

April 17, 2006

TO: Task Force Members
FROM: Doug Ficco and John Osborn
SUBJECT: Consolidated Responses to Task Force/Sponsor Questions

We have received written comments from Project Sponsor staff and from the Task Force about the Step A Screening. We thought it would be valuable for all of the Task Force members to see the questions and our responses, and have therefore included them for your review.

1. Dave Frei brought up need to have options for future, mid-speed vehicles, too fast for pathway, too slow for roadway. Where will this be addressed?

Mid-speed vehicles will be addressed during the development of the project's alternatives phase, to be initiated this spring.

This vehicle type will need to be further defined because the National Highway Traffic Safety Administration currently defines only "low-speed vehicles" as vehicles that can travel up to 25 miles per hour (mph) and that are only allowed on streets with maximum posted speed limits of 35 mph. Alternatives that include arterial connections across the Columbia River could either mean arterials with speed limits of 35 mph or less or not accommodating low-speed vehicles. More assessment will be needed for this vehicle type.

Staff Action: address in project's alternative phase.

2. Northbound peak travel is 46 percent from Hayden Island. Do we know what percent of these are shoppers who are making discretionary trips that may be amenable to TDM approaches?

According to Figure 3-3 in the CRC Draft Components Step A Screening Report (March 22, 2006), 46 percent of the two-hour afternoon/evening peak period traffic currently traveling northbound on I-5 across the Interstate Bridge enters I-5 from one of three on-ramps: Interstate Avenue/Victory Boulevard, Marine Drive, and Hayden Island. The northbound Hayden Island on-ramp actually accounts for about 11 percent of the total traffic traveling northbound across the I-5 bridge during the afternoon/evening peak period (conversely, the southbound Hayden Island off-ramp volume accounts for about four percent of the traffic traveling southbound on the I-5 bridge during the two-hour morning peak period).

Currently the level of detail needed to identify trip purposes is not available and was not planned to be modeled. Work this spring and summer could potentially provide this data for specific on-ramps (such as northbound Hayden Island) by trip type (shopping) and whether a shopping trip

was linked with another type of trip (work, etc.). Estimates of the types of trips and number of linked trips could potentially be used to ascertain which trips could be amenable to TDM approaches. This is an area of analysis that could potentially be undertaken if requested by the Task Force.

Staff Action: *Conduct additional analyses to consider trip purposes, if requested by Task Force and if feasible. Note: this may be additional work beyond the current work program.*

3a. *Can pie charts be made for north of the river like the ones south of the river so we can visually see the destination of transit users as well as origins? (Chart 3.7)*

3b. *Can we have a similar analysis for southbound travel?*

Unfortunately at this time, we cannot replicate this analysis for southbound trips. Figure 3.7 in the CRC Draft Components Step A Screening Report (March 22, 2006) was developed using year 2020 person-trip projections estimated as a part of the Portland/Vancouver I-5 Transportation and Trade Partnership study. For the Partnership study, travel projections of peak period person-trips were generally limited to the peak directions, i.e., southbound during the morning peak period and northbound during the afternoon/evening peak period. Thus, at this point we do not have southbound or non-peak direction data for the evening peak.

Staff Action: *Prepare requested person-trip charts during travel demand work this spring and summer.*

4. *Freight: All freight is not the same. Can we differentiate between freight by value and time-criticality? E.g., a truck traveling from LA to Seattle is not as sensitive to delay as a truck traveling from west Vancouver to PDX. Or, a truckload of gravel is less sensitive to delay compared to perishable goods.*

Disagree with assertion. The CRC transportation analysis will differentiate freight movements by mode, time of day, origin and destination, and freight value, if feasible. However, freight mobility experts, shippers, and carriers agree that in today's global economy there is little or no room for "discretion" in moving freight. All goods in shipment – whether perishable or not, high-value or low-value – are subject to a precise schedule because of the need to load and unload for production purposes, to meet another mode, and/or to maximize equipment utilization. While non-perishable bulk goods might not need to be somewhere overnight, it is still scheduled to ensure that staff, equipment, and receivers of goods are available to handle it.

Staff Action: *No recommended additional analysis.*

5. *3.2.5, 3rd Bullet: Amend to say: Provide enough highway capacity OR REDUCE DEMAND to reduce congestion levels significantly..."*

Staff Action: *Agree. Recommend revision to say: "Provide enough highway capacity or reduce traffic demand to reduce congestion levels significantly, thereby improving transit performance."*

6. Safety: 3-21. Since vast majority of crashes are rear-enders, what strategies besides changes in road design are effective in reducing this type of crash?

Interstate 5 within the Bridge Influence Area does not meet current safety standards. There is a high correlation between the Bridge Influence Area's existing non-standard design and the frequency of rear-end collisions. In addition, the frequency of collisions is generally proportional to traffic volumes, except during near or at-capacity conditions, when the frequency of collisions is exacerbated.

Some studies indicate that lowering speed limits creates greater speed differentials between those who obey the lower limits and those who do not. Also, while lower speed limits may provide some benefit during off-peak periods, the greatest number of collisions occur during the peak periods when travel speeds are slow (e.g., under 30 mph).

Short of rebuilding the entire freeway, rear-end collision reduction strategies include: 1) use of higher visibility pavement striping and signage, and 2) the elimination of specific ramps or even reconfiguration of segments of the highway. The effectiveness of reducing speed limits is limited.

Staff Action: *Requested information provided. No additional action unless further questions. (There will be an alternative that includes lower cost safety improvements to I-5 without adding capacity.)*

7. 4-1: Again, general purpose capacity increases on I-5 aren't the only way to reduce congestion. Add in demand reduction in criteria.

Question #1 on page 4-1 in the CRC Draft Components Step A Screening Report (March 22, 2006) states: "Increase vehicular capacity or decrease vehicular demand within the Bridge Influence Area."

Staff Action: *Believe request has already been addressed.*

8. Arterial bridge options: since 24 percent of trips in AM southbound exit/enter within the Bridge Influence Area as do 38 percent PM northbound, and demand is projected to increase 15 percent (or 30 percent, see below) by 2020 (without TDM or pricing), why did model conclude that arterial only options won't meet capacity criteria Q.1?

RC-14, 15, 19, 22, and 23 all would leave the existing I-5 bridges in place and provide a separate arterial crossing. Within the limits of our existing modeling, all could be expected to perform similarly; that is, travel demand would still increase over 15 percent compared to existing conditions, resulting in six to seven hours of congestion on I-5 in the Bridge Influence Area during the year 2020 afternoon/evening peak period. While this does not compare favorably to the projected performance of a new I-5 freeway crossing, it does represent an improvement over the "no-build" forecast. Accordingly, it was concluded that these components may not necessarily fail Step A's Question #1. We were not consistent in applying Q.1 to the arterial components, and have corrected that so that all of the above arterial components are scored uniformly.

Finally, a note of clarification: all 2020 projections are using updated data from the I-5 Transportation and Trade Partnership study. All of the I-5 Partnership's models included robust TDM/TSM strategies so the projected performance of these non-I-5 river crossing components incorporate significant TDM measures. Those TDM/TSM measures do not include pricing.

Staff Action: Revise scoring to show that RC-14, RC-15, RC-19, RC-22, and RC-23 do not necessarily fail Question 1 in the Step A screening.

- 9. Re demand numbers: On 5-15, demand increase is 15 percent, on 5-17 and 5-18, 20 percent is used, and on 5-19 and 5-20, 30 percent is used. Why the variation???? Similar inconsistencies show up in collision projections (45 percent vs. 60 percent).***

These demands vary because of differing locations and therefore differing travel demand characteristics. The traffic demand estimates presented in the report refer to each of the component's ability to reduce year 2020 peak traffic demands along I-5 within the Bridge Influence Area, consistent with Step A Question #1: "Does the component increase vehicular capacity or decrease vehicular demand within the Bridge Influence Area?"

Depending upon the proposed location and capacity of each of the alternative river crossing components, they would each serve different future traffic levels and would each result in different decreases in year 2020 traffic demands along I-5 within the Bridge Influence Area.

Similarly, since vehicle collision projections for the I-5 Bridge Influence Area are related to forecast traffic demands, each alternative river crossing component would result in different estimated increases in future vehicle collisions on I-5 within the Bridge Influence Area compared to existing conditions.

Staff Action: Differing travel demand is the result of differing component locations. No additional staff work recommended.

- 10. Language: one person's "improvement" is another person's "damage." Describe the components — don't use value statements.***

Most jurisdictions use the term "improvement" when describing roadway or transit projects since, at the very least, replacing aging or outdated equipment, structures, or materials results in lower costs to maintain the "improved" facility.

Staff Action: Use non-value based descriptions of components and alternatives as appropriate.

- 11. WSDOT did a study on congestion responses that modeled highway, transit, and pricing strategies in the Vancouver/Portland area. The conclusions were that pricing increased transit and lowered traffic demand considerably. When Mr. Parisi argues that no TDM actions will affect demand sufficiently and presupposes that any TDM or pricing strategy would not also apply to I-205, he is making a policy statement, not a technical one.***

The CRC project will provide technical assessments of TDM, tolling, and pricing as well as other alternatives selected by policy makers for further consideration. For alternatives that

include elements that are not now common practice in the northwest, policy issues about alternative desirability and appropriateness will need to be addressed by policy makers.

Staff Action: *The identified alternatives will be technically evaluated using all available data. Policy decisions will have to be made in the future by policy makers about alternatives.*

- 12.** *I'd like additional information on origin and destination of existing trips. The implication from some of the slides is that you surveyed and are reporting the actual trip origins and destinations (door to door), but I suspect you know what ramp people used to access I-5 and the home address of the registered owner of the vehicle (from your license plate survey). Is that what you are reporting?*

October 2005 surveys collected no information on the actual origin and destination of each vehicle-trip traveling on I-5 through the Bridge Influence Area.

New Bridge Influence Area ramp usage survey data, additional data collected in October 2005, and up-to-date household and employment information are currently being used by the CRC project team to develop a year 2005 travel demand model. This model will be used to estimate origins and destinations of vehicle-trips within the study area and will be relied upon heavily during the course of the study. The model will be used to assess existing conditions and year 2030 conditions. Initial results are scheduled to be available later this spring.

Staff Action: *Provide additional origin and destination information later this spring.*

- 13.** *Do you have data on trip distances? I am particularly interested in knowing about short distance trips (less than 5 miles) that might use a supplemental arterial bridge if provided. This would be consistent with ODOT policy in their draft Oregon Transportation Plan and described recently by Gail Achterman of the OTC that trips less than 5 miles in the Portland region not use I-5 but instead use parallel arterials. A supplemental arterial bridge might also be used to provide access to Hayden Island in lieu of an I-5 interchange.*

Vehicle-trip distances traveling northbound on I-5 and using the I-5 bridge during the year 2000 PM peak period were estimated during the I-5 Transportation and Trade Partnership study. About 10 percent of vehicle-trips using I-5 crossing the I-5 bridge were estimated to have total trip lengths of five miles or less.

New estimates of year 2005 and year 2030 trip-lengths across the Columbia River will be conducted using the CRC project travel demand model this spring.

Staff Action: *Provide requested years 2005 and 2030 trip-length data for trips across the Columbia River on I-5 when available later this spring.*

- 14.** *What are you considering with respect to number of through lanes on the I-5 bridge alternatives? And what is your assumption regarding the roadway cross section on I-5 south of the Bridge Influence Area? Based on discussions with ODOT Region I staff, it is my impression that we can expect that Interstate 5 will have three through lanes maximum in each direction from the Columbia River to the Rose Quarter. If you were to*

provide more than three through lanes in each direction on I-5 across the Columbia River other than auxiliary lanes, then wouldn't the bottleneck just move south of the bridge?

For all alternatives, it is assumed that three travel lanes will be maintained in each direction along I-5 from approximately Columbia Boulevard to the Rose Quarter. Columbia Boulevard is the southern limit of the Bridge Influence Area study area.

Due to the short interchange ramp spacing within the Bridge Influence Area (there are eight interchanges within five miles) and the existing and forecast future traffic demand levels to, from, and between these ramps, additional auxiliary lanes will be needed to safely accommodate traffic flows within the Bridge Influence Area. The I-5 Transportation and Trade Partnership identified that a total of up to five or six directional travel lanes across the Columbia River may be required, but that through the use of add lanes, drop lanes, and auxiliary lanes the number of lanes would incrementally step down to three in each direction south of Columbia Boulevard.

The CRC project team will be conducting focused detailed traffic operations assessments to determine how I-5 and other roadways south of Columbia Boulevard may be affected through the provision of additional vehicle capacity on I-5 upstream of Columbia Boulevard.

Staff Action: Provide detailed traffic operations assessments of all alternatives, including the impacts to potentially affected areas outside the Bridge Influence Area (such as I-5 through North Portland), when available in late summer or fall.