smith, Paul	Transportation Planning Division Manager, City of Portland Bureau of Transportation
Wagner, Don	WSDOT CRC project director

OTHER STAFF AND PRESENTERS:

Sweeney, Patrick	City of Portland Bureau of Transportation
Hurley, Peter	City of Portland Bureau of Transportation
Ransom, Matt	City of Vancouver Department of Transportation

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

Welcome

Co-Chairs Steve Horenstein and Henry Hewitt welcomed everyone to the joint workshop session of the Project Sponsors Council (PSC) and Integrated Project Sponsors Council Staff (IPS).

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Review and discuss draft Integrated Project Sponsors Council Staff recommendations

Metroscope

Andy Cotugno reported that Metroscope model runs have been completed. The IPS Metroscope work group will complete interpretation of the modeling data and provide a report to PSC at their August 9 meeting.

Hayden Island interchange design

Mr. Cotugno provided an update on the IPS task addressing the design of the Hayden Island interchange. The IPS work group and Hayden Island Design group, composed of island and business stakeholders, have explored a number of interchange designs.

Mr. Cotugno provided an overview of the design process to-date. All concepts respond to the City of Portland's Hayden Island Plan that calls for better connections between the east and west sides of the community via an extended Tomahawk Island Drive, redevelopment of regional retail and mixed use residential areas west of the freeway, and a local retail center east of and adjacent to I-5. The Hayden Island Plan is an adopted concept plan resulting from visioning exercises with the community. Zoning, development codes, and street planning comprise the policies related to the Hayden Island plan.

The primary objective of this task is to develop interchange concepts that could result in a smaller footprint over Hayden Island while providing similar access to/from the island as the refined Locally Preferred Alternative (LPA). On-island and off-island interchange alternatives were explored by the work group, but were found to create additional property impacts (in the case of the off-island interchange concept) and on-island traffic impacts (in the case of the on-island interchange concept).

Three additional "hybrid" interchange concepts were also evaluated by the work group that incorporated aspects of off-island and on-island configurations. Concept A is built on the principle of an off-island interchange and would connect to Hayden Island via an arterial bridge on the east side of I-5 via the Marine Drive interchange, as well as a supplemental bridge west of I-5. The advantage of this option is that it provides complete access to the island, but there are concerns about its ability to support redevelopment, given that access from the north on I-5 would require travel beyond the island to an off-island location.

Concept B adapts the on-island option by splitting movements from I-5 to two streets on Hayden Island. This concept creates the smallest footprint, but also raises concerns about its ability to support island redevelopment. It also complicates the light rail station area as the light rail alignment would be required to run in between the freeway and freeway off-ramps.

Concept C adapts the LPA by removing ramps to/from Marine Drive from the design. Local access is provided by an arterial bridge adjacent to the light rail alignment. The footprint over the island is reduced with this design, but remaining ramps cross over North Portland Harbor.

Concepts A, B, and C would require more piers in the water at North Portland Harbor due to additional structures and bridges. A Biological Assessment representing the LPA has already been submitted to National Marine Fisheries Service for review. A determination of the potential for additional biological analysis will need to be made after a new design has been selected.

Cost estimates for interchange concepts have not been developed to the same level of detail as the LPA. Cost estimates will be made based on a review of the amount of additional structure and whether or not

they necessitate early phasing of elements that were deferred to the second phase of the LPA, including the flyover ramp at Marine Drive and the braded on ramp at Victory Blvd. Based on an initial review, it appears that concepts B and C would have slightly lower costs, and Concept C would necessitate the early phasing of the flyover and braided ramp elements.

Co-Chair Henry Hewitt said that technical analysis on design, traffic, and cost aspects of the interchange concepts continues and that additional concepts may emerge from work group discussions. A more detailed evaluation document will be available for the August 9 PSC meeting.

Discussion

Co-Chair Steve Horenstein asked about the timing for redevelopment of the Jantzen Beach SuperCenter. Mr. Cotugno responded that the initial component of the redevelopment will be under review by the City of Portland soon. Patrick Sweeney from the City of Portland confirmed that the SuperCenter owners will have a pre-application review with the City on August 3. This will lead to the potential relocation of Target and demolition of the existing main mall, which will lead to development of a street grid and longer-term redevelopment over time.

Council President David Bragdon asked whether the options had been evaluated for their impacts on performance of the I-5 mainline. Casey Liles responded that a full analysis of I-5 mainline operations has not yet been conducted for all alternatives and will need to be completed.
General Manager Neil McFarlane requested that the interchange evaluation describe whether light rail alignment is at grade or elevated for each of the concepts.

Alternative lane configuration on bridge

Paul Smith reported that IPS analysis of the number of lanes on the bridge is in progress. URS provided PSC with a summary of their findings at the June 25 PSC workshop. One follow-up item from the URS analysis is the refinement of the southbound full build design. Traffic analysis has been completed by CRC staff and will be discussed with URS by video conference next week. The City of Vancouver, Port of Vancouver, and other IPS members will be invited to attend this meeting.

Performance Measures

Katy Brooks provided an update from the Performance Measures work group. Results on primary areas of measurement have been completed. The group is identifying and evaluating a number of performance measures to be applied to other areas of the IPS work. Several project scenarios are being evaluated against performance in areas of travel time for commuters, freight, and transit; greenhouse gas emissions; safety; and overall benefits and costs. The work group compared existing conditions to several scenarios described in detail at the June 25 PSC workshop: Phase I LPA, LPA Full Build, and No Build. Performance measures findings will be used to support other IPS recommendations.

Travel time findings include improvements to commuter movements in both the A.M. and P.M. peak periods, with the most dramatic improvements occurring during the northbound P.M. commute. Freight travel times also benefit with the project, allowing for nearly 22 hours of uncongested conditions per day, compared to only 9 hours in the middle of the night in the no build scenario. Slight increases to travel times for freight in the A.M. southbound are due to the removal of the bridge bottleneck and the metering effect at the Marine Drive interchange. Transit travel time data, including light rail and bus, is completed but not yet summarized. An initial review suggests these are similar to commuter travel times.

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Project scenarios were compared with respect to the total number of collisions expected on an annual basis. Currently there are 400 collisions in the project area every year. The No Build scenario would result in 750 accidents, compared to 200 with the Full Build scenario and 210-240 with the Phase I LPA.

Greenhouse gas emission estimates show that both the LPA Phase I and Full Build scenarios provide significant improvements over the No Build scenario. Within the project area, the Full Build would result in a 4.4 percent reduction in greenhouse gas emissions; the 10-lane LPA Phase I would provide an additional 1.1 percent reduction.

A benefit-cost ratio for each scenario was also calculated. The LPA Full Build scenario benefit cost ratio is 1.9:1, Phase 1 LPA is 2:1 and LPA Phase I with the flyover ramp and braided onramp elements is 1.9+:1.

Overall, the Performance Measures work group found that a project has substantial benefit over a no build scenario. The differences between 10- and 12-lane bridge scenario benefits are very small.

Discussion

Tm Leavitt asked about the assumptions that went into the greenhouse gas calculation. Mr. Cotugno said that this looked at CAFE fuel emissions standards, growth in vehicle miles traveled, population growth, stop-and-go traffic periods, diversion to transit, and other elements. These findings followed the peer-reviewed CRC greenhouse gas analysis methodology.

Council President Bragdon commented that there are a lot of factors that may affect design speeds for the mainline, including driver education.

Council Member Jeannie Harris commented that she is concerned about the 10- versus 12-lane configurations on the north side of the river with respect to safety.

Transportation Demand Management

Matt Ransom and Peter Hurley provided a report on the findings of the Transportation Demand Management (TDM) work group. Mr. Ransom explained that the TDM committee involved local partners and transit agencies and represent the best information to-date to address questions about potential in the post-construction period. The data has not been modeled, as TDM is typically a projection rather than a modeled output. The TDM work group findings focus on where there are opportunities to reach beyond the model and find new markets.

The work group used benchmarking in comparison to programs in place in the Bay Area and Puget Sound. The most contemporary research has been done by WSDOT on SR 520. Commute trip reduction predictions are based on leading research in the Northwest, including data from the City of Portland's carpool program. Based on the opportunities researched and recognizing the differences in population and geography in the Portland-Vancouver metro area, the work group finds that an additional 11 percent peak period shift from single occupancy vehicles (SOV) to non-SOV is feasible. This commute trip reduction is on top of what was assumed in the Draft Environmental Impact Statement (EIS) for pre-construction and construction TDM measures.

Leading strategies to achieve additional mode shift look to the use of individualized marketing and financial incentives. Individualized marketing would aim to use programs to match drivers for purposes of ridesharing. Incentives could include toll rates specific to ride share, which has not yet been part of the discussion at PSC, but is a tool being used in other parts of the country. Additional opportunities to study

include increased light rail ridership and increased express bus service into downtown Portland. Overall, there is an opportunity in this region to bring together the strengths of employer demand management and corridor demand management to create a model TDM system.

Discussion

Mr. Ransom said that the IPS had a robust discussion about the numbers projected by the work group. The work group acknowledges that predicting beyond the forecast model is difficult, but is confident they are within range. Co-Chair Hewitt commented that it is understood that more can be done for TDM in the post-construction period and ideas should be considered and implemented without full understanding of the outcome, other than the system will work better. Council President Bragdon commented that the region should commit itself to try to achieve targets and institutionalize them in some way so that successors have something to aim for.

Mayor Leavitt commented he would like to ensure that there is as robust an effort as possible to ensure there are mechanisms in-place for commuter mobility at the end point of their trips to encourage use of transit. Director Matt Garrett agreed that the project creates an opportunity to package programs that provide a way for people to commute as well as get around once they've reached their destination.

IPS report

Co-Chair Hewitt said that the IPS will have a final report for PSC review at its next meeting. The co-chairs expect this report will bring this chapter of the project to a conclusion. The PSC and IPS groups have built a platform for a continued relationship that will be important for future phases of the project and for other regional thinking and planning.

Other issues

Mayor Leavitt commented that there is significant additional capacity within the bridge influence area to support the local contributions to the cost of the project. Specifically, users of project improvements on Hayden Island and in North Portland will have significant advantages in being able to get on and off of I-5 without using the bridge, thereby avoiding a toll. He suggested there be a conversation about the potential to toll additional access points into the corridor.

Mayor Leavitt asked if CRC had a statement or piece of correspondence from the project's federal partners that states we are following the NEPA process correctly. Secretary Paula Hammond said it is expected that the Independent Review Panel will have something to say about this topic in its report due July 30.

Next meeting

Monday, August 9, 2010 | 10:00 a.m. – 12:30 p.m.

Oregon Department of Transportation, Region 1
123 NW Flanders Street
Portland, Oregon

Columbia River CROSSING

DRAFT Memorandum

August 5, 2010

TO: Project Sponsors Council

FROM: Integrated Project Sponsors Council Staff

SUBJECT: Integrated Project Sponsors Council Staff Recommendations

Introduction

The purpose of this report is to present a comprehensive package of Integrated Project Sponsors Council Staff (IPS) recommendations that address several areas of interrelated work advanced over the past 20 weeks. These recommendations follow items in the IPS Work Plan approved at the April 23 PSC workshop and are the result of a collaborative approach that considered combined effects and benefits to the Columbia River Crossing (CRC) project, the surrounding transportation system, and to the region as a whole.

IPS process
Project Sponsors Council (PSC) members decided at their March 12 meeting that a timely, credible, and collaborative process was needed to discuss and resolve outstanding issues. PSC members and the Ports of Portland and Vancouver each appointed a staff delegate to meet on a regular basis and produce findings related to some of the project conclusions to-date as well as several additional alternatives. IPS members include the following individuals:

Henry Hewitt, Co-Chair
Steve Horenstein, Co-Chair
Susie Lahsene, Port of Portland
Katy Brooks, Port of Vancouver
Andy Cotugno, Metro
Dean Lookingbill, SW Washington Regional Transportation Council
Alan Lehto, TriMet
Jeff Hamm, C-TRAN
Paul Smith, City of Portland
Thayer Rorabaugh, City of Vancouver
Richard Brandman, ODOT
Don Wagner, WSDOT

Work groups were established around the following topics[1]:

- Remove Hayden Island Interchange
- Alternative Access/Redesign Hayden Island Interchange
- Remove Vancouver City Center Access
- Alternative Lane Configurations on the Bridge
- Post-Completion Transportation Demand Management
- Managed Lanes
- Performance Measures
- Metroscope Modeling

The IPS met twelve times to establish a work plan, assign elements of the work plan to IPS work groups and discuss progress made by the work groups. IPS members met jointly in workshops with PSC

[1] Adjustments were made to the list as the work evolved. The item for "Remove Vancouver City Center Access" was reported on at an April 23 workshop between PSC and IPS and subsequently dropped from consideration after PSC members agreed that findings warranted no further discussion of the concept. The presentation provided to PSC is included in Appendix B. In addition, the Managed Lanes item was merged with the Transportation Demand Management work group after it was determined there was sufficient overlap between topics for a combined effort.

members on April 23, May 14, June 11, June 25, and July 16 to report their preliminary findings. A copy of the *IPS Work Plan* is attached in *Appendix A*.

Discussion and Recommendations

The IPS has reached agreement on the following package of recommendations related to the several tasks outlined in their work plan. Future work for each of the work plan items is outlined in the *Next Steps* section, below.

Metroscope

IPS recommendation: Use Metroscope results to support the overall set of IPS recommendations.

The purpose of using the Metroscope model was to expand the analysis completed by the CRC project on the potential for the project having an unintended consequence of inducing growth and determine whether the CRC project will affect the ability of the region to meet land use goals. The Metroscope land use allocation model for the seven-county region maintained by Metro provides a basis for forecasting where market trends would tend to drive household and employment growth taking into account changing demographic and economic profiles, local zoning and investment decisions, changes over time in accessibility based upon implementing long range transportation plans and the market feasibility of different types of commercial and residential development. This framework provides a platform upon which to test several scenarios relating to the CRC project to better understand the potential for growth inducing effects. The results will be used only to compare alternative Metroscope scenarios. They cannot be used to compare to previous Environmental Impact Statement (EIS) runs, as Metroscope is used primarily to inform land use impacts. The approach that holds constant all other variables around the region provides the ability to understand the effects of the change that the CRC project would produce.

PSC members agreed on a comparison of 12-lane configurations for Metroscope scenarios including no build, 12-lane with tolls, and 12-lane without tolls. Members decided that results of travel time analysis by the Performance Measures work group comparing 10-and 12-lane configurations would help inform whether a fourth scenario (10-lane no tolls) should be run. The similar nature of these results, discussed in the *Performance Measures* section below, indicated that a 10-lane scenario was unnecessary.

Metro found that the project would have negligible impact on population and employment growth in Clark County when comparing the projected growth that would occur with the project compared to no change to the existing bridge and highway. The project's most significant land use effect would be to boost North Portland employment by about 1.5 percent. This analysis takes into account the effect of tolls and light rail in reducing vehicle trips across the bridge compared with the no-build scenario.

The results of the Metroscope model support other recommendations of the IPS and will also help inform a conversation between local decision makers about issues of a bi-state nature that are outside of the scope of this project.

Further discussion of the Metroscope results are included in the *Appendix C*.

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Hayden Island Access

IPS recommendation: Further refine the LPA to replace the Hayden Island interchange design with "Concept D".

The original charge to IPS was to develop concepts for a refined "on-island" Hayden Island interchange and an alternative access or "off-island" interchange that would reduce impacts on Hayden Island (particularly the overhead structure and elevation at Tomahawk Island Drive) while retaining all basic traffic movements and operations presented in the Locally Preferred Alternative (LPA).

Work commenced on these items in a single IPS work group. The City of Portland retained URS to develop concepts for an off-island interchange that fed into the work group. A Hayden Island Design Group (HIDG) was also convened to incorporate the perspectives of island residents and business owners; the HIDG has met up to twice weekly to discuss evolving design concepts. Feedback from the HIDG was provided to the work group and IPS to inform ongoing discussions.

Off- and on-island interchange concepts (Concepts 1 and 2, respectively) were presented to PSC members at their June 11 workshop with IPS. An evaluation of these options revealed operational issues and other community impacts. A public meeting held on Hayden Island on June 14 confirmed significant community concerns with these design concepts.

The IPS work group explored several "hybrid" designs, incorporating elements of Concepts 1 and 2 and other alternatives suggested by the City of Portland, Hayden Island residents and other interested parties. The "hybrid" designs (Concepts A, B, C, and D) each represents a combination of access from I-5 as well as local arterial access. Concepts A and B were shared at a public meeting on June 29 where further feedback was gathered from the community. Concepts C and D also emerged as a distinct design that could address many of the concerns expressed regarding the other Concepts. Concept D will be shared with the community at a public meeting on August 5. "Concept D" includes access to the island from I-5 in a similar manner to the LPA. Arterial access via the Marine Drive interchange has been removed, resulting in fewer overhead ramp structures over the island and raises the elevation of the community connector street, Tomahawk Island Drive. Local access to/from the island will instead be accommodated by a local bridge to the west of I-5, adjacent to the structure carrying light rail.

An evaluation comparing these interchange concepts found that Concept D provides the best balance of access to Hayden Island, freight mobility, environmental and community benefits, and project costs. Concept D carries a consensus recommendation from project partners, Hayden Island residents, and other stakeholders involved throughout the process.

Design concept maps and concept evaluations are attached in *Appendix D*.

Alternative Lane Configurations on the Bridge

IPS recommendation: Further refine the LPA to include a 10-lane permanent bridge with 12 foot shoulders, with northbound and southbound lane configurations according to the Phase I LPA design.

The City of Portland retained URS to conduct an evaluation of the potential to reduce the number of lanes on the I-5 bridge. CRC assisted URS in providing project traffic analyses for review and conducted additional analyses to support work on this task.

URS evaluated several scenarios relating to the number of lanes on the bridge in both the southbound and northbound directions. They found similar performance characteristics at the bridge between a 12-lane main span (Full Build) and a 10-lane main span (LPA Phase 1) if improvement elements included in

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the Full Build alternative, separate from the main span configuration, were added to a 10-lane main span bridge. The URS report addressing reduction in lanes is included in *Appendix E*.

URS offered methods for developing a 10-lane bridge for both northbound and southbound directions. For the northbound direction, the work group reviewed operational data and suggested that the lane configuration follow the 10-lane LPA Phase I design. A similar in-depth evaluation of traffic operations was needed for lane configuration concepts for the southbound direction.

Two 10-lane configurations for I-5 on the Washington side of the Columbia River were evaluated, including the LPA Phase I configuration and the URS "10-lane Full Build" configuration. The primary difference between the two 10-lane alternatives is the elimination of lane number four (4) in the vicinity of the Mill Plain interchange. The results of this evaluation found similar performance between the two configurations in terms of vehicle throughput and travel times within the bridge influence area. However, the 10-lane Full Build configuration was found to create a slowdown and turbulence in the merging area where the number of lanes is reduced from four to three. Further review by the City of Vancouver evaluated the alternatives in terms of traffic volumes, lane capacities, add/drop/merge and weaves, truck movements, distance between interchanges and traffic safety. Their findings (also included in *Appendix E*) support the LPA Phase I 10-lane option due to its ability to minimize turbulence and permit through lanes to function as designed to accommodate upstream merging and benefit traffic flow and safety.

The URS concepts for a permanent 10-lane river crossing include 12-foot wide inside and outside shoulders in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards for freeways with six or more lanes carrying 250 more trucks per hour. I-5 meets this criterion and 12-foot wide shoulders may also accommodate future use by bus transit under certain conditions, an option that has been of continued interest by PSC members.

More aggressive post-construction traffic demand management (TDM) measures would improve the performance of the I-5 system with a 10-lane river crossing design and are addressed in the *Post-construction Travel Demand Management* section, below.

Performance Measures

IPS recommendation: Performance indicators for commuter, freight, and transit mobility; safety; greenhouse gas emissions; and overall benefit/cost ratio support the overall package of IPS recommendations. The application of these measures was successful, indicating that a package of indicators to be refined over time should also be used to inform Mobility Council recommendations in the future.

The Performance Measures work group focused on travel times; safety; greenhouse gas emissions; and overall benefit/cost. Project scenarios included the following:

- *Locally Preferred Alternative (2030):* Replacement river crossing with three through lanes and three add/drop lanes; I-5 highway improvements, including improvements at seven interchanges; extension of light rail from the Expo Center to Clark College in Vancouver; bicycle and pedestrian facility improvements; tolling at the river crossing; and, transportation demand and system management measures.
- *Locally Preferred Alternative – Phase 1 (2030):* Includes all elements of the Locally Preferred Alternative (LPA) except construction of the I-5 braided on- and off-ramps at Victory Boulevard, the Marine Drive interchange flyover, and the northern half of the I-5/SR 500 interchange. This scenario also assumes the new Columbia River bridges would be striped for 10 highway lanes (three through lanes and two add/drop lanes) not for 12 highway lanes; however, there is no difference in overall bridge width when shoulders are included.
- *No Build (2030):* Assumes the CRC project is not built. Also assumes that the same population and employment growth occurs; and, the same transportation and land use projects are built, that are assumed in the LPA scenarios.

- *Existing (2005):* Baseline information derived from the existing transportation network, population and employment levels from year 2005.

Travel times

Travel times were summarized for each mode along I-5 including auto/commuter, freight, transit and auto/commuter on I-205 for the most highly used routes for each specific mode. Listed below is a very brief summary of the findings, more detailed information is available if requested.

Overall travel time findings

The work group found that both the LPA Full Build and LPA Phase 1 scenarios provide significant improvements over existing conditions and the No-Build scenarios. General findings on build scenarios:

- **Peak a.m. southbound** travel times on I-5 are significantly improved. Southbound traffic from connecting east/west facilities benefit from dramatically improved travel times in Washington due to reduced delays and queues on SR 500 and SR 14 entering southbound I-5. Southbound a.m. travel times are limited by downstream bottlenecks at Going Street/ I-405 and the Rose Quarter.
- **Peak p.m. northbound** travel times on I-5 are dramatically improved. The LPA Full Build is slightly faster than the LPA Phase 1 alternative due to increased operations near the I-5 Bridge.
- **Both Build scenarios** provide significant benefit to freight compared to the No Build scenario considering freight typically travels off peak and the number of hours of uncongested times increases from 9 hours under the No Build scenario to 22 hours under the Build scenarios.
- **I-205 northbound and southbound** travel times are improved with both CRC Build scenarios because the combination of improved transit, lane capacity and the DEIS level of toll keeps traffic in the I-5 corridor compared to the No Build which diverts significant I-5 traffic to I-205 because excessive I-5 No Build congestion levels.
- **Transit rider travel times benefit significantly in both CRC Build scenarios** for riders whose trips would include light rail and those who would take express buses from elsewhere in Clark County.
- **Full LPA and LPA Phase I benefits vary little between them.** Most travel times for all modes were effectively the same whether only Phase I were construction or the Full LPA as previously defined were constructed.

Automobile Commuters

- **Southbound a.m.** travel times under both the No Build and Existing scenarios showed significant delays at SR 500 and SR14 westbound to I-5 southbound, creating queues and increased travel time due to backups on these facilities.
- **Southbound a.m**. travel times in both CRC Build scenarios improve significantly over Existing and No Build. Even more significant potential travel time savings are constrained due to downstream bottlenecks at Going/ I-405 and the Rose Quarter/ I-84.
- **Northbound p.m.** travel times under both CRC Build scenarios demonstrate dramatic travel time savings. For example between the Morrison Street merge and SR 500 the travel time is reduced from 40 minutes in No Build to 17 minutes with the LPA Full Build. A slight difference of one minute between the Full Build compared to LPA Phase 1 was due to increased traffic near the I-5 Bridge.

Freight

- **Southbound a.m.** travel times for most freight origin/destination pairings had modest improvements for the CRC Build over existing conditions and No-Build scenarios due to the affects of upstream and downstream metering at different bottlenecks under different scenarios. Travel times to and from Mill Plain and Going Street follow similar patterns as summarized under for the commuter patterns.

- **Southbound a.m. freight entering I-5 at Marine drive** will experience longer travel times for the two CRC Build scenarios compared to the No Build scenario due to the interactions of existing bottlenecks upstream and downstream of Marine Drive and the I-5 Bridge metering downstream throughput under the No Build scenario versus trucks entering I-5 in a congested segment under the Build scenarios.
- **Northbound p.m.** CRC Build alternatives provided dramatic travel time improvements to freight in both build scenarios similar to that received by commuters (16 minutes for LPA Full Build scenario vs. 43 minutes for the No Build scenario from I-84 spilt to Mill Plain Boulevard).
- **Southbound a.m. and northbound p.m. build scenarios** provide significant benefit to freight (freight travels more off peak than during peak), allowing for 22 hours of uncongested off-peak freight travel time vs. only 9 available uncongested off peak hours in a 24-hour period with no-build.

Transit

Transit travel times were run on the Regional Model, and were based on a representative urban to urban commute (downtown Vancouver to downtown Portland), and a representative suburban to urban commute (99th Street Vancouver to Pioneer Square Portland). These two scenarios provide a good example on which to examine the level of performance for commuters living in closer proximity to the light rail park-and-ride commute-shed, and those who live further out that may choose to take express bus from outer suburban areas. The following conclusions were made:

- Both LPA and LPA Phase I scenarios greatly benefit both express bus and light rail transit over a no-build scenario
- Downtown to Downtown Route (light rail) is a faster commute than a no-build express bus, with benefits even more significant on the northbound commute
    - SB light rail in both build scenarios: 32 minutes vs. 43 minutes via Route 105 bus no-build
    - NB light rail in both build scenarios: 32 minutes vs. 47 minutes via Route 105 bus no-build
- Express bus service is faster under both build scenarios, with more significant time savings on the northbound commute
    - SB express via Route 199 bus is 53 minutes in both build scenarios vs. 58 minutes in no build
    - NB express via Route 199 bus is 37 minutes in both build scenarios vs. 52 minutes in no build

I-205

- **Southbound** peak travel times for both CRC build scenarios demonstrate slightly improved travel times compared to the No Build scenario. The combination of improved transit and lane capacity along with the moderate toll rate for the CRC build alternatives keeps I-5 traffic in the I-5 corridor compared to the No Build scenario which diverts traffic to I-205 because of excessive I-5 congestion.
- **Northbound** peak travel times demonstrate slightly more savings for the CRC build scenarios compared to Existing and No Build scenarios as compared to southbound peak travel times.

Safety

Project scenarios were compared with respect to the total number of accidents expected on an annual basis in the project area. Both the Full Build and LPA Phase 1 scenarios reduced the number of accidents compared with the No Build scenario. Most of the reductions in accidents were realized in the reduction of substandard merges, diverges, and weaving sections, and reduced congestion throughout the project area, particularly areas where heavy volumes of trucks are entering and exiting I-5.

- Existing accidents – 400/yr
- 2030 No Build accidents -750/yr
- 2030 Full Build accidents – 200/yr

- 2030 LPA Phase 1 accidents – 210-240/yr

Greenhouse Gas Emissions

Project scenarios were compared for their contributions of greenhouse gas emissions (GHG). The methodology for calculating GHG follows the same analysis peer-reviewed by the CRC Greenhouse Gas Emissions Expert Review Panel in late 2008. This methodology calculates GHG emissions based on energy consumed during construction and operation of the CRC project. Findings show the most GHG benefits for the Build scenarios when compared to the No Build scenario.

GHG emissions are estimated both in the project area itself and for the region accounting for diversion to I-205 and other arterials. According to these estimates, the Full Build LPA has 0.5 percent fewer emissions region-wide and 4.4 percent fewer emissions in the project area compared to the No Build scenario. The LPA Phase 1 has the same regional emissions as the Full Build LPA. In the project area, emissions are 1.1 percent reduced from the Full Build LPA.

Benefit/Cost

A calculated benefit/cost ratio was developed for each of the scenarios to provide a basis for comparing the multiple benefits and costs associated with project performance. The analysis was conducted using methodologies and metrics recognized and championed by the US Department of Transportation, including FHWA and FTA. The principal categories of benefit considered are congestion management benefits to the area, mobility improvement benefits, economic development benefits in the region, and bridge lift time savings.

CRC convened a panel of stakeholders and subject matter experts, including practitioners and local academic experts to scrutinize the evaluation methodology, the inputs used to conduct the evaluation and the analytic method. The stakeholder panel reviewed the calculations used in each benefit category and provided input on adjustments and refinements and suggestions on appropriate input values. The Full Build and LPA Phase 1 were assessed using this updated methodology. Either build option demonstrates substantial benefit per cost compared to the No Build.

- Full Build benefit/cost: 1.9:1
- LPA Phase 1 benefit cost: 2.0:1
- LPA Phase 1 with Marine Dr flyover and Victory Braid: 1.9+:1

Additional materials supporting Performance Measures work group findings are attached in *Appendix F*.

Post-construction Travel Demand Management

IPS recommendation: Expanded and increased TDM measures beyond those contemplated in the Draft EIS should be implemented after bridge construction is completed. This builds on a previous recommendation to implement TDM measures pre-construction and during construction. Different TDM measures may be most effective in each phase.

Principle Recommendation

- Develop TDM strategies to shift an additional 11 percent of peak period person trips crossing the bridge in 2030 to non-single occupancy vehicle SOV modes.
- This shift would reduce 2030 vehicle bridge crossing demand by 10 percent beyond the 2030 regional travel model forecast used for the LPA.

Recommended Strategies to Reduce Drive-Alone Trips

- Individualized marketing
    - Provide personalized travel option information to corridor employees and residents

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- Financial incentives:
  - Short-term (up to six month) financial incentives for commuters to vanpool, take transit or carpool
  - No toll for carpools, vanpools and buses

Projected Trip Reductions Based On:

- Local experience in Vancouver, Washington state (Commute Trip Reduction) and Portland (SmartTrips)
  - For example, Portland annually reduces drive alone trips 8-13% in targeted geographic areas using "SmartTrips" individualized marketing programs
- Research related to the cost effectiveness and scalability of rideshare services
- Benchmarking comparison with Central Puget Sound and Bay Area corridors
- Research in WSDOT's SR 520 Transportation Discipline Report

Benefits of Post-Construction TDM Program

- Increases efficiency of all designs by moving more people in fewer vehicles
- Lengthens functional lifespan of all designs
- Reduces costs for Clark County commuters using travel options
- Reduces fuel consumption and greenhouse gas emissions from all designs

What's Not in TDM Committee Recommendation that Could Reduce Drive-Alone Further?

- Increased light rail ridership
- High Occupancy Vehicles (HOV) / Managed lanes and/or HOV ramps
- $3 peak period toll (which may further reduce peak demand)
- Compact development financial incentives

Implications/Issues

- Increased number of C-TRAN buses in downtown Portland
- Increased demand for Park and Ride spaces in Clark County
- Need for regional coordinating or management structure
- Impact of $0 toll incentive on financial plan

Estimates

- The focus of the post construction TDM program is to achieve a greater reduction of drive alone trips. Estimates of potential mode shift build on top of the modeled forecasts for the 2030 LPA. The post construction estimates were developed based on market observations, and post processing. Over time individual mode splits may vary based on penetration of the TDM services while moving towards the post construction goal.

2030 LPA PM Peak 4-Hours I-5 NB without Special TDM Program

	Vehicles	% of Vehicles	Occupancy	Persons	% of Persons
Drive Alone	23,815	77%	1.0	23,815	54.3%
Carpool	5,025	16%	2.2	10,925	24.9%
Carpool >4 / Vanpools	90	0%	5.0	450	1.0%
Trucks	1,900	6%	1.0	1,900	4.3%
Vehicles(subtotal)	**30,830**	**99.9%**	**1.20**	**37,090**	**84.5%**
Buses	25	0%	51.0	1,275	2.9%

	Vehicles	% of Vehicles	Occupancy	Persons	% of Persons
LRT				4,750	10.8%
Transit (subtotal)	**25**	**0.1%**		**6,025**	**13.7%**
Pedestrians				80	0.2%
Bicyclists				700	1.6%
Ped/Bike (subtotal)				**780**	**1.8%**
Total River Crossings	**30,855**	**100.0%**		**43,895**	**100.0%**

2030 LPA PM Peak 4-Hours I-5 NB with Special TDM Program + $0 Carpool Toll					
	Vehicles	% of Vehicles	Occupancy	Persons	% of Persons
Drive Alone	18,749	67%	1.0	18,749	43.1%
Carpool	7,020	25%	2.1	14,916	34.3%
Carpool >4 / Vanpools	136	0%	5.5	750	1.7%
Trucks	1,900	7%	1.0	1,900	4.4%
Vehicles(subtotal)	**27,806**	**99.9%**	**1.31**	**36,315**	**83.4%**
Buses	33	0%	50.8	1,675	3.8%
LRT				4,750	10.9%
Transit (subtotal)	**33**	**0.1%**		**6,425**	**14.8%**
Pedestrians				80	0.2%
Bicyclists				700	1.6%
Ped/Bike (subtotal)				**780**	**1.8%**
Total River Crossings	**27,839**	**100.0%**		**43,520**	**100.0%**

Additional materials supporting TDM Work Group findings are included in *Appendix G.*

Next Steps

Metroscope

A final detailed report on the Metroscope analysis will be available by the end of August. The IPS Metroscope work group will be responsible for preparing the final report of this work and will ensure consistency of the travel networks on both sides of the river.

Hayden Island Access

Further due diligence on design, environmental, and cost issues related to Concept D will be needed. The CRC project and its partners will work with community stakeholders to finalize aspects of the design. The CRC project will assess the new interchange design for purposes of documentation in the Final EIS. The results of further analysis and design will be input to further work on the 10-lane bridge design.

Alternative Lane Configurations on the Bridge

The selection of lane reduction configurations are influenced by the final highway design and will follow decisions and additional design work on the Hayden Island interchange. The CRC project will assess the new highway design for purposes of documentation in the Final EIS.

Performance Measures

Performance measures have been used to inform discussion of other IPS work items. This task is complete.

Post-construction Travel Demand Management

Pre-construction, construction and post-construction TDM measures will be documented in the Final EIS.

TDM measures are likely to reduce congestion and improve I-5 performance in all project phases. PSC and CRC project partners should discuss a plan and timeline to request federal, state and regional funding to implement pre-construction TDM in order to provide benefits to Interstate Bridge corridor users as soon as possible.

To prepare for funding requests, the CRC TDM Work Group should develop a proposal with specific mode share objectives, specific actions to achieve the objectives, a three-year budget, potential funding sources and a coordinating structure for consideration by the PSC and/or partner agencies.

Other issues

[To Be Supplied]