# Meeting Agenda

**MEETING TITLE:** Freight Working Group

**DATE:** Wednesday, February 18, 2009

**INVITEES:** Distribution

**LOCATION:** 10:00 AM to 11:30 AM at the CRC Project Office

**AGENDA:**

| | |
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| 1. Introductions, meeting recap | 5 minutes |
| 2. Update on number of lanes decision | 20 minutes |
| 3. Marine Drive interchange update | 20 minutes |
| 4. Vancouver interchange updates | 20 minutes |
| 5. Update on LPA resolution process and Project Sponsors Council | 10 minutes |
| 6. Upcoming public meetings and CRC outreach | 5 minutes |
| 7. Other topics | 10 minutes |

# Meeting Summary

**Meeting:** CRC Freight Working Group

**Meeting Date:** January 21, 2009, 10:00 a.m. to 12:00 p.m.

**Attendees:**

| | |
|---|---|
| Steve Bates | Redmond Heavy Hauling |
| Corky Collier | Columbia Corridor Association |
| Lee Johnson | Jet Delivery |
| Bob Hillier | Portland DOT |
| John Leber | Swanson Bark |
| Tracy Ann Whalen | Esco Corporation |
| Cheryl Twete | MERC |
| Walter Valenta | Marine Drive Stakeholder Group |
| Gavin Oien | CRC |
| David Parisi | CRC |
| Ryan LeProwse | CRC |
| Casey Liles | CRC |
| Claudia Hirschey | CRC |

**Review of Meeting Agenda:**

- Marine Drive Interchange Evaluation Update
- Number of Bridge Lanes Assessment
- LPA Resolution Process and FWG meetings

**Marine Drive Interchange Evaluation Update:**

The purpose of this agenda topic is for the Freight Working Group (FWG) to identify a preferred design from the freight perspective. Steve Bates is the FWG representative to the Marine Drive Stakeholder Group and will communicate the FWG's recommendation at the next Marine Drive Stakeholder Group meeting, which is scheduled for January 28, 2009.

Four design options were recently under consideration: two northern options including the design in the DEIS that the FWG developed with CRC over the past year, and two southern options at the request of CRC's Urban Design Advisory Committee and the City of Portland. Various stakeholders have concluded that the two southern alignments are not desirable, although these southern alignments have not yet been formally dropped from consideration. The southern alignments are not preferred by the several stakeholders for several reasons, including the proximity to the Vanport wetlands, right-of-way impacts, and the sharper curves on Marine Drive with a traffic signal on a curve.

The Marine Drive interchange design that the FWG has been considerating over the past year is referred to as the "Standard Design." A modified design of the Marine Drive interchange is referred to as the "Modified Standard." A decision between the Standard Design and the Modified Standard is pending.

The Modified Standard was developed to open up more space and access to the river, to improve or preserve speeds for trucks, and minimize impacts to local stakeholders. A number of design improvements are achieved with the Modified Standard including:

- Marine Drive crosses over I-5 at 90 degrees, rather than at skewed angle provided by the Standard alignment.
- The curves on Marine Drive have 40 and 45 mph design speeds, rather than 20 to 25 mph speeds achieved under the southern alignments.



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- The curves at the southbound-to-westbound off-ramp and the northbound-to-eastbound off ramps are flatter.
- The grade on Marine Drive is flatter.
- The northbound ramp to I-5 is at a lower elevation and flatter grade.
- The distance for the southbound weave on I-5 is longer.

Vehicular access to the river and industries along the river is approximately the same with the Standard and Modified Standard designs.

Construction is easier with the Modified Standard because roadways are constructed on new alignment with less disruption of traffic.

A key difference between the Standard and Modified Standard is the positioning of the light rail transit (LRT) station. With the Standard Design, it is on the west side of Marine Drive in an open area adjacent to the MERC property. With the Modified Standard, it is adjacent to Marine Drive, on the east side and potentially partially covered by the Marine Drive elevated structure.

The MERC expressed dissatisfaction with the position of the LRT station. They would like the LRT station to shine and attract quality TOD development. The Modified Standard design takes away property in the northeast corner and the alignment of Marine Drive creates a barrier from the MERC's point of view. In addition, the visitor's access in the southeast is compromised. MERC also noted that the Modified Standard design divides the existing property. The modified design includes an assumption that the northwest quadrant would be stormwater and/or open space.

Flexibility with the LRT station design was discussed. In the future there will be additional exhibition halls on the MERC site, but there is not yet a Master Plan. The LRT alignment touches down at the levy.

It was noted that the Pedestrian and Bicycle Advisory Committee preferred the Modified Standard because it provides better circulation.

Walter Valenta, a resident of a houseboat west of I-5 and a member of the Marine Drive Stakeholder Group, summarized points of view from the community. The Stakeholder group recognizes that the Modified Design is a work in progress. The freeway ramps are further away from the river with the Modified Design, which opens up land, access, and views to the river. It was noted that the further south the interchange is located, the more that Marine Drive can be constructed at right angles to I-5, and the more land is opened up facing the river. The pedestrian connections are improved as well.

It was noted that access is changed to Diversified Marine Industries (DMI). Access would be a right-in/right-out only. The access is limited by ODOT access standards, which are related to safety.

The FWG was asked for an overall preference and direction regarding the current design options at the Marine Drive interchange. The FWG concluded that, in general, the design in the DEIS was good for freight and the modified design is better. The northbound ramp with a flatter grade is preferred. The ramps that have tight radii with the Standard Design are wider with the Modified Standard, which is a benefit to truck mobility and safety. The Marine Drive alignment at right angles to the Interstate makes way-finding easier for the unfamiliar truck drivers. It was noted that there is a lot of consensus surrounding the Modified Standard, except with Metro/MERC. It is unusual to have that much acceptance from such diverse stakeholders.

Steve Bates will return to the next Marine Drive Stakeholder's meeting and relay this discussion to the group.

**Number of Bridge Lanes Assessment:**

The CRC staff has been working on analyses of the number of lane options across the Columbia River Bridge. Eight, ten, and twelve lanes are on the table, but it appears likely that the decision is between ten

and twelve lanes. The number of lanes is related to the number of auxiliary (add/drop) lanes. Each option maintains three northbound and three southbound through lanes. A handout was distributed summarizing the evaluation of number of lanes, and graphically presenting each of the add/drop lanes through the five miles of freeway improvement.

With the twelve lane option, there would be a 4.2-mile fourth lane. This is not uncommon in the Portland-Vancouver region where there are multiple closely-spaced interchanges. The fourth lane currently exists in several segments and the overall length of the existing fourth lane is 1.6 to 1.8 miles. There are seven interchanges in the five-mile project segment. The add/drop lanes connect to this fourth lane. The advantage is that merge, diverge, and weave maneuvers are completed off of the three general-purpose lanes. Trucks would have the ability to accelerate before merging on to the general-purpose lanes. This would result in fewer accidents and less congestion. It was noted that 40% of truck accidents are side-swipes, mostly due to lane changing by trucks and cars. In addition, accidents increase with an increase in congestion and at speeds less than 30 mph.

A ten lane bridge means that the fourth lane is discontinuous. This shifts merge and diverge maneuvers to the mainline. The traffic modeling and analysis estimated 12% increase in lane changes, five congestion hot-spots due to forced merges that cause outside lane turbulence, and speeds differentials of 10-15 mph within these hot spots by 2030. There would be an increase of 40 accidents per year with the ten lane option.

Future HOV lane options are reduced with the ten lane option. The FHWA prefers three non-HOV lanes next to an HOV lane. In order to maintain three lanes and add an HOV lane, the 12-foot shoulders on each side would be converted to four feet on the inside and eight feet on the outside. The fourth lane would allow for an HOV lane conversion while maintaining standard shoulders. Narrow shoulders on a freeway alignment can compromise safety. Under the 12 lane option, the HOV lane could occupy the inside lane without requiring shoulder conversion.

A handout of talking points prepared by members of the FWG was distributed. Safety is the #1 concern. The twelve lane option has consistent speeds. The ten lane option has congestion hot spots and significant speed differentials.

There are two upcoming meetings to discuss the ten versus twelve lane options: The City Council meeting on Thursday, January 29th at 2:00 p.m.; and the Metro Council meeting on February 5th at 2:00 p.m.

**LPA Resolution Process and FWG meetings:**

The LPA resolution process was addressed throughout the discussion at today's meeting.

**Requests:**

The FWG requested further design options to address issues with the LRT station at the Marine Drive interchange.

**Schedule:**

The next FWG meeting is Wednesday, February 18, 2009.

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# Memorandum

February 4, 2009

**TO:** CRC Project Sponsors Council

**FROM:** CRC Freight Working Group

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

## Framework

As an integral link in the Interstate highway system, the CRC project area[1] is vital to the movement of freight and people up and down the west coast, as well as within the Portland/Vancouver region. The CRC project is analyzing the appropriate number of lanes to safely and efficiently move the very high number of auto and truck trips that are entering and exiting I-5 in a very short congested area, as well as accommodating the high overall number of trips on the Interstate itself.

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

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

## Congestion

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

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

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

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



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- The 10-lane corridor option provides a more substantial benefit to freight movement than the 8-lane option; I-5 Bridge congestion would last for five to seven hours in 2030, with congestion affecting Mill Plain Boulevard, SR 14, and Marine Drive, but to a lesser extent than the 8-lane option. 10-lane option has five "hot spots" that inhibit smooth, safe traffic flow.

- With the 12-lane option, the period of delay at the I-5 Bridge would be reduced to 3.5 to 5.5 hours in 2030, with all of the congestion occurring during peak commute periods and not during midday freight peaks. Thus, the 12-lane option provides the greatest benefit to freight movement.

## Safety

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

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

## Cost

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

## Effects on Local Streets/Adjacent Neighborhoods

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

## Value of Freight

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

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

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

## Conclusion

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

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

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