IMPRESA
ECONOMICS

February 11, 2014

Treasurer Ted Wheeler
159 Oregon State Capitol
900 Court Street NE
Salem, OR 97301

Dear Treasurer Wheeler:

The Oregon Legislature will shortly consider whether to incur debt and obligate the state to pay the costs of the Columbia River Crossing (CRC). While it has been represented by the Oregon Department of Transportation (ODOT) and project proponents that this implies only a so-called "equity contribution" of $450 million, it is apparent that the cost and risks are much larger than this amount. I would hope that your office would counsel against proceeding with this project as proposed because it represents an unacceptable financial risk for the state of Oregon.

The Columbia River Crossing is a prodigious undertaking and is fraught with serious financial risks to the state of Oregon. If undertaken, this would be, in current dollar terms, the largest public sector construction project in the state. Once debt is obligated, and once construction contracts are let, it will simply be too late to revisit these risks. The decision to move forward, once taken, is likely irrevocable. It is imperative, therefore that the state undertake an extraordinary level of due diligence now.

I've carefully reviewed the plans for the Columbia River Crossing, including the recently published Investment Grade Analysis. The documents, and indeed the experience with major ODOT construction projects, the agency's financial management, and the track record of the CRC project to date clearly show that it would be foolhardy to move forward based on the information now in hand. There are six major points your office should consider in this regard.

First, it is inarguable that compared to the version of the CRC—one adopted with great reservations and extensive conditions less than twelve months ago—that this version doubles the financial risk to the State of Oregon because of Washington's exit from the project. In addition, legal questions surrounding Oregon's legal ability to undertake construction in Washington State and to collect tolls from Washington State residents further increase these risks. If anyone had any doubts about this project a year ago, those have been doubled by this change alone.

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Second, there is no reason to place any faith in the cost estimates presented by ODOT. Actual costs of transportation megaprojects routinely exceed their budgets, on average by a third, according to the best available scholarship. ODOT has a demonstrated track record of huge cost-overruns on its major projects. Its Pioneer Mountain-Eddyville Project has experienced a 200 percent cost overrun, which has added more than $200 million to that project's cost. Already the CRC is years behind schedule, and its planners have made repeated mistakes--first pursuing an "open-web" design that their own experts pronounced un-buildable, and then ignoring repeated warnings from the Coast Guard and designing a bridge too short to accommodate the needs of river users. These errors have already led to extensive delays and additional costs, even before construction has begun. It is imperative that the financial plan for this project allow for likely cost overruns of as much as $1 billion or more, and it has not done so.

Third, it is troubling that there is no evidence that ODOT has any meaningful capacity or strategy to manage project costs or prevent cost overruns. For the past several years, it has repeatedly testified that it would rely on Washington Department of Transportation's (WSDOT) allegedly superior capability to manage megaprojects, and specifically its "Cost Estimate Validation Process (CEVP)." That process, of dubious value, given the current problems with the two Seattle area megaprojects—the Alaska Way Deep Bore Tunnel (a disabled tunnel boring machine) and the SR 520 Floating bridge (leaking pontoons)—which the CEVP process failed to anticipate or prevent. The CRC has not carried out the CEVP risk-assessment process in more than two years. In addition, the federal government's independent Project Management Oversight Consultant has not issued a report in more than six months. And in its communication with you this fall, ODOT simply ignored its demonstrable failures in controlling costs on the Pioneer Mountain-Eddyville project. An agency that cannot even acknowledge its existing management problems will find it impossible to solve them. To wit, the agency asserts that design-build contracting will insulate this project from financial risk, yet ODOT's only large-scale experience with design-build contracting was the Pioneer-Mountain Eddyville project, which has experienced huge cost overruns.

Fourth, you are being asked to put faith in CDM Smith's estimates of toll revenues for this project. CDM Smith has a demonstrated track record of frequently over-estimating the revenues from toll projects. Projects that have relied on or had their financial projections vetted by CDM Smith in California, Virginia and Texas have gone into bankruptcy or had to be restructured. As the major bond rating agencies have recently opined, over-estimation in endemic in toll-financed projects. (An analysis of CDM Smith over-estimates and their financial consequences is attached). While you may not feel that your office has the technical capability to second-guess the accuracy of the Smith forecasts, that is not the relevant question. It is clear that even in the best of circumstances, there is a substantial risk that Smith is wrong, and it is very much in the state's interest, and within the authority and expertise of your office, to assess the consequences to the state's budget and credit of undertaking that risk. What happens to project finances and the state's credit rating if, as is highly possible, CDM Smith is wrong? Your office should weigh in explicitly on this question. You should also take the very prudent step of asking for an independent review of the Smith forecasts from a firm with no present or future financial interest in preparing toll revenue forecasts for profit, just as you did when you retained Robert Bain to review the earlier project forecasts.

Fifth, I and others have pointed out that the CDM Smith estimates show that tolling the I-5 bridges will produce enormous traffic diversion to I-205; on the order of 40,000 to 50,000 additional vehicles will use I-205, jamming it to capacity. You may be tempted to aver that your office is only interested in the financial and not the transportation aspects of this project, but if this project does not work as a transportation investment, it is highly likely to fail financially. We know that this is true because of the experience with the proposed tolling regime for the Alaskan Way Viaduct Deep Bore Tunnel in Seattle. There, the Washington Department of Transportation claimed--based on studies very much like the Smith estimates--that tolling could contribute $400 million toward construction costs. The Washington Legislature approved the project under this assumption, despite concerns raised at the time about the likelihood that tolling the tunnel would produce unacceptable traffic diversion onto Seattle street network. Only *after* the project was approved, did WSDOT undertake further analyses, which confirmed the concerns about diversion. Tolling to produce $400 million, while feasible, they determined, would cause unacceptable traffic impacts; therefore, the amount of money to be generated from tolls has been cut, first to $200 million and now to only $140 million. Claims that there is ample "headroom" to increase CRC tolls, without consideration of how tolling will affect traffic flows, are idle and misleading at best. Unless this project's toll regime is consistent with a functioning regional transportation system, it will not be implementable in practice, with the result being that the state will be responsible to make up the revenue shortfall, which is exactly what has happened with the Alaskan Way Viaduct Deep Bore Tunnel. Your office needs to insist that the financial plan be consistent with a tolling regime that does not produce unacceptable diversion.

Sixth, the Oregon Department of Transportation's financial model is broken and unsustainable. By its own reckoning, it has relied excessively on debt financing, and will, over the next few years have to reduce by half its capital outlays. It has gone from spending about 2 percent of its state revenues on debt service a decade ago, to now facing the prospect that it will spend 35 percent of its state revenues on debt service. This project would add to that debt burden. At the same time, the agency has over-estimated its revenues, by a cumulative amount over the past five years, of half a billion dollars. The department's dire financial straits and dwindling resources are plainly presented on its own website: This record of financial profligacy should prompt a prudent financial advisor to counsel caution and retrenchment, not taking on further debt and a larger level of risk.

Your office is being asked, in essence, to assent to the financial prudence of an Oregon-only Columbia River Crossing. This is a project that presents at least double the risk to state finance of the version proposed just months ago. It is based on cost estimates that are unreliable, from a project team that has already erred in dramatic fashion. Cost overruns are a virtual certainty on this project, as they are on all mega-projects, and indeed as they have been on ODOT's largest projects, including this one. The agency has failed to follow through with the project management mechanisms it assured you would be employed to prevent overruns, and has not acknowledged, much less corrected, its own practices, which have led to cost-overruns on the Pioneer Mountain-Eddyville project. It is basing its financial plan on estimates from a firm that routinely over-estimates toll revenues, in an environment when over-estimates are becoming more common all the time. The toll estimates themselves show that the project would be a transportation disaster, and that the needed toll regime would produce traffic congestion on I-205 that would be unacceptable—undercutting the validity of the toll revenue projections. And this is an agency that has failed to accurately forecast its own revenue, while dramatically—and unsustainably—increasing its indebtedness. This project and this agency do not deserve your office's endorsement of their financial prudence. I strongly recommend you withhold it.

Best regards,

Joseph Cortright

Attachments:

Impresa, "CRC Financial Risks"
Impresa, "CDM Smith Forecast Accuracy"
ODOT, "Seven Trends"

How accurate are CDM Smith traffic and toll revenue forecasts?

Joe Cortright
Impresa, Inc.,
January 2014

A key question about the Columbia River Crossing is how reliable and accurate are CDM Smith traffic and toll revenue forecasts. ODOT Director Matt Garrett maintains that they have a "significant degree of accuracy." Without mentioning the names or dates of any of a series of projections, he asserts that most of Smith's work is accurate.

But the track record of toll forecasts generally, and Smith's forecasts in particular, shows that they routinely over-estimate likely traffic and revenues, and do so by large enough margins to throw major toll-backed projects into financial turmoil and bankruptcy on a regular basis.

Just last month, Business Week reported that over-optimistic toll revenue forecasts are such a problem that private companies are backing away from toll-financed deals, and are demanding state guarantee payments.

> Traffic forecasts done by consultants for states and investors have long proven overly optimistic. The first-year revenue of 26 public and private toll roads that opened from 1986 to 2004 averaged one-third less than projected, according to a 2009 analysis of federal data by Robert Bain, a transportation consultant. U.S. miles traveled peaked in 2007 at 3.03 trillion, then declined 2.5 percent through 2012, according to the Federal Highway Administration. "You never see a consulting report be negative or else they won't be able to sell the bonds," says Howard Cure, managing director of municipal bond research at Evercore Wealth Management (EVR).
> http://www.businessweek.com/articles/2013-12-12/private-toll-road-investors-get-low-risk-deals-from-states

In October of last year, bond rating agency Fitch issued a scathing report on toll forecast errors. They warn than over-estimating revenue is endemic in the industry and is a key cause of financial problems for toll-financed projects. The Fitch message, summarized in the trade publication, *Toll Roads News*, is clear and stark:

> **They call demand forecasting "a key vulnerability," adding: "The probability of over-estimation remains high despite decades of experience with forecasting demand on transport projects**. Many greenfield projects over the years across many jurisdictions have suffered from this... While other risks have been manifested in many cases, **defaults on debt have largely been driven by under-performance relative to original projections."**

http://www.tollroadsnews.com/node/6769
(October 7, 2013), emphasis added.

The news article from Toll Road News summarizing the Fitch report is attached below.

What's more alarming is that most of the U.S. examples of bad forecasting and excessive debt load cited by Fitch in its report were projects whose forecasts were prepared by CDM Smith or which were endorsed by CDM Smith (in its previous guise as Wilbur Smith Associates).

Projects that were based on Smith estimates that have experienced bankruptcy or other financial troubles include:

- The San Diego South Bay Expressway, open in 2007, bankrupt in 2011, traffic projections by Wilbur Smith.
  South Bay Expressway company files for bankruptcy in San Diego |
  TOLLROADSnews
  http://www.tollroadsnews.com/node/4664
  Wilbur Smith had done the investment grade traffic and revenue forecasts.
  * * *
  Traffic and revenue forecasts underlying the financing plan for the SBE projected 60k vehicles/day in 2009 whereas traffic was in fact 23k/day, or 38% of forecast level.
  Toll revenue in 2008 was $22m or 70% of the forecast $31m.
  In 2009 toll revenue was $21m, about half of the $42m forecast.

- The San Joaquin Hills Toll Road in Orange County, open 1996, facing bankruptcy now, traffic projections by Wilbur Smith
  Bloomberg, September 11, 2013.
  http://www.bloomberg.com/news/2013-09-11/california-toll-road-risks-biggest-default-since-detroit.html

- Richmond, VA's Pocohontas Parkway, opened in 2002, turned over to lenders this year, traffic projections by Wilbur Smith.
  "Pocahontas Parkway turned over to lenders," Toll Roads News, June 13, 2013, http://www.tollroadsnews.com/node/6591

Two other projects had their traffic projections endorsed by Wilbur Smith as part of a review process for investors have experienced or are experiencing serious financial problems.

- The Las Vegas monorail: open in 2004, bankrupt in 2010; traffic projections endorsed by Wilbur Smith.
  "Las Vegas Monorail files for bankruptcy protection."
  http://www.lasvegassun.com/news/2010/jan/13/las-vegas-monorail-files-bankruptcy-protection/

"How Las Vegas transport gamble turned into a one-track ride to ruin," The Guardian, February 16, 2008
http://www.guardian.co.uk/business/2008/feb/16/useconomy.marketturmoil
Jeffrey Kimmel and Tom Stone, "Ticket to Ride: The Las Vegas Monorail Takes Off," Nevada Contractor Magazine, n.d. (2000?)
http://www.monorails.org/tMspages/LasVeg1.html

- Austin's SH 130 tollway, opened in October 2012, downgraded and listed for probable default by December 2014 by bond rating service Moody's; its traffic projections were peer-reviewed by Wilbur Smith.
  Moodys, Inc., "Rating Action: Moody's downgrades the ratings on SH 130 Concession Company Senior and TIFIA loans to B1: Downgrade affects $1.1 billion of outstanding debt"- 12 Apr 2013
  https://www.moodys.com/research/Moodys-downgrades-the-ratings-on-SH-130-Concession-Company-Senior--PR_270798

Every single one of these projects has experienced significantly less traffic and less revenue than forecasts made or endorsed by Wilbur Smith, which has been the proximate cause of their financial problems.

- The recently opened Inter-County Connector (ICC) in Maryland is also falling far behind projections. Again, Wilbur Smith was the forecaster here. Smith projected toll revenues of $59 to 68 million annually; last year the facility brought in less than $40 million.
  Eugene L. Mayer, "The Road Less Traveled," Bethesda Magazine, September/October 2013
  http://www.bethesdamagazine.com/Bethesda-Magazine/September-October-2013/The-Intercounty-Connector/

In addition, questions have been raised about the accuracy of at least two Wilbur Smith forecasts for projects that have yet to be built. These are:

- The Knik Arm "Bridge to Nowhere" in Anchorage, where a legislative audit found that traffic and toll revenue projections were overstated and where questions have been raised about the population and employment forecasts used to predict bridge traffic and toll revenue.
  "Audit says Knik Arm bridge toll projections 'unreasonably' overstated, Anchorage Daily News, April 6, 2013
  http://www.adn.com/2013/04/06/2855107/audit-says-knik-arm-bridge-toll.html#storylink=cpy

- The Dulles Toll Road (an existing road, with toll increases to pay for Metro expansion), where an independent economic analysis questioned the validity of Wilbur Smith and Associates projections. See:

"Wilbur Smith Assoc forecasting record slammed in report for Reston VA group" Toll Roads News, January 27, 2012
http://www.tollroadsnews.com/node/5726

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"Global PPP Lessons Learned," Toll Roads News, October 7, 2013
http://www.tollroadsnews.com/node/6769

2013-10-07: A report from Fitch Ratings titled "Global PPP Lessons Learned" says weak economic fundamentals with overestimation of traffic and revenue along with higher than expected costs are the major source of public private partnership (P3) failures worldwide. Other failures occur through vulnerability to departures from the "normal." But inability to service debt is most often due to disappointments about cash flow.

They call demand forecasting "a key vulnerability," adding: "The probability of over-estimation remains high despite decades of experience with forecasting demand on transport projects. Many greenfield projects over the years across many jurisdictions have suffered from this... While other risks have been manifested in many cases, defaults on debt have largely been driven by under-performance relative to original projections."

The "key assumption" in financial planning is often that "a normal environment will prevail."

Modeling too often doesn't take much account of various "abnormal events" occurring. Severe economic recession, major changes in the political environment, and failures of parties to perform are cited as abnormals one or two of which are in fact normal over the life of many concessions.

The report is attributed two longtime analysts in the New York head office Cherian George and Thomas McCormick and to Nicolas Painvin of Fitch's Paris office.

Their most scathing words are about the Las Vegas Monorail for which they say "Debt default was inevitable" from conception. Structured as a not-for-profit and lacking public or private equity there was no institutional commitment to it once construction was complete. As an 'orphan' it had no one incentivized to manage its problems.

"The casinos were the primary beneficiaries but they had little skin in the game," they observe.

The gold of "innovative finance"

On tollroad P3s they include the Indiana Toll Road and Chicago Skyway concessions as troubled. Of the Indiana pike they suggest a fundamental financial miscalculation was made by the sponsors (Cintra and Macquarie) in using a gimmicky hedge known as an 'accreting swap.' Designed to backload debt service it was an early victim of sustained low interest rates which because of the swaps have caused a big spike in debt service.

"The accreting facility increased rather than decreased the risk profile of the (ITR) concession company," they write.

The gold promised from 'innovative finance' was turned to the lead of debt.

The Chicago Skyway also has been burdened with higher debt due to the mistake of using accreting swaps, but it doesn't have the big single year refinancing to do a difficult large refinancing like the Indiana Toll Road has in 2015.

"Aggressive leverage" (high debt ratio) is "a vulnerability" they write especially during bouts of financial instability and recession which can cause major drops in traffic and revenue.

Those vulnerable on this score in the US are listed as San Joaquin Hills TR, South Bay Expressway, Greenville Southern Connector, Santa Rosa Bay Bridge, Dulles Greenway and Pocahontas Parkway.

An Oregon-Only CRC is a Transportation and Financial Disaster

Joseph Cortright, Impresa, February 2014

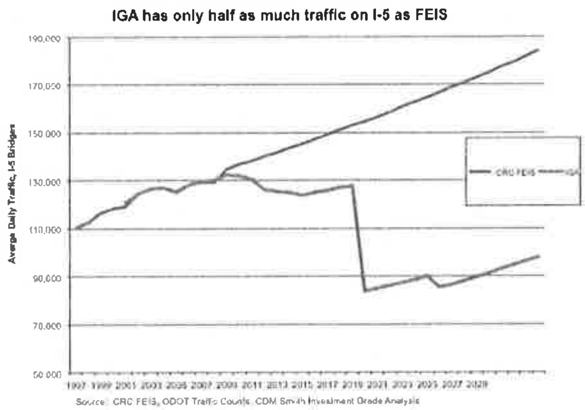
CRC Tolls will produce gridlock on I-205, making our traffic problems worse

Tolling I-5 but not I-205 will produce a traffic disaster of major proportions. Tolling I-5 at $3.25 peak—plus a $1.77 surcharge for non-transponder users—and *not* tolling I-205 will lead tens of thousands of vehicles to divert to I-205 every day. CRC has had to double minimum one-way tolls from those planned in the EIS, from $1.35 to $2.30 for cars, and from $5 to $13 for large trucks.

The "investment grade analysis" prepared by CRC contractor CDM Smith shows:

- In 2022, tolls will lead to 39,000 fewer vehicles on the new $3 billion I-5 bridge, and 52,000 more cars on I-205.
- In 2030, the new 12-lane, $3 billion I-5 CRC is forecast to carry **fewer** cars than it does today. Meanwhile, all of the growth in cross-Columbia river traffic will shift to I-205, which will carry almost twice as many cars as travel across I-5.

I-205 congestion caused by CRC tolls will lengthen travel times to and from Portland International Airport—arguably our most economically important, time-sensitive travel destination. Rather than alleviating our region's travel problems, the CRC actually makes them worse. Meanwhile, the I-5 will be an under-used white elephant.



Average Daily Traffic, I-5 & I-205, Today, 2022, and 2030

	I-5	I-205	Total
TODAY	124	139	263
2022	85	191	276
Change from Today	*-39*	*52*	*13*
2030	98	194	292
Change from Today	*-26*	*55*	*29*

Source: Investment Grade Analysis, January 2014

ADT in thousands, 2030 data interpolated using 2022-2036 average growth rate

The case for the CRC is based on out-dated, discredited EIS travel projections

CRC officials continue to tout 2005-vintage traffic projections from the Environmental Impact Statement to justify the project and claim that diversion will be minimal. These projections are out-dated, have been discredited by ODOT and State Treasury consultants, and are no longer valid.

Rather than increasing as ODOT predicted, traffic on the I-5 bridge has been dropping, and is below the levels of 2003, and the Treasurer's consultants found the decline to be long-term, not attributable to the recession.

The traffic projections used to justify the CRC are based on 1990s travel behavior patterns and trends, including the assumption that gasoline would continue to be cheap. The project's environmental impact statement contains no post-2005 traffic data. The model used to predict I-5 traffic in the EIS can't accurately forecast traffic on tolled roads, according to ODOT's own reports.

Metro's new travel forecast, based on updated data, shows that in 2030 the region will have 480,000 fewer jobs and 190,000 fewer people than the projections used to justify the CRC.

The multi-billion dollar CRC will assuredly experience cost overruns

A majority of transportation mega-projects experience cost overruns, with excess costs averaging 30%--in the case of CRC this would add $1 billion; and all of it would be Oregon's responsibility.

ODOT's large construction projects routinely experience cost-overruns. Its largest current project, the Highway 20, Pioneer Mountain-Eddyville highway widening, was supposed to cost $115 million and be done in 2009; it is currently estimated to cost $365 million and be done in 2016. ODOT also had cost overruns on the Grand Avenue Viaduct and Newberg-Dundee Bypass.

CRC has already experienced delays and higher costs due to pursuing an unbuildable open-web design, and then designing a structure with a clearance too low to accommodate shipping.

The Oregon-Only CRC has already run up other major un-budgeted costs:

- $86 million in compensation to river users affected by fixed span limits to navigation (*The Columbian*, August 30, 2013)
- $58 million to build the capability to collect tolls (*Oregonian*, November 5, 2013)

The CRC hasn't completed a "Cost Estimate Validation Process" (CEVP) analysis to assess overrun and schedule risks in more than two years—after maintaining for years that CEVP would identify and prevent overruns. ODOT hasn't issued a complete project schedule in more than six months

ODOT has no strategy for avoiding cost overruns like those that have plagued the Highway 20 project; it failed to acknowledge these problems to the State Treasurer. ODOT's experience with design-bid contracting shows contractors raise costs and escape liability with virtual impunity.

Toll revenues have been over-estimated; Oregon will pay all shortfalls

Consultants CDM Smith have frequently over-estimated revenues from toll projects. Several projects for which CDM Smith produced or validated projections have faced bankruptcy or financial restructuring due to over-estimated revenues, including California's Orange County Toll Roads and South Bay Expressway, Virginia's Pocahontas Parkway, and Austin's SH 130 toll road. Bond rating agency Fitch concluded (October 2013): "The probability of over-estimation remains high despite decades of experience with forecasting demand on transportation projects. ODOT and CDM Smith have already substantially raised toll rates above those set forth in the projects FEIS. Off-peak tolls have been doubled, and the lowest off peak toll in the IGA is ($2.60) is now the nearly the same as the highest peak toll mentioned in the FEIS ($2.69).

ODOT's financial situation is troubled and unsustainable

ODOT has gone deeper in debt to finance highway construction. In 2002, ODOT spent less than 2 percent of state highway funds on debt service; now it is on track to spend 35 percent of state highway funds on debt service. CRC would dramatically increase ODOT's debt load.

ODOT gas tax revenues are falling far short of projections. For the five-year period 2010-2015; ODOT revenues are now forecast to be more than $500 million less than forecast in 2009.

Oregon taxpayers would be on the hook to make up revenue shortfalls.

Oregon has limited ability to enforce toll collection in Washington; Washington law makes no provision for denying license renewal for non-payment of Oregon tolls. Toll losses to trucks and cars from other states have not been estimated.

The Oregon-only CRC puts all the liability on Oregon taxpayers

- Oregon taxpayers bear all of the liability for cost-overruns, toll revenue shortfalls and federal revenue shortfalls.
- The Oregon-only CRC would require paying Washington State more than $70 million in sales taxes on construction in Washington (*Willamette Week*, September 13, 2013)

While the state has *asked* for $850 million from the federal government, there is no guarantee that it will provide that amount; in the case of the Portland-Milwaukie Light Rail project, the FTA provided $150 million less than the project was eligible to receive. Oregon taxpayers would have to make up any such shortfall. In addition, a $400 million highway earmark counted on in the project's financial plan has never materialized.

Prepared by J. Cortright, Impresa, www.impresaconsulting.com February 2014

Average Daily Traffic, I-5 and I-205 Bridges, Today, 2016, and 2036

	I-5	I-205
TODAY	124,000	138,700
2016		
Low Forecast	74,877	163,927
High Forecast	87,770	171,649
Change from today (Low)	(49,123)	25,227
Change from today (High)	(36,230)	32,949
2036		
Low Forecast	101,098	178,555
High Forecast	117,909	204,781
Change from today (Low)	(22,902)	39,855
Change from today(High)	(6,091)	66,081

Source: CDM Smith September estimates

	I-5	I-205
TODAY	124,000	138,700
2016		
Low Forecast	74,877	163,927
High Forecast	87,770	171,649
Change from today (Low)	(49,123)	25,227
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Source: CDM Smith September estimates

OREGONLIVE

CRC deserves a vote of no-confidence: Guest opinion

i5bridge.JPG
The Columbia River Crossing would replace the aging I-5 bridge connecting Portland and Vancouver, Wash.
(Jamie Francis/The Oregonian)

Guest Columnist By **Guest Columnist**
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on February 11, 2014 at 10:46 AM, updated February 11, 2014 at 3:41 PM

By Joseph Cortright

It's the oldest con in the world: "Hey buddy, wanna buy a bridge?" When it comes to the Columbia River Crossing, the Oregon Legislature shouldn't fall for it. The proposal for an Oregon-only CRC saddles us with billions in debt and unlimited liability for cost increases and actually makes traffic conditions worse. As its tortured history makes clear, nothing in this project goes according to plan, and when it doesn't Oregon taxpayers bear the risk.

CRC advocates are ignoring the warning signs and switching off the safety systems. For years, they have assured us that Oregon's risk was limited: Washington would be our partner, they had great experience in managing mega-projects, and the project was subject to careful outside review. All these safeguards are in shambles: Washington will bear none of the CRC financial risk. WSDOTs managers are off the case--dealing with leaking pontoons for their new floating bridge, and a tunnel-boring machine stuck under downtown Seattle. The project has not produced a detailed risk analysis in more than two years, and the independent project management consultant hired by the federal government hasn't filed a report since July. ODOT has no explanation for how it will avoid the kind of 200 percent cost overruns that have added $200 million to the price of its largest current project, the Highway 20 widening in Lincoln County.

So when it comes to risk, this is an Oregon-only project. When tolls are less than expected, Oregon pays. Cost overruns: Oregon pays. When the federal government contributes less than we ask: Oregon pays. Plus, Oregon will be liable to pay $70 million in sales taxes to Washington for building on their side of the river, and $80 million in compensation to Washington businesses for restricting navigation and $50 million to duplicate Washington's toll collection systems.

A linchpin of CRC financing is a toll revenue study by consultant CDM Smith that claims tolls will cover about one-third of project costs. But despite their best efforts, Smith is frequently wrong: and when they're wrong, their clients pay. Smith was wrong about a San Diego toll road and it went bankrupt. They endorsed the forecasts for an Austin toll road that opened in 2012 and which is now headed for default. Toll forecasters suffer from consistent optimism bias according to bond rating agencies.

What the Smith analysis shows is that the toll rates laid out in the project's original plans aren't high enough to pay for the project. According to Smith, a major rate increase is needed to generate enough revenue. The minimum one way tolls were doubled, from $1.34 in the project environmental impact statement to $2.60 in the Smith analysis; tolls for large trucks were increased from $5.40 to $13. (And if you don't buy a transponder, you'll pay a $1.77 surcharge each way.)

Higher tolls, coupled with more accurate forecasts, now show that, far from relieving traffic congestion, the CRC will be a traffic disaster. High tolls on I-5 will cause 40,000 to 50,000 motorists to divert to the I-205 bridge, clogging it to capacity. I-205 and connecting routes to I-84 will see long delays, hurting access to PDX, arguably the region's most time-sensitive destination. Meanwhile, the giant new freeway bridge will be an under-used white elephant. The toll forecast shows fewer people will use the new bridge in 2036 than use it today.

The proposed Oregon-only CRC has metastasized from merely an expensive folly into a financial and transportation disaster. Now is not the time to make an irrevocable, multi-billion dollar commitment to a project, which if built, will only make traffic conditions worse in much of the region and bankrupt our transportation finances.

There are sensible, fast-acting and cheap steps we can take to fix I-5. CRC's own studies show we can bring the current structure up to modern seismic standards for about the same amount it would take to demolish it. And the sooner we say "no" to the CRC, the sooner we can get on with these practical and affordable steps.

*Joseph Cortright is an economist with **Impresa** consulting in Portland, which has been retained by CRC opponent Plaid Pantry.*