Columbia River CROSSING

Partial Responses to Questions from Senator King
January 14, 2013
NOTE: Responses from Tri-Met and C-TRAN to transit-related questions are being prepared. This document will be updated when they are complete.

Transportation

1. **What is the current average daily traffic on the I-5 bridge both directions?**
   In 2011 (the most recent full year for which data is available), the annual average weekday traffic was 128,100.

2. **What is the current average daily traffic on the I-205 bridge both directions?**
   In 2011 (the most recent full year for which data is available), the annual average weekday traffic was 145,100.

3. **What has the average daily traffic been over the last 10 years on I-5 and 205 both directions?**
   Over the 10-year period from 2002 through 2011, the annual average weekday traffic volume on the I-5 bridge has been about 128,000 vehicles per day.

   Over the 10-year period from 2002 through 2011, the annual average weekday traffic volume on the I-205 bridge has been about 144,400 vehicles per day.

   Annual average weekday traffic volume by year for both bridges is presented in the table below.

Annual Average Weekday Traffic Volumes on I-5 and I-205 Bridges by Year (2002 – 2011)										
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
I-5 Bridge	128,200	129,500	129,200	132,600	131,900	130,400	126,300	125,500	126,900	128,100
I-205 Bridge	141,800	143,600	143,400	145,900	146,100	146,600	141,700	143,700	145,800	145,100

4. **What is the projected effect on average daily traffic on both bridges once tolling starts in 2015?**
   An investment-grade tolling study is underway and anticipated to provide additional information about the effect of tolling in various time periods, including the period after tolling begins. Previous studies have shown little diversion to I-205. The majority of drivers would not change their travel patterns. Some would choose a new destination or a non-tolled route.

Tolling

5. **What is the projected revenue from tolling for the next 30 years?**
   Tolling is expected to fund about one third of the construction cost: $900 to $1.3 billion.

6. **Where is the cost to collect the tolls, the bond debt service, and operation and maintenance being paid for?**
   Toll revenue dollars will pay for these costs. Tolling implementation costs cover initial planning efforts; design and procurement of tolling equipment and infrastructure; installation and testing of tolling equipment and infrastructure; customer service center modifications and additional facilities locally for customer service and administrative hearings; and, marketing and education. The project's cost estimate includes $45 million for tolling implementation.

7. **What are the projected costs for each of these and what is the total projected costs over the next 30 years?**
   CRC is currently working with both states to update the finance plan assumptions and the traffic and revenue data (through the investment grade analysis). As part of the process to prepare the investment grade analysis and better understand the tolling contribution, O&M and toll collection cost assumptions will be updated this year. Previous assumptions about toll collection and operation and maintenance (O&M) costs were documented in the finance chapter of the Final Environmental Impact Statement (pages 4.26 – 4.28).

8. **What are the projected toll rates when tolling starts in 2015?**
   Toll rates will be set by the Oregon and Washington State Transportation Commissions after the traffic and revenue projections are updated. This work is underway.

9. **What are the projected toll rates once the bridge is built?**
   For the Final EIS, the range of one-way toll rates studied for the financial analysis was between $1 and $3 (2006 dollars, see Exhibit 4.3-3 from the FEIS). This range in 2020 dollars (post construction) would be $1.41 to $4.24. Toll rates will be set by the Oregon and Washington State Transportation Commissions after the traffic and revenue projections are updated. This work is underway.

Transit

10. **What is the current average daily ridership on the express buses?**
    Tri-Met and/or C-TRAN are preparing a response.

11. **What is the current daily number of express bus runs?**
    Tri-Met and/or C-TRAN are preparing a response.

12. **What percentage of capacity is being used?**
    Tri-Met and/or C-TRAN are preparing a response.

13. **What has total ridership been over each of the last five years on express bus runs?**
    Tri-Met and/or C-TRAN are preparing a response.

14. **What is the projected average daily ridership for each of the next 10 years?**
    Tri-Met and/or C-TRAN are preparing a response.

15. **What is the current travel time for the express buses between Vancouver and the Rose Quarter during peak congestion in both directions?**
    Tri-Met and/or C-TRAN are preparing a response.

16. **What is the project cost per trip to use the express bus each way?**
    Tri-Met and/or C-TRAN are preparing a response.

17. **What will be the daily number of express bus runs once tolling begins?**
    Tri-Met and/or C-TRAN are preparing a response.

18. **Once tolling begins, what is the expected travel time for express buses between Vancouver and the Rose Quarter during peak congestion in both directions?**
    It would take passengers on light rail 38 minutes to travel between the northern terminus (near Clark College) in Vancouver to Pioneer Square in downtown Portland during the morning peak, compared to 43 minutes on bus rapid transit. Light rail passengers would take 32 minutes to travel between downtown Vancouver (7th Street and Washington Street) and Pioneer Square compared to 35 minutes on bus rapid transit.

19. **Will express bus riders from Vancouver pay anything toward the cost of the new bridge?**
    Tri-Met and/or C-TRAN are preparing a response.

20. **What is the projected daily ridership for light rail for the next 30 years in five year increments?**
    Tri-Met and/or C-TRAN are preparing a response.

21. **What are the projected revenues for light rail in Vancouver over the next 30 years?**
    Tri-Met and/or C-TRAN are preparing a response.

22. **What is the projected cost per trip?**
    Tri-Met and/or C-TRAN are preparing a response.

23. **How many stops will light rail have between Vancouver and the Rose Quarter?**
    Tri-Met and/or C-TRAN are preparing a response.

24. **What is the projected time to go from Vancouver to the Rose Quarter on light rail?**
    It would take passengers on light rail 38 minutes to travel between the northern terminus (near Clark College) in Vancouver to Pioneer Square in downtown Portland during the morning peak, compared to 43 minutes on bus rapid transit. Light rail passengers would take 32 minutes to travel between downtown Vancouver (7th Street and Washington Street) and Pioneer Square compared to 35 minutes on bus rapid transit.

25. **What is the projected initial charge to ride light rail from Vancouver to the Rose Quarter?**
    Tri-Met and/or C-TRAN are preparing a response.

26. **Of the $850 million expected from the feds, please provide a detailed list of how and where this money is being spent.**
    The FTA New Starts grant will pay for the following transit-related costs:
    - Final design and procurement
    - 2.9 miles of light rail system and five stations (four in Vancouver)
    - Three park and ride facilities in Vancouver located south of Fifth Street and east of Columbia Street (570 vehicle spaces); between 15th and 16th streets and Washington and Main streets (420 vehicle spaces); and just east of I-5 between the Veteran Affairs building and E. McLoughlin Boulevard (1,910 vehicle spaces)
    - 19 Light rail vehicles plus expansion of the Ruby Junction maintenance facility to accommodate these vehicles
    - Modification of the Steel Bridge across the Willamette River to accommodate vehicles from Vancouver
    - Relocation of the Tri-Met operations center rather than construction of new facility

27. **Of the $50 million for Ruby Junction, how is that being spent? Please provide a detailed list.**
Expansion of the existing Ruby Junction Maintenance Facility in Gresham, Oregon is necessary to accommodate the additional light rail vehicles associated with the operations of the CRC project. Storage of train cars will be necessary during off-peak travel times and to conduct regular maintenance, cleaning and repair. Expanding an existing light rail facility rather than building a duplicate facility in Clark County with duplicate maintenance personnel provides a more cost effective solution. The preliminary estimate from 2011 to expand the existing Ruby Junction maintenance facility in Gresham to accommodate the 19 light rail vehicles needed for CRC is about $50 million. This estimate is in addition to a recent estimate of about $36 million to expand the Ruby Junction facility for the Portland to Milwaukie light rail project to accommodate a similar number of vehicles. Additional refinements of the CRC cost estimate related to Ruby Junction are in process and will reflect advancements and additional certainty in design.

28. **Where is the operations center being built? What is its projected cost and where is the money coming from?**
Similar to WSDOT's traffic management centers , TriMet's existing Operations Command and Control Center at Ruby Junction is the 24/7 command center for the entire MAX and bus system. The current center in Gresham cannot accommodate the addition of the Portland to Milwaukie and CRC project components without expansion that would consume valuable maintenance facility area and could constrain future rail expansion options. Instead, the center will be relocated to existing facilities at TriMet's Center St. location, which is significantly less expensive than constructing a new facility at Ruby Junction. A reduced back-up operations command center will be retained at Ruby Junction. Both projects will share in the cost of relocating the center to Center St.

29. **What is the current percent of fare box recovery for the current TriMet light rail system vs. operating costs?**
Tri-Met and/or C-TRAN are preparing a response.

30. **Will light rail passengers from Vancouver pay anything toward the cost of the new bridge?**
Tri-Met and/or C-TRAN are preparing a response.

31. **Why is updating or reworking the steel bridge part of the CRC project?**
Trains that travel from Vancouver to downtown Portland must cross the Steel Bridge across the Willamette River. Modifications to the Steel Bridge would improve the existing light rail transit track and electrical system allowing the Yellow Line trains to and from Vancouver, as well as all other MAX line trains that use these tracks, to increase their travel speed and avoid system delays. This provides more reliability for travelers from Clark County and North Portland. Specific improvements include grinding the transit rails within the track bed to remove the lift joint bumps, rail corrugation, and any rough field welds; installation of a vibration pad under the signal case to dissipate vibration; and stiffening of the overhead catenary system brackets to allow for greater impact as the catenary transfers from the fixed to movable span. The estimated Steel Bridge improvement cost is about $300,000.

32. **What control does CTRAN, the City of Vancouver, or Clark County have over Trimet and their operations?**
Tri-Met and/or C-TRAN are preparing a response.

33. Will the light rail workers who live in Washington have to pay Oregon income tax?
Tri-Met and/or C-TRAN are preparing a response.

Environmental Mitigation

34. Explain why the restoration of the Lewis River confluence is part of the CRC project.
(Jan. 7, #13) Replacing the I-5 Bridge over the Columbia River and installing two new ramps associated with I-5 and a local light rail/arterial bridge over North Portland Harbor requires several federal, state, and local permits and approvals that call for compensatory mitigation for unavoidable impacts to aquatic resources. Relevant permits include:

- Clean Water Act (CWA) Section 404 permit from the US Army Corps of Engineers
- Removal-fill permit from the Oregon Department of State Lands
- Hydraulic Project Approval (HPA) from Washington Department of Fish and Wildlife (WDFW).
- Clean Water Act Section (CWA) 401 certification from Oregon Department of Environmental Quality (DEQ) and Washington Department of Ecology (DOE)
- Environmental Zone (E-Zone) Overlay within the City of Portland, and
  Shoreline Management Areas and Critical Area Overlays within the City of Vancouver

State law requires compensatory mitigation sites for project impacts be located both in Oregon and Washington. Mitigation site selection was finalized in coordination with federal, state, and local agencies to meet all regulatory requirements. The Columbia River has ESA-listed salmon species that pass through the project area. The resource agencies directed the CRC project team to select mitigation sites that would benefit the salmon runs most affected by the CRC project. The compensatory mitigation site identified for Washington is at the confluence of the Lewis River and the Columbia River and is budgeted at $10 million. The compensatory mitigation sites identified for Oregon are on the Sandy River and the Hood River and are budgeted at $1.75 million and $5 million, respectively. The ecosystem benefits provided by restoration activities at these sites are immediately available and are greater than could be reasonably achieved at sites near the project footprint because the potential to improve juvenile rearing habitat is greater in a less urban environment.

35. What is the curation facility, its cost and why is it part of the CRC?
(Jan. 7, #13) The Vancouver National Historic Reserve includes significant cultural resources and the entire property is a cultural resource and park resource, including individual archaeological sites. These resources mean that federal regulations require mitigation of impacts to the facility. The CRC Project will adversely affect the reserve through direct and indirect effects including a direct taking of land that will remove a portion of the Fort Vancouver Village from federal control and protection, resulting in a loss of visitor access, and direct physical damage and destruction of portions of the Village, as well as the introduction of visual and audible elements associated with project improvements.

Mitigation for these impacts includes the treatment of significant archaeological resources that will be impacted through collection and documentation as well as the rehabilitation of a building for a National Park Service museum/curation facility. Interpretive elements associated with the facility will include exhibits on the historic properties that are destroyed or otherwise adversely affected and allow access to these collections by the public, consistent with federal and National Park Service

guidelines and policy, particularly 36 CFR Part 79. The federal leads and WSDOT will contribute $16.9 million to NPS for construction of this facility.

Funding and Cost

36. What is the plan if: We do not get the $400 million from the Feds, or we just get a portion of that?
Federal highway funds would be used to construct later phases of the project. Federal highway funds are not needed to build the bridge, its landings or light rail, which are the first elements of the project to be constructed. These elements will be funded by the states, tolls and Federal Transit Administration funds and will take up to six years to build. Remaining project components would be constructed as additional federal or state funds are available.

37. What is the plan if: Ridership and thus revenues do not meet the projections for light rail?
The capital construction of light rail will be funded through the FTA New Starts program. The operations and maintenance costs will be funded by the local transit agencies through local revenues and fare box recovery. There is no current plan to issue debt to pay for transit operations and maintenance.

38. What is the plan if: If tolling revenues do not meet projections?
Like other toll projects, the responsibility of debt repayment depends on the bond covenants and the types of bonds. The responsibility to repay the bonds lies with the states.

39. What is the plan if: Are there any limits as to how high the tolling rates can go?
In Washington, toll rates are set by the Washington Transportation Commission after a corridor is established as a toll facility by the Washington Legislature. The Oregon Transportation Commission has toll rate setting authority. The rate setting process for the CRC project will be developed as part of a bi-state agreement between the Washington and Oregon transportation commissions. Today the Washington Transportation Commission considers a number of factors when establishing toll rates including maintaining travel time, speed, and reliability, and generating enough revenue to cover bond obligations. In order to generate enough revenue, rates cannot be set so high that drivers chose to not pay the toll, which will reduce the available revenue.

40. I would like an explanation as to how the ad for risk and escalation was determined to be 37.5744%.
CRC staff has not located a risk and escalation percentage of 37.5744 percent in project documents. The Columbia River Crossing Project develops cost estimates through a process known as a Cost Estimate Validation Process (CEVP). CEVP is a risk-based analysis that estimates the probability that actual construction costs will fall somewhere within the stated range. The CEVP process develops base costs for the project that reflect the current-year cost for project elements such as pavement, earthwork, bridges, walls and contractor professional services. The base costs are examined by a team of engineers and risk managers from local and national private firms and public agencies in a workshop. The outcome of the workshop provides a cost estimate that includes inflation on base cost (based on year of expenditure and activity type), base-cost uncertainty, cost risk, cost opportunity, and cost of schedule delay. CRC cost estimates are expressed within a 60 to 90 percent range of confidence. The CRC current cost estimate is $3.1 - $3.5 billion. The ultimate cost and time to complete a project is subject to many variables including inflation, cost for materials or labor and the availability of funding. The most recent CEVP report is available on the CRC website at http://columbiarivercrossing.org/FileLibrary/TechnicalReports/CRC_CEVP_081711.pdf

Responses to Clint McCarthy provided by Nancy Boyd
January 14, 2013

1. **What is the height of two columns on the existing CRC Bridge?**
   The two towers on the existing I-5 bridges have a top elevation of 245-feet MSL (mean sea level).

2. **Can the Department confirm that there is an existing flight variance at Pearson Field because of those columns?**
   After speaking with FAA, we've confirmed that "flight variance" is not a typical FAA term. The intention of the term may be "Obstacle Clearance Departure." The present Obstacle Clearance Departure Procedures that are attached show three existing obstacles to avoid: the existing I-5 bridge, a crane, and a transmission tower line. It states the bridge is 2,704 feet from the runway, 587 feet left of the runway centerline, and a bridge tower elevation of 245 feet MSL.

3. **What is the expected population growth for the Vancouver for the next 30 years?**
   In addition to the Vancouver Urban Growth Area, Clark County includes considerable rural lands, and urban area associated with other cities. The OFM has estimated a County population for 2025 ranging from a low of 473,984 to a high of 621,763 persons. The County's 20-Year Plan anticipates increases in population based on a two percent growth rate. The County Plan (ending in 2024) is based on a projected population of 584,310 persons. In response to the request for a 30 year population forecast, CRC staff has used data points and growth trends from the adopted County and Vancouver Plans. Using the different population estimates for the recorded years in each plan, and an average two percent annual growth rate, the following estimates are provided for 2033:

   - The population of the incorporated Vancouver UGA will be approximately 250,913.
   - The population of Clark County will be approximately 709,148.

Responses to Related to WSDOT's Project Delivery
January 14, 2013

1. **What transportation improvements were identified in Clark County for the 9.5 cent and Nickel gas tax packages? What is the status of each? Were any delayed?**
   There are 19 Nickel/TPA projects in Clark County, 15 of which are completed. The remaining 4 projects are either under construction or in the pre-construction/design phase. When compared to the earliest legislative expectation for project completion, three projects are delayed but not yet complete and three were completed late.

Project	Status based on last legislative expectation		Status based on original schedule	Comments
I-5/Columbia River Crossing/Vancouver - EIS	Pre-Construction	On Schedule	On Schedule	
I-5/NE 134th St Interchange (I-5/I-205) - Rebuild Interchange	Under Construction	On Schedule	Delayed	Delay due to RW acquisition led to staging the project.
I-5/SR 501 Ridgefield Interchange - Rebuild Interchange	Completed	On Time/On Budget	Early	
I-5/Salmon Creek to I-205 - Widening	Completed	On Time/On Budget	On Time	
I-5/SR 502 Interchange - Build Interchange	Completed	On Time/On Budget	On Time	
SR 14/Riverside Dr and E Camas Slough Bridge - Upgrade Bridge Rail	Completed	On Time/On Budget	Early	
SR 14/Lieser Rd Interchange - Add Ramp Signal	Completed	On Time/On Budget	Early	
SR 14/Camas Washougal - Add Lanes and Build Interchange	Completed	On Time/On Budget	On Time	
I-205/Mill Plain SB Off Ramp - Add Turn Lane	Completed	On Time/Over Budget	Early	
I-205/Mill Plain Exit (112th Connector) - Build Ramp	Completed	On Time/On Budget	Late	Project was delayed 2 years in order to deliver with Stage 1 for efficiencies.
I-205/Mill Plain Interchange to NE 18th St - Stage 1	Completed	On Time/On Budget	On Time	
I-205/Mill Plain Interchange to NE 18th St - Build Interchange - Stage 2	Pre-Construction	On Schedule	Delayed	Project was delayed 3.5 years due to revenue shortfall.
SR 500/St Johns Blvd - Build Interchange	Completed	On Time/On Budget	Late	Project was delayed at the request of the City in order to deliver this project with locally funded adjacent improvements.
SR 500/I-205 Interchange - Extend Merge Lane	Completed	On Time/On Budget	Early	
SR 500/NE 112th Ave - Build Interchange	Completed	On Time/On Budget	Early	
SR 502/I-5 to Battle Ground - Add Lanes	Under Construction	On Schedule	Delayed	Delay due to RW acquisition led to staging the project.
SR 503/4th Plain/SR 500 Intersection - Add Turn Lane	Completed	On Time/On Budget	Early	
SR 503/Gabriel Rd Intersection	Completed	On Time/On Budget	Late	Delayed due to discovery of hazardous waste site. Down scoped to low-cost safety enhancements.
SR 503/Lewisville Park Vicinity - Add Climbing Lane	Completed	On Time/On Budget	Early	

2. What is WSDOT's track record for delivering the Nickel and 9.5 cent package and how is that record measured? If a project schedule is delayed, is it still recorded as on time if the new schedule is met?

WSDOT's Nickel & TPA Capital Project Delivery
Executive Summary - As of November, 2012

Current Status of Highway Nickel and TPA Construction versus Legislative Final Budget

	Nickel & TPA Projects	% of Total Projects [4]	$ Value (Billions) [2]
Total Number of Projects (2012 LEAP List) [1]	421		$16.3
Total Completed	340	81%	$5.4
Total Number in Construction Phase	29	7%	$9.6
Total Going to Ad in the Next 6 Months [3]	5	1%	$0.04
	374	89%	$15.0

Summary of Completed Projects to Date

Total of Projects Completed	340	
% Early or On-Time	88%	
% Within Scope	100%	
% Under or On-Budget	91%	
% On-Time and On-Budget	81%	
LEAP List[1] Estimated Cost at Completion ($/Billions)	$5.44	
Current Estimated Cost at Completion ($/Billions)	$5.37	
% of Total Program Over or Under Budget	-1.3%	Under

Notes:

On Budget = within 5% of the Last Legislative Expectation (Approved Budget)

[1] The total number of Nickel and TPA highway construction projects including:

- Those on the 2012 LEAP list,

- All other completed Nickel/TPA projects from prior biennia

- The individual projects from 5 programmatic budget items

(GuardrailRetrofit, Bridgerail Retrofit, Fish Passage Barriers, Seismic Retrofit, and Roadside Safety)

[2] Last Legislative Expectation (2012 LEAP list) and prior biennium completed projects, rounded to billions

[3] Numbers may change as project schedules are refined

[4] Columns with percentages may not add up due to rounding

Completed projects are considered on budget if at the time of completion they do not exceed the most recent legislative budget amount by more than 5%. Completed projects are considered on time if they are completed before or during the calendar quarter of the most recent legislative budget operationally complete date.

If a schedule delay is represented in the most recent legislative budget and the project reaches operationally complete status consistent with that schedule it will be considered on time.

History of project delivery performance measures and reporting

Representatives from the following organizations came together in 2005 to form the Transportation Working Group (TWG):

Joint Legislative Audit and Review Committee
Transportation Performance Audit Board
House Transportation Committee
Senate Transportation Committee
Office of Financial Management
Governor's Office
Washington State Department of Transportation

TWG's objective is to streamline accountability for the capital program by creating:

1) *Coherent instructions and requests from the entities charged with oversight of the WSDOT capital program.*
2) *A standardized set of reporting information on the capital program to be collected and reported by WSDOT that meets the needs of the entities charged with oversight of the WSDOT capital program. The TWG acknowledged a need to develop both a short and a long-term vision for WSDOT project reporting – with the short term vision constrained by WSDOT computer and management systems.*

After months of working through issues, a report was delivered and adopted by the Transportation Performance Audit Board (TPAB) that put forth the criteria that WSDOT would use in reporting project delivery performance. The report identified:

- The six milestones that are in use today
- Criteria for reporting on-time and on-budget
- The baseline for which WSDOT would report against

The last bullet is very important. The report identified that WSDOT would report against the last legislatively approved budget. While on the surface, this may seem to not be reasonable as the performance measure could change on a yearly basis as approved by the Legislature, the TWG recognized that it is unreasonable to identify a baseline for cost and schedule when there has been no preliminary engineering performed on the project.

It should also be noted that the TWG report was also adopted by both chambers of the Legislature and has been used since mid-2006 for reporting of project delivery.

WSDOT does recognize that there should be some middle ground in establishing the performance baselines for project delivery. We think it is reasonable to establish a point in a projects delivery cycle where the budget and schedule baselines could be set and reported against rather than proposing changes to the baselines in every legislative session. However, due to the uniqueness of construction projects, identifying and defining an objective point in a project's delivery cycle has proven to be challenging.

Columbia River CROSSING

Response to Questions
January 7, 2013

Project Costs

1. **What is the cost of construction for the Oregon roadway work? What amount of risk and escalation is included in the cost?**
   The CRC project uses the same cost estimating methodology as all other WSDOT projects, known as the Cost Estimating Validation Process or CEVP. The cost range is determined through a risk-based analysis that estimates the probability that actual construction costs will fall somewhere within a range. The ultimate cost and time to complete a project is subject to many variables including inflation, cost for materials or labor and the availability of funding. The cost of Oregon roadway work is estimated at $595 million, including interchange replacements at Marine Drive and Hayden Island, and highway and local road network improvements. This cost estimate, at the 60 percent confidence level, accounts for escalation, risk and uncertainty.

2. **What is the cost to include a bicycle and pedestrian bridge to Hayden Island and ramp to the Vancouver waterfront and why are they included in the CRC project cost estimate?**
   Ramps are required to allow bicycle and pedestrian traffic on the northbound main river crossing to access Hayden Island and the Oregon and Washington mainland. Without these ramps, a connection across the Columbia River for these modes of transportation does not function. The multi-use path elements and bike lanes and sidewalks in Washington and Oregon total about $40 million. CRC has prepared concepts to reduce upfront construction costs for the Marine Drive and Hayden Island interchanges to respond to Oregon Governor Kitzhaber's request for the project design to reflect current economic realities while maintaining essential project benefits. Under this phased option, portions of the bicycle/pedestrian pathway on the Oregon mainland and Hayden Island would be postponed until additional funds were available.

Funding

3. **Will the CRC project compete against other Washington projects (e.g. SR 520 or North-South freeway in Spokane) for federal discretionary highway funds? Will CRC be successful in getting funds?**
   The CRC project is unique among the example projects because it is part of the interstate system, is an integrated multi-modal project and provides key access to two international ports. While it is impossible to know at this time whether CRC will be successful in receiving funds through competitive programs, these unique qualities and positive feedback received from federal agency and elected leadership suggest that the CRC project will be competitive against projects across the country. At this time, it is not known whether the CRC project may be in competition with other WSDOT projects for funding from a federal source.

Transit

4. **What are the project elements to be paid for by the FTA New Starts grant? What park and rides will be paid for? How many light rail vehicles? Will the New Starts grant pay for improvements to Ruby Junction, Steel Bridge and TriMet operations center?**
   The FTA New Starts grant will pay for the following transit-related costs:

   - Final design and procurement
   - 2.9 miles of light rail system and five stations (four in Vancouver)
   - Three park and ride facilities in Vancouver located south of Fifth Street and east of Columbia Street (570 vehicle spaces); between 15th and 16th streets and Washington and Main streets (420 vehicle spaces); and just east of I-5 between the Veteran Affairs building and E. McLoughlin Boulevard (1,910 vehicle spaces)
   - 19 Light rail vehicles plus expansion of the Ruby Junction maintenance facility to accommodate these vehicles
   - Modification of the Steel Bridge across the Willamette River to accommodate vehicles from Vancouver
   - Relocation of the Tri-Met operations center rather than construction of new facility

5. **What are the costs for modifications to the Steel Bridge, expansion of the Ruby Junction maintenance facility, and relocation of the existing Tri-Met operations center and why are they included in the CRC project cost estimate?**
   Trains that travel from Vancouver to downtown Portland must cross the Steel Bridge across the Willamette River. Modifications to the Steel Bridge would improve the existing light rail transit track and electrical system allowing the Yellow Line trains to and from Vancouver, as well as all other MAX line trains that use these tracks, to increase their travel speed and avoid system delays. This provides more reliability for travelers from Clark County and North Portland. Specific improvements include grinding the transit rails within the track bed to remove the lift joint bumps, rail corrugation, and any rough field welds; installation of a vibration pad under the signal case to dissipate vibration; and stiffening of the overhead catenary system brackets to allow for greater impact as the catenary transfers from the fixed to movable span. The estimated Steel Bridge improvement cost is about $300,000.

   Expansion of the existing Ruby Junction Maintenance Facility in Gresham, Oregon is necessary to accommodate the additional light rail vehicles associated with the operations of the CRC project. Storage of train cars will be necessary during off-peak travel times and to conduct regular maintenance, cleaning and repair. Expanding an existing light rail facility rather than building a duplicate facility in Clark County with duplicate maintenance personnel provides a more cost effective solution. The preliminary estimate from 2011 to expand the existing Ruby Junction maintenance facility in Gresham to accommodate the 19 light rail vehicles needed for CRC is about $50 million. This estimate is in addition to a recent estimate of about $36 million to expand the Ruby Junction facility for the Portland to Milwaukie light rail project to accommodate a similar number of vehicles. Additional refinements of the CRC cost estimate related to Ruby Junction are in process and will reflect advancements and additional certainty in design.

   Similar to WSDOT's traffic management centers , TriMet's existing Operations Command and Control Center at Ruby Junction is the 24/7 command center for the entire MAX and bus system.

The current center in Gresham cannot accommodate the addition of the Portland to Milwaukie and CRC project components without expansion that would consume valuable maintenance facility area and could constrain future rail expansion options. Instead, the center will be relocated to existing facilities at TriMet's Center St. location, which is significantly less expensive than constructing a new facility at Ruby Junction. A reduced back-up operations command center will be retained at Ruby Junction. Both projects will share in the cost of relocating the center to Center St.

6. **What protections are in place for Washington toll payers and tax payers to make sure they don't bail out TriMet?**
   Operating costs for the light rail extension will be the subject of an agreement between TriMet and C-TRAN that will outline roles, responsibilities and cost sharing. Approval by the Washington State Legislature would be required before toll revenue could be used for any non-highway or non-tolling activity in Washington. See attached for information from TriMet on pension and long-term debt liabilities.

7. **Is it possible to add light rail to project at a later point? Please explain how this is redesign would impact schedule and budget based on current project assumptions.**
   The approved project design anticipates a significant mode shift from single-occupancy vehicles to transit. A delay in adding light rail would require additional modeling to understand the resulting effects on traffic. Building the project without light rail would likely not meet the project's stated purpose and need, as documented in the analysis performed under the National Environmental Policy Act (NEPA) and approved in the federal Record of Decision. Federal lead agencies would evaluate changes before making a determination about additional environmental review.

   If a change to the preferred alternative results in new and significant impacts, a supplemental EIS is required. A supplemental EIS would likely require 12 to 24 months to complete. The cost of conducting a supplemental EIS would depend on the scope of analysis and the length of delay. Costs incurred would include technical analyses, documentation and public outreach and comment.

   The project will not be as competitive for the New Starts federal transit funding if light rail is not included in the project. If a decision was made to select a mode other than light rail as approved in the Record of Decision and a supplemental EIS is required, FHWA and FTA would have to approve a new Record of Decision, and FTA would re-evaluate the project and assess its competitiveness compared to other projects.

8. **What happens if light rail ridership projections aren't met? Will express bus service be cut?**
   Light rail ridership projections were developed as part of the travel market analyses conducted for the draft and final Environmental Impact Statements. Estimates from these analyses found that transit use increases substantially by 2030 for both the No-Build Alternative and the locally preferred alternative, over the current transit ridership.

   Transit system operators regularly review ridership projections and utilize a variety of tools to adjust operations, as needed, to balance the needs of their transit riders and agency budgets. Decisions to adjust system operations may include transit fares, route service and schedules, and other aspects of operations. Specific agency responses to a scenario of lower-than-expected ridership on light rail are contingent upon many factors. However, with respect to cuts to express bus service, models show that opening day express bus service serves a different transit market than light rail (north of the project area) and therefore would be unlikely to bolster light rail ridership.

9. **Will C-Tran be responsible for paying for Tri-Met debt?**
   The following is an excerpt from the agreement between C-Tran and Tri-Met that is currently under development: "The Parties acknowledge that TriMet has unfunded pension and medical benefits legacy costs that it will have to fund in the future. Any payments of such legacy costs shall be excluded from any calculation of Mutual O & M costs as they relate to C-TRAN's cost sharing obligations."

Project Management and Delivery

10. **Why have David Evans and Associates and its subconsultants been paid $131 million for a contract that was originally valued at $50 million?**
    When the project was initiated, the DOTs estimated that $50 million was a reasonable budget for the initial level of effort to be conducted under this contract. The original budget amount was not intended to represent the total cost of the entire environmental and planning work effort leading to permitting and construction. The contract was established and managed on a task order basis.

    The CRC project team carefully managed the work effort to move through the federally mandated environmental process. As the environmental impact statement was developed, WSDOT and ODOT added work tasks and increased levels of technical analysis as the project evolved based on public input from more than 1,000 meetings and events, the guidance of 10 different project advisory committees, and recommendations from five expert review panels. Design refinements and analyses defined the level of work elements necessary and contract estimates were updated accordingly. The level of expenditures is well within national norms for projects of this size and complexity.

    Given the inherent variability (and uncertainty) of the project work effort, WSDOT and ODOT have utilized the appropriate contract approach to help closely manage the consultant team's scope of work and level of effort. This contract approach involves a master agreement that establishes the broad range of contract services, timelines and levels of effort, which is then supplemented with individual task orders for specific work efforts and deliverables. These task orders are closely monitored through the contract and invoice payment process. The contracting process included oversight by the project directors, WSDOT and ODOT headquarters, and legal counsel.

Tolling

11. **What happens if expected toll revenues are not met to cover costs of debt service, toll collections, operations and maintenance? Are we going to raise toll rates?**
    Toll rates will be set to sufficiently cover operations and maintenance, debt service and required reserves. Traffic and revenue analysis work will support initial toll rate setting and annual (or as needed) review to ensure rates are producing sufficient revenue to address bond covenants. Initial funding capacity estimates inform decisions around total toll-backed borrowing and will be based on conservative assumptions to ensure repayment. The state transportation commissions anticipate an annual evaluation of rates. Tolls may need to be adjusted to address revenue shortfalls, however, analysis demonstrates that every corridor has revenue maximization point. As toll rates rise above this point, there are diminishing returns and total revenue declines while traffic effects associated with diversion increase. Washington state seeks to establish borrowing levels to provide sufficient project funding while maintaining a sufficient distance from forecasted revenue maximization to

ensure there is the ability to adjust toll rates without exceeding this point. Toll rates cannot be adjusted upward without considering the effects to revenue generation and traffic diversion.

12. Why does the Final EIS provide costs in 2006 dollars?

Final EIS toll rates are expressed in 2006 dollars to be consistent with previous studies, including the Draft EIS from 2008. The Final EIS provides full toll rate schedules in 2006 dollars and provides some rates in 2010 and 2018 dollars to demonstrate the effect of assumed increases at completion of construction. The project anticipates transitioning to "year of collection" dollars as the traffic and revenue analysis work progresses.

Final EIS and Environmental Mitigation

13. Why does the Final EIS not provide information on the economic impact to the community? Is the economic impact known?

Economic impacts are one of several effects analyzed and considered during the environmental planning process. The analysis shows the CRC project will provide a large economic benefit to the states of Washington and Oregon. Several types of effects or impacts (these terms are used interchangeably) are included in the CRC environmental analyses presented in the Draft and Final EIS, and include direct, indirect, and cumulative effects. In all three areas, economic or associated benefits and impacts were included, as required by the National Environmental Policy Act. For example, long-term direct effects would include displacement of residents or businesses to accommodate a project's footprint. Indirect effects include those caused by an action at a later time or further removed in distance, such as changes in the pattern of land use. Cumulative effects can include minor effects with cumulative significance, such as contributions to local and regional greenhouse gas emissions.

In 2012, CRC conducted a broader economic analysis than was required under NEPA which considered project-related benefits of landside traveler savings, marine navigation savings, and the economic effects of improved market access and connectivity. The analysis found that estimated traveler benefits and economic growth were well in excess of project costs.

14. Why is it necessary to include Hood River channel restoration and a contribution to a Fort Vancouver in the CRC project cost estimate? How much will these elements cost?

Replacing the I-5 Bridge over the Columbia River and installing two new ramps associated with I-5 and a local light rail/arterial bridge over North Portland Harbor requires several federal, state, and local permits and approvals that call for compensatory mitigation for unavoidable impacts to aquatic resources. Relevant permits include:

- Clean Water Act (CWA) Section 404 permit from the US Army Corps of Engineers
- Removal-fill permit from the Oregon Department of State Lands
- Hydraulic Project Approval (HPA) from Washington Department of Fish and Wildlife (WDFW).
- Clean Water Act Section (CWA) 401 certification from Oregon Department of Environmental Quality (DEQ) and Washington Department of Ecology (DOE)
- Environmental Zone (E-Zone) Overlay within the City of Portland, and Shoreline Management Areas and Critical Area Overlays within the City of Vancouver

State law requires compensatory mitigation sites for project impacts be located both in Oregon and Washington. Mitigation site selection was finalized in coordination with federal, state, and local

agencies to meet all regulatory requirements. The Columbia River has ESA-listed salmon species that pass through the project area. The resource agencies directed the CRC project team to select mitigation sites that would benefit the salmon runs most affected by the CRC project. The compensatory mitigation site identified for Washington is at the confluence of the Lewis River and the Columbia River and is budgeted at $10 million. The compensatory mitigation sites identified for Oregon are on the Sandy River and the Hood River and are budgeted at $1.75 million and $5 million, respectively. The ecosystem benefits provided by restoration activities at these sites are immediately available and are greater than could be reasonably achieved at sites near the project footprint because the potential to improve juvenile rearing habitat is greater in a less urban environment.

The Vancouver National Historic Reserve includes significant cultural resources and the entire property is a cultural resource and park resource, including individual archaeological sites. These resources mean that federal regulations require mitigation of impacts to the facility. The CRC Project will adversely affect the reserve through direct and indirect effects including a direct taking of land that will remove a portion of the Fort Vancouver Village from federal control and protection, resulting in a loss of visitor access, and direct physical damage and destruction of portions of the Village, as well as the introduction of visual and audible elements associated with project improvements.

Mitigation for these impacts includes the treatment of significant archaeological resources that will be impacted through collection and documentation as well as the rehabilitation of a building for a National Park Service museum/curation facility. Interpretive elements associated with the facility will include exhibits on the historic properties that are destroyed or otherwise adversely affected and allow access to these collections by the public, consistent with federal and National Park Service guidelines and policy, particularly 36 CFR Part 79. The federal leads and WSDOT will contribute $16.9 million to NPS for construction of this facility.

Bridge Design

15. **In the current design how much space is there in the area under the bridge deck between the light rail portion and the bike/ped path portion and could that accommodate a lane of traffic? Is it possible to redesign the project to allow for traffic in the area under the bridge? Please explain how this is redesign would impact schedule and budget based on current project assumptions.**
The replacement I-5 bridge consists of two deck truss structures side-by-side, each with a cell underneath the bridge deck approximately 20 feet wide. These cells are designed to accommodate light rail (on the southbound structure) and a pedestrian and bicycle pathway (on the northbound structure). Assuming these designed uses were not applied, each 20-foot space is wide enough to accommodate one lane of traffic with minimal shoulder widths that do not meet current design standards (12-foot travelled way, 2-foot inside shoulder, 6-foot outside shoulder).

    The concept of placing auto traffic in the area underneath the bridge deck is one the project has considered. It presents several design challenges for ingress/egress for either local or freeway traffic because traffic would be entering and exiting I-5 from below the current road deck. If this added lane of traffic were part of the highway system, it would likely require an increase in the project's footprint to provide ramps to and from the lower deck. For local traffic, this would require a looping ramp structure that ties into the existing street network.

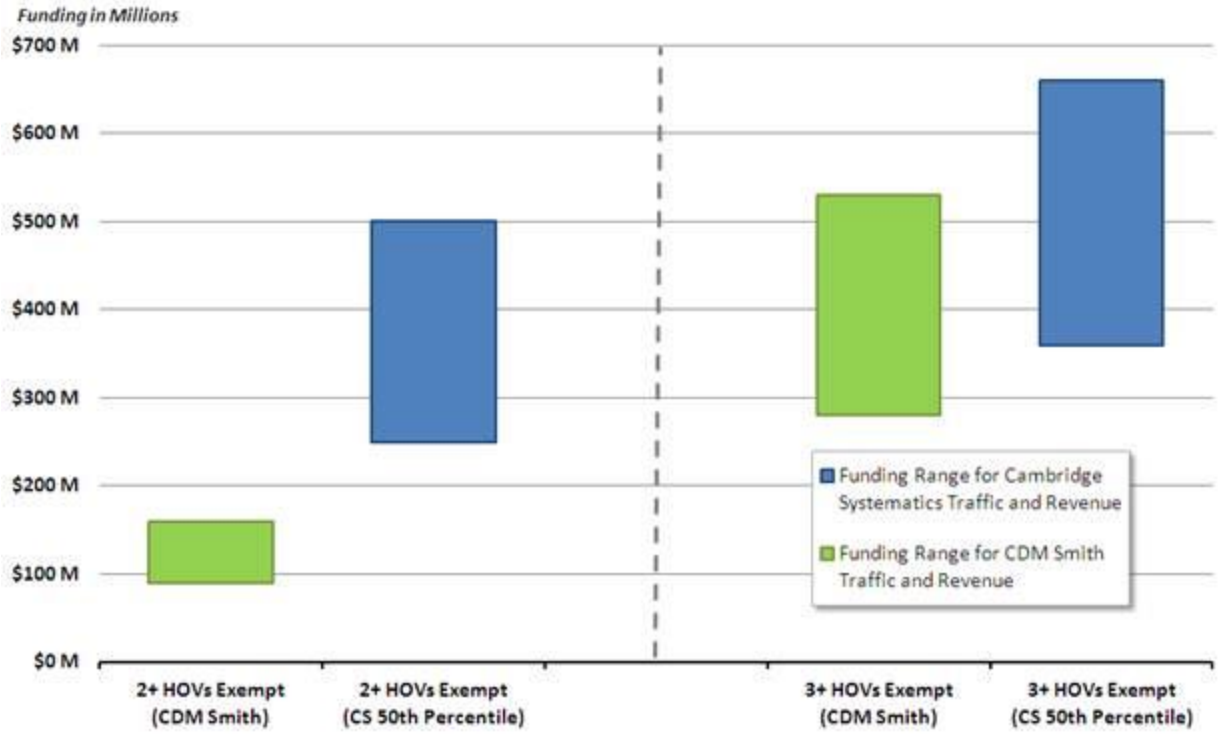
Either of these changes would delay the project, add cost and likely require a new environmental review. Redesign would delay the project up to two years, depending on the extent of the redesign, the need to examine impacts of new alternatives against the CRC's stated purpose and need, and additional public process. The increase in cost to the project is unknown without a firm concept to evaluate.

16. **What is the added depth on the bridge deck required because light rail is on the bridge?**
The structure dimensions are largely driven by the span length and width of the bridges. The long span lengths are necessary to provide the required width for shipping channels and to minimize the number of piers in the river. The structure depth is an additional five feet deep because light rail is on the bottom deck. See attached engineering drawings: rails for transit are depicted on the lower deck of the southbound structure; bikes and pedestrians would use the lower deck of the northbound structure.

Tolling Questions Related to Other WSDOT Projects

1. **How have toll revenue projections for the SR 99 tunnel project changed over time? Will toll revenue adjustments affect construction of other transportation projects?**
   The 2009 Legislature stated the Alaskan Way Viaduct Replacement Program finance plan must include no more than $400 million in toll funding. A report assessing various toll scenarios and potential revenue generation was provided to the Legislature in early 2010. Since then, based on lessons learned from the SR 520 toll funding process, the economic recession and guidance from the State Treasurer's office and State Finance Committee, WSDOT expects the toll funding generated will be less than $400 million. These assumptions have also been incorporated into the Columbia River Crossing project's funding plan. WSDOT is in the process of analyzing potential toll scenarios with the 15-member Advisory Committee on Tolling and Traffic Management. The 2012 Legislature revised the program's budget to reflect $200 million in funding from tolling, and added $200 million in federal funds to the program.

2. **Why did toll revenue projections on the I-405 express toll lane project change and what impact will the shortfall in revenue have on the I-405 project or other projects around the state?**
   As provided to the JTC in November, current revenue projections for the I-405 Express Toll Lanes from both Cambridge Systematics' Independent Eastside Corridor Tolling Study and CDM Smith's Traffic and Revenue show that the I-405 Express Toll Lanes will generate significant revenue. See chart below.



Note: Funding ranges reflect variation in financing assumptions for the expected value forecasts for each toll traffic and revenue scenario.

Potential Toll Funding Contribution Ranges (DRAFT – 2012)

In 2009, WSDOT provided a range of revenues that the I-405 express toll lanes project could generate. We provided a broad range because the estimates came from a planning-level study that looked at five different options as well as toll policy decisions on how to operate the lanes. Since a preferred option was identified in 2009 (Option 4, a 40 + mile Express Toll Lane system) changes in the economy, traffic and further refinements to the alternative have occurred. As a result, WSDOT has updated its traffic and revenue projections with consultant, CDM Smith.

Cambridge Systematics has recently provided their traffic and revenue gross revenue projections. Both CDM Smith's and Cambridge Systematics' more detailed and updated 2012 results provide for a narrower range. In addition, there are key differences between the 2009 CDM Smith study and the 2012 studies (CDM Smith and Cambridge Systematics) due to the following:

- The economy has shifted since the 2009 analysis, causing the 2012 analysis to be in the lower end of the 2009 range. However, the 2009 low funding range was conservative in anticipation of a potential economic downturn (*Great Recession*). The 2012 projected gross revenue is still within the overall 2009 range.
- A new value of time survey was completed for the 2012 analysis.
- The 2012 analysis included a "ramp up" period to represent the time it takes for users to learn and understand how the new express toll lane system works.
- The 2012 analysis has a number of different tolling operation assumptions than the 2009 report. For example, the minimum toll was a $1 in 2009 while the 2012 analysis assumed $0.75.

The traffic and revenue results' narrower range does not impact the I-405 Project. It was always noted that other funding would likely be needed to supplement the toll revenue to fund the south end of I-405. Additionally, while traffic and revenue results are narrower, project construction costs have also been lowered due to a better bidding climate. WSDOT is currently working with our Executive Advisory Group and the Office of the State Treasurer on completing the legislatively directed funding and phasing plan (EHB 1382), which will include a financial analysis in 2013.

January 2, 2013

During its December 10 meeting, members of the CRC Washington State Legislative Oversight Subcommittee raised questions about TriMet's Other Post Employment Benefits (OPEB) and debt service. CRC funding cannot be used to fund TriMet retiree or debt service. The CRC project is funded with dollars dedicated to capital investments and these dollars cannot be used to fund transit operations. TriMet's OPEB liability has no impact on the CRC project budget.

Potential OPEB Liability: TriMet has a *potential* liability of $850 million for retiree health care benefits and these estimated costs are based on more than 30 years of contracts with union employees. Containing future OPEB obligations is the agency's highest priority and is anticipated to occur over several contract negotiations. In 2012, the agency won an important arbitration ruling that lowered future union health care costs. TriMet continues to pursue additional reductions as it negotiates the next union contract. The agency is committed to achieving sustainable retiree health benefits moving forward.

Pension benefits: TriMet has paid 100 percent of its annual pension obligations every year, even while its contributions increased 131 percent during the last decade. In 2012, the agency took a significant step toward bending the cost curve on the pension liability, winning an arbitration ruling that allowed it to modify the defined benefit pension with a fully funded defined contribution plan for new union employees. This change mirrors retiree benefits provided to TriMet's non-union employees for more than a decade and enables the agency to create a sustainable pension program. TriMet's current unfunded union defined pension liability is $266 million, assuming a 7.75 percent return on investment. During the next three years, TriMet will phase in a 7 percent rate of return assumption on its union defined benefit pension and fully fund the unfunded liability over the working life of the remaining active participants. For comparison, TriMet's union defined benefit pension benefits are comparable to the reformed Oregon Public Employee Retirement System (PERS), providing a replacement ratio of about 50 percent for a 30-year employee.

TriMet's Debt Service: The CRC project is in no way funding TriMet debt service. TriMet's Board of Directors adopted a policy which limits the annual debt service on payroll tax bonds to no more than 7.5 percent of the agency's continuing revenues. TriMet is in compliance with this policy. Nearly 50 percent of TriMet's annual debt is paid for by a stream of Metropolitan Transportation Improvement Program (MTIP) funds pledged to TriMet by Metro for rail projects. The other debt is backed by federal, state and regional grants as well as payroll taxes. All the debt is highly rated—payroll tax backed bonds are rated Aa1 by Moody's and AAA by Standard and Poors, while grant receipt bonds are rated A2 by Moody's and A by Standard and Poors.

Washington Joint Transportation Committee – Columbia River Crossing Oversight Subcommittee – CRC Responses to Questions

Nov. 15, 2012

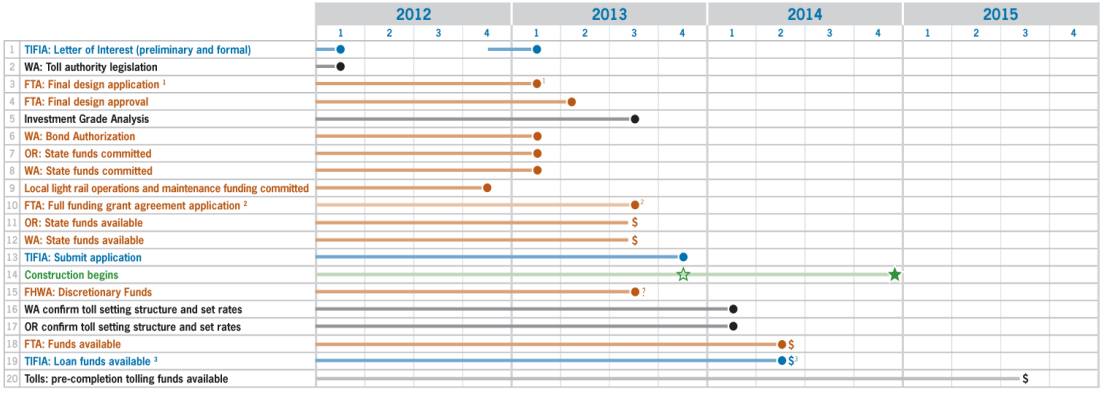
Contents

Funding

1. When do various revenue sources become available and what are the milestones and processes that need to be completed to secure each stream of funding?

The CRC project's finance plan includes the following revenue sources:

- **State equity:** Legislatures in both Washington and Oregon will determine mechanisms for and commitments to state funding for the project. The finance plan assumes that state funds are committed the first quarter of 2013 and available in the third quarter of 2013.
- **Tolling:** Tolling requires project-specific authorization, which was granted by the Washington State Legislature in 2012. After an investment-grade analysis is complete and a bi-state tolling agreement in place, both states' transportation commissions will begin the toll rate setting process. The finance plan assumes the investment grade analysis is completed in late 2013 and that a bi-state toll setting structure is in place and rates are set by the first quarter of 2014. Funding from pre-completion tolling would be available in the third quarter of 2015.
- **FTA New Starts:** A New Starts Full Funding Grant Agreement (FFGA) requires all capital funds to be identified and committed, including state equity funds and tolling authorization. The Finance Plan assumes application for FFGA in the third quarter of 2013, with Federal Transit Administration (FTA) grant funds committed in the second quarter of 2014.
- **TIFIA:** An application to the TIFIA program requires commitments of state funding and an investment grade analysis for toll bonds. A letter of interest will be submitted in the first quarter of 2013, with an invitation to apply resulting in application submitted in the fourth quarter 2013. Allocation of TIFIA funds requires a full finance plan and committed FTA funds. The finance plan assumes TIFIA funds are available in the second quarter of 2014.
- **FHWA discretionary highway:** Surface transportation reauthorization under MAP-21 appropriated approximately $500 million in 2013 for Projects of Regional and National Significance, which is less than previous years. Funding is awarded through a competitive process. The CRC project would be highly competitive for this funding when it becomes available. Both states are working with the Oregon and Washington federal delegation to support additional funding for the program. This funding is not required until the later phases of construction.



Estimated funding sources

Federal Transit	$850 M
Federal Highway	$400 M
Tolls*	$900 M - $ 1.3 B
OR/WA state funds ($450/each)	$900 M

*TIFIA is a federal loan and credit program. Tolls are the revenue source for the loan. The federal backed loan program reduces coverage rate for tolls.

[1] Must have 50% non-FTA funds committed or budgeted. Tolling authority in 2012 expected to meet this requirement. MAP-21 may affect FTA New Starts requirements.
[2] Must have all funds authorized.
[3] TIFIA is typically the last funding source. Must have full finance plan and FTA approved.

KEY

● ● ● ★ = Due Date BLUE = TIFIA BLACK = Tolling ORANGE = FTA , FHWA and State Funding

2. **What is the deadline to submit the FTA grant application? Why must the legislature approve a state equity contribution in the 2013 legislative session? Is there flexibility with FTA to approve the state equity contribution in 2014?**
   The CRC's design and construction schedule has centered on taking advantage of federal funding, especially transit funding from FTA's New Starts program. The New Starts program is currently funded and the CRC is well positioned to receive support through 2013. The project's favorable rating with FTA has earned the project a leading spot in the competitive queue for about $850 million. FTA has stated that after 2013 there funding for the program may be reduced by the U.S. Congress. To apply for the New Starts transit funds in 2013, FTA requires both Oregon and Washington to have committed state funds.

3. **How can the legislature approve funding or set toll rates for CRC in 2013 if the bridge height issue isn't resolved with the US Coast Guard?**
   WSDOT and ODOT will submit a bridge permit application for a specific bridge height in January 2013. A permit is necessary before entering into a contractual relationship with FTA for the $850 million FFGA, which will be applied for in 2013. The timeline for securing funding for the CRC project is more advanced than other projects where funding commitments were made prior to selection of a preferred alternative and securing permits. The Legislature funded $1.9 billion for the SR 520 project in 2009 prior to selection of a preferred alternative and completion of the environmental impact statement. The Legislature also funded $2 billion toward replacement of the Alaskan Way Viaduct as early as 2005; the selection of the bored tunnel as the preferred alternative was not made until 2009. Both of these projects received subsequent additional funding.

4. **What source will be used to fund bridge maintenance and operations?**
   The finance plan assumes that operations and maintenance and rehabilitation and replacement costs for the highway and tolling system would be paid by toll revenues. This ensures that the revenue-generating asset is maintained for uninterrupted operation. The use of toll revenue for these sources is consistent with the SR 520 and Tacoma Narrows Bridge projects. Potential revenue capacity of pre-completion tolling has been estimated assuming operations and maintenance for the existing bridges continues to be funded by ODOT and WSDOT and not from toll revenues.

Project costs

5. **What are the elements and costs associated with implementing tolling (including tolling equipment, customer service center, marketing, etc.)?**
   Tolling implementation costs cover initial planning efforts; design and procurement of tolling equipment and infrastructure; installation and testing of tolling equipment and infrastructure; customer service center modifications and additional facilities locally for customer service and administrative hearings; and, marketing and education. The project's cost estimate includes $45 million for tolling implementation.

6. What elements will be paid for with the $850 million New Starts grant? Has this list of what's to be paid for changed over time?

These elements paid for by the New Starts grant has remained consistent since they were first identified in the draft environmental impact statement in 2008. The grant will pay for the following elements (does not include the cost of financing):

Final Design and Procurement	$41,886,375
Transit Civil - Oregon	$294,276,219
Transit Civil - Washington	$256,497,968
Park and Rides	$153,348,440
Light Rail Vehicles	$112,072,651

7. Why is the project paying to upgrade light rail maintenance facilities in Oregon?

The light rail extension associated with the CRC project takes advantage of the existing 52-mile light rail network to key employment, financial, retail and recreation centers in the Portland-Vancouver metro area. Storage of train cars will be necessary during off-peak travel times and to conduct regular maintenance, cleaning and repair. Expanding an existing light rail facility rather than building a duplicate facility near downtown Vancouver with a duplicate maintenance team provides a more cost effective solution. The preliminary estimate to expand the existing Ruby Junction maintenance facility in Gresham is about $50 million. The estimate was calculated for planning purposes and will be refined in the coming months as the engineering design progresses. In addition, an adjustment will be made to the Steel Bridge in Portland to support the additional trains associated with the CRC extension. The estimated Steel Bridge improvement cost is about $300,000.

Tolling, traffic and revenue

8. Will tolls be collected by a government agency or a private entity?

Tolls will be collected by a government agency - most likely WSDOT or ODOT. WSDOT and ODOT may choose to contract with a private entity that has expertise and experience in electronic toll collection. For example, the existing toll collection system on the SR 520 bridge, Tacoma Narrow Bridge, and SR 167 HOT lanes implemented by WSDOT with a contract with two vendors, one for the lane system and one for the back office system. In addition the back office system provider is contracted with WSDOT to provide customer service center operations. The design of the system and toll operations business rules are in compliance with the rules and regulations established by Washington State Legislature, and toll rates approved by the Washington Transportation Commission.

9. What are the alternatives to pay for the bridge if the facility is not tolled?

Tolling is expected to fund about one third of the construction cost: $900 million to $1.3 billion. If the bridge is not tolled, then new sources of state or federal funds would be necessary. Federal

funds are already targeted in the form of FTA New Starts ($850 million) and federal discretionary highway funds ($400 million). State equity contributions are assumed to be $900 million.

10. What are the per axle toll rates for trucks on other Washington tolled facilities?

Trucks are charged by axle with categories for two axles (includes motorcycles), three axles, four axles, five axles and six or more axles on the Tacoma Narrows Bridge and SR 520. The same basic per-axle formula is used for both facilities, even though there are different rate structures: three axles are 50 percent more than two axles; four axles are 100 percent more than, or double the cost of, two axles; five axles are 150 percent more; and six or more axles are 200 percent more, or triple the cost, of two axles. For analysis purposes, the CRC project has assumed that commercial vehicles with five or more axles would pay four times the passenger car rate for the given time of day and that commercial vehicles with three or four axles would pay two times the passenger car rate for the given time of day. Final rates and additional charges per axle will be set by the transportation commissions as part of the bi-state toll setting process.

11. What are the current and projected volumes on the bridge?

In 2011, the annual average weekday traffic was about 128,100. In 2030 with post-completion tolling, the anticipated annual average weekday traffic is forecast to be about 151,400 (current assumption for toll revenue forecasts). These figures assume certain toll rates for pre-completion and post-completion tolls. A traffic and revenue study currently underway will be used to refine assumptions about future traffic volumes and toll revenue.

12. What is the process and timeline for estimating toll revenue and rating bonds?

In July 2011, the Oregon State Treasurer's office provided a report to Oregon Governor Kitzhaber that validated much of the CRC project's work and made recommendations to reduce and manage financial risk. CRC incorporated the recommendations, including:

1. Used conservative traffic numbers in tolling assumptions, to account for the economic recession
2. Included conservative bonding assumptions that do not rely on an escalating toll rate
3. Incorporated federal TIFIA loans in all funding scenarios
4. Incorporated pre-completion tolling into finance plan

Prior to submitting the Final Environmental Impact Statement (EIS), the Oregon State Treasurer's office reviewed the CRC finance plan. An investment grade analysis will be completed in December 2013, prior to bonding.

13. How will toll rates be set, and what consideration is given to driver's ability to pay the toll when the rates are set?

In Washington, toll rates are set by the Washington Transportation Commission after a corridor is established as a toll facility by the Washington Legislature. The Oregon Transportation Commission has toll rate setting authority. The rate setting process for the CRC project will be developed as part of a bi-state agreement between the Washington and Oregon transportation commissions. Today the Washington Transportation Commission considers a number of factors when establishing toll rates including maintaining travel time, speed, and reliability, and generating enough revenue to cover bond obligations. In order to generate enough revenue, rates cannot be set so high that drivers chose to not pay the toll, which will reduce the available revenue.

14. Did the finance plan submitted to FTA describe $16 round-trip tolls?

No. The finance plan submitted to FTA uses the same range of toll scenarios as was used for the Final EIS. For the Final EIS, the range of one-way toll rates studied for the financial analysis was between $1 and $3 (2006 dollars, see Exhibit 4.3-3 from the FEIS). This range in 2020 dollars (post construction) would be $1.41 to $4.24. The project has studied a variety of toll rates over time to test potential funding capacity and the potential for diminishing revenue capacity as toll rates increase. These scenarios were not expected to be implemented, but included rates ranging from $1.00 - $6.00 each way (2006 dollars; $1.41 - $8.48 in 2020 dollars, assumed year of collection).

Bridge

15. Will this project include interchange improvements at Rose Quarter in Oregon?

No, improvements at the Rose Quarter are not part of the CRC project. The CRC project focuses on the transportation problems in the five-mile bridge influence area. The southern boundary is about three miles north of the Rose Quarter. The 2002 I-5 Trade and Transportation Partnership Strategic Plan identified the Rose Quarter as a significant bottleneck, but acknowledged the need to understand potential widening at the Rose Quarter in the context of effects to the entire freeway loop around downtown Portland. The City of Portland and ODOT agreed they would conduct planning for potential improvements in the Rose Quarter separate from the CRC project.

16. When will the work on the 115-foot, 120-foot and 125-foot clearances be done?

The Navigational Impact Report with analysis of 115, 120 and 125 foot bridge heights was completed and delivered to the U.S. Coast Guard on Nov. 2. The analyses considered river use, vessel impacts, freight mobility, highway safety and efficiency, transit efficiency, landside impacts, air safety, economic impacts and costs associated with various bridge heights. Through November, CRC staff will continue to refine the technical analysis on the number of vessels impacted, river users, costs and potential solutions. A bridge height recommendation is expected in December 2012. The bridge height recommendation will be central to the general bridge permit application to be submitted to the U.S. Coast Guard in January 2013.

17. Has the project considered a movable span?

Adding a lift span to the proposed deck truss bridge and alignment would result in a structure of unprecedented complexity with several technical challenges. Lift spans are not typically constructed on bridges with a curved alignment. The lift would need to be many times heavier than is standard due to the double-deck bridge configuration and the proposed pier configuration (which creates a longer lift span). In addition, lifting a span with a variable deck width due to ramps entering the mainline over the water is a technical challenge. A lift span that provides clearance of 125 feet would increase the cost of the project by approximately $250 million; costs associated with a lift span providing higher clearances would be significantly higher. The challenges of placing a lift span on the proposed bridge would lead to a re-evaluation of the bridge type, configuration, and alignment. This would require additional environmental reviews and increase costs due to delay.

18. What vessels would be impacted at a 110-foot clearance?

We have identified vessels that may be impacted at various bridge heights using a very conservative approach. This includes assuming the highest water level and a 10-foot air safety gap. A vessel-by-vessel review will give a more exact accounting of impacted vessels based on the time of year that vessels pass under the bridge, how many times the trip is made, and more specific clearance needs. Using the conservative approach, a bridge with a height of 110 feet would impact three fabricators, 11 marine contractors, two dredge vessels, three recreational vessels and one passenger cruise vessel.

19. What are examples of bridges with a grade in excess of three percent?

There are many examples of bridge approaches, ramps and sections of highway in Washington and Oregon that exceed three percent climbing grade. Approaches to the Marquam Bridge in Portland and the Lewis and Clark Bridge in Longview both exceed three percent. The primary concern with increased grades is the corresponding effect on highway speeds and safety. Grades can have a pronounced effect on specific vehicles. Passenger cars can generally readily negotiate grades as steep as five percent without appreciable loss of speed. Trucks, however, travel at the average speed of passenger cars on the level roadway, but increase their speed by five percent on downgrades and decrease their speed by seven percent or greater on upgrades (depending on length and steepness of grade as well as weight-to-horsepower ratio). This differential in speeds contributes to collisions.

20. What did we learn from the drilled shaft project completed last summer?

The depth to the Troutdale Formation in the project area was well documented based on earlier geotechnical work. The Troutdale Formation provides stable soils in the event of a major earthquake and the shafts of the new bridge will reach the formation. The current wooden pilings are set in liquifiable soils, which could cause the I-5 bridge to collapse in an earthquake. The goal of the Drilled Shaft/Driven Pile project was not to confirm the depth of the shafts, but rather to determine the strength of the soils and load capacity of the shafts. This would allow us to determine if the number of shafts for the replacement bridge could be reduced. In addition, the study looked at whether some concrete shafts could be replaced with driven piles in some on-land locations. Reducing the

number of drilled (concrete) shafts or shifting with driven (steel) piles has the potential to reduce overall cost. Final data analysis for this project is ongoing.

Other

21. How long would a supplemental EIS take? What would this cost?

If a change to the preferred alternative results in new and significant impacts, a supplemental EIS is required. A supplemental EIS would likely require 12 to 24 months to complete. The New Starts FFGA would be delayed and become very uncertain because it cannot be awarded without a current Record of Decision. The cost of conducting a supplemental EIS would depend on the scope of analysis and the length of delay. Costs incurred for such an effort would include technical analyses, documentation and public outreach.

22. Will a replacement bridge with light rail increase congestion in Oregon?

No. CRC reduces the hours of congestion and improves travel reliability. There are significant travel time savings in the afternoon from the Rose Quarter to the state line. During the afternoon peak period, northbound drivers traveling from I-84 in Portland and exiting at 179th Street in Vancouver are predicted to save 20 minutes compared with the no-build scenario. Drivers using the short segment of I-5 from Columbia Boulevard north to SR 500 are predicted to save eight minutes compared with the no-build scenario. For drivers traveling southbound during the morning, the time savings will not be as significant, but the trip will be more reliable and safer. For drivers traveling outside of the peak commute hours, there are significant travel time savings both northbound and southbound because they will experience less congestion than with the no-build scenario.

23. How many jobs will the project will create? Will the project result in the loss of small business jobs?

Approximately 20,975 total job-years (defined as one job for one year) will be required for design and construction of the locally preferred alternative (LPA). The average annual regional jobs required will be 1,906 over the 11 year construction project. These estimates include direct, indirect and induced jobs. In Oregon and Washington, an estimated 916 employees (747 in Oregon and 169 in Washington) who work at businesses would be displaced by the LPA. Displaced businesses will receive relocation assistance from the project; it cannot be assumed that all displacements would result in job losses. In Vancouver, the number of displaced businesses will be lower than in Oregon because much of the project can be accommodated within existing right-of-way.

24. Was a third bridge alternative dismissed due to right-of-way constraints?

The CRC Task Force's adopted criteria to evaluate potential alternatives included avoiding and minimizing residential and businesses displacements, respecting the history and culture of neighborhoods and protecting natural resources. The analysis prior to the draft EIS found that building a new river crossing would not meet the basic elements of the project's goals of improving safety, reducing congestion, improving freight mobility, reducing seismic risk, improving transit and enhancing the bicycle and pedestrian path in the I-5 corridor. The additional need to acquire

property for a third bridge was not among the primary reasons that led to its dismissal, but was a consideration for some task force members.

25. What was the process and who selected the Locally Preferred Alternative?

The boards and councils of all six local partner agencies (Metro, RTC, Portland, Vancouver, TriMet, C-Tran) unanimously passed resolutions supporting a replacement bridge with light rail as the locally preferred alternative (LPA) in 2008. This led to its formal selection by the project owners, WSDOT and ODOT. The same agencies reaffirmed the LPA when they signed the Final Environmental Impact Statement (EIS) in 2011. The LPA selection occurred after a multi-year process that began in 2005 with local stakeholders, elected officials, and federal, state, and local agencies. The steps in the process included alternatives development, evaluation in the draft and final EIS, and publication of the Record of Decision. Approximately 1,600 public and agency comments were submitted on the draft EIS.

26. Was there a group called the Project Sponsors Council before 2008?

A group called the Project Sponsors Council met eight times from 2005 to 2007 to reach consensus on project development. Members included elected officials and regional leaders of the project's sponsoring agencies. This group was formed by WSDOT and ODOT to advise the agencies and made formal recommendations while it existed. A second group, also known as the Project Sponsors Council, was appointed by the Washington and Oregon Governors in 2008 to advise on completion of the Final EIS, project design, project timeline, sustainable construction methods, compliance with greenhouse gas emission reduction goals and the financial plan. Their meetings resulted in recommendations to the governors, WSDOT and ODOT, which were implemented.

Columbia River CROSSING

Washington Joint Transportation Committee
Columbia River Crossing Oversight Subcommittee
Responses to Questions - Sept. 27, 2012

Contents

Environmental Review and Locally Preferred Alternative

1. What was the process and who selected the Locally Preferred Alternative?

The boards and councils of all six local partner agencies (Metro, RTC, Portland, Vancouver, TriMet, C-Tran) unanimously passed resolutions supporting a replacement bridge with light rail as the locally preferred alternative (LPA) in 2008. This led to its formal selection by the project owners, WSDOT and ODOT. The same agencies reaffirmed the LPA when they signed the Final Environmental Impact Statement (EIS) in 2011. The LPA selection occurred after a multi-year process that began in 2005 with local stakeholders, elected officials, and federal, state, and local agencies. The steps in the process included alternatives development, evaluation in the draft and final EIS, and publication of the Record of Decision. Approximately 1,600 public and agency comments were submitted on the draft EIS.

2. Beyond the partner agencies, which groups and individuals were involved in the LPA selection process and when were they involved?

The CRC project team engaged five citizen advisory groups with nearly 100 collective members before selecting the LPA. The general public was also engaged through 525 open houses, community presentations, and information booths from 2005 to 2008. This resulted in more than 15,000 individual contacts with members of the public and the receipt of 4,380 written and verbal comments. Of the people who expressed a preference for an alternative under consideration, more people supported a replacement bridge over a supplemental bridge and more people supported light rail compared to bus rapid transit. (See attachment for names of advisory groups and their members.)

3. Was there a group called the Project Sponsors Council before 2008?

A group called the Project Sponsors Council met eight times from 2005 to 2007 to reach consensus on project development. Members included elected officials and regional leaders of the project's sponsoring agencies. This group was formed by WSDOT and ODOT to advise the agencies and made no

formal recommendations while it existed. A second group, also known as the Project Sponsors Council, was appointed by the Washington and Oregon Governors in 2008 to advise on completion of the Final EIS, project design, project timeline, sustainable construction methods, compliance with greenhouse gas emission reduction goals and the financial plan. Their meetings resulted in recommendations to the governors, WSDOT and ODOT, which were implemented.

4. What is the process to amend the selected alternative and what are the implications to the project in terms of time, cost, and New Starts funding availability?

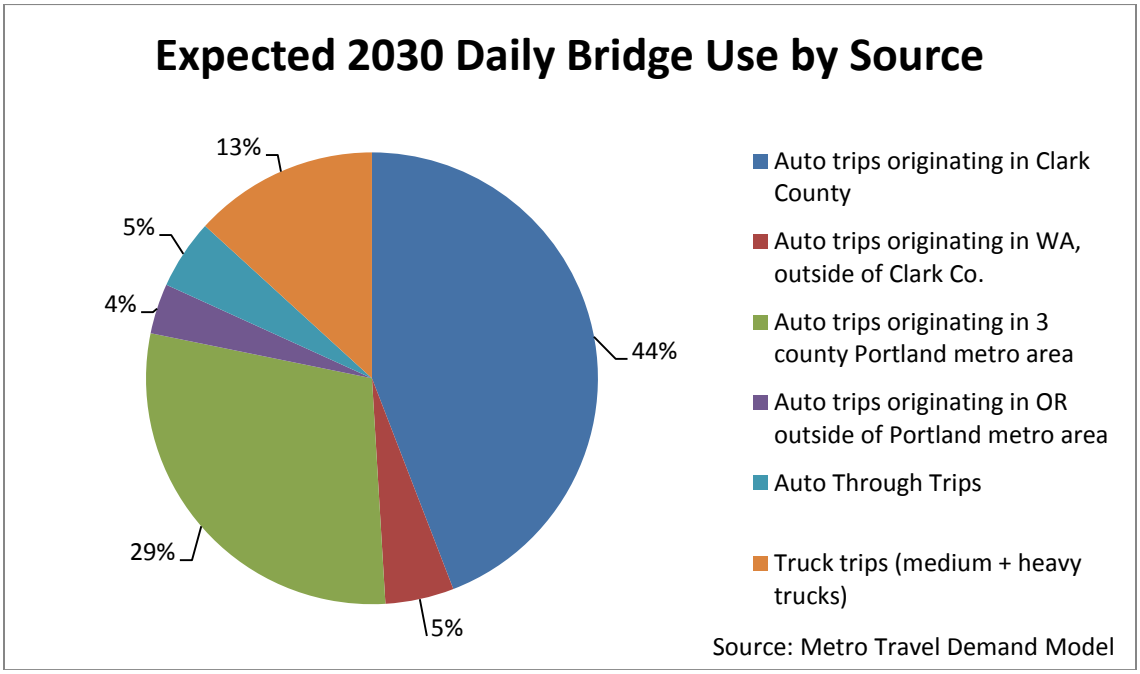
Amending the LPA requires describing the design changes and the associated environmental impacts in a NEPA re-evaluation document. FTA and FHWA would review the document and decide a course of action. If FTA and FHWA determine the re-evaluation finds no new significant impacts, they will amend the Record of Decision and the project proceeds. If a change to the preferred alternative results in new and significant impacts, a supplemental EIS is required. A supplemental EIS would likely require 12 to 24 months to complete. The New Starts Full Funding Grant Agreement would be delayed until completion of the supplemental EIS because it cannot be awarded without a current Record of Decision. With a 12 to 24 month schedule delay, FTA funding is uncertain.

Transportation

5. What are the traffic volumes on I-5?

About 127,000 vehicles crossed the I-5 bridge each weekday in 2010.

6. Who will use the I-5 and adjacent interchanges?



7. Will CRC worsen congestion at the Rose Quarter?

No. The southbound traffic congestion that currently exists near the I-5/I-405 split (Rose Quarter) will not be improved or worsened by the CRC project. Just north of the Rose Quarter (three miles south of the project's southern boundary), the forecasted morning traffic volumes for both the build and no-build scenarios are the same. About 35 percent of the southbound traffic from Washington in the morning exits I-5 within two miles of the bridge. Traffic volumes do increase as traffic enters I-5 from north Portland toward the Rose Quarter. The Oregon Department of Transportation and the City of Portland are currently working on a project related to Rose Quarter congestion.

8. Do the improvements result in any real time savings for commuters?

Drivers heading north on I-5 from I-84 in Portland to 179th Street in Vancouver will save 20 minutes compared with the No Build Alternative. Drivers using the short segment of I-5 from Columbia Boulevard to SR 500 in Vancouver will save eight minutes compared to the No Build Alternative. The duration of congestion on the bridge is reduced from a predicted 15 hours a day in 2030 under the no-build scenario, to 5.5 hours when the locally preferred alternative is constructed.

Transit

9. Why was light rail transit selected over bus rapid transit and by whom?

Light rail was selected over bus rapid transit by the Vancouver City Council, C-TRAN Board, Southwest Washington Regional Transportation Council, Portland City Council, TriMet Board, Metro Council, and the bi-state CRC Task Force for the following reasons:

- Light rail will travel faster than bus rapid transit within the project area (averaging 17 mph versus 14.5 mph, including stops) because it will have signal priority, shorter wait times at stations, and quicker acceleration. Bus rapid transit would travel in exclusive lanes, but would be mixed with general traffic outside the project area, and would be delayed due to congestion in those areas.
- Light rail has more capacity and will carry 6,100 people over the I-5 crossing northbound during the peak period, while the alternatives with bus rapid transit would only carry 5,150 to 5,350 people.
- Integration with the existing system will allow transit users to travel between Vancouver and Portland without a transfer. Transfers add travel time and decrease trip reliability and convenience.
- Operation and maintenance costs are 25 percent lower per rider compared to bus rapid transit.

WSDOT and ODOT selected the locally preferred alternative, which was endorsed by FHWA and FTA in the Record of Decision.

10. What percentage of traffic in the project area will be served by light rail?

Adding light rail to the I-5 corridor will double the number of river crossings made on transit in 2030, compared to the No Build Alternative. This means 16 percent of all trips will be made on transit. Of those transit passengers, 91 percent (over six million annual trips) would travel on light rail and nine percent on buses. This amount of transit ridership equates to about one highway lane of traffic.

11. Describe and compare a light rail, bus rapid transit, bus and auto trip from downtown Vancouver and downtown Portland (Pioneer Square).

The following tables are from the Final EIS Transit Technical Report :

Average Weekday A.M. Peak Hour Transit Travel Time[1] between Select Locations – Year 2030 (minutes)			
	LPA (LRT)	2030 No Build Alternative[2] (Bus)	BRT[3]
Northern Terminus to Pioneer Square	38	50	43
Downtown Vancouver (7th St. and Washington St.) to Pioneer Square	32	47	35

[1] *Transit travel time in this table includes in-vehicle and wait time for transfers.*
[2] *The definition of the No-Build Alternative (Alternative 1 in the DEIS) was updated since the DEIS was published to reflect most current information.*
[3] *BRT was Alternative 2 (Replacement Bridge with BRT) in the DEIS.*

Transit Average Weekday and Annual Transit Passenger Trips Crossing the I-5 Bridge – Year 2030			
	LPA (LRT)	2030 No Build Alternative[1] (Bus)	BRT[2]
C-TRAN Express and Local Bus	1,900	10,200	11,300
High-Capacity Transit	18,700	0	5,400
Total	20,600	10,200	16,800

[1] *The definition of the 2030 No Build Alternative (Alternative 1 in the DEIS) was updated since the DEIS was published to reflect most current information.*
[2] *Alternatives 2 (BRT) and 3 (LRT) were the Replacement Bridge with BRT and LRT in the DEIS, respectively.*

12. Did the analysis of bus rapid transit assume it would operate in a dedicated lane?

The analysis assumed bus rapid transit operating in a dedicated lane from Clark College to Portland's Expo Center. Bus rapid transit riders would then transfer to the existing light rail line at the Expo Center and continue south.

13. Describe bus rapid transit versus light rail costs in terms of short-term and long-term capital and operating expenses.

The capital cost to construct bus rapid transit is between $600 and 750 million. Light rail is estimated to cost $850 million to build. Bus rapid transit operating costs for the corridor were estimated in the draft EIS to be about $2 million a year greater than light rail due to the greater number of drivers and buses needed compared to light rail operators and vehicles to meet the ridership demand. ($5.15 million for BRT compared to $2.96 million for light rail in 2030, represented in 2007 dollars.)

14. Are ridership forecasts for light rail and bus rapid transit the same as the ridership time-value-of-money considerations used in the tolling models? If not, why are they different?

Yes, the value of time is a model input for all travel modes (e.g. transit, personal vehicle).

15. How do ridership projections on bus rapid transit compare to light rail?

In the Draft EIS, the total number of annual transit riders crossing the I-5 bridge in 2030 with bus rapid transit was estimated to be 4.8 million compared to 6.1 million with light rail.

16. Describe congestion impacts, short-term and long-term, of bus rapid transit vs. light rail.

Light rail will reduce congestion by carrying six million passengers annually or 16 percent of all trips crossing the river, which is the equivalent of one lane of traffic. Because bus rapid transit carries fewer passengers per vehicle, it would contribute to less congestion reduction on local city streets and on the highway compared to light rail. Short-term construction congestion has the potential to be less with BRT because the track infrastructure is not required.

17. If we switched to BRT, what would be the impacts on the project?

Changing the LPA requires describing the design changes and the associated environmental impacts in a NEPA re-evaluation document. FTA and FHWA would review the document and decide a course of action. If the re-evaluation finds no new significant impacts, FTA and FHWA amend the Record of Decision and the project proceeds. If a change to the preferred alternative results in new and significant impacts, a supplemental EIS is required. A supplemental EIS would likely require 12 to 24 months to complete.

The New Starts Full Funding Grant Agreement would be delayed until completion of the supplemental EIS because it cannot be awarded without a current Record of Decision. A new grant application would be submitted, which FTA would re-rank. With a 12 to 24 month schedule delay, FTA has stated that federal funds may not be available for the CRC Project.

18. Both Portland and Vancouver, have or plan to have, both bus rapid transit and light rail. Why does bus rapid transit make sense in some locations, but not across the bridge?

The best mode for a particular corridor hinges on the characteristics of the corridor. In this case, the "single seat ride" connectivity between Vancouver and Portland with the existing light rail line is the most effective. The high ridership on light rail better handles the demand, and light rail will provide continuous service throughout the corridor, cost-effective operations in the long-term on a per passenger basis, and supports the City of Vancouver's vision for the development of downtown.

19. How much is TriMet's current debt obligation?

TriMet does bond for defined capital costs, including but not limited to new buses and TriMet's share of light rail projects. The TriMet Board has set a policy that TriMet's senior lien (or payroll tax backed debt) will not go beyond a sustainable level of 7.5 percent of net continuing revenue. Current levels of senior lien debt for Fiscal Year 2013 are approximately 5.4 percent. TriMet's most recent bond rating is AAA (Standard & Poor's highest) and Aa1 (Moody's second highest). TriMet has sold capital grant receipt bonds as well, but these are being paid off by outside resources, such as federal funds from regional flexible funds or from the FTA through a Full Funding Grant Agreement for a light rail project, so these bonds do not have an effect on TriMet financial resources.

Bridge

20. How was the current bridge type and configuration selected?

A two structure bridge with two levels was selected through a public and technical process. This included consideration by the CRC Task Force, Urban Design Advisory Group, Pedestrian and Bicycle Advisory Committee, and Project Sponsors Council as a way to minimize the project footprint and environmental impacts. A Value Engineering Study in 2007 proposed reducing the number of structures across the Columbia River from three to two to reduce the footprint, environmental impacts and costs. This was confirmed by the bridge expert review panel in 2011.

With highway and transit alignments in close proximity, it is more cost effective to combine both modes onto the same set of structures. A separate transit bridge would increase in-water environmental impacts and increase hazards to maritime traffic. A stacked deck design was chosen because putting all the activity at one level would result in a bridge whose width would be at the limits of current technology. Even if proven to be technically feasible, it would increase the complexity of construction and the project cost.

21. Why not build a third bridge?

A third bridge would not address transportation problems in this corridor, including crashes, congestion, and risk of failure in an earthquake nor would it get people where they want to go. Most trips using I-5 have origins and/or destinations within the project area itself. Between 68 and 75 percent of all peak hour cross-river trips enter and/or exit I-5 near I-5 because it provides the most efficient route to key destinations including the ports of Portland and Vancouver and downtown Vancouver and downtown Portland. Traffic analysis found that most I-5 trips would not be diverted to a new upstream or downstream bridge and the existing safety issues on I-5 would remain.

22. Has the project considered the Third Bridge Now option?

Many options and alternatives were considered, including new arterial and highway corridors, which Third Bridge Now advocates. Only those proposals that could adequately address all six identified problems in the I-5 corridor were advanced for comprehensive analysis in the Draft EIS. The analysis prior to the draft EIS found that building a bypass option with a new river crossing, in place of making I-5 improvements, would not meet the basic elements of the project's goals of improving safety, reducing congestion, improving freight mobility, reducing seismic risk, improving transit and enhancing the bicycle and pedestrian path in the I-5 corridor.

23. Why was a replacement bridge chosen over a supplemental bridge next to existing I-5 bridges?

The supplemental alternative would have retained the existing Interstate Bridge for northbound traffic and constructed a new bridge structure for southbound traffic and light rail downstream of the existing bridge. The replacement bridge was selected because it provides greater congestion relief, more traffic capacity, safer highway features, safer river navigation, greater improvements for bicyclists and pedestrians, fewer community effects on Hayden Island, and better potential for future waterfront development in the Bridge Influence Area.

24. Would a separate local traffic bridge for Hayden Island reduce congestion on I-5 near the Interstate Bridge?

A separate arterial bridge between north Portland and Hayden Island is included in the project plans as part of the Hayden Island improvements. A non-highway bridge connecting Hayden Island to North Portland without replacing the Hayden Island interchange would cause longer delays and queues at the ramps associated with the Marine Drive interchange. It would not accommodate the traffic generated by development on Hayden Island planned by the City of Portland or provide enough relief to I-5 to eliminate the need to replace the Hayden Island interchange.

25. Are the bridges structurally stable? Can they be seismically retrofitted using low cost measures that result in a 95 percent reduction in bridge lifts?

The Interstate Bridge is not seismically stable. The existing bridges do not comply with modern seismic standards and are vulnerable to damage or collapse in an earthquake. Both existing structures are supported by wooden pilings set in liquefiable soils. Retrofitting the Interstate Bridge to reduce seismic risk would increase the footprint of the existing piers, narrow the navigation channel, and still leave the potential for bridge lifts. Half of the bridge lifts are required for maintenance and non-commercial marine traffic. A retrofit would not address the high crash rate, duration of congestion, freight immobility, poor bicycle and pedestrian facilities or limited transit options.

26. How/why/when was a 95-foot bridge agreed upon?

The project team, working with the 39-member bi-state task force, sought to avoid, minimize and mitigate any potential impacts. Different heights were discussed in relationship to impacts on river users, traffic safety, airspace, transit, downtown Vancouver, and Hayden Island and overall footprint. Local communities and the states recognized the need to balance these (at times) competing interests as potential solutions were evaluated. In 2006 the bi-state task force recommended:

- Removing the low level, movable span bridge components from consideration due to negative effects to highway mobility, highway safety, freight movement, maintenance costs and the lack of a significant difference in community impacts when compared to a higher mid-level fixed span bridge.
- Removing four high-level bridge components (greater than 130 feet) because of safety concerns with Pearson Airfield and 2004 findings that all known commercial and recreational vessels could be accommodated at 125 feet.
- Advancing the mid-range height component based on the 2004 boat survey findings that a fixed span structure about 80 feet above Columbia River Datum (CRD, a fixed, low water benchmark specific to the river) would accommodate all but six known vessels.

27. If light rail were built on the same level as the bridge deck, how much additional clearance would be available? Are there other impacts of changing to a single-level bridge?

If light rail was moved to the top deck and bridge type remained the same, there would be little additional vertical clearance for vessels. The clearance is being driven by engineering standards due to the bridge type, not the placement of light rail or the multi-use path on the lower deck. Some additional height could be gained with a change in bridge type or number of structures. However, there would be greater environmental impacts, a schedule delay associated with the design change, potential for

worsening navigation in the river channel and the need for additional environmental reviews and approvals, which would result in further cost associated with schedule delay.

28. Describe the current bridge lift frequency now and for the past five years. Is the number, type and timing of the lifts the same from year to year?

Since 2006 there has been more than one bridge lift per day on average. There have been as few as 407 (2009) bridge lifts in a year and as many as 572 (2007).

- 2011 – 429
- 2010 – 412
- 2009 – 407
- 2008 – 474
- 2007 – 572
- 2006 – 460

The number of lifts varies across years, months, and days based on water level, maintenance needs and river traffic. More bridge lifts occur during spring runoff when currents and high water require bridge lifts to avoid the difficult "S-curve" navigation. At low water, there can be as few as two to three lifts per month (July - October) and during high water as many as nine lifts can occur in one day (May 2011).

29. High water levels will mean that the clearance may be as low as 75 feet some time of the year. When and how long do high water conditions exist?

The highest water levels generally occur between April and June. With a 95-foot bridge, a clearance of 75 feet would equate to a high water level of 20 feet above Columbia River datum, which rarely occurs. Ordinary high water is 16 feet above the Columbia River datum. The river has exceeded that height less than 2 percent of the time between 1973 and 2012.

30. For whom, and how tall were the loads? How many times have there been shipments of 95 feet or taller? What happens to these 365 loads with the proposed bridge? Describe the businesses and affected users who say the 95-foot clearance is unacceptable. Who are they and what clearance do they say they need? For the periods of the year when clearance would actually be as low as 75 feet, are there more users who say this is unworkable for them?

CRC staff is preparing a navigation impact report, which will include analysis of the historical frequency of vessels transiting through the area with a clearance need of greater than 95 feet. At this point, we have identified the potentially impacted river users, including shippers and vessels, and their highest reported clearance requirements. At an Ordinary High Water condition of 16 ft. (exceeded less than 2 percent of the time), there are 50 distinct vessels and three fabricators that would potentially be impacted at a 95-foot bridge height. The 50 vessels includes: 36 construction barges owned by 12 separate firms; eight sailboats; three federal vessels (the Corps of Engineers Dredge Yaquina, the Job Corps M/V Ironwood, and the US Navy YTT 10 Battle Point); two passenger sailing ships (the Lady Washington and the Hawaii Chieftain); and the proposed transit of the USS Ranger to a permanent berth as a visitor attraction in Fairview, Oregon. The three fabricators include Thompson Metal Fab, Oregon Iron Works, and Greenberry Industrial.

31. What are the impacts of a higher bridge?

A preliminary analysis in 2011 found that a 125-foot bridge could have the following impacts:

- **Safety:** Potential intrusion into airspace of Pearson Airfield
- **Freight:** Steeper grades, which slow freight and could necessitate a climbing lane.
- **Landings on both sides of the river:** The bridge landing could move north, become steeper, or have longer grades and ramps. The transit station may be moved further north and result in a smaller community connector in Vancouver.
- **Costs:** Project costs could increase with any height above 95-feet.
- **Other issues:** CRC staff is recalculating substructure costs associated with a higher bridge, which may increase costs. With steeper grades, transit run time could be affected and the bicycle/pedestrian pathway would be less inviting and accessible.

32. What are FAA concerns with regard to the bridge height? Are those concerns the same for Pearson Airfield?

FAA's major concern is safety. FAA analyzes the proposed structures' impacts to the defined airspaces and is the only agency that can issue a "hazard to aviation determination." If this determination was made, all liability could be placed upon the owner of the structure. An additional 30 feet of bridge height (125 foot bridge) would encroach into airspace for Pearson Airfield and potentially receive a "hazard to aviation determination." An additional 30 feet of vertical height would likely not impact airspace for Portland International Airport.

33. Why can't we do a lift and limit lifts to the middle of the night (2 to 5 a.m.)?

If a lift span was put in place, it is not likely that it could be restricted to night time use only. Federal law (Title 33, Part 177 Draw Bridge Operations) gives marine traffic the right-of-way over vehicular traffic. The SR 520 floating bridge (with significantly less marine traffic) has recently received approval from the Coast Guard to limit bridge openings to non-peak times only during bridge construction. With a lift span, there would be continued traffic delays and operations and maintenance costs.

34. What would be the cost of a mid-level bridge with a movable span?

Work completed to date shows that adding a lift span to the proposed deck truss bridge and alignment would result in a structure of unprecedented complexity with the associated technical challenges. A lift span would increase the cost of the project by at least $250 million. The technical challenges of placing a lift span on the proposed bridge would lead to a re-evaluation of the bridge type, configuration, and alignment. This would require additional environmental reviews and approvals and increase costs due to delay.

35. At what point will we spend more on mitigation than we would have spent on a bridge lift?

Conversations with the fabricators and vessel owners are underway. It is too early to estimate the cost of mitigation, however, because the bridge height has not been finalized. Our preliminary investigation has found that adding a lift span to the existing bridge type and alignment could cost at least $250 million in construction costs.

Funding

36. What funding commitments are needed and by when to ensure access to federal funding?

The CRC's schedule takes advantage of federal financial support, especially transit funding from the FTA's New Starts program. The New Starts program is currently funded and the project is well positioned to receive support. The project's favorable rating with FTA has earned the project a favorable spot in the competitive queue for New Starts funds, about $850 million. To apply for the New Starts transit funds in 2013, FTA requires both Oregon and Washington to have committed state funds. After 2013, however, our federal partners have made it clear that there is less certainty about federal transit funding and other projects may move into a leading spot.

37. What is the funding schedule? Why is there such a sense of urgency?

The funding schedule is designed to access FTA New Starts funds, which will exist through 2013. FTA has said there is less certainty after 2013, and CRC is one of a few projects at the top of the list. State funds must be committed in 2013 to continue the process as well as potentially secure a TIFIA loan.

38. Can we still get federal transit funding if light rail is removed from the project?

The project will likely not be as competitive for the New Starts federal transit funding if light rail is not included in the project. If a decision was made to select a mode other than light rail as approved in the Record of Decision, a supplemental EIS would likely be required, FHWA and FTA would have to approve a new Record of Decision, and FTA would re-evaluate the project and assess its competitiveness compared to other projects. If light rail was removed from the project, it would be virtually impossible to receive federal transit funding on the current timeline.

39. Is there federal funding for bus rapid transit and if so, how much would be needed and what would be the timeline to secure it?

New Starts/Small Starts funds can be used for bus rapid transit. If a decision was made to change the transit mode from light rail to bus rapid transit, we would have to restart the New Starts application process, which would delay the project by several years and likely result in a decrease in potential funding because CRC would step out of the "queue" and would likely not rank has high in terms of cost effectiveness and ridership.

40. The funding plan identifies $850 million from FTA. Would bus rapid transit, which costs less than light rail, still be eligible for $850 million in federal funding?

It is not possible to speculate on how much federal funding may be available for a project that included bus rapid transit. If a decision was made to select a transit mode other than light rail as identified in the Record of Decision, the Federal Transit Administration would re-evaluate the project and assess its competitiveness compared to other projects across the country.

41. Does the $850 million funding from FTA require a local match? If so, how much and what is the source?

In general, FTA requires a minimum 20 percent local match. Congressional language adopted in 2010 directs FTA to consider the entire CRC project when determining the match requirements. The exact amount of the match is under discussion, but would be paid by the two states.

42. Is a tax increase required to fund bus rapid transit? How does it compare to a light rail tax increase?

Neither light rail transit nor bus rapid transit requires a sales tax increase to fund operations and maintenance. A sales tax increase is one option for operations and maintenance funding. Operations and maintenance costs are greater for bus rapid transit than light rail transit.

43. Who is responsible for debt repayment of light rail operations and maintenance if light rail ridership and therefore revenue are lower than estimated in the financial plan?

The capital construction of light rail will be funded through the FTA New Starts program. The operations and maintenance costs will be funded by the local transit agencies through local revenues and fare box recovery. There is no current plan to issue debt to pay for transit operations and maintenance.

44. Who is responsible for debt repayment if toll revenues are less than estimated in the financial plan?

Like other toll projects, the responsibility of debt repayment depends on the bond covenants and the types of bonds. The responsibility to repay the bonds lies with the states.