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Columbia River Crossing

Comments on the Columbia River Crossing DEIS

Summary:

- P-0323-001** We are strongly in favor of the bicycle facilities in the current plan: 26' wide on the west side of the transit bridge, 12' wide on the east side of the northbound bridge. These facilities should not be compromised under any circumstances.
- 2) We would like to see world-class bicycle and pedestrian connections from the bridge into the cities of Portland and Vancouver – specifically to extend the bicycle facilities south to Victory Blvd and north to the outer edge of the Vancouver downtown core.
 - 3) The intersection design at I-5 and N. Marine Drive should be changed to allow easy travel by bicyclists on Marine Drive.
 - 4) We would like to see bike/ped improvements made to the study area in several years in advance of bridge construction.
 - 5) We would like to see stronger TDM measures implemented to encourage alternative modes of transportation.
 - 6) We would like to see safety improvements made to the existing bridge in advance of bridge construction.
 - 7) We are concerned about the large number of motorized vehicle lanes on the bridge—this will add to the cost to the region and encourage car-based development in Clark County.
 - 8) Consider extending Light Rail on Fourth Plain to the Vancouver Mall.

- P-0323-002** We are regular bicyclists and pedestrians who would like to see better connections from Vancouver to Portland. We believe that our community has much to gain by encouraging bicycle use, and the Interstate Bridge and North Portland have long been barriers to nonmotorized travel in the area. We are concerned about increased car traffic, increased noise pollution, water pollution, air pollution, fossil fuel consumption, and loss of community, etc. from increased car traffic on I-5. We are also dissatisfied with the suburban sprawl in Clark County and would like to see more options made for travelers, such as bicycling, walking, or taking transit.
- The CRC project s outlined in the DEIS required some additional consideration before it will meet our needs and the needs of Washington and Oregon--it is largely a road-based solution, with inadequate measures to promote densification in Clark County, encourage people to carpool, or enable people to have a terrific time riding ones' bike from Vancouver to Portland.

P-0323-001

Thank you for your comment. Please see the responses to your detailed comments below.

P-0323-002

The proposed new add/drop lanes (i.e., lanes that connect two or more interchanges) are used to alleviate safety issues associated with the closely spaced interchanges in the project area and are not designed to increase capacity generally on I-5. 68 to 75% of I-5 traffic enters and/or exits I-5 within the CRC project area, and these add/drop lanes provide space for this traffic to do so without disrupting cars and trucks traveling to destinations further north and south of the project area. The project does not propose to add lanes north or south of the project limits.

The DEIS evaluation found that the project, with a toll and light rail, would actually reduce the total daily volume of traffic using the I-5 and I-205 river crossings by approximately 3%. The FEIS analysis of the project has been updated to include an evaluation of how the CRC project would affect Vehicle Miles Traveled (VMT) (see Chapter 3, Section 3.1). Rather than inducing sprawl, the CRC project will likely reinforce the region's goals of concentrating development in regional centers, reinforcing existing corridors, and promoting transit and pedestrian friendly development and development patterns. In 2010, Metro ran the MetroScope model (an integrated land use and transportation model) to forecast growth associated with transportation improvements of a 12-lane river crossing and light rail to Clark College. The model showed only minimal changes in employment location and housing demand compared to the No-Build. For more information see FEIS Chapter 3, Section 3.4.

P-0323-003 Our comments:**1) Wide Bike Route needed**

Current (June 26, 2008) plans show a 26' wide bike/ped route on the west side of the transit bridge, and a 12' walking route on the east side of the Northbound bridge. We *strongly* support these two options, and encourage the design team to give them a high priority when possible project modifications are considered. Our predictions of the future demand for bicycle and pedestrian travel over the bridge suggest that these will be very well utilized, and the now-generous width will eventually be a very busy travel corridor.

2) Bike Route needs to extend through entire project area

The project study area stretches from Victory Blvd in Portland to 39th St. in Vancouver. The bicycle facilities, however, only go from N. Marine in Portland to 6th St. in Vancouver.

We appreciate the plans to create a world-class bike/ped facility on the bridge itself, but this needs to be matched by facilities of similar quality to actually connect Portland to Vancouver. As it is, there are no bicycle facilities between N. Marine Dr. and Victory Blvd in Portland, and the facilities are inadequate from N. Marine to Argyle St. in Portland and in the downtown core of Vancouver. When bicycling across the current I-5 bridge, many of the substandard facilities that make the route slow, dangerous and unappealing are in the connections from the core city grid to the bridge. The DEIS should ensure that a commuter-grade bicycle corridor is built through the entire length of the study area.

Specifically,

- i) Ensure that the bikeway crossed N. Marine in a tunnel or on a bridge. N. Marine has heavy truck traffic, requires long delays at crossing signals, and is a terrible place to wait for a crossing signal.
- ii) Create a wide, off-street bike facility from N. Marine to Victory Blvd, with a direct connection (both northbound and southbound) to Victory Blvd. If this is not possible, ensure that good bike lanes are built on Expo Blvd, wide enough for two bikes side by side to allow families to travel together and fast bikes to pass slow ones.
- iii) Create a second wide, off street bike facility from N. Marine to Delta Park.
- iv) Improve bike lanes on Interstate Ave from Victory Blvd to Argyle St. These should have been improved as part of the Delta Park I-5 improvements, but were not. They are treacherous, rough, narrow. The Schmeer Rd. intersection should be reconfigured to a standard T shape.
- v) Improve the SR 99E route (MLK Jr. Blvd). Widen bike lanes by reducing excess width in outside vehicle lanes (currently 17' -- should be reduced to 12'). Reconfigure the intersections along the route-- remove the Gertz Rd. turnouts and connect create a separate bikeway alongside MLK from N. Union Ct (Delta Park) to Vancouver Ave, thus creating a high quality, contiguous bike route from the Vancouver-Williams couplet in Portland through to the Marine Way interchange.
- vi) Connect the bike route on the bridge to the outer edge of downtown. Commuters driving on the freeway don't need to go through downtown to get on the bridge, and commuters riding bike shouldn't either. The easiest way would probably to make a direct flyover connection to E. 5th St. or Evergreen Blvd east of I-5, allowing suburban commuters to come in on Fort Vancouver Way or Evergreen Blvd and make a direct connection onto the bridge. This would save about 5 minutes of travel time and help make bicycle commuting more competitive.
- vii) Ensure improvements are made to downtown Vancouver to enable smooth, direct access from the bridge onto high quality, direct bike routes. If Northbound bicyclists must divert a block to the east or west at 6th St., ensure that road geometry is done for a 25 mph design speed.

P-0323-003

As discussed in the DEIS, a replacement bridge over the Columbia River will include dramatically improved bicycle and pedestrian facilities by providing:

- A new 16 to 20 foot multi-use pathway over the Columbia River completely separated from vehicle traffic due to the design of the Stacked Transit Highway Bridge
- Protections from traffic noise, exhaust and debris for pedestrians and bicyclists on the river crossing
- More direct connections on each side of the river, consisting of stairs, ramps, and elevators, as well as pathway extensions that connect in with existing or planned facilities and public transit
- Many new or enhanced sidewalks, bike lanes, and crosswalks near the bridge and throughout the project area

Since the publication of the DEIS in May 2008, and the selection of the LPA in July 2008, the CRC project team has continued to work with the Pedestrian and Bicycle Advisory Committee and project partners to refine route and facility design. The updated design, as described in Chapter 2 (Section 2.2) of the FEIS, is the outcome of a long collaboration process.

P-0323-003 i) Good quality, commuter-grade bike routes should be extended from downtown Vancouver to the north end of the study area at 39th St. They should be wide enough for 2 bikes to travel side by side, travel at 25 mph, and be on streets without heavy car traffic.

3) Marine Drive/I-5 interchange

The diagrams show a "Single Point Urban Interchange" design. These can be treacherous for bicyclists and pedestrians. We would suggest that to mitigate this problem, the turnout design speeds be kept low-i.e. 20 mph, so that bicyclists and motorized vehicles can negotiate the "scissors area" or "throat area" at comparable speeds. Right turning traffic should be diverted into a right-turn lane in advance of the turnout, crossing a colored bike lane segment, rather than leave the roadway in a freeway-style exit. Traffic exiting the freeway and making a right hand turn must have a stop sign where it meets Marine Dr. (For a good example of this, see the eastbound ramp from SR 500 to southbound Andresen Rd. in Vancouver).

Due to the heavy truck traffic on Marine Dr., we suggest that the bike lanes through the study area be 8 - 10' wide to provide a wide margin of error for cyclists.

This is consistent with Portland's bicycle-friendly street policies.

P-0323-004 4) Bike/Ped improvements prior to and during bridge construction

Improving bike/ped connections *before* construction begins will help mitigate highway congestion in two ways

- a) develop a stronger tradition of Vancouver-Portland bicycling, and
- b) mitigate the disincentives caused by diversions/delays on the bridge during construction.

The Vancouver-Portland bicycling or walking experience is substandard in many ways. The bridge itself is only a small component of the problem, which includes:

- substandard bikeway/sidewalk design
- obstacles placed in bikeway
- poor maintenance of bikeway surface
- limited directional signage
- lack of coordination between jurisdictions for overall maintenance and improvements.

Construction of a new bridge and rebuilding the I-5 corridor should be preceded by mitigation that will *enhance* the walking and bicycling experience.

a) *develop a stronger tradition of Vancouver-Portland bicycling*

We would encourage the following improvements be made *well in advance* of bridge construction. While this list is long, the entire project cost would only be (at most) a couple million dollars, and, if successful, divert several hundred bridge trips from car to bike (based on the experience of approach improvements to the Willamette bridges in downtown Portland).

- i) Widen the sidewalk approaches at the Vancouver end of the interstate bridge, improve the geometry of the path/street interchanges.
- ii) Replace all of the sidewalks in the Hayden Island interchange, make them standard widths with a 25 mph design speed, superelevation, and appropriate signage.
- iii) Install a bicycle signal at the N. Hayden Is. Dr. to allow bicyclists direct access across the interchange.
- iv) Widen and otherwise improve the crossing at N. Tomahawk Island Dr.
- v) Widen the path where it goes under the Marine Dr. to NB I-5 onramp to allow for safer 2-way travel through the S curve.

P-0323-004

Many well coordinated TDM/TSM programs are already in place in the Portland-Vancouver Metropolitan region and supported by agencies and adopted plans. In most cases, the impetus for the programs is from state-mandated programs: Oregon's Employee Commute Options rule and Washington's Commute Trip Reduction law.

The physical and operational elements of the CRC project provide the greatest TDM opportunities by promoting other modes to fulfill more of the travel needs in the project corridor. These include: major new light rail line in exclusive right-of-way, as well as express bus and feeder routes; modern bicycle and pedestrian facilities that accommodate more bicyclists and pedestrians, and improve connectivity, safety, and travel time; park and ride lots and garages; and a variable toll on the highway crossing.

In addition to these fundamental elements of the project, facilities and equipment would be implemented that could help existing or expanded TSM programs maximize capacity and efficiency of the system. These include: replacement or expanded variable message signs or other traveler information systems in the CRC project area; expanded incident response capabilities; queue jumps or bypass lanes for transit vehicles and other designated vehicles where multi-lane approaches are provided at ramp signals for entrance ramps; and expanded traveler information systems with additional traffic monitoring equipment and cameras.

The CRC project has crafted a multi-pronged TDM program to address capacity demands during construction of the project. The program promotes alternate modes of transportation for those crossing the bridge and includes increased carpool, vanpool and transit options and promotion of pedestrian and bicycle trips.

- P-0323-004** Install wider-radius turns in the various bicycle-bicycle intersections in the Marine Dr. interchange.
- vi) Improve the crossing of the NB I-5 exit onto N. Marine Way to convey to motorists that bicyclists have the right of way and allow bicyclists to traverse the intersection at 15 mph.
 - vii) Resurface the roadway through Delta Park.
 - ix) Add appropriate channelization for a formal bicycle intersection at Delta Park Rd. and Victory Road. Stripe hashes through the intersection to allow bicyclists to enter and exit Delta Park when cars are queued up waiting to go north on I-5.
 - x) Restripe Interstate Blvd and MLK Blvd with a wider bike lane (8' minimum) and reduce width of outside vehicle lane (currently 16' - 17').
 - xi) Make modifications to MLK Blvd as outlined in section 2.
 - xii) Install uniform, distinctive signage throughout the project area. Place kiosks with maps at key junction points on the route to ensure that users will not get lost for more than one segment of their journey.
 - xiii) Facilitate coordination between the various entities that control different portions of the corridor to work together on improvements, including the City of Vancouver, Portland DoT, Portland Parks, TriMet, and ODoT.
 - xiv) Identify and relocate unnecessary obstructions along the route, such as sign posts, bridge gates, and widen the bike lane into the driving lane where it is pinched off by concrete curbs or guardrails.

b) mitigate the disincentives caused by diversions/delays on the bridge during construction.

- i) We *strongly* urge you to leave both paths open on the bridge. For as many months as possible, or as many hours of every day as possible. Putting all foot and bike traffic onto the east sidewalk would make the journey much worse.
- ii) Run a shuttle for bikes and peds during construction, preferably from downtown Vancouver to the Delta Park MAX station. Run it all day on 15 minute headways.
- iii) Promote bicycling and walking as an attractive alternative to the congested freeway.

5) Stronger TDM measures before, during and after construction.

The TDM measures proposed in the DEIS (page S-28) are not very ambitious. Other jurisdictions, such as Salt Lake City in the 1990s, successfully reduced traffic by nearly 50% during reconstruction of I-15. More aggressive measures could eliminate much of the congestion we experience now, and have long-term improvements to the I-5 corridor. Possible ideas include:

- i) Express buses from Vancouver to the Delta Park MAX station.
- ii) Buses-only shoulders throughout the project area. Nearly all of the delay at the interstate bridge is incurred while *approaching* the bridge rather than on the bridge itself. Allowing buses to use shoulders, where feasible, would make transit much faster and more predictable. (This is widespread and extremely successful in the Minneapolis/St. Paul area).
- iii) We like the "provide bicycles" for low-income commuters suggestion buried on page 3-179.
- iv) Aggressive promotion of carpooling.
- v) Improved bike access to Delta Park MAX.
- vi) Advertising for transit, walking and bicycling throughout Clark County.
- vii) Many other measures are available in the TDM literature.

6) Corridor improvements prior to bridge construction.

In summary pages 3-4 - 3-6, the DEIS makes compelling arguments that the existing freeway is substandard and dangerous. While a new bridge would resolve these issues, we are concerned about our safety and with congestion at present, and urge implementation of some immediate mitigation to

- P-0323-004** Improve the route.
- P-0323-005** *More people are driving than can be accommodated on the bridges" This is true, and TDM measures as identified in the DEIS and elsewhere can reduce congestion. If implemented immediately, aggressive TDM measures could prevent congestion from worsening over the next decade.
- P-0323-006** * "Freight Movement" -- It should be noted that I-5 through Portland is *not* part of the continuous highway from Canada to Mexico -- I-205 serves that role through the Portland area (as is evidenced by existing signage where I-5 traffic is directed to use I-205 where the routes diverge in North Vancouver and Tualatin). I-5 is an important regional freeway, but it the significance given to it in the DEIS is not warranted. Not only is it substandard at the Columbia River, but the route features obsolete, dangerous conditions throughout the entire Portland area. I-5 has slow speed limits, limited sight distances, limited shoulders, poor quality roadway surfaces, substandard intersection geometry, inadequate traffic capacity and inadequate intersection spacing throughout the corridor from Tualatin to Vancouver. I-205 is the true backbone of the region's north-south travel for freight and intercity travel.
- P-0323-007** * "Public Transit Operability" see 5) ii) in the above paragraph--bus-only shoulders can solve much of this problem, and should be implemented well in advance of bridge construction (Many of us Clark County residents would like to take transit, believe it or not!).
- P-0323-008** * "Safety and vulnerability to accidents" We agree wholeheartedly that safety is an issue, but disagree that the only and most logical solution is to replace the bridge. Rather, given the compelling deficiencies noted in the DEIS, we suggest that the ODoT and WashDoT make necessary mitigations immediately to make the bridge safer. Speed limits should be reduced to reflect the tight operational geometry on the bridges and short merge distances. Warning lights should be installed for several miles each way from the bridge to warn oncoming traffic when the bridge is raised. Educational messages should encourage people to reduce speeds and drive defensively in the bridge area.
- P-0323-009** * "Substandard pedestrian facilities" Yes, and they can be improved well in advance of new construction with the measures suggested above in our comment #4.
- P-0323-010** **Highway Bridge Width**
We are concerned that too much money is being spent on the highway bridge, and that the added lanes will result in unnecessarily large numbers of Clark County residents commuting to Portland by car. This will give us more noise and air pollution in Clark County, and result in commuter traffic on Martin Luther King Jr. Blvd and Interstate Blvd. in Portland, our two primary bike routes. (Widening the interstate bridge would perpetuate, not resolve, this problem, identified in the DEIS on page S-4 "Spillover traffic from I-5 onto parallel arterials such as Martin Luther King Boulevard. and Interstate Avenue increases local congestion.")
- P-0323-011** Note that the term "auxiliary lanes" is only appropriate for one of the six lanes in each direction, not three. The lane that enters from downtown Vancouver and exits at Hayden Island is an auxiliary lane. The lanes that enter from SR 500 and SR 14 are freeway lanes at full capacity, and as there are no downstream exits of comparable capacity, they are simply dead-ending freeway lanes. This is significant because currently those lanes end in Clark County, and the bridge prevents all five lanes of freeway traffic from attempting to use the 2 (soon to be 3) lanes of I-5 and the 3 total lanes of Interstate and MLK Blvds. If all 5 upstream freeway lanes are brought into Portland, then two of them diverted onto surface streets, the result will be continued congestion on I-5, and increased congestion on surface streets.
- P-0323-012** We favor the highway width of the "supplemental bridge" option because it only has four lanes of highway traffic in each direction--three through lanes and one true auxiliary lane. We would also
- P-0323-013** or a revised study with two 5 lane highway bridges or a single 8 lane freeway bridge (multidirectional).

P-0323-005

TSM/TDM projects, by themselves, would not solve the many problems identified in the Project purpose and need, including seismic vulnerability, poor bicycle and pedestrian facilities and connections, poor transit mobility, and substandard highway design features. However, the CRC project has considered a variety of TSM/TDM measures to complement the infrastructure improvements. See Chapter 2 of this FEIS for a description of the TSM/TDM measures currently proposed as part of this project.

P-0323-006

The Vancouver-Portland region is a trade hub, acting as a gateway and distribution center for domestic and international markets. The region has become a trade hub, in large part, because of its direct access to the freeway system, navigable rivers, rail lines, and international air shipping. The region's continued competitiveness as a trade hub is dependent on the ability to efficiently move freight on and between these transportation facilities. Though I-205 is a convenient, cost-effective route for some freight trips, it cannot replace the role of I-5 as a freight route. For many freight trips, I-205 would be out of direction, adding to travel time and shipping costs. In addition trucks will travel on I-5 because it is shorter and faster than I-205. In 2005, the I-5 Interstate Bridge carried approximately 3,240 more trucks per day or 42 percent more than the I-205 Glenn Jackson Bridge. Trucks try to avoid congestion and travel during uncongested periods and because the travel distance on I-5 from junction to junction is only 19.3 miles compared to 25.5 miles on I-205 trucks will travel on I-5. Increased shipping costs can have a significant impact on the overall costs of doing business in our region, making us less competitive and threatening our status as a trade hub.

P-0323-007

Please see responses to P-0323-004 and -005.

P-0323-014

If the final bridge configuration is to be 5 or 6 lanes each way rather than 4, we suggest that one pair of lanes be HOV lanes. We're baffled as to why this option wasn't included--it's a very good idea, and could be implemented through the entire project area, and have been extremely successfully in combating congestion in many, many cities in the United States in the last decade. We bicyclists like to know that if we team up with other people we can beat the congestion in an HOV lane, especially if the HOV lane gives priority at bottlenecks.

P-0323-015 Extend Light Rail to the Vancouver Mall

None of the LRT termini are particularly well suited for a major transit terminus. The study should consider the Vancouver Mall, which is only a 3.5-mile longer route than to the Kiggins Bowl terminus. This would create an attractive destination at the terminus, travel through Clark College, the Fourth Plain corridor, the office district near the mall and the mall itself, creating two-way ridership throughout Vancouver throughout the day. This would put much of the population of Vancouver within an easy 3 mile bike ride of the MAX line, enabling Vancouver to become more of a car-free city for the 21st century. Land acquisition for parking structures would be relatively inexpensive at the mall and have a low community impact, and the mall is well served by two freeways which could have express buses to serve outlying residents.

Even if funding makes extension to the Vancouver Mall unfeasible at present, a Clark College Terminus could be designed for future extension to the mall, and the extension could be funded through urban redevelopment funds for Fourth Plain Blvd.

P-0323-016

Additionally, MAX should consider running express trains from Clark County into downtown Portland, stopping at only a few stops along the way. This could be done by installing crossovers every mile or two to allow for two-way travel on each line and educating riders to stand clear of the platforms and look both ways before crossing each track. This would shorten the commute time from Clark County and allow MAX to sell the same seats more often each day. Additionally, it would create a true "intercity rail service" between the two cities. Express LRT service is in the planning stages between Folsom, CA and Sacramento, CA.

P-0323-008

As described in Chapter 3 (Section 3.1) of the DEIS, ODOT's Safety Priority Index System (SPIS) ranked two locations within the CRC project area, the Hayden Island Interchange and the North Portland Harbor Bridge, within the top 5% of the highest scored sites or, high crash locations, in the state for 2004 to 2006. Within Washington, five locations along I-5 in the project area have been categorized by WSDOT as high accident locations, as reported in the DEIS.

Improving safety and mobility of cars and freight using the bridge and highway is a part of the CRC project's purpose and need. As described in Chapter 3 (Section 3.1) of the DEIS and FEIS, the replacement bridge and highway alignment, which was chosen as part of the LPA, includes a range of safety and design improvements. Some of those improvements include:

- A new bridge structure high enough for marine traffic, which eliminates the need for a lift span
- The addition of safety shoulders for stalled vehicles and incident responders
- Improved sight lines so drivers can see over the crest of the bridge, reducing the potential for rear-end collisions during congested periods
- Longer on-ramps and off-ramps to make it easier for drivers to merge onto traffic, and improve connections between interchanges
- Reducing congestion over the bridge compared to No-Build, by improving traffic operations, providing light rail and charging a toll to cross the river.

Additional potential safety measures, such as eliminating interchanges or reducing posted speeds, were considered during earlier phases of the CRC project but were dropped from further consideration because they

P-0323-017 Overall, we feel the project has merit, but the the DEIS is deficient in recognizing that bicycle facilities need to be better connected to the community, and mitigations made in advance of construction to favor bicycling. And we remain unconvinced that a 12 lane freeway across the Columbia serves the community's interests better than a 6, 8 or 10 lane freeway.

Thank you for your consideration,

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did not meet the accessibility goals of the project, did not meet highway design standards, and/or were not supported by the local jurisdictions.

P-0323-009

Please see response to P-1194-004.

P-0323-010

The project would change some circulation patterns on local streets, but in general, by reducing congestion on I-5, and improving travel time reliability on the highway, traffic will be less likely to divert onto local streets. Therefore the project is expected to reduce cut-through traffic on neighborhood streets and potentially increase livability in neighborhoods adjacent to the I-5 improvements of CRC. This, and other effects on local streets, are described in Chapter 3 (Section 3.1) of the DEIS and FEIS. CRC is not intended to fix bottlenecks on I-5 south of the project area, such as the I-5/I-405 split. However, CRC would not exacerbate congestion at these locations because it would not increase the traffic volume traveling through this portion of the corridor. As discussed in the DEIS and FEIS (Section 3.1), this project would not increase daily traffic levels due to the toll moderating demand and the introduction of light rail increasing transit mode share. For additional information on impacts to Neighborhoods and Environmental Justice communities, please see Chapter 3 (Section 3.5) of the FEIS.

P-0323-011

Please see response to P-1194-010.

P-0323-012

Following the selection of the LPA in July of 2008, the CRC Project Sponsors Council (PSC) was developed to provide recommendations to the project on a variety of issues, including the number of add/drop lanes over the river crossing. Over the course of several months, PSC was

provided with operational characteristics and potential environmental impacts of 8-, 10-, and 12-lane options. These technical evaluation criteria included, but were not limited to, traffic safety, congestion, traffic diversion onto local streets and I-205, regional vehicle miles travelled, transit ridership, regional economic impact, effects to neighborhoods, and protected species and habitats. In addition to the technical information, PSC received input from CRC advisory groups and reviewed public comment submitted to the project and obtained during two public Q&A sessions in January 2009 regarding the number of lanes decision, as well as hearings conducted by Portland City Council and by Metro Council. In August 2010, the PSC voted unanimously to recommend that the replacement bridges be constructed with 10 lanes and full shoulders. For more information regarding the number of lanes decision making process, see Chapter 2 (Section 2.7) of the FEIS.

The proposed new lanes are add/drop lanes (i.e., lanes that connect two or more interchanges), which are used to alleviate safety issues associated with the closely spaced interchanges in the project area, and accommodate the 68 to 75% of traffic that enters and/or exits I-5 within two miles of the Columbia River.

P-0323-013

Please see the response to P-1194-012.

P-0323-014

High occupancy vehicle (HOV) lanes work when they are part of a network, and could potentially be a useful tool in the CRC area if employed as part of a regional plan. The 5-mile CRC project by itself is too short in length to provide the true benefits of HOV lanes, but should the region adopt and develop a HOV system, lanes within the bridge influence area could potentially be designated as part of the network.

The CRC project team has looked at HOV lanes and freight lanes, which

are typically located on the inside freeway lane next to the barrier, as part of its technical analysis. Because about 70 percent of the vehicles enter and/or exit I-5 within the 5-mile study area, access to and from a HOV lane or freight lane could create traffic operational problems by increasing lane changes (for example, HOVs entering the freeway and needing to merge all the way to the inside lane). The results of this analysis are described in more detail in Section 3.1 of the DEIS.

P-0323-015

The CRC Project is focused on providing a high-capacity transit option through downtown Vancouver to Clark College. RTC has completed a High-Capacity Transit System Study which recommends specific high-capacity transit improvements, including light rail, bus rapid transit and bus service improvements that will best serve Clark County residents in the mid-term (by 2030) and long-term (beyond 2030). To view their Final HCT System Study, visit RTC's website at www.rtc.wa.gov. Though these recommendations are designed to connect with CRC transit improvements, they are not part of the CRC project.

P-0323-016

Providing express light rail service between Portland and Vancouver would require a third, and possibly fourth track, to be built to allow light rail trains traveling along the Yellow Line to bypass certain transit stops and non-express trains. This would require a significant capital investment and greater community impacts that are not a part of the CRC project.

P-0323-017

Thank you for your comment. It is addressed in detail in the specific responses above.