

COLUMBIA RIVER CROSSING—Economic Analysis
Joe Cortright, February 13, 2008
(jcortright@gmail.com)

Key Issues

1. The Big Bridge Will Induce Additional Traffic

CRC’s own projections show the bridge will generate 20,000 more trips per day across the Columbia River than the no-build alternative.

By their estimate, the build scenario produces 20,100 more trips than the no-build. Growth in trips across the Columbia will be 70% greater with the bridge than if we don’t build the bridge.

Traffic increases from

| Alternative | Traffic | Increase |
|-------------------|---------|----------|
| Today | 260,000 | - |
| No Build | 295,600 | 35,600 |
| Build | 314,700 | 55,700 |
| No-Build to Build | | 20,100 |

This is because of “induced demand.” The presence of larger transportation facilities encourages people to take trips they would otherwise avoid, or re-route. Over time, transportation facilities lead to more dispersed commuting and business and housing locations – sprawl – and produce more and longer trips. The 20,000 additional trips is a minimal estimate because it does not take account of induced land use changes (and settlement patterns) that will develop over time if capacity is expanded.

The consultants (Vollmer) call this effect “latent demand”. In their initial year estimates—the day the bridge is opened--

“The No-Build river crossing volume in 2013 is estimated at 280,900 vpd, and the Build volume is estimated at 299,500 vpd under toll-free conditions, which is an increase of approximately 6.6 percent over the No-Build.”

(This is not 6.6% more growth, but actually 100% more growth than under the no-build scenario in 2013. Both of these numbers are increases by 2013 from a base of 260,000 in 2002.)

Table 1 summarizes the adjusted year 2002 and 2020 traffic volume projections.

Table 1. Columbia River Bridge Two-Way Traffic Volume Projections, Toll-Free Conditions

| Scenario | Daily - Weekday | | | AM Peak 3 Hours - Weekday | | | PM Peak 4 Hours - Weekday | | |
|--------------------------|-----------------|---------|---------|---------------------------|--------|--------|---------------------------|--------|--------|
| | I-5 | I-205 | Total | I-5 | I-205 | Total | I-5 | I-205 | Total |
| TRAFFIC VOLUMES | | | | | | | | | |
| Existing (2002) | 124,000 | 136,000 | 260,000 | 22,500 | 28,700 | 51,200 | 35,800 | 43,100 | 78,900 |
| 2020 No-Build | 140,400 | 155,200 | 295,600 | 24,800 | 32,700 | 57,500 | 39,400 | 49,200 | 88,600 |
| 2020 Build | 178,600 | 136,100 | 314,700 | 33,600 | 28,300 | 61,900 | 53,300 | 42,250 | 95,550 |
| PERCENTAGE CHANGE | | | | | | | | | |
| Existing to No-Build | 13% | 14% | 14% | 10% | 14% | 19% | 10% | 14% | 12% |
| Existing to Build | 44% | 0% | 21% | 49% | -1% | 21% | 49% | -2% | 21% |
| No-Build to Build | 27% | -12% | 6% | 35% | -13% | 1% | 35% | -14% | 8% |

*I-5 Columbia River Crossing Partnership: Working Paper 10.2
Traffic and Tolling Analysis January 27, 2005 page 2.*

2. The Big Bridge Won't Reduce Congestion

The big bridge will make traffic worse, not better, by overwhelming capacity in other parts of the I-5 system.

CRC says projected traffic volume on I-5 (no-build) will result in hours and hours of congestion. Under their estimates, this catastrophic congestion occurs when the I-5 bridge is expected to handle just 3,600 more trips (about 10% more traffic than in 2002). The current level is just under 36,000 trips in the peak hour, by their estimates, meltdown occurs with slightly more than 39,400 trips on the I-5 Bridge.

But if new bridge is built, this produces an additional 13,900 peak hour trips. Presumably, with 4 or 5 travel lanes in each direction, there will be no congestion on the bridge. But what about the rest of the traffic system. How do they manage this volume without congestion on the rest of I-5? How do I-5 and North Portland road networks handle the additional 13,900 peak hour trips that will be generated by the new bridge? Why does a 10% increase in the peak cause catastrophe on the bridge, but a 40% increase on the rest of the system create no problems at all? This is not explained in their analysis.

So, in sum, the CRC position is:

Going from 35,800 to 39,400 on the I-5 Bridge brings the system to a grinding halt;

But

Going from 35,800 to 53,300 can be accommodated with very high speeds with no bottlenecks elsewhere on I-5 or in the Bridge Impact Area.

3. Big Bridge Tolls will reduce use of I-5 sharply

There is no consumer appetite to pay tolls to cross the Columbia. Traffic volumes will likely fall substantially. The best available public opinion evidence suggests that tolls could cut I-5 crossings by as much as half. If resolving congestion is the problem, this suggests that tolling the existing facility alone could greatly reduce congestion, and probably do so at a far lower cost than a new Big Bridge.

CRC's own focus groups.

“Over half of the participants said they would *not be willing* to pay a \$2-\$3 toll to cross the bridge “if you also gained more dependable travel time between Vancouver and Portland” DHM, Columbia River Crossing Project/Washington & Oregon Focus Groups Report, October 2006, page 6.

KATU Poll

(Scientific Random Sample Poll Conducted by Survey USA)

“If a new bridge is built and a toll is charged, what would you be most likely to do? Use the bridge? Drive out of your way to avoid the bridge? Take mass transit? Or do something else?”

Of regular bridge users:

- Use the bridge: 41%
- Drive out of your way to avoid paying the toll: 42%
- Take Mass Transit 9%
- Don't Know 8%

Geography: Portland, OR DMA Sponsor:

Data Collected: 01/23/2008

Release Date: 01/23/2008

Results of SurveyUSA New PII #13244 – Page 2

4. \$4 Billion is a lot of money we don't have; spending \$4 billion on this project means that much less for all the region's other transportation needs.

At \$4 billion the CRC would be the largest public works project in the region's history—the equivalent of 80 OHSU aerial trams.

The total cost of the project works out to nearly \$2,000 per capita from each of the region's 2 million residents: \$8,000 per family of four.

\$4 billion is roughly the total amount of resources identified in the Regional Transportation Plan for all new transportation investments in the region in the next 20 years.

Money spent on this project—from any source, including earmarks, will not be available for alternative transportation investments. This project will use up virtually all of the region's capacity to finance new transportation investments for a decade or more. And according to Metro's Regional Transportation Plan, the I-5 and I-205 corridors account for less than 10% of the expected growth in daily travel in the region over the next 25 years. If we spend \$4 billion here, how will we meet the other 90% of the expected growth?

5. The Financing Plan for the CRC is shaky and speculative. It depends on tax increases that have not been approved. Just the state/regional share would require a 15 cent a gallon tax on all gas sold in the metro region.

The financing plan for the CRC identifies exactly \$20 million in existing funds available for the CRC. The remainder has to come from taxes (and tolls) which do not now exist. Their finance plan calls for:

| Source | Amount | Status |
|--|------------------------------|---|
| Existing state revenues | \$20 million | WSDOT funds |
| Federal Earmarks | \$400-600 million | Federal highway fund is broke; funding would require new federal gas tax. |
| Contribution from State & Regional resources | \$876 million to 1.5 billion | Not identified. This would require additional WA and OR gas taxes and also additional regional funding. If levied as a gas tax it is equal to 15 cents per gallon for the entire region for 30 years. |
| Toll Bonds | \$1,070 to 1,350 million | Bonds contingent on \$2.50 peak hour toll; proceeds are estimated. |

**(Note: Construction costs for highway portion of bridge only).
(Source: CRC Draft Finance Plan Summary, January 2, 2008, page 2)**

Where does the state and regional funding come from? Assuming the CRC can garner \$400 million in earmarks and \$1 billion on toll bonds, it would need to generate \$1.5 billion in state and regional revenue to meet the \$3 billion ('high') estimate of bridge cost. This amount would have to come from gas taxes in excess of current levels. How much of a gas tax would be required to produce \$1.5 billion in local revenue?

If the state and local share of the project is \$1.5 billion, and if this were financed with bonds at 6% interest over 30 years, annual debt service would be \$107 million. The region drives about 20 miles per person per day; at 20 miles per gallon, that each person consumes a gallon a day, meaning the region buys about 730 million gallons of gas per year (2 million regional population x 365 x one gallon). A one cent per gallon gas tax raises about \$7 million dollars per year (.01 x 730 million). Under this assumption, it would require a regional gas tax of about 15 cents per gallon to pay the debt service for the \$1.5 billion cost of the state and regional share.

In the event that the toll bonds produced less than a billion dollars, or federal earmarks were less than \$400 million, the gas tax would be higher. If the entire cost of the bridge were funded from a gas tax on the region's residents (no tolls or earmarks), it would require a tax of about 30 cents per gallon.

Arguably, the cost of the CRC might be cross-subsidized by taxpayers elsewhere in Oregon and Washington (in the case of state gas taxes), or by U.S. taxpayers (in the case of federal earmarks). In both of these cases, however, the cost to local residents will be

less than the above estimates, if and only if, the region succeeds in getting the rest of the country to pay higher taxes for this project, and get less for projects in their areas.

The high cost of the bridge (\$3 billion for the highway portion alone), and the need to pay for the construction up front, while the revenue will be raised only over a period of 30 years or more, will require the region to pay a huge—and unspecified—amount of interest over time. It is likely that the CRC will have to bond both gas tax proceeds and toll receipts over a period of decades in order to raise the financing for the bridge.

In sum, the CRC is a project everyone wants—as long as someone else pays for it.