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Please see the responses to Mr. Kevin Peterson's letters, P-029 and P-030.

October 4, 2011

Nancy Boyd
Columbia River Crossing
Project Director
700 Washington Street Suite 300
Vancouver, WA 98660

Dear Nancy,

P-031-001 Last week I met with Kevin Peterson. He presented and discussed an alignment for the CRC project that seems very reasonable and creative.

In the meeting Mr. Peterson made the following claims for a straight alignment:

- More than a dozen city blocks in Vancouver and Hayden Island do not need to be taken for the bridge and the land area needed for the bridge and freeway is less than the land occupied by I-5 today; which Mr. Peterson asserts will save 1.5 million square feet of urban land.
- Expensive and massive environmentally disturbing foundations built in the Columbia River and North Portland Harbor is significantly fewer, about half, and environmental impacts, both natural and cultural, are much less.
- Project costs can be significantly reduced – with a half billion dollars saved a reasonable expectation.
- A straight freeway separating fast mainline traffic from merging traffic using a collector-distributor is safer and results in less congestion delay. Mr. Peterson suggests the accident rate may be half that of the curved downstream alignment.
- His idea looks to build neighborhoods near light rail transit (LRT) stations where many thousands of people can live and work within walking distance of stations. Station area communities, where many people can live and work, are important if the LRT investment is to be economically justified.
- Mr. Peterson insists his alignment restores 150,000 square feet of the historic village of Fort Vancouver to National Park Reserve and reconnects the historic park with the Columbia River and original city of Vancouver much like that a hundred years ago. The ability to attract more people to share the cultural resource of Fort Vancouver sounds too good to be true.
- A straight bridge can consider many attractive bridge types that are not possible with a curved alignment – many of which appear to be great icons for the region.

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It is my understanding that Mr. Peterson presented this idea to you almost a year and a half ago. What he has shared with me suggests that the CRC did not consider this idea and did little more than ignore this opportunity. He says that only one intersection layout was looked at and this was done incorrectly. I am very concerned that his idea, if a valid one, was not considered in a manner that might have validated its logic – which to me seems very simple and straight forward.

The CRC project office has spent the last six years investigating how to best replace the freeway and bridge. This effort involved many experts, engineers and community representatives. I can only imagine that the ideas put forward by Mr. Peterson must have significant problems that keep it from consideration.

Attached is a six page summary of this issue prepared by Mr. Peterson. Please let me know what is incorrect with Mr. Peterson's summary. Since this issue involves public trust and transparency a quick response is very important to me. Controversy has been part of this project for years so please provide a critique of Mr. Peterson's idea in a form that I can share with my constituents.

I'd appreciate this information by October 18, 2011. If this is not possible please let me know why.

I look forward to your prompt response,

A handwritten signature in cursive script that reads "Ann Rivers". The signature is written in dark ink and is positioned above the printed name.

Ann Rivers

Columbia River Crossing

Alternative 3 – Replacement Bridge with LRT

Physical Alignment and Layout - The CRC Project Office has this Wrong.

The Columbia River Crossing Project is more than a bridge. This multi-billion dollar project reorganizes five miles of freeway within a fragile urban context desperate for revitalization and allows the Portland LRT network to reach Vancouver. What is proposed today is little more than a single purpose complicated freeway maze barely able to meet 2030 needs with light rail attached – hardly the sort of progressive thinking we seek from a two hundred year investment!

Without question this investment must meet LRT and roadway standards of today – this is not in question. It then follows that improving the urban context and environment are relevant measures that should define what we do. Let's consider five valuable characteristics of this fragile urban context that project sponsors appear not to have adequately considered or have failed to achieve:

1. **Vancouver and Hayden Island Urban Viability.** These places are the only urban centers on the shore of the Columbia River within the expansive Portland metropolitan area. Present urban use is stunted due to the intrusiveness of I-5. To evolve viable urban use requires reasonably quiet and attractive city landscapes. **The proposed freeway fails these measures as it takes an additional 1.5 million square feet from this fragile context.**
2. **Transit Optimization.** Transit effectiveness works hand-in-glove with density, transit oriented redevelopment and easy community connections. Urban areas should be redeveloped near Hayden Island and Vancouver light rail stations as urban places where many thousands live, work and enjoy. **The proposed layout does little more than comingle stations with freeway ramps and noise.**
3. **Inequity of passage.** The eighty mile stretch of the Columbia River between Kelso and The Bridge of the Gods can only be crossed using two fast freeways. This means all urban traffic and freight mobility must cope with freeway restrictions, essentially an inequity of passage for those impeded or intimidated by fast moving freeway traffic. **This urban crossing should ease this impediment; not exacerbate the problem by comingling this slower traffic onto a very wide freeway deck.**
4. **Better than what is being replaced.** The replacement freeway should be superior to what is being replaced measured in environmental benefit and design efficiency. This means a smaller over-water footprint; fewer in-water disturbances and less land need than currently needed by I-5. Bigger is not necessarily better. Our goal should be optimizing capacity with efficient infrastructure. The measure should be the relative size of the improvement with the existing freeway. **Sadly, what is proposed is more massive, intrusive and has a large negative environmental impact.**
5. **Regional pride.** The engineering solution should be a source of regional pride valued for engineering excellence, aesthetics and environmental sensitivity. **The proposed design is forced to be anonymous due to its complicated alignment and massive ramps and will not be a source of regional pride.**

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After the CRC project office had sorted out planning and operational choices and constraints civic leaders were presented with only one basic functional layout – just one engineering ‘fit for function’ design offered nearly three years ago. This is the two anonymous curved deck truss bridges and massive land hungry freeway interchanges we see today – slightly modified as one would expect doing preliminary design. Project sponsors have only added to project complexity as they are forced to manipulate this singular solution in an attempt to overcome negative aspects and public feedback. These efforts have resulted in decoration and hope that this allows community buy-in and stops debate.

Why have we not seen ideas put forward that better consider the needs of the urban setting? I believe the answer to be shocking in its simplicity – urban measures were always considered secondary and timidly addressed, often as a mitigation measure or dutiful documentation of the planning process. The project office only considers the following attributes to be appropriate for this urban freeway:

Growing travel demand and congestion

Impaired freight movement

Limited public transportation operation, connectivity, and reliability

Safety and vulnerability to incidents

Substandard bicycle and pedestrian facilities

Seismic vulnerability

These may be appropriate when contrasting ‘no build’ with ‘tunnels’ but are woefully inadequate measures to design an urban freeway and major bridge – sadly these are the measures the state is using to decide on alignments and layouts so when engineers found one solution that was used to support environmental documentation they stopped planning and proceeded into the design of this ‘fit for function’.

Observing this unhappy situation one is compelled to ask what option and opportunities might have been overlooked. Two important constraints need to be observed if the preferred alternative of bridge replacement with LRT is to support the environmental understanding we now have. These are:

1. Any idea must meet or exceed the functional needs identified for the project.
2. Any idea must be kept within the Primary Area of Potential Impact used as part of the environmental analysis of the project. To be outside this boundary would cause certain aspects of the environmental work to be revised.

Let’s consider important discoveries from this inquiry.

Project planners propose a freeway of between five and eight traffic lanes in each direction accessed by short collector-distributors, auxiliary lanes, braided ramps and, occasionally, normal ramps. This solution is needed to cope with interchanges spaced too close together, a river and harbor to be bridged, and the sweeping ‘S’ turn freeway geometry. Within the core area of this freeway only three mainline lanes are needed in each direction if interchange traffic does not merge. What might happen if

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local traffic – movements within this dense fabric of interchanges and bridges - were accommodated on a separate collector-distributor 'bridge', operating as an urban arterial, that joins with I-5 to the north and south of this unprecedented interchange density? This idea means that shore-to-shore movements do not comingle with fast interstate traffic and huge complicated freeway interchanges can be replaced with simple intersections. This 'collector/distributor', or C-D, this idea is frequently used when freeways are placed in dense complicated urban settings. If the C-D were to operate for the benefit of local shore-to-shore movements then it might best be considered as an arterial. Placing this 'urban arterial' C-D function underneath fast moving interstate traffic requires one six lane wide bridge that greatly reducing the freeway footprint.

Is it possible to even consider this idea? The WSDOT Design Manual clearly states that a C-D or grade separated (braided) ramps are the two options open to designers when interchanges are spaced closer than one mile:

The maximum spacing between adjacent interchanges is 1 mile in urban areas, 3 miles on the Interstate in rural areas, and 2 miles on non-Interstate in rural areas (see Exhibit 1360-2). In urban areas, spacing less than 1 mile may be used with C-D roads or grade-separated (braided) ramps. Interchange spacing is measured along the freeway centerline between the centerlines of the crossroads.

Since the C-D idea was not considered by the project office it is a worthy idea to consider. But first let's see what might be done to take the back-to-back 'S' curves out of the freeway as this will reduce accidents and open up many bridge types for possible use. For freeways and bridges to be straight is a very, very good thing!

I-5 must fit above the navigation channel of the river, pass over the BNSF railroad and stay below the glide slope into historic Pearson Airport. A series of crucial alignment and roadway geometric decisions were required to fit the bridge and freeway into the resultant available vertical space. Although project sponsors wanted a straight alignment and bridge, the glide slope issue was considered a 'fatal flaw' that forced the bridge downstream which necessitated the undesirable sweeping 'S' turn freeway geometry we are now asked to accept. This also resulted in the complicated maze of interchange ramps in the project. Investigation discovered that the CRC project office was using incorrect glide slope criteria that unnecessarily influenced freeway placement. For Pearson Airport the City of Vancouver, Pearson Airport and the FAA require and apply a 20h:1v glide slope for obstacle clearances, a slope proven to be safe at thousands of similar runways. The CRC office was using an unusually flat 34h:1v glide slope. If the correct glide slope were to be applied a single bridge fits on a straight alignment from Mill Plain to the south edge of Hayden Island eliminating the need for multiple sweeping 'S' turns.

Most collector-distributors are placed to the outside of the mainline. Why not place the C-D under the mainline? This action reduces the footprint to less than the existing I-5 freeway occupies today! This reduced land need recovers 150,000 square feet of the historic village in Fort Vancouver presently overlaid with freeway ramps. The proposed downstream interchange geometry at Fort Vancouver requires more land within the park than I-5 currently takes.

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Historic Fort Vancouver Reserve is protected by Section 4(f) of the Department of Transportation Act of 1966 which requires identifying prudent and feasible alternatives to avoid impacts to this land and by Section 106 of the National Historic Preservation Act. Under Section 4(f), if some impact to this land is unavoidable, all possible planning to minimize harm from use should be explored. Clearly, it is best to simply avoid impacts. It's also the law to avoid impacts if a layout accomplishes this requirement!

A year and a half ago the CRC project office was presented with this idea – which is referred to as the C-D straight alignment. Here are attributes of this idea measured against the current scheme proposed by the CRC project office (CRC curved alignment):

- Capital costs appear to be 400 to 800 million less than the CRC curved alignment
- One efficient transportation investment serves both interstate and local needs providing the functional benefit of two bridges - an express freeway and urban arterial. One transportation platform – one bridge – satisfies both functions.
- The idea requires slightly less land than the existing I-5 freeway. What is proposed in the CRC curved alignment requires over a million and a half MORE square feet!
- Compared with the CRC curved alignment, 33 to 36 fewer urban city blocks of land are not subjected to the noisy footprint of the freeway unless massive view blocking noise barriers are built.
- Hayden Island can evolve into a meaningful and great transit friendly pedestrian community of between 35 to 40 contiguous city blocks of parks, mixed-use development and urban uses where many thousands can live and work adjacent to the Columbia River within walking distance of high capacity transit – outside the noisy footprint of the freeway. The proposed CRC curved alignment bisects Hayden Island into two halves separated by a 550' to 700' expansive freeway 'no-man's land'.
- Vancouver and Fort Vancouver reconnect with each other and the river with park and city streets. The LRT station is a short three city block walk from Fort Vancouver Park. Third Street becomes an important surface connector and gateway to Vancouver and Fort Vancouver Park.
- Land need in Fort Vancouver is less than the existing freeway and less than what the CRC project office proposes with its downstream alignment. This is with a straight upstream alignment! This also is the only alignment and layout choice that meets federal law.
- Bridge aesthetics are vastly superior with a single beautiful cable stay bridge likely to be less costly than the two anonymous truss bridges proposed today. Landside freeway aesthetics and landscapes are vastly superior and able to compliment an urban context with architectural treatment. The freeway across Hayden Island becomes a world model for how urban use near a freeway can be viable and attractive.
- Future transportation functions like commuter rail, high speed rail, additional LRT lines, 'smart' car technologies and additional vehicular capacity are more easily integrated. Capacity increases to 11,000 vehicles per hour per direction is possible with the LRT line or the 'transportation platform' infrastructure investment can be modified to add more high

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capacity transit including at least one additional rail line like commuter rail. The idea should provide for more than a half century of growth that is not presently considered – a period of time possibly embracing the entire span of this century. This assures today's investment buys a 'transportation platform' having optimal viability a hundred years or more into the future. This allows many future generations a 'transportation platform' that is better able to serve the mobility needs these future users will determine best serves what their needs require.

- In-water pier disturbances are 12 to 18 piers in the Columbia River plus 11 to 15 piers in North Portland Harbor with the CRC downstream curved alignment for a total of 23 to 33 in-water disturbances. The C-D straight alignment has 4 to 10 piers in the Columbia River plus 4 piers in North Portland Harbor for a total of 8 to 14 in-water disturbances. Bridge shadows cast on the river is half that of the proposed solution. Environmental impacts are greatly reduced.
- Conflicts on the mainline are reduced from eleven to four and curves are removed with a reduction in the accident rate on the mainline by +/- 70%. This means that commute period accident caused delay might be expected every other week for the C-D straight alignment contrasted with one or two delays per week with the CRC curved alignment.

These advantages are comparatively huge!

During the past year and a half Oregon and Washington Departments of Transportation have shunned this potential opportunity. This makes no sense knowing the current proposed layout forever relegates Hayden Island and lower Vancouver to permanent second class urban status for communities served by LRT. No small wonder many people north of the river view LRT as a waste of money.

Sadly, WSDOT or ODOT have steadfastly avoided consideration of the idea. Local leaders and WSDOT management did ask bridge engineers of the Bridge Review Panel to consider the idea only to be instructed by CRC staff not to consider the idea. However, the CRC project office did take one cursory look at the geometry of one interchange for the C-D idea. This 'review' speculated at possible concerns and concluded the idea was flawed. This 'review' has since been shown to be wrong. All of the speculative concerns raised were wrong or inappropriate; all conclusions reached were in error.

Discounting design refinement typical in preliminary and final design, the project office continues to maintain that only one possible freeway layout and one alignment meet the needs of the preferred alternative. This is not the case as proven by the C-D straight alignment and layout. Knowing and ignoring this alignment and layout; the project office is now proceeding with a design that is wrong. The project office continues to spend tens of millions of tax dollars that will result in burdening taxpayers with a billion dollars in payments needed to fund 500 million dollars of concrete and steel that is not needed. The project office continues to violate Section 4(f) of the Department of Transportation Act of 1966. The project office fails to consider alignments and layouts that better serve project needs discovered by environmental work.

P-031-001 | The project office is placing this project at risk simply because staff prematurely thought only one alignment and layout satisfied EIS Alternative 3!