

Columbia River
 CROSSING

June 29, 2008

Public and Agency Comments

DRAFT ENVIRONMENTAL IMPACT STATEMENT

From: NoEmailProvided@columbiarivercrossing.org
To: [Columbia River Crossing;](#)
CC:
Subject: Comment from CRC DraftEIS Comments Page
Date: Sunday, June 29, 2008 4:42:01 PM
Attachments:

Home Zip Code: 97217

Work Zip Code:

Person:

Lives in the project area

Person commutes in the travel area via:

Bicycle

Bus

Car or Truck

Walk



1. In Support of the following bridge options:
Replacement Bridge
2. In Support of the following High Capacity Transit options:
Bus Rapid Transit between Vancouver and Portland
Light Rail between Vancouver and Portland
3. Support of Bus Rapid Transit or Light Rail by location:
Lincoln Terminus: Unsure
Kiggins Bowl Terminus: Unsure
Mill Plain (MOS) Terminus: Yes
Clark College (MOS) Terminus: Yes

Contact Information:

First Name:

Last Name:

Title:

E-Mail:

Address:

,

Comments:

I have been to some of the Open Houses and seen the several designs for the CRC Project. Unfortunately, I could not attend a Public Hearing. Last week, I was very disappointed to hear the the 12 lane design is the current favorite. Building 12-car-lanes will not solve or reduce the problems of the Interstate Bridge. At best, it will put them off for a few years.

The Problems:

1) The empty closet effect.

As in a house, if you install an extra closet you will fill it up; usually with stuff you shouldn't really keep. The same applies to bridges. If you build a bridge for 12 lanes of cars, then 12 lanes of cars is what we will get and we will be right back in the situation we are now and likely in just a few years rather than decades.

The real goal of this project should be to move people and cargo efficiently, NOT cars.

2) Bottleneck

I-5 is 6 lanes between Portland and Vancouver except at Delta Park where it changes to 4 lanes over the Slough. This loss of 2 lanes causes a large bottleneck and construction to expand I-5 to 6 lanes has just started. However, the CRC Project wants to build a 12 lane bridge that feeds into 6 lanes at Delta Park. There's a failure of logic here: either a reduction of lanes does not cause a bottleneck, or the construction at Delta Park is unnecessary.

Reducing a 12 lane bridge to a 6 lane highway is counterproductive.

(Of course, we can see the writing on the wall. First, a 12 lane bridge and sometime later expand I-5 to 12 lanes. Again, this accomplishes the goal of moving cars, but not people. I propose you drive through Sacramento, CA someday to see why a too-many-lane highway is a bad idea.)

3) A separate bridge

There is no good reason to build a separate bridge for MAX from the Expo Center to Jantzen Beach. I am a resident of Jantzen Beach Moorage and was very disappointed to see plans to break up a successful community. A separate bridge won't slow down speeding boats (if that is the intent). It only adds problems including:

- extra building and maintenance costs,
- extra marine hazards for local marine businesses,
- truly painful legal and practical problems in condemning parts of Jantzen Beach Moorage, and
- separating bus traffic on I-5 from MAX making user transfers difficult and

confusing.

An Idea:

If you build it they will come.

The Hawthorne Bridge is a good example. It was redesigned to accomodate more walkers and bicyclists and is now almost overcrowded with them while car traffic has remained reasonable.

Instead of 12 lanes of cars, we need

- 1 lane for bicycles (1/2 lane in each direction)
- 1 lane for pedestrians (again 1/2 each way)
- 1 lane for rail (" ")
- 2 lanes for bus (also carpool during commute hours?)
- 6 lanes for cars

From: NoEmailProvided@columbiarivercrossing.org
To: [Columbia River Crossing;](#)
CC:
Subject: Comment from CRC DraftEIS Comments Page
Date: Sunday, June 29, 2008 7:09:15 PM
Attachments:

Home Zip Code: 98661

Work Zip Code: 98664

Person:

Other - shop and visit in the project area

Person commutes in the travel area via:



Car or Truck

Walk

Other - max

1. In Support of the following bridge options:
Supplemental Bridge

2. In Support of the following High Capacity Transit options:
Bus Rapid Transit between Vancouver and Portland
Light Rail between Vancouver and Portland

3. Support of Bus Rapid Transit or Light Rail by location:
Lincoln Terminus: Yes
Kiggins Bowl Terminus: Yes
Mill Plain (MOS) Terminus: Yes
Clark College (MOS) Terminus: Yes

Contact Information:

First Name: Jan

Last Name: MacKenzie

Title:

E-Mail:

Address:

, 98661

Comments:

From: sam.mackenzie@comcast.net
To: [Columbia River Crossing](#);
CC:
Subject: Comment from CRC DraftEIS Comments Page
Date: Sunday, June 29, 2008 6:55:05 PM
Attachments:

Home Zip Code: 98661

Work Zip Code: 98660

Person:

- Works in the project area
- Owns a business in the project area
- Commutes through the project area



Person commutes in the travel area via:

- Bicycle
- Bus
- Walk
- Other - MAX

1. In Support of the following bridge options:
 - Supplemental Bridge

2. In Support of the following High Capacity Transit options:
 - Bus Rapid Transit between Vancouver and Portland
 - Light Rail between Vancouver and Portland

3. Support of Bus Rapid Transit or Light Rail by location:
 - Lincoln Terminus: Yes
 - Kiggins Bowl Terminus: Yes
 - Mill Plain (MOS) Terminus: Yes
 - Clark College (MOS) Terminus: Yes

Contact Information:

First Name: Samantha

Last Name: MacKenzie


Title:

E-Mail: sam.mackenzie@comcast.net

Address: 4004 NE 39th St
Vancouver, WA 98660

Comments:

Building a new bridge will be costly and only encourage more driving which will not solve any problems in the long run. A new structure for light rail and improved walking/biking paths is the only new construction that should be done. This would not only be a simpler solution but also a more sustainable one. I also support a bridge toll, at least during peak usage hours.

From: [Marvin Moore](#)
To: [Draft EIS Feedback;](#) 
CC:
Subject: Bridge comment
Date: Sunday, June 29, 2008 12:33:23 AM
Attachments:

Hello!

We do not need more car lanes and thus more cars crossing the river.

We need more mass transit and better bike lanes. The current bicycle crossing and "approach" is a nightmare of afterthoughts. We need a rational and easy to use bike crossing.

Recently a friend helped me with a hauling project, and we came across the Fremont Bridge, which had a horrible traffic jam. Fortunately we could get off at the first exit on the east side. More Columbia River lanes would mean more cars and more pollution and more global warming and more wasted energy and more congestion on other parts of the freeway. Frequently I bicycle down the Mississippi Avenue hill and look up to see the traffic jams on I-5, and I'm thankful that I'm not part of it. I pity the poor commuters who haven't been given better choices.

Light rail and bike lanes are the only realistic choice for transportation!

Thank you,
Marvin Moore
PO Box 1851
Portland, Oregon 97207
marvelousmarvinmoore@yahoo.com

From: customerservpro@hotmail.com
To: [Columbia River Crossing:](#)
CC:
Subject: Comment from CRC DraftEIS Comments Page
Date: Sunday, June 29, 2008 11:07:52 AM
Attachments:

Home Zip Code: 97213
Work Zip Code: several

Person:

Other - have business arrangements on both sides of the river

Person commutes in the travel area via:

Car or Truck



1. In Support of the following bridge options:

Supplemental Bridge

No Opinion

2. In Support of the following High Capacity Transit options:

No Opinion

3. Support of Bus Rapid Transit or Light Rail by location:

Lincoln Terminus: No Opinion

Kiggins Bowl Terminus: No Opinion

Mill Plain (MOS) Terminus: No Opinion

Clark College (MOS) Terminus: No Opinion

Contact Information:

First Name: Terry

Last Name: Parker

Title: Taxpayer

E-Mail: customerservpro@hotmail.com

Address: P.O. Box 13503

Portland, OR 97213


Comments:

Interstate commerce on the on the I-5 Columbia River Crossing bridge is not just about

big trucks carrying freight. It is about small businesses too such as service techs that cross the river to make service calls. It is about manufacturing representatives and sales people that make premise sales calls on both sides of the river. It is about retail sales as an example where Hayden Island residents shop in Vancouver. Interstate commerce is also about that SUV loaded with merchandise for a trade or retail show at the Expo Center. It is about multi-day exhibitors at the Expo Center having overnight accommodations in Vancouver and eating at downtown Vancouver restaurants.

How will this all change with the proposed bridge tolls for motor vehicles? Will small businesses no longer serve the other side of the river? Fuel costs are already creating a negative impact as it applies to doing business at Expo Center shows. How will tolls impact both doing business at the Expo Center and renting the Expo Center complex? With tolls, will small downtown Vancouver businesses and restaurants suffer due to less people going there from both Oregon and doing business there from the Expo Center shows? How will tolls affect the attendance from Oregon residents at Clark County ground events? Where is the economic impact statement for small businesses? Why isn't this being discussed? The political dragnet for motorist paid tolls is all about dictatorial control and emptying the wallets of commuters who travel to their by motor vehicle, but the negative affects motorist only tolling will undoubtedly negatively affect small business too.

With the sky rocketing costs of motor fuels, NO outdated, dictatorial and subsidized incentives are needed to promote alternative forms of transport. A real bridge in a reality check world necessitates an equitable cost sharing financing plan with transit users and bicyclists paying a proportionate share of bridge costs for the infrastructure they use.

From: [DM Bertish](#) 

To: [Cogan, Danielle; Ovington, Peter; Columbia River Crossing; Columbia River Crossing;](#)

CC:

Subject: Public Comment on Draft EIS

Date: Sunday, June 29, 2008 12:26:05 PM

Attachments:

To: Columbia River Crossing Project

From: Dvija Michael Bertish, Rosemere Neighborhood Association, Columbia Riverkeeper

Re: Public Comments on Draft EIS for proposed Columbia River Crossing Project

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At the time of production of these comments, the local C-Tran Board, Columbia River Crossing Task Force, Metro, and Vancouver City Council have all indicated that their Locally Preferred Alternative is the full replacement bridge with light rail service into Clark County. For the record, we feel it is important to note that agency choice of this Locally Preferred Alternative took place prior to the exhaustion of the public comment period. Thus, it appears that the agencies working on this project are not taking into consideration all of the public comments received, and this is not in keeping with NEPA review. Public comments should have been received, tabulated, and responses provided prior to the choice of locally preferred alternative. Furthermore, public testimony was provided asking for an extension of the public comment period due to the complexity of the Draft EIS, and the Columbia River Crossing Project denied this request without explanation. The Draft EIS does not outline required procedures to apply for extension of the public comment period, and this is also not in keeping with NEPA review. We understand the difficulties in the project timeline to make application for federal funding for this project in August 2008, however, federal grant application deadlines should not have been allowed to trump the public comment process. This was bad planning on part of the Columbia River Crossing Project.

That being said, we recognize the need to improve the I-5 Crossing. However, we do not believe that adequate planning has been achieved relative to the burden of cost for this project. It is our position that should a replacement bridge be built, the number of through lanes should remain 3 in each direction, and all auxiliary lanes should be kept to a minimum. A 12 lane bridge is far too costly and far too intrusive. I-5 shrinks to only 2 lanes in various places throughout the Portland area. Building a 12 lane bridge without widening the I-5 corridor in Portland will not alleviate congestion. A vast replacement bridge will only improve commute time from Portland to Vancouver by about 2 minutes, and congestion will continue to back traffic up over the bridge even after it is built. Spending \$4 billion plus for a super-bridge is irresponsible at this juncture.

It is also our position that the light rail portion of this project should not have been pursued without a public vote. Since the public will be required to fund maintenance and operations costs for light rail, and funding for this will be in the form of an increase in local sales tax, or possibly property tax, the public's permission should have been sought before many millions of dollars were spent studying this option. It is our position that C-Tran should rely on bus service rather than light rail. Bus service is more flexible. We do not agree that bus service would be more costly or less effective than light rail.

The installation of light rail service will have adverse impacts throughout residential and business districts in Vancouver. Construction will close access to many businesses that are already suffering financially. Bus service would not have this affect.

The proposed light rail system will be powered by fossil fuel and coal, both of which severely pollute the environment. Coal is derived from mining mountains, and coal powered generating plants are not yet able to sequester greenhouse gasses as required by Washington State's emissions standards as signed into law by Governor Gregoire. A new coal fired power plant has been denied a building permit in Kalama because it could not comply with sequestration. That technology may not be implemented until 2020. The existing coal plants in our region cause serious air and water pollution, and those generating plants are not in compliance with state standards. Coal is a long way from being a safe resource in our community. If light rail is to be built, it should be modeled after existing systems, such as those found in Singapore, where the trains generate their own

power with movement, and solar collectors are employed. Without solar power and self-generating power, the operation of light rail could end up costing the local taxpayers far too much in the coming years. Construction and operations costs of light rail have crippled a transit system in Colorado recently, and light rail had to be discontinued in order to avoid bankrupting the bus system. There is insufficient capital budget forecasting in the Draft EIS to ensure that severe cost overruns will not affect the Columbia Crossing.

Our organizations have made several attempts to get more information on budget items for this proposed project. For example, we asked for estimates of what it will cost to pay for all the property takings as indicated in Appendix D. C-Tran, City of Vancouver, and Crossing Staff have all indicated that these estimates are all "rolled into" the overall budget forecast, but they cannot be backed out. This explanation is very strange, and only indicates that the budget has not been analyzed sufficiently for the purposes of determining financial impacts on the community.

Rosemere Neighborhood Association met several times with Columbia River Crossing Staff in 2007 and 2008 to make our concerns known. We clearly indicated that it would be unacceptable for the project to mimic what happened under the I-5 Trade and Transportation Committee -- local headlines "In the Way on K" were the sole notice provided to our neighbors that their homes were being considered for removal to widen I-5. None of the homeowners were aware or even included in the public process at the time. Rosemere specifically asked Crossing staff to make sure this did not happen again, and Mr. Ovington promised in writing in 2007 that Crossing Staff was going to go door-to-door to ensure there would be no repeat of the adverse impacts as experienced in prior years. Mr. Ovington's promise was broken, and the Draft EIS was released, clearly identifying homes and businesses that would be impacted. Volunteers went door-to-door once the draft was published, and many businesses and homeowners were still unaware that their properties had been marked by the Crossing Project, and there was tremendous concern. NEPA requires that individuals that will be directly impacted by such a project are to be contacted directly -- once again, this did not happen. The Crossing Project's failure to include affected property owners has caused Environmental Justice impacts, and federal funds sought for this project may now be in jeopardy under these circumstances. Federal dollars cannot be allotted to projects where Environmental Justice impacts adversely impact specific communities, as this project has now done.

The proposed route for light rail and the terminus have yet to be identified. From what we can tell, Clark College is a strong possibility for location of the terminus. Rosemere (later renamed Rose Village) is immediately adjacent to Clark College to the north. The Draft EIS does not consider traffic impact to residential neighborhoods such as Rosemere where neighborhood arterials will become drag strips and traffic will increase as commuters cut through our neighborhood to reach a park and ride. Since Rosemere is bordered by I-5, Fourth Plain Blvd, SR-500 and Grand Blvd, our neighborhood will experience tremendous impacts from construction, and increases in future traffic. The Draft EIS does not mitigate this problem and does not offer solutions to ensure traffic safety in our neighborhood. We already experience rush-hour speeding as traffic cuts through our neighborhood to reach the various arterials and highways.

The Draft EIS mentions several instances where construction will impede groundwater and surfacewater. However, there is no hydrogeological study provided to analyze groundwater contaminant affects, existing plumes within and around the construction zone, or ground/surface water migration. This is a huge oversight, and the draft, therefore, is technically deficient. The draft clearly states that the Columbia River will be dewatered for construction, and that fish will be killed, but it does not qualify sufficiently the mitigation measures needed to alleviate this stress. The stretch of the river that will be affected by the project is riddled with contaminants such as PCBs. The draft does not indicate how it will prevent the mobilization of contaminants that will occur with dredging or disturbing of sediment. The Vancouver Lake Flushing Channel is downstream of the project site -- mobilized contaminants will be carried downstream into the flushing channel, and will then discharge to Vancouver Lake, which is a closed system. Vancouver Lake is currently under consideration for superfund status by the EPA, and Columbia River Crossing Project needs to acknowledge this development, and also how it can prevent contaminants from worsening the condition of Vancouver Lake. The list of contaminant sources within the geographical area of the project is inaccurate and incomplete.

The draft states that there is no TMDL for Burnt Bridge Creek, however, a TMDL has been initiated by Ecology in 2008. Burnt Bridge Creek feeds directly into Vancouver Lake, and sediment/contaminant load carried by the creek into the lake would have serious adverse impacts to the lake. Columbia Crossing Project needs to coordinate with Ecology to ensure that construction will not degrade the lake or

the creek and will not imperil the TMDL program underway for the creek.

The draft acknowledges the Sole Source Aquifer Designation for the Troutdale Aquifer, and that the project is within the designated aquifer area. The draft wrongly states that it is up to EPA to ensure that the project does not harm the aquifer or public/environmental health. The draft EIS is lacking so much hydrogeological information that it would be impossible for EPA to determine if the aquifer were at risk because of the project. The draft clearly states that contaminants will be injected into groundwater during construction, but does not identify how, how much, or provide water movement models. As a whole, the draft is void of much needed environmental baseline data to help qualify environmental conditions and impacts from the project. Thus, we cannot support this draft EIS as a viable document that will sufficiently produce an adequate final study. We feel the draft should be redone and the public comment process re-initiated. It is not the EPA's job to ensure that the aquifer will be protected, it is the Crossing Project's job to ensure that sufficient work is done to ensure protection of the vulnerable Sole Source Aquifer.

There is no mention of the impacts that will be sustained by small businesses due to tolling the bridge. Tolls will adversely impact Clark County businesses because informal polls already show that Portland consumers will cease to support the Vancouver business market once tolls are implemented. This impact needs to be mitigated.

There is no mention of air quality impacts to residential areas adjacent to the construction area. There are elevated incidents of asthma in children adjacent to transit corridors, and this is not documented or analyzed in the draft. We do not agree that light rail will sufficiently mitigate air quality contaminants in the project area.

From: [Chris Smith](#)
To: [Draft EIS Feedback;](#)
CC:
Subject: CRC DEIS Comments
Date: Sunday, June 29, 2008 4:20:33 PM
Attachments: [CRC DEIS comments Chris Smith.pdf](#)

Enclosed please find my comments on the DEIS.

Thank you.



Chris Smith

*** eSafe scanned this email for malicious content ***

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2343 NW Pettygrove St.
Portland, OR 97210

30 June 2008

Columbia River Crossing
c/o Heather Gundersen
700 Washington Street, Suite 300
Vancouver, WA 98660

Columbia River Crossing Project Sponsors,

I am writing to express my concerns with the DEIS for the Columbia River Crossing. These concerns include both the process and substance of the DEIS analysis.

Lack of a Full Range of Alternatives

The DEIS presents several flavors of full-build-out proposals and a no-build option. The narrow interpretation of the Purpose and Need Statement has led to the exclusion of lower-cost options, including phased construction of Light Rail and rehabilitation of the current bridge structures. Citizens deserve the opportunity to comment on a full range of alternatives, not just what is essentially only a yes-no decision.

Demand Analysis Fails to Incorporate Induced Demand

The congestion-reduction benefits of the project are predicated on an analysis that does not include the demand generated by land-use changes that the project is likely to cause. Induced demand is a well-known phenomenon, yet the analysis explicitly assumes no land-use impacts.

Failure to Adequately Address the Very Real Issue of Greenhouse Gases

The analysis in the DEIS relies on reduction of congestion and improvements in vehicle technology to reduce greenhouse gas emissions. A body of analysis exists contradicting the idea that free-flowing traffic produces more emissions reductions than are offset by increases in VMT and emissions resulting from added capacity. I am attaching one such analysis from the Sightline Institute. Coupled with the failure to incorporate induced demand, I believe this project will result in both increased VMT and increased GHG compared to the no-build, and therefore contradicts the adopted policies of both sponsoring states with respect to Greenhouse Gases.

Considerable Financial Risk to our Region from Failing to Recognize Energy Price Uncertainty

The funding strategy in the DEIS is sketchy at best (a concern in itself), but would appear to point to a substantial reliance on tolls and gas taxes revenues collected by the two states.

Both these sources would need to be bonded to produce construction funds. If rising energy prices result in significant demand destruction and reduction in VMT (which in itself raises serious questions about the need for a project of the scale proposed in the DEIS), then the revenue streams to repay these bonds would be reduced. What other revenue streams will the bond covenants offer to back up these funds and what would the impact on our region and the states be if these backup revenue streams must be diverted? These are very real risks that the DEIS fails to address in any way.

Thank you for consideration of these comments.

Sincerely,

Chris Smith

Increases in greenhouse-gas emissions from highway-widening projects

October 2007

By Clark Williams-Derry, Research Director

SUMMARY

Road-building proponents often suggest that adding lanes to a highway will reduce greenhouse gas emissions. By easing congestion, they argue, new lanes will reduce the amount of fuel that vehicles waste in stop-and-go traffic, leading to lower releases of climate-warming gases from cars and trucks.

Over the short term—perhaps 5 to 10 years after new lanes are opened to traffic—this argument may hold some slim merit. But considering the increased emissions from highway construction and additional vehicle travel, adding one mile of new highway lane will increase CO₂ emissions by more than 100,000 tons over 50 years.

Carbon dioxide emissions from building one lane-mile of urban highway, over 50 years	
Construction, building materials, and maintenance	3,500 tons
Net congestion relief	-7,000 tons
Additional vehicle travel on the facility	90,000 tons
Induced vehicle travel off the facility	30,000–100,000 tons
TOTAL	116,500-186,500 tons

At current rates of emissions, 100,000 tons of CO₂ equals the 50-year climate footprint of about 100 typical US residents.

Because future traffic volumes, vehicle technologies, and land use patterns are inherently uncertain, these estimates should be taken as rough approximations. Yet under almost any set of plausible assumptions, widening a highway in a congested urban area will substantially increase long-term greenhouse gas emissions.

ANALYSIS AND DISCUSSION

To estimate changes in vehicle emissions resulting from highway lane expansion, Sightline developed a spreadsheet model covering 50 years of highway-related CO₂ emissions. Using this model, Sightline developed a mid-point estimate for highway CO₂ emissions per lane mile, based on a plausible range of possible future travel characteristics. Sightline's model predicts changes in CO₂ emissions as follows (see Method Notes for details of our assumptions and analysis):

1. THE HIGHWAY ITSELF: 3,500 tons of CO₂ from road construction and maintenance

Two recent international studies of the life-cycle energy costs of highway construction have estimated that, after accounting for the manufacturing of concrete, steel, and other energy-intensive construction materials, as well as fuel consumed by construction equipment, building a lane-mile of roadway releases between 1,400 and 2,300 tons of CO₂. In addition, long-term maintenance and road reconstruction activities release between 3,100 and 5,200 tons of CO₂ emissions.

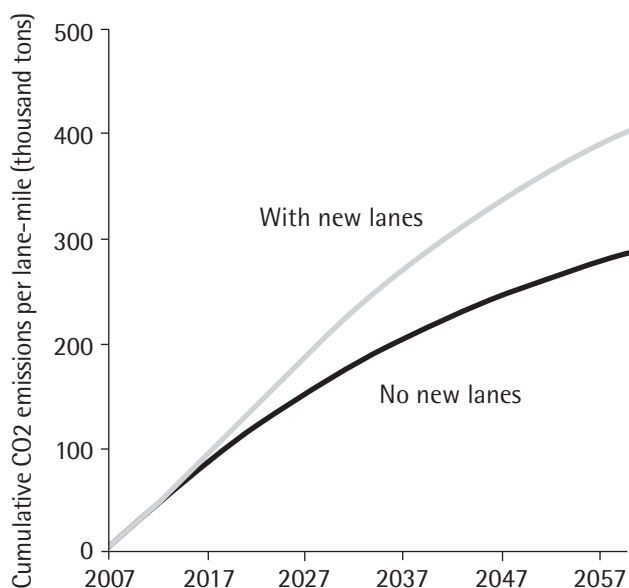
Based on these figures, and a more conservative estimate of annual maintenance-related emissions than these studies assume, Sightline estimates that constructing 1 lane-mile of highway and maintaining it for 50 years releases roughly 3,500 tons of CO₂.

2. NET CONGESTION RELIEF: 7,000 fewer tons of emissions from efficiency gains.

Highway construction and maintenance projects can create substantial congestion and traffic delays, reducing the fuel efficiency of the vehicles on the road.¹ However, for these estimates, Sightline assumed that construction projects would cause fairly minor, intermittent delays, and that traffic volumes would not decrease during construction. On net, we estimate that congestion resulting from construction and maintenance delays would increase vehicle-related CO₂ emissions modestly, by roughly 500 tons.

Sightline assumes that rush hour traffic will flow more freely after new lanes are opened, and that congestion relief will raise the effective fuel efficiency of vehicles on the roadway. However, consistent with academic findings and real-world experience, we also assume that new highway capacity in a metropolitan area will gradually be filled by new trips, and that congestion and stop-and-go driving will gradually increase to approximately the same level experienced prior to the highway expansion.² Over the course of 50 years, CO₂ emissions reductions related to congestion relief may total some 7,500 tons, compared with a "baseline" highway that is not widened. The large

After new lanes are completed, emissions from additional traffic quickly overwhelm short-term congestion relief.



majority of these emissions reductions occur within the first decade in which a new lane is open to traffic.

On net, then, we expect that changes in congestion associated with highway expansion (including both congestion created by construction and maintenance, and congestion relieved after construction) will reduce emissions by about 7,000 tons.

3. NEW TRAFFIC: 90,000 tons of emissions from additional travel on the highway.

It is well documented that highway expansion can result in an increase in the number of vehicle trips on a roadway, particularly in congested urban areas. Indeed, accommodating additional trips is typically the point of adding new lanes to a highway. Still, the speed at which additional traffic floods new lanes often comes as a surprise. One recent California study estimated that more than roughly 90 percent of new lane capacity in congested urban areas is filled within five years after a project is completed. Other studies have found similar “induced traffic” effects from adding lanes to congested roads.

However, not all of the additional traffic on new lanes represents genuinely new travel. Very shortly after a new road or lane opens, for example, some trips that had been taken on other streets and roads shift to the new facility. To account for this effect, Sightline assumes that for the two years after new lanes are opened, none of the additional trips taken on a new facility are genuinely new, but were simply rerouted from nearby roads onto the new facility.

The greenhouse gas impacts of future travel will be affected by changes in vehicle technology and fuel efficiency. Yet even assuming that average vehicle fuel economy improves by 2.5 percent a year (an optimistic assumption, given that the average fuel economy of passenger vehicles has stagnated for decades), Sightline estimates that new vehicle travel on each lane-mile of new highway will release 83,000 tons of CO₂ over the next 50 years. Adding in energy associated with vehicle manufacture and maintenance, this total rises to approximately 90,000 additional tons of CO₂ per lane mile associated with new vehicle trips on an expanded facility.³

4. INDIRECT FUEL CONSUMPTION: 30,000-100,000 tons of CO₂ from induced travel off the highway itself.

Travel patterns off the expanded highway are the most difficult to project, since they involve the greatest uncertainties.

Cars that travel on a new highway lane will need to travel on other streets and roads to get to and from the highway; this will result in some additional vehicle mileage beyond the driving that takes place on the highway itself. As a conservative value, Sightline estimated that for each 10-mile trip on a highway, the vehicle is driven a total of 1 mile to and from the highway on- and off-ramps.

In addition, adding lanes—particularly on roads leading to low-density suburbs and undeveloped land on the urban fringe—tends to accelerate low-density sprawling development. Many studies have linked lower-density land use patterns with increased driving. In a sprawling suburb, virtually every trip must be taken by car, and everyday

trips can require many miles of travel. In contrast, residents of more compact suburbs and urban neighborhoods typically drive less, and can walk or use transit for many trips, which reduces the carbon emissions from their daily transportation. Accordingly, low-density development is associated with increased vehicle fuel consumption.⁴

Sightline estimates that if as little as one-tenth of new highway trips represent a net shift to lower-density land use patterns (i.e., new sprawling suburban development with modestly higher per-household driving than in compact suburbs), then greenhouse gas emissions from additional off-facility driving could rival or exceed the increases from driving on the facility itself. Regardless of the precise figures, the impacts of off-facility driving enabled by highway expansion are likely to be significant, long-lasting, and far larger than the modest reductions in emissions resulting from congestion relief.

CONCLUSIONS

Our estimates suggest that, over the course of five decades, adding new highway lanes will lead to substantial increases in vehicle travel and CO₂ emissions from cars and trucks. Claims about fuel savings from congestion relief may hold slim merit over horizons of a decade or less. But over the long term, new traffic will fill the added road space, leading to long-term increases in vehicle emissions totaling tens of thousands of tons per lane-mile.

Future refinements in Sightline's emissions model, and the data that it relies on, may affect the specifics of these estimates. Yet under most plausible assumptions for future travel patterns and vehicle efficiencies, Sightline's model predicts that added emissions from new traffic will overwhelm the modest greenhouse gas reductions from congestion relief.

METHOD NOTES

To estimate changes in vehicle emissions resulting from highway lane expansion, Sightline developed a spreadsheet model covering 50 years of highway-related CO₂ emissions. This model relied on the following assumptions and inputs:

Number of lanes: Sightline's model considers an existing metro-area highway with two lanes in each direction that is widened to three lanes in each direction.⁵

Per-mile fuel consumption: Given today's vehicle and fuel technologies, Sightline estimates that the average passenger vehicle creates 1.1 pounds of CO₂ emissions per mile. This covers emissions throughout the "well-to wheels" emissions of the vehicle fuel, including drilling, transporting, and refining petroleum, as well as the end-use consumption of gasoline in passenger vehicles.⁶

- Improvements in vehicle efficiency: Sightline assumes that, over 50 years, average vehicle CO₂ emissions per mile will decline to less than one-third of today's levels, through a combination of improved vehicle efficiency and lower-carbon fuels.⁷
- Congestion-related efficiency losses: When vehicles are operating on a

- congested highway, Sightline estimated that emissions per mile increase by about one-third—comparable the difference between “city” and “highway” miles-per-gallon ratings.⁸ Note, however, that even for highways that experience rush-hour congestion, fewer than half of all trips take place during peak travel hours.⁹
- Emissions from vehicle manufacturing: Roughly 9 tons of CO₂ are released during the manufacture a passenger vehicle.¹⁰ Sightline assumes that today’s cars and light trucks average 180,000 miles of travel over their usable life spans,¹¹ and that vehicle manufacturing emissions will decline in the future by 1 percent per year.
 - Emissions from road construction and maintenance: Sightline used recent peer-reviewed studies to estimate CO₂ emissions from road construction and maintenance.¹²
 - Traffic volumes: Sightline assumed that daily traffic volumes on existing lanes would start at between 15,000 and 20,000 daily vehicle trips per lane, rising to a steady state somewhere between 18,000 and 24,000 vehicles per lane over time. Once new lanes are open to traffic, Sightline estimated that 10 percent of any remaining highway capacity would be filled with traffic each year.¹³
 - Off-highway driving: For every highway trip, vehicles must travel some distance to and from the highway. In addition, new highway construction can promote scattered, low-density residential and commercial development, which in turn requires residents to drive more miles.¹⁴ Because of the high degree of uncertainty for both effects, Sightline makes conservative estimates for off-highway driving. For new trips resulting from increased capacity, Sightline assumes that vehicles travel one-tenth of a mile of off-highway driving for every mile of on-highway driving. Sightline’s low-end estimate of emissions from land use effects assumes that only 5 percent of new trips represent new low-density households, and that these households drive 15 percent more than their higher-density counterparts.

Sightline found that the model’s outputs were most strongly affected by three inputs: trends in vehicle fuel efficiency; the difference between current vs. maximum traffic per lane; and the rate at which new lanes are filled by new traffic. In addition, assumptions about off-highway driving and land-use impacts strongly affected total emissions. However, these latter factors are the most inherently uncertain, since they are dependent on geographic, regulatory, and economic factors that are outside the scope of this analysis.

To avoid the chance of overestimating the CO₂ impacts of lane expansion, Sightline’s estimates are conservative in a number of ways, including:

- Slow rate of induced traffic: Sightline’s midpoint estimates are based on the assumption that 10 percent of any remaining road capacity will be filled

per year after a new lane opens—meaning that less than half of added lane capacity is filled within 5 years of completion. In contrast, many recent studies have found that as much as 90 percent of new capacity may be filled within 5 years after a new lane is opened.¹⁵ Assuming faster rates of induced travel would reduce estimated benefits of congestion relief, while increasing total emissions from generated traffic.

- Low maintenance-related emissions: Sightline assumes a lower total energy consumption from road maintenance and repair than is assumed by several academic studies.
- Assuming no induced travel on parallel roadways: Sightline’s model assumes that all new traffic entering a roadway for the first year and half after new lanes are opened represents trips rerouted from nearby routes, rather than genuinely new travel. In addition, Sightline’s model assumes that rerouted traffic represents a *permanent* reduction of travel on parallel roadways—an assumption that is inherently conservative, since traffic on parallel roadways is likely to grow as congestion increases on new lanes (*Text updated and corrected June 26, 2008*).

ENDNOTES

- 1 For four highway-widening projects analyzed by the Surface Transportation Policy Project in the late 1990s, the “payback” period—the period after which time savings due to added road capacity equaled time lost during road construction—ranged from 2.75 years to infinity. In the latter case, travelers never recouped the time lost to congestion during construction. See STPP, “Road Work Ahead: Is Construction Worth the Wait?” at <http://www.transact.org/report.asp?id=169>.
- 2 An excellent of the literature on “induced” or “generated” traffic can be found in Todd Litman, “Generated Traffic and Induced Travel: Implications for Transport Planning” at <http://www.vtpi.org/genraf.pdf>. See especially pages 7 and 8 for estimates of “generated traffic” from highway expansion. Also see page 4 for a discussion of how a congested roadways tend to reach an equilibrium daily traffic volume.
- 3 Carbon intensities for future vehicle and fuel technologies are impossible to predict, since they depend on regulatory, economic, technological, and geological factors that are outside the scope of this report. Yet even if effective vehicle fuel economy rises to 100 mpg over 50 years, GHG emissions from new traffic on the lane will still total some 60,000 tons—far more than the relatively modest greenhouse gas benefits from congestion relief.
- 4 For more on the relationship between urban form and vehicle travel, see: Frank, Lawrence and Company, Inc. (2005). “Achieving Sustainability Through Healthy Community Design.” King County, WA. September 27, 2005. Golob, Thomas, and David Brownstone (2005). “Impact of Residential Density on Vehicle Usage and Energy Consumption.” Institute of Transportation Studies,

UC-Irvine. <http://www.its.uci.edu/its/publications/papers/ITS/UCI-ITS-WP-05-1.pdf>

Holtzclaw, John (1998). “Curbing Sprawl to Stop Global Warming,” Sierra Club. <http://www.sierraclub.org/sprawl/articles/warming.asp>

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Holtzclaw, John, et al (2002). “Location Efficiency: Neighborhood and Socio-Economic Characteristics Determine Auto Ownership and Driving; Studies in Chicago, Los Angeles, and San Francisco.” Transportation Planning and Technology, March 2002.

Kahn, Matthew. (2000). “The Environmental Impact of Suburbanization.” Journal of Policy Management,” Vol. 19, No 4, http://www.environmentalleague.org/Issues/Land/Kahn_2.pdf

Newman and Kenworthy (1989b). Cities and Automobile Dependence: An International Sourcebook.

Newman and Kenworthy (1999). Sustainability and Cities: Overcoming Automobile Dependence, Washington, DC: Island Press.

U.S. Environmental Protection Agency (2001). “Our Built and Natural Environments: A Technical Review of the Interactions Between Land Use, Transportation, and Environmental Quality.” Development, Community, and Environment Division, January 2001. <http://www.epa.gov/dced/pdf/built.pdf>

- 5 Note that the end results do not depend heavily on these assumptions. Other configurations of highway expansion lead to virtually identical results.
- 6 Current average passenger vehicle fuel economy is approximately 21 mpg; see <http://www.epa.gov/otaq/fetrends.htm> and <http://www.washingtonpost.com/wp-dyn/content/graphic/2006/07/18/GR2006071800596.html>. This is likely a conservative estimate of highway vehicle emissions, since it represents only passenger vehicles, while ignoring heavy trucks that emit significantly more CO₂ per mile. Life-cycle CO₂ emissions per gallon of gas estimated at 25.6 pounds; derived from http://www.environmentaldefense.org/documents/3986_CAautocarburden.pdf, p. 11.
- 7 It is possible that future vehicle and fuel technologies may achieve even better results. However, given that US vehicle fuel economy has stagnated for roughly two and a half decades, any improvement in the fuel economy of the vehicle fleet is, at this point, purely a matter of speculation. If carbon emissions from vehicle travel fall more slowly than Sightline assumes, then Sightline’s analysis may substantially understate eventual carbon emissions resulting from highway expansion.
- 8 City vs. highway fuel economy derived from data downloaded from the US Department of Energy, at <http://www.fueleconomy.gov/feg/download.shtml>. Note, however, that hybrid gas-electric engines are actually more efficient in stop-and-go city driving than in free-flowing traffic—suggesting that the fuel-conserving benefits

of congestion reduction may fall over time as these technologies are used more widely.

- 9 In a study of 75 US metropolitan areas, just over 40 percent of vehicle travel in 2000 took place at times when major roadways typically experience congestion, and 25.5 percent of all travel took place under congested conditions. See Anthony Downs, *Still Stuck in Traffic: Coping With Peak-Hour Traffic Congestion*, Washington, DC, Brookings Institution Press, 2004, p. 16. Similarly, data for the Puget Sound region show that roughly 42 percent of total travel on the region's busiest highways in 2005 took place during peak periods (6 to 9 a.m. and 3 to 7 p.m. inclusive); see http://depts.washington.edu/hov/2005/WkdyVehVol/2005_WkdyVehVol.pdf. And data from the US Bureau of transportation statistics suggests that 43 percent of all trips nationwide take place during the morning and afternoon peak periods; see http://www.bts.gov/publications/journal_of_transportation_and_statistics/volume_06_number_01/html/paper_02/table_02_02.html and http://www.bts.gov/publications/highlights_of_the_2001_national_household_travel_survey/html/table_a12.html. Considering both the increases in per-mile emissions caused by congestion, with , Sightline estimates that peak-hour congestion increases fuel-related CO₂ emissions on a roadway by about 15 percent.
- 10 Sightline's estimates for the carbon intensity of vehicle manufacture are based on a number of published sources, including:
 - Argonne National Laboratory, F. Stodolsky et al., "Life-Cycle Energy Savings Potential from Aluminum-Intensive Vehicles," at <http://www.transportation.anl.gov/pdfs/TA/106.pdf>.
 - Environmental Defense, John DeCicco and Kate Larsen, "Automaker Carbon Burdens in California," 2004, available at http://www.environmentaldefense.org/documents/3986_CAutocarburden.pdf.
 - Web page, "Life cycle assessment: Toyota's comprehensive analysis of vehicle CO₂ emissions over the life of the vehicle reveals some surprises [sic]," Automotive Industries, Feb. 2005, at http://findarticles.com/p/articles/mi_m3012/is_2_185/ai_n12937459.
 - Web page, "Automobiles: Electric vs. Gasoline; Seikei University (Tokyo), 2001" Institute for Lifecycle Environmental Analysis, at <http://ilea.org/lcas/taharaetal2001.html>.
 - Web page, "Report 5: How Do We Contribute Individually to Global Warming," The Hinkle Charitable Foundation, at <http://www.thehcf.org/emaila5.html>.
 - Web page, "Car Companies and Climate Change: Measuring the Carbon Intensity of Sales and Profits," World Resources Institute, at http://earthtrends.wri.org/features/view_feature.php?theme=5&fid=53.
- 11 Lifetime mileage per vehicle from National Highway Traffic Safety Administration, "Vehicle Survivability and Travel Mileage Schedules," January 2006, at <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2006/809952.pdf>. Note that the 180,000 mile per vehicle figure currently applies to light trucks, rather than

cars, which are typically driven just 152,000 over their lifetimes; to be conservative, applied the higher figure applies to all passenger vehicles.

12 Life-cycle road construction and maintenance emissions estimated from:

Graham J. Treloar et al., “Hybrid Life-Cycle Inventory for Road Construction and Use,” *Journal of Construction Engineering and Management*, Vol. 130, No. 1, January/February 2004, pp. 43-49 , (DOI 10.1061/(ASCE)0733-9364(2004)130:1(43)),

Kwangho Park et al., “Quantitative Assessment of Environmental Impacts on Life Cycle of Highways,” *Journal of Construction Engineering and Management*, Vol 129, January/February 2003, pp 25-31, (DOI: 10.1061/(ASCE)0733-9364(2003)129:1(25)).

13 As noted in the above review, recent studies have found that three-quarters or more of new road capacity will be filled after the first few years of operation, particularly in crowded urban areas with significant “latent” demand. One California study estimated that 90 percent of new road capacity will be filled within five years. In this context, the estimates used in Sightline’s spreadsheet model (i.e., that 10 percent of additional road capacity will be filled per year after a new lane opens) is fairly conservative. See also note 4.

14 See note 4.

15 See note 2.

From: evand@pacifier.com
To: [Columbia River Crossing](#);
CC:
Subject: Comment from CRC DraftEIS Comments Page
Date: Sunday, June 29, 2008 9:49:39 PM
Attachments:

Home Zip Code: 97201

Work Zip Code: 97077

Person:

Other - Travel through the project area for recreation

Person commutes in the travel area via:

Bicycle



1. In Support of the following bridge options:

Replacement Bridge

Do Nothing

2. In Support of the following High Capacity Transit options:

Light Rail between Vancouver and Portland

3. Support of Bus Rapid Transit or Light Rail by location:

Lincoln Terminus: Yes

Kiggins Bowl Terminus: Yes

Mill Plain (MOS) Terminus: Unsure

Clark College (MOS) Terminus: Unsure

Contact Information:

First Name: Evan

Last Name: Dickinson

Title:

E-Mail: evand@pacifier.com

Address: 1441 SW Clay #105

Portland, OR 97201


Comments:

I'm concerned that the bike facilities provided in the CRC won't connect well to the bike

infrastructure in Portland. While I applaud, and support, the CRC's goals of providing good bike infrastructure in the CRC project area, I worry that the existing substandard bike connections between the expo center and Interstate Avenue will keep cyclists from using the bikeways. Getting from the expo center to the corner of Interstate and Victory is very problematic. And traveling Interstate between Victory and Columbia is also daunting, even though there are bike lanes. Although this area is outside the CRC area, improvements are needed to help the CRC become a success. PDOT and/or ODOT should commit to improvements in this area to complement the CRC.

I'm also wondering what steps will be taken to ensure that the tolling remains in place. Although needed to fund the project and to manage VMT and sprawl, tolling will be unpopular. I'd expect that as soon as tolling is introduced, some people will advocate for the end of tolling. For example, the Building Industry Association of Washington, a powerful group that opposes government actions that limit construction, would have strong financial motivations to end tolling (either through the legislatures or ballot measures), as that would increase sprawl. Such a change would be financially crippling, but voters in Oregon and Washington have a history of passing fiscally irresponsible ballot measures. A tolling agreement should contain safeguards to guarantee that tolling extends through the financing period.

I'm also curious about the pricing strategy for tolling. There are supplemental benefits to tolling, such as reductions in congestion and pollution. Will the toll pricing strategy formally consider those benefits? It should. It's easy to imagine a pricing strategy that focuses only on maximizing revenue, and does so by setting a relatively low price and tolling a relatively large number of vehicles. That would not do enough to manage congestion and avoid pollution. Additionally, the benefits from reduced pollution would be diminished by tolling I-5 but not I-205, as people would drive farther to avoid the toll. Both bridges should be tolled.

From: [Bill Scott](#) 
To: [Draft EIS Feedback;](#)
CC:
Subject: Comments on Draft EIS
Date: Sunday, June 29, 2008 10:07:29 PM
Attachments:

I strongly urge that the Task Force direct the preparation of a Supplemental Draft EIS to address many points that are inadequately dealt with.

My experience as the Director of the Oregon Economic and Community Development Department from 1993 to 2002 contributed to my strong conviction that it is imperative that Oregon and Washington take action to relieve the congestion on the I-5 Columbia River Crossing. Both freight and passenger travel on I-5 are critical to the economy of the Portland-Vancouver region.

However, I am appalled by the inadequacy of the alternatives considered in the Draft EIS. I fear that the only result of this flawed document and process will be more delay, congestion and frustration, because the only alternatives being considered are unaffordable, legally vulnerable and inadequate to solve the very real problems.

The real problem is that the only crossings available to serve local and regional trips are the interstate highways. Expanding the capacity of the interstate system to accommodate local trips will only induce more of the same. The Task Force has rightly called for a new transit/bike/pedestrian facility to accommodate many of the local trips, along with tolls that will inevitably depress trip demand.

Unfortunately, the alternatives being studied also dramatically increase interstate highway capacity at the same time, specifically to accommodate local/regional commute trips. If it were actually implemented, the effect of this muddled solution will likely be to offset the positive impacts of the demand management actions, resulting in no relief from congestion on Interstate 5 after many years of construction delays, following years of legal delays. In reality, the odds that we will ever actually fund this overgrown project are slim. I predict that the most likely outcome of the course you are on is that it will be aborted after years of delays and many more tens of millions of expenditures.

I urge you to do the right thing and pull the plug now.

Staff should be directed to analyze alternatives that (1) take into consideration the forward-thinking policies of Oregon and Washington concerning reduction in carbon emissions and vehicle miles travelled; (2) separate true intercity trips from local/regional commute trips; (3) use alternative modes and demand management, especially congestion pricing, to the fullest possible extent; (4) do not constrain the project to protect Pearson Air Park or the existing configuration of the downstream railroad bridge (which could be reconfigured at much less cost); (5) require much less local investment.

It appears that the alternatives analyzed are based on a paradigm of highway design that has outlived any logic it ever had. It is time for this region to show that we truly understand the realities of 21st century transportation and land use: (1) our first priority should be to protect our existing infrastructure and manage demand to make it last; (2) new capacity investments should reflect the realities of global warming and peak oil, with incremental trips being served by the very most sustainable modes; (3) low-density suburban development should not be encouraged or enabled by our transportation investments.

Bill Scott General Manager, Portland

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seattle · toronto · vancouver · washington dc

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