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.

P-031-001

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

P-031-001 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,

Ann Rivers

P-031-001

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.**

P-031-001

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

P-031-001 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 minimum 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.

P-031-001 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 that 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

P-031-001

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.

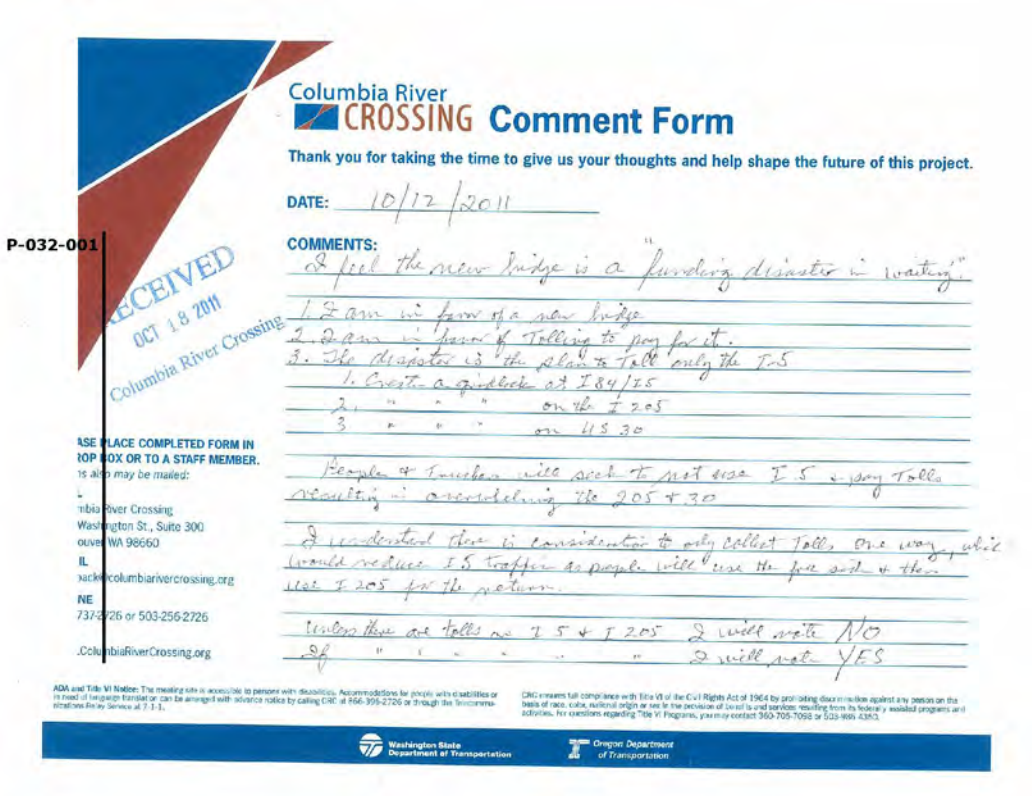
These advantages are comparatively huge!

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!



Columbia River
CROSSING Comment Form

Thank you for taking the time to give us your thoughts and help shape the future of this project.

DATE: 10/12/2011

P-032-001

RECEIVED
OCT 18 2011
Columbia River Crossing

COMMENTS:

I feel the new bridge is a funding disaster in waiting.

1. I am in favor of a new bridge
2. I am in favor of Tolling to pay for it.
3. The disaster is the plan to Toll only the I-5
   1. Create a gridlock at I84/I5
   2. " " " on the I 205
   3. " " " on US 30

People + Truckers will seek to not use I 5 + pay Tolls resulting in overwhelming the 205 + 30

I understand there is consideration to only collect Tolls, one way, which would reduce I 5 traffic as people will use the free exit + then use I 205 for the return.

Unless there are tolls on I 5 + I 205 I will vote NO
If " " " " " I will vote YES

ASE PLACE COMPLETED FORM IN
OP BOX OR TO A STAFF MEMBER.
is also may be mailed:
mbia River Crossing
Washington St., Suite 300
ouver, WA 98660
IL
acker@columbiarivercrossing.org
NE
737-2726 or 503-256-2726
.ColumbiaRiverCrossing.org

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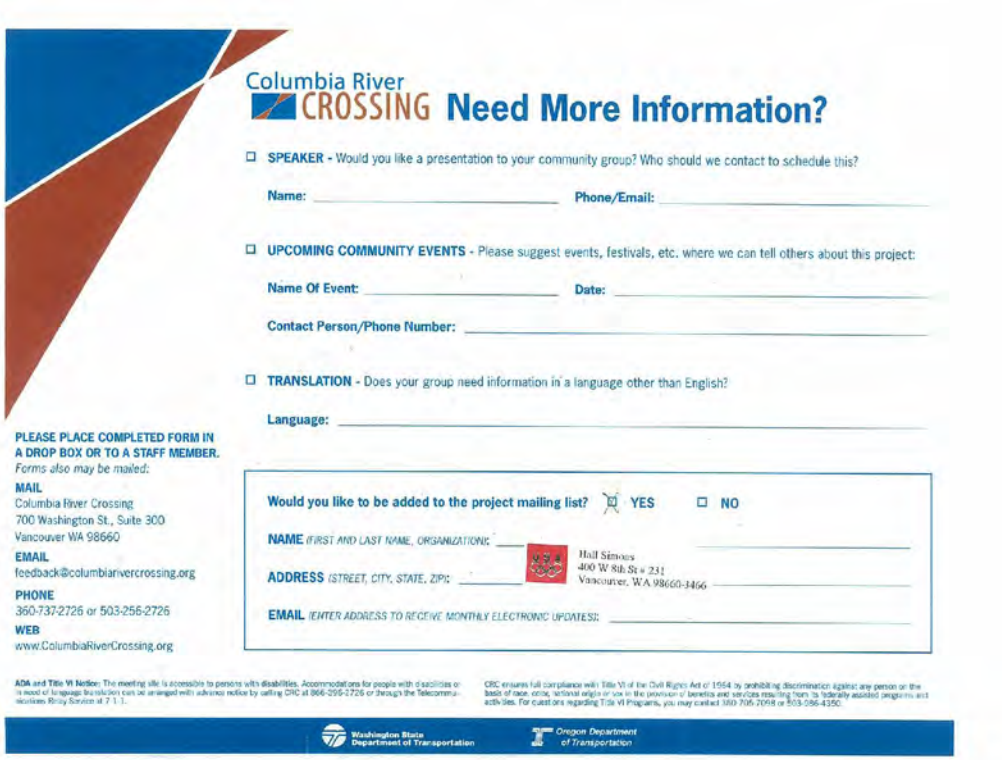
Washington State Department of Transportation
Oregon Department of Transportation

P-032-001

Under existing conditions, trips already divert to I-205 and would continue to do so under the No-Build Alternative because of the unreliability of, and congestion in, the I-5 corridor. With the CRC improvements to I-5, many of those diverted trips would shift to I-5 because it would be a shorter and more reliable trip than I-205. Tolling the I-5 crossing causes some additional trips to shift to I-205 in order to avoid the toll. The net difference in the number of trips crossing on I-205 is only slightly higher with the CRC project than without it.

With few exceptions, federal statutes do not permit tolling of an existing interstate highway without associated improvements. FHWA does have pilot programs that allow state departments of transportation to apply for the approval to toll a facility. The project sponsors are not proposing to toll the I-205 crossing as part of the CRC project. It is possible that a toll could be placed on the I-205 crossing in the future, separate from the CRC project. Section 3.1 of the DEIS and FEIS discuss the effects of the project on traffic levels in the I-5 and I-205 corridors.

In addition, tolling prior to or during construction can be used to manage demand and begin collecting the revenue. This is not currently proposed but could be implemented if approved.



Columbia River CROSSING

Need More Information?

☐ **SPEAKER** - Would you like a presentation to your community group? Who should we contact to schedule this?

Name: _____ **Phone/Email:** _____

☐ **UPCOMING COMMUNITY EVENTS** - Please suggest events, festivals, etc. where we can tell others about this project:

Name Of Event: _____ **Date:** _____

Contact Person/Phone Number: _____

☐ **TRANSLATION** - Does your group need information in a language other than English?

Language: _____

PLEASE PLACE COMPLETED FORM IN A DROP BOX OR TO A STAFF MEMBER.
Forms also may be mailed:

MAIL
Columbia River Crossing
700 Washington St., Suite 300
Vancouver WA 98660

EMAIL
feedback@columbiarivercrossing.org

PHONE
360-737-2726 or 503-256-2726

WEB
www.ColumbiaRiverCrossing.org

Would you like to be added to the project mailing list? ☒ **YES** ☐ **NO**

NAME *(FIRST AND LAST NAME, ORGANIZATION):* _____

ADDRESS *(STREET, CITY, STATE, ZIP):* _____ Hall Simons 400 W 8th St # 231 Vancouver, WA 98660-3466

EMAIL *(ENTER ADDRESS TO RECEIVE MONTHLY ELECTRONIC UPDATES):* _____

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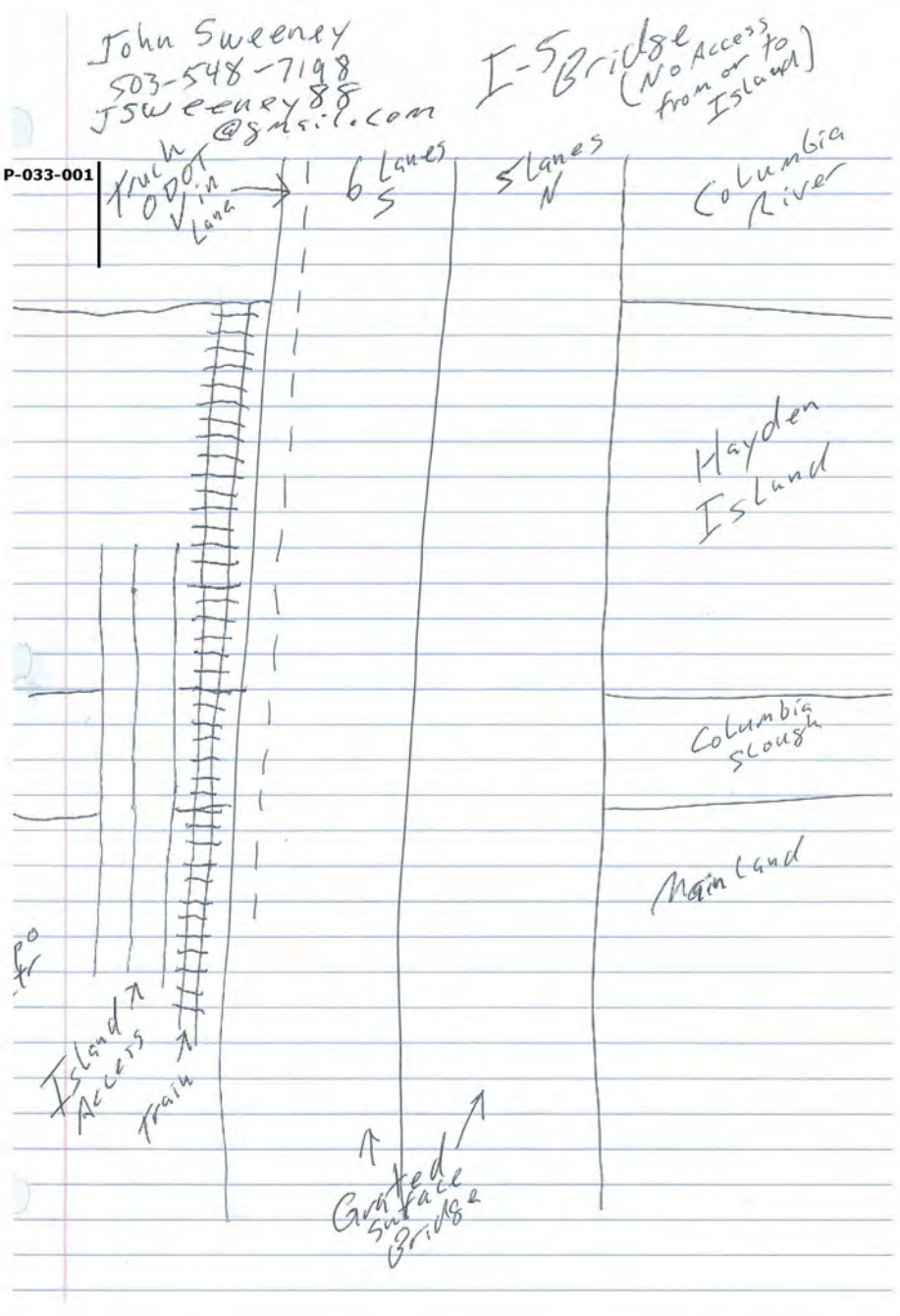

P-033-001

It appears that Mr. Sweeney is suggesting the only access to Hayden Island be via a new local bridge and that there be no I-5 access to or from Hayden Island. A similar concept was considered and rejected in the alternatives evaluation and screening process, summarized in Chapter 2 of the FEIS.

Hines, Maurice

From: lwarberg@comcast.net
Sent: Friday, September 23, 2011 5:38 PM
To: Columbia River Crossing
Subject: Comment from CRC Submit Comments Page

Categories: Orange Category

From: Louise Warberg
E-Mail: lwarberg@comcast.net
Comment or Question:

P-034-001

I'm so disappointed in the final design of the bridge. I know it's inappropriate and fruitless to say this now, but I've been saying it all along...please give us a beautiful bridge. I appreciate the effort and hard work that went into it but I'm very unhappy about the end result.

The cable-stayed design is so much grander and, relatively speaking, not much more costly. I believe the final design doesn't do justice to a major I-5 river crossing. Have you ever heard anyone say how beautiful the I-205 bridge is? I don't believe it's ugly but I do think the new I-5 design is. I wonder what future generations will think of us being so short-sighted. I suppose people will blame it on the Great Recession, but I think that's a cop-out. I really believe a wonderful design was possible.

Louise Warberg

P-034-001

The cable-stayed bridge type was carefully considered. Please see the discussion of the rationale for the composite deck truss bridge type over the cable-stayed bridge type, in Chapter 2 of the FEIS.

Hines, Maurice

From: George W [gw4cw@aol.com]
Sent: Wednesday, September 28, 2011 9:08 PM
To: Columbia River Crossing
Subject: Fwd: A Bridge

Categories: Orange Category

P-035-001

Lets get the CRC bridge buit. You have spent enough time and money in planning for this bridge. If anybody is profiting by not starting construction, it will be found out and prosecut*ion* should be swift.

The following link is why the Chinese are dominating the global economy. They are doers' not talkers as so many Americans are.

There should be a moratorium placed on all new Oregon and Washington State Hwy. construction projects that have not yet been started and shall not be started until the CRC Bridge has commenced.

World's longest sea bridge opens to traffic

Click next line

That is a bridge too far: World's longest sea bridge opens to traffic in China... but it will only hold the title for five ye.ars

Sincerely,

George Wilhelm
1414 SE 97th Ave
Vancouver, WA 98664

*** eSafe scanned this email for malicious content ***
*** IMPORTANT: Do not open attachments from unrecognized senders ***

1

P-035-001

The CRC project's Record of Decision, issued in December 2011, was achieved in roughly six years from the beginning of the NEPA and alternative selection process. This is comparatively quick for a large multi-agency project in the United States. The process has included robust public involvement and refinement of many design options.

Response to Columbia River Crossing's Final Environmental Impact Statement documents
10/20/11 to Heather Willis and the CRC Design team

As a Vancouver-Portland commuter for more that twelve years, I am offering my observations to challenge some of your assumptions regarding future traffic and light-rail along the I-5corridor. I also have a couple recommendations to better utilize public funds and scale down the project in light of the current economic state, and help you create a product that will be most useful to area residents.

P-036-001

1. In section 2.6.2 the report stated: "light-rail is quicker … than rapid transit." The Portland's EXPO center yellow line is slower now than the C-Tran's express bus by about ten minutes. Also in the Vancouver area, the proposed light-rail path will not go near where most people live, so they would have to either drive or take the bus to connect to it. The time to transfer and wait would be five to ten minutes, depending on coordination between the transit modes.

2. When the EXPO center light-rail was built, only a small percentage of express bus commuters switched to that, even though riding it was cheaper. What makes you think that most people would prefer this method even if you did cut five minutes out of the total commute time by extending the rail to Vancouver? It would still be slower than the express bus.

3. One faulty assumption in the design is the length of rush-hour for transit. It is not the same as the congestion of cars on I-5. The car and freight traffic will stagger to try to avoid most congested times, whereas daily transit commuters would not vary their work hours to try to avoid congestion. I believe that the past is a predictor of the future, and according to my observation, the rush-hour times in Portland have not changed from three hours twice/day over the last twelve years. Neither has C-Tran extended their express bus schedule, in fact, it was shortened by 45 minutes each way the past few years. Thus I would expect the transit peak hours to remain six hours per day total indefinitely.

P-036-002

4. The CRC is counting on rerouting about ten percent of the crossing traffic to light-rail. To allow 6,000 commuters to fit into the trains over the three-hour peak period would mean 250 people per train (trains eight times an hour). The trains have to be short due to short blocks in downtown Portland, and the average current train style seats 100 people to a train. If people have to stand most of the time, they will quit taking the train and go back to driving. Also it is not possible to increase train frequency, since so many other trains will converge onto the same bridge and streets in Portland. Off-peak hours, the train may be used for recreational, doctor and shopping trips to avoid paying the toll. Even then to keep it running every fifteen minutes may be too much.

P-036-003

5. The report also stated that light-rail overall is cheaper than rapid transit. It would hold true if there was not the need for both. The cost of light-rail for 2,000 to 3,000 possible commuters would not be very cost-effective. If 70% of commuters prefer to get there faster -by bus- than cheaper –by train-, it would make more sense to invest money into the rapid transit to ensure busses can better keep their schedules. Also this rapid transit lane could be used by long-distance freight. It would be very beneficial to the businesses to get the freight through faster regardless the time of day.

P-036-001

It should be noted that even with the light rail extension, many C-TRAN express routes are expected to continue service between Clark County and Portland. Information on which bus routes would be truncated in Vancouver can be found in Section 2.2.2 of the FEIS.

As congestion increases on the corridor, bus routes that share general purpose traffic lanes would face increased travel time. Because light rail transit has its own guideway, it will offer more consistent travel and will not be subject to traffic congestion in the corridor. Modeling indicates that light rail would offer a time savings compared to buses in the design year of 2030.

Freight traffic will try to avoid the most congested periods. However, it is predicted that overall traffic volumes will continue to rise. The increase in traffic volume on I-5 means that more people are using the corridor than the capacity of the highway can serve. This excess traffic volume must be accommodated either by extending the peak traffic hours (and associated congestion), or by transferring to other routes or modes.

P-036-002

It is hoped that, much like in Portland during peak periods, the light rail system will be heavily utilized in Vancouver. A train with 250 passengers is well utilized, but still has remaining capacity. Considerable attention has been paid to the capacity of the trains, stations, and park and rides. There are industry standards that have been applied. There has also been considerable outreach to the public in order to understand what conditions would be most desired.

System modifications will enable more trains to travel through Portland to accommodate the expanded system. The improvements to the Steel Bridge, which are described in the FEIS, are an example of such improvements. The project will modify system components on the Steel

P-036-004

6. To have three parking lots or structures for light-rail commuters in Vancouver seems excessive. If the expected peak ridership drops from 6,000 to 2,400, perhaps 1,000 people would need parking throughout the day. What makes you think that the commuters from Vancouver would give up their cars and ride the train to work? Congestion is not so bad that they would do that. Maybe 20% of the current drivers to downtown would do that to avoid paying the toll, but only if they are assured parking availability downtown, or if taking the connector bus is convenient.

7. Also I did not find anywhere in the report how you keep other people, like college students, from parking in the Vancouver park-ride facilities. Will you charge for parking to keep them out? The cost of parking should be less than double the toll to keep the incentive to hop on the train. Would $3 per day charge for parking be enough deterrent to keep non-train riders out? The average parking charge anywhere downtown is $5 or more per day. Also could the revenue from parking be offset against what is being charged for tolls?

P-036-005

8. Most commuters do not have downtown as their destination. To transfer to the connecting trains would take too long for most people to be convenient way to get to work. It appears the extensive TRI-MET light-rail network won't be used much by light-rail riders from Vancouver, unless their destination is the Lloyd Center area.

P-036-006

9. It seems the traffic model used to predict future congestion is overly aggressive and does not match the past rates. The northbound HOV lane has stayed at 3 hours since they opened it. The congestion thus has remained at about six hours per day for the past ten years or so, and would not increase to 15 hours in twenty years. Please adjust your model to scale down the project to better represent the future need.

P-036-007

10. The CRC project should be phased according to need and availability of funds. The bridge and its on- and off-ramps are the most important, given the earthquake-risk and need for lifting of the current bridge. Then the bottlenecks southbound at downtown Portland exits and I-84 interchange need fixed to prevent backups north. The northbound I-5 needs smoother transitions from the Fremont Bridge and the Delta park/Marine Drive entrances. Then the other interchanges may be phased in as money becomes available.

P-036-008

In conclusion, I would highlight the need to scale down your traffic model of congestion, the light-rail usage predictions and the need for parking in downtown Vancouver. I would also like to see you create a separate lane for express-bus/freight combination for improved travel times for majority of users. Also phasing the project according to need and availability of funds makes sense. I would appreciate if my insight and suggestions would be taken to heart and considered in the planning and final design of this project.

Sincerely,

Helena Abernathy
21512 NE 373rd St.
Yacolt, WA 98675

Bridge to enable slightly higher speeds, which will improve the network functionality and allow for more trains from Vancouver.

P-036-003

As illustrated in the FEIS, and summarized in the Executive Summary, light rail would better serve transit riders than bus rapid transit (BRT) within the CRC project area because it:

- Would carry more passengers across the river during the PM peak
- Result in more people choosing to take transit
- Have faster travel times through the project area
- Result in fewer potential noise impacts
- Would have lower costs per incremental rider than BRT

Additionally, light rail is more likely to attract desirable development on Hayden Island and in downtown Vancouver, which is consistent with local land use plans.

Allowing freight to use the exclusive bus rapid transit lane would add additional traffic to that lane further increasing the bus rapid transit travel time.

P-036-004

Both current and future land use is one of the criteria used to determine the locations of proposed transit facilities and park and rides. Other considerations include traffic impacts, property impacts, and overall transit operations. The five proposed stations will support current and planned residential and commercial development and related services. As an example, the Clark College terminus station will serve a community and senior center, a community college, and the Veterans Administration campus.

These specific stations and park and rides, with their proposed parking capacities, are tested as part of therigorous analysis completed to satisfy the requirements of the Federal Transit Administration. The FTA and the local agencies have decades of experience in estimating ridership and facility demand. Their projections are validated through years of such studies, and calibrating the projection methods and models with data from completed projects.

P-036-005

There are many transit trips that would not be directly served by the proposed light rail transit extension. However, the transit ridership forecasts indicate that there is a very large demand for this service and that a significant number of passengers would ride the proposed light rail extension. The transit ridership forecasts are based on extensive information about the projected origins and destinations of commuters and other travelers, as well as information on the transportation system and performance. The actual ridership projections and discussion are in Section 3.1 of the FEIS.

P-036-006

By 2030, the region's population is expected to increase by one million people. This increase will result in more people needing to travel between home, work, school, recreation, etc. In 2005, 135,000 vehicles crossed the Columbia River on the Interstate Bridge, which led to 4-6 hours of congestion each weekday. By 2030, 184,000 are predicted to cross the river, which would lead to 15 hours of daily congestion if no action is taken.

Congestion occurs when vehicle demand is greater than a transportation system's capacity. It results in slower speeds and increased travel times. CRC defines congestion as vehicles traveling less than 30 mph. The Columbia River Crossing project uses information gathered from Metro's nationally-recognized travel demand models to determine the project's

effect on congestion. These models predict trip frequency, types or modes of transportation, destination, and time of day. Transportation planners use these models to analyze the effects of such factors as increased population and employment, transportation improvements, and new developments on the transportation system.

Based on the Metro model's past ability to predict transportation effects, the CRC project is confident in the data received from Metro and uses it to determine what impact the project will have on congestion. The improvements proposed by the project to the highway and seven interchanges will help better accommodate increased future vehicle traffic. New auxiliary lanes and longer on/off ramps will allow safer and more efficient merging and weaving to enter or exit the freeway. Narrow lanes and shoulders will be widened to current standards. Shoulders will be added where they are currently missing. All of these changes will improve the flow of traffic in the bottleneck area of the Interstate Bridge.

P-036-007

The evaluation of the five alternatives in the DEIS was preceded by an extensive evaluation and screening of a wide array of possible solutions to the CRC project's Purpose and Need statement. Chapter 2 of the DEIS (Section 2.5) explains how the project's Sponsoring Agencies generated ideas and solicited the public, stakeholders, other agencies, and tribes for ideas on how to meet the Purpose and Need. The interrelationships of the interchanges requires a comprehensive solution in the corridor. However, the project is actively working to identify meaningful and efficient construction phasing to better adapt to the unique revenue challenges of recent years.

P-036-008

Thank you for your comments. Please refer to the responses above.

Hines, Maurice

From: Maye Thompson/Doug Allen [mayedoug@spiritone.com]
Sent: Sunday, October 23, 2011 1:00 PM
To: Columbia River Crossing
Subject: Columbia River Crossing FEIS Comments
Attachments: feiscomments.doc

SUBJECT: Columbia River Crossing FEIS Comments

(comments also attached as an MS-Word document)

P-037-001

I provided extensive comments on the CRC Draft EIS. Although those comments have been noted in the FEIS, they have not been dealt with in an adequate fashion. Essentially all of the flaws in the DEIS that I pointed out remain in the FEIS.

At the heart of the problem is the same flawed "No Build" option that is the basis for the "Purpose and Need" and that is used to justify the Locally Preferred Alternative. This flawed No Build option comes from straight-line projections of traffic growth, projections that have no scientific basis in rational statistical analysis or the behavioral sciences.

The traffic and congestion predictions in the No Build option were buttressed by population, employment, and trip-making projections flowing from the politically determined zoning in Clark County, not from any valid economic science regarding future growth.

The LPA was predetermined, not based on a valid DEIS process. Those outside the process can not, of course, know whether the flawed No Build option is the source of this predetermination, or whether it was ginned up to support a predetermined outcome, but the result is the same. The fact that then Regional Administrator David Cox described the predetermined outcome well in advance of the DEIS, was noted in my DEIS comments, but not adequately addressed. The FEIS seems to simply pound on the table and assert that the facts are so strongly in favor of the LPA that any appearance of early bias is simply acceptance of those putative facts.

The one major change in the FEIS, use of the "MOVES" model, does nothing to improve the original flaws. The original flaw was to analyze the behavior of vehicles, regarding their energy use and emissions of pollution under presumed operating scenarios, rather than analyzing the driving behavior of human beings in the long term. This flaw was not corrected.

As a result, the DEIS, and now the FEIS, have come to preposterous conclusions regarding traffic, congestion, energy-use, toxic pollution, and emission of greenhouse gases. People are not so stupid that they will continue to attempt to drive routes that become increasingly congested. The "four step" traffic modeling that was used in the CRC EIS process is notorious for ignoring the intelligence of people in the long run.

The "four step" approach is also notorious for ignoring the potential for increased transit ridership when starting from a base case, such as we have in Clark County and the "bridge influence area" of substandard existing transit service.

The entire EIS process was an exercise in deliberately ignoring or downplaying the potential for using tolling, transit, and low-cost options, by holding up the flawed No Build traffic projections. Staff adamantly claimed that low-cost options would not meet the "purpose and need." The FEIS is simply further table-pounding to reinforce this unsupported claim.

Actual traffic volumes, in the period subsequent to the CRC EIS analysis, prove that the CRC process was fatally flawed, and should be declared void. I would not suggest remanding this process to those who have spent much more than $100 million in such a flawed manner. Any further analysis of highway and/or transit across the Columbia River between Portland and Vancouver must be done under closer scrutiny

P-037-001

Some updates were made to the traffic modeling after the DEIS, as described in Section 3.1 of the FEIS, although none of the changes to either the modeling or the No-Build were as significant as Mr. Allen has recommended. Please see the responses to letter P-047 regarding your comments on traffic, population and employment projections, the travel demand modeling, low cost options, tolling, transit, fluctuations in actual traffic volumes, and the environmental impacts based on the traffic forecasts.

P-037-001

by those who are paying for this analysis, by people capable of studying all reasonable alternatives, and people capable of doing "least cost" planning, given the increasing scarcity of funds for infrastructure expansion.

Douglas R. Allen

734 SE 47th Ave.

Portland, OR

97215

October 23, 2011

Douglas R. Allen
734 SE 47th Ave.
Portland, OR
97215
October 23, 2011

SUBJECT: Columbia River Crossing FEIS Comments

P-037-001

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Hines, Maurice

From: George Bafus [george_camas@yahoo.com]
Sent: Sunday, October 23, 2011 6:19 PM
To: Columbia River Crossing
Subject: CRC concerns

P-038-001

I have yet to see elevation drawings that show what this bridge would look like against the Vancouver skyline. Specifically, how much this tall structure will obscure views from adjacent buildings downtown. I don't mean "artist's conception" type drawings. I want to see the existing buildings drawn to scale, with the new bridge drawn in, from several vantage points. I suspect that if such drawings had been published in the Columbian, criticism would be considerable. I believe such information has been withheld for this reason: Those who stand to profit enormously from this project don't want this monstrosity to be accurately depicted. Only when it's too late will Vancouver realize what an eyesore they are stuck with.

George Bafus

1

P-038-001

The project has followed current guidance and methods for assessing visual impacts. The analysis is described in detail in the Visual and Aesthetics Technical Report. These methods were approved by the local, state, and federal sponsoring agencies. Though there are not many computer simulations in the FEIS, the analysis is based on not just simulations but also plan and profile drawings, photographs, view corridors and view sheds. These all contribute to understanding and considering visual impacts, and they are referenced or included in the FEIS. These methods were sufficient for the public and decision makers' consideration of the local preferred alternative and bridge type. As the project enters final design, there will be continued effort to engage the community in design and aesthetic issues. The project will be charged with maximizing the aesthetic opportunities with the composite truss bridge type. This will include developing new simulated views to inform the decisions to be made during final design.

Hines, Maurice

From: Natalie Baker [natalie.x.baker@gmail.com]
Sent: Monday, October 24, 2011 4:04 PM
To: Columbia River Crossing
Subject: Feedback on CRC

Categories: Red Category

P-039-001

You want my feedback on the CRC as a citizen of Portland? My feedback is that I understand how excited you must be about this project--indeed, that bridge would be gigantic and to some people that is the basis for considering something to be impressive--but you need to look around you: this project's legitimacy is nonexistent these days. Important non-profits, news organizations, and citizens groups have all joined to form an overwhelmingly loud voice that unitedly asks you to stop moving forward. Why continue the farce of soliciting feedback when it is blatantly obvious that you won't actually take it into consideration? What exactly do you want feedback on this far in the process? Are you just asking for feedback so that when you plunge this city into debt and a further decrease in infrastructure we actually want, you can point to the fact that you solicited feedback and claim that the CRC was built through an inclusive process? You still have a chance to take the difficult but undeniably ethical path and admit fault, slowing the process down and revisiting the legitimate concerns that have ALREADY been voiced. Don't go through with something because you've already come so far--the real costs are yet to be felt by this city, and only you have the ability to prevent them. You asked for my feedback, and I took the time to give you my thoughts. Please show me that same level of respect by legitimately considering what I (and, I anticipate, many others) have said to you, either by slowing down the process to include important stakeholders and their concerns, or by replying to my feedback with why you will not do so.

Sincerely,
Natalie Baker

P.S. Every city planner in the world knows that if you want to cut down on auto use, you have to stop accommodating it through high-speed multi-lane infrastructure. How this city can simultaneously market itself as a leader in the bicycle movement while funding a megahighway is completely beyond me.

1

P-039-001

Input and feedback have been carefully considered during the project's NEPA process to date. Many changes have been made based on input from citizens and other interested parties who care about the impacts as well as the benefits of the proposed project (some of the changes made are discussed in Chapter 2 of the FEIS). The process was extended to allow the Independent Review Panel and then the Bridge Expert Review Panel time to evaluate and make recommendations on many aspects of the project. These recommendations also led to project changes (summarized in Chapter 2 of the FEIS). Although Ms. Baker has suggested that we slow the process down and rethink the direction, others comment that the process has gone too slow and we should advance it much faster to construction. All input is considered. At this point, the project is advancing the selected alternative into the final design process. The speed at which it advances through design and to construction will depend on decisions by agency leadership, which are subject to citizen input.

203 West 34th Street
Vancouver WA 98660-1908
October 19, 2011

To: Whom It May Concern
RE: CRC-FEIS comments (Columbia River Crossing-Final Environmental Impact Statement)

P-040-001

I oppose the taking of the Wallis Engineering building for the south-most parking garage, as specified in the FEIS.

I served as a member of the CRC-VTAC (Vancouver Transit Advisory Committee) and alternate on the VWG (Vancouver Working Group). When the VTAC began, plans presented showed the south-most parking garage inside the SR-14 to I-5 cloverleaf, on land already off the tax rolls. Months later, the plans changed suddenly to show it on the now partly vacant "auto dealer" lot east of Columbia and south of 5th. Then, at a subsequent meeting, its footprint expanded to include the block housing Wallis Engineering. The records show one objecting comment to removing these lots from the tax rolls, but the Committee was never asked for input on this, nor were the changes fully explained. VTAC and VWG had no self-selected leadership; agendas were controlled by staff.

The Wallis Engineering building is a historic structure, and I believe it is recognized by the county and/or state as a historic building. It has served a vital function as a business incubator for many small entities, recently including Vancouver Food Cooperative. The FEIS proposal would replace this beautiful historic building paying property tax with an outsized unsightly government-owned garage.

I'd hate to have the CRC proposal or public vote opposed because of this provision; small in terms of the CRC project, but tragic in its ramifications for this now nice mini-neighborhood. Consider how ugly a block in that part of town between 5th and the River could easily be.

If the rationale is, as has been stated, to preserve hotel views when the hotel paid for no such provisions, this is improper bias in favor of one business and against others.

Sincerely,

Kenneth M. Becker

P-040-001

The process that resulted in the Lucky Lager Warehouse being identified as an anticipated acquisition was part of ongoing work between CRC, the City of Vancouver, and C-TRAN. Decisions around the Columbia Park and Ride location and the roundabout at the southwest corner of the block were part of a collaborative process similar to decision-making and design development for the rest of the project. The project development process is dynamic and includes making assumptions, gathering additional information, and sometimes changing designs or assumptions based on new information or analysis. The project will continue to minimize or avoid impacts to properties, including the Lucky Lager Warehouse.

The CRC undertook a study called the Lower Vancouver Urban Design Study with the City of Vancouver, C-TRAN and the public. The major components of this study included vehicle circulation, development opportunities and mixed-uses, pedestrian access and safety, and urban design. Expansion of the park and ride footprint resulted from an analysis of the number of spaces required at this location and the height of the structure as compared to footprint. Four options were explored that resulted in structures that varied anywhere from four to six levels. The City of Vancouver suggested the parking structure be designed with a minimal, practicable height, which requires expansion of the footprint to maintain required number of parking spaces. Additionally the expansion of the footprint had benefits to the project's other transportation modes. Further analysis of the SR 14 terminus indicated the roundabout was the appropriate design for this intersection, preferred by both the CRC and the City of Vancouver. The CRC staff analyzed multiple roundabout alternative designs in order to minimize the footprint. Through that analysis it was determined that more right-of-way was required northeast of the roundabout. The combination of the above mentioned analyses resulted in the current design and impacts.

203 West 34th Street
Vancouver WA 98660-1908
October 19, 2011

To: Whom It May Concern
RE: CRC-FEIS comments (Columbia River Crossing-Final Environmental Impact Statement)

P-040-002

I oppose the inclusion in the FEIS of a parking garage on current WA DOT land in the Lincoln neighborhood, as an alternate location. It was clear from the DEIS that this option was discarded after significant citizen opposition, and it is indeed disturbing to see it remaining in the FEISD, even as an alternative.

The DEIS is filled with many reasons for not having a garage at the Lincoln site, so citizens were unaware that continued opposition was needed to exclude it from the FEIS.

Furthermore, it now appears that VFD (Vancouver Fire Department) will need to relocate their Main Street station now near Safeway, and the WA DOT land would be an ideal location with adequate access.

Sincerely,

Kenneth M. Becker

The FEIS describes the general process for selecting the LPA in the summary on page S-9 and in Chapter 2 starting on page 2-81. The purpose of the FEIS is to disclose the impacts related to the LPA compared to no-build and the DEIS alternatives and describe what has changed since the DEIS. The FEIS does not contain a detailed description of how each design refinement was done; that level of detail is not typical for an environmental document.

Although the Lucky Lager building is listed on the Clark County Heritage Register, it has not been found eligible for the National Register of Historic Places (NRHP). Qualified staff on the CRC project and from the Esther Short Subarea planning process years before, both determined the building modifications to be too extensive for the building to be NRHP eligible. Regardless of the specifics of eligibility and associated protections, the project has attempted to avoid displacement of any building. Buildings listed on the Clark County Heritage Register are given special consideration.

P-040-002

Thank you for your comment. The LPA does not include a park and ride station in the Lincoln neighborhood.

CRC EIS COMMENTS
Todd Boulanger, PO BOX 61542, Vancouver, WA 98666

P-041-001

P-041-002

P-041-003

1. The use of 2005 traffic volumes for the bridge traffic and transit ridership, etc. is inappropriate due to the availability of more current data for a 2011 EIS.
2. The discussion of vehicle crashes (pg 3-23) for the bridge is incomplete, as it includes only motor vehicle crashes and not al vehicles (bicycles).
3. On page 3-26 the discussion is incomplete, as it misses analysis of the adjoining public parking off street.
4. The analysis and discussion of future off street parking is missing the analysis of operation and maintenance cost of the new project park & ride facilities.
5. The analysis of the first and last mile access to transit stations is in complete, as there is no comparison to bike sharing as an option vs. driving SOV, bus transfers, etc.
6. The EIS mentions that bicycle access to future LRT stations/ P+R will be facilitated along a bike route along Columbia Street (pg 3-41) , but this facility is planned but not currently signed as a bike route yet. And the planned bike lane access along Columbia Street (Vancouver TSP/ VCCV) is threatened by addition of double turn lanes from Mill Plain couplet onto Columbia.
7. The EIS (section 3) discusses ADA and pedestrian improvements along the LRT route, but the analysis/ planned improvements is missing for station to station access (east to west across Main Street between Broadway to Washington or north to south on the other sections).
8. The discussion of future bike pedestrian access along/ across Fourth Plain to the north/south road to the Clark P+R (pg 3-42) is missing the proposed bike pedestrian facility from the Rose Village neighborhood along K Street dead end south of 26th St (west side of military graveyard), as discussed by the PBAC.
9. The discussion of future bike pedestrian access along/ across Fourth Plain to the new road to the Clark P+R (pg 3-42) is missing the proposed bike pedestrian facility from the Arnada neighborhood along G, H, & I Streets dead end, as discussed by the PBAC.
10. The discussion (pg 3-42) of future bike pedestrian access to future CRC built facilities (P+R, etc.), is missing the links to the SR500/ Leverich Park/ Discovery Middle School, as discussed by the PBAC.
11. The EIS content (Exhibit 3.1-26)) reporting planned/ proposed CRC bicycle pedestrian facility network to LRT stations in Vancouver is not equitable to that concerning the Portland jurisdiction, especially Hayden Island, given the PBAC input.
12. Page 3-50 analysis misses the option of the CRC project utilizing existing underutilized off street parking structure spaces (Vancouver Centre, etc.) vs. only discussing the hared use of future CRC stalls. The use of existing parking stalls (excess capacity) for the P+R could reduce the construction costs and minimize the loss of historical buildings along Columbia. The Vancouver Centre parking structure was enlarged to over 800 stalls vs. the smaller original structure and the 4th building has not been built nor is it likely to be built.
13. The discussion (pg 3-51) of the of the construction/ workzone impact mitigations does not go into enough detail, especially given the tools used during the Yellow Line construction.

P-041-001

The traffic volume cited in the FEIS (134,000 vehicles per day) was from a specific count conducted in October 2005 when all ramps and the mainline volumes were obtained simultaneously. The day in October 2005, which needed to be selected in advance for the major traffic counting effort, was within one percent of the average weekday traffic volume for the entire year (2005). Traffic volumes fluctuate and did decrease during some years. Traffic volumes obtained from the Oregon Department of Transportation's automatic traffic recorder (ATR) monitoring sites show that traffic volumes have, in fact, been increasing in the last few years. Whether the traffic volumes forecast for year 2030 will actually be achieved in that year should not be the only consideration. In its July 27, 2010 report, the Independent Review Panel expressed concerns about a longer horizon. The IRP commented, "The desirability of living in the Portland/Vancouver region is not going to diminish, so populations will continue to grow…. [T]he IRP believes the greatest risk in the decision-making process is not over-sizing the bridges but not building enough capacity for the next 100 years."

P-041-002

The section of the FEIS discusses vehicle crashes. Page 3-16 of the FEIS mentions the safety problems faced by bicyclists and pedestrians on the bridge.

P-041-003

Analysis of parking facilities will progress following the Record of Decision. There will be more specific assessment of the traffic and bike impacts at each site. The previous analyses have been more than sufficient to enable decision-making appropriate to the planning level of design. The project does not intend to utilize space in existing parking facilities as these have been constructed for other purposes, are not FTA facilities, and will presumably be more heavily utilized, consistent with the design projections which led to their sizing.

CRC EIS COMMENTS
Todd Boulanger, PO BOX 61542, Vancouver, WA 98666

P-041-003

14. Clarify the total effect of the Mill Plain lane closures (pg 3-51), as the text mentions a second turn lane onto Columbia, but this would effect important regional bicycle access to P+R stations (first and last mile).
15. There is no discussion of the work zone mitigations for continued bike lane access (pg 3-61).
16. Pgs 3-62 & 63 include an incomplete analysis of the mitigations for bike and pedestrian access due to parking.
17. There is inadequate discussion of the work zone/ closure mitigations developed during the bridge trunion repair project (Amtrak commuter rail, etc.) (pg 3-66).
18. The report analysis misses discussion of adding bikestation facilities to transit hubs in Vancouver and Hayden Island for the first and last mile access to LRT stations.
19. The EIS does not discuss why the minimum parking stall totals were increased between options and from the DEIS, thus enlarging the property takes.

You have asked about some very specific bike and pedestrian connections. The following details should answer your questions:

- The path between Rose Village and Fourth Plain, and the path between Fourth Plain and McLoughlin are planned project elements.
- The most direct route for the Arnada neighborhood to the proposed station on McLoughlin would be by way of G, H and I Streets directly to McLoughlin.
- No improvements are proposed on 39th Street in the LPA. A future project would complete the interchange at SR 500 by adding the ramps to and from the north, and would include improvements to 39th Street and allow the connections referenced to be made.

Hines, Maurice

From: Sharon Boyle [smboyle518@comcast.net]
Sent: Monday, October 24, 2011 7:38 PM
To: Columbia River Crossing
Subject: FEIS

P-042-001 What happens when The City initiative is presented on the ballot - with no City monies or employee support of the LPA is allowed?

1

P-042-001

The project is not aware of such an initiative and would need more information to respond. The Cities of Vancouver and Portland coordinate closely with CRC staff, though neither City is responsible for funding the project.

Ted Buehler
105 NE Beech St
Portland OR 97212
503-890-0510

24 October 2011

Comments: CRC EIS

1) **Environmental Justice:**

P-043-001 Section 3.5.5. There is no discussion of the increased congestion on I-5, primarily southbound, though inner N and NE Portland. The Boise, Humboldt, Concordia and Kenton neighborhoods have high poverty and high minority populations. Increasing air pollution through increased gridlock in these neighborhoods should be addressed. Also, increased traffic on Greeley, Denver, Interstate, Vancouver/ Williams and MLK should be addressed, as traffic will divert off I-5 from downtown to the Columbia River to avoid gridlock on I-5.

2) **Bicycle Mitigation during construction**

P-043-002 Page 3-61 should include facility improvements during construction to offset the degradation of the route during construction. This could include pavement improvements, wayfinding improvements, pavement widening, and other things to bring the current route up to ODOT and AASHTO standards during the construction process.

3) **Spillover traffic incorrectly counted as "leaving the I-5 corridor**

P-043-003 Page 3-11 shows 35% of the I-5 bridge traffic leaving the project corridor on the Oregon side of the river. Anyone who has ever observed traffic backing up on N Interstate or N MLK knows that drivers use surface streets to avoid I-5 congestion through North Portland. This graphic should be corrected after data is collected pertaining to how much of the traffic that "leaves" is actually going to or from downtown Portland.

4) **No accounting of increased bicycle travel time with circuitous route**

P-043-004 Page 2-34 shows the bicycle route taking a 4-block long, 360 degree loop to get from the bridge deck to downtown Vancouver. This creates an unjust delay to bicycles relative to cars. They are forced to travel down to the riverbank in a big circle while cars travel directly through past downtown Vancouver. The bike route needs a second "exit" from the bridge facility to Fort Vancouver, at the "Community Connector" feature. This would shorten travel time from most points in Vancouver into Portland by 8 minutes over the current design.

Any civil engineer knows that routes should be designed to be direct. This "loop" will create a permanent penalty of time and energy for every bicycle trip across the river, compared to the equivalent car route. Bicycles should not be penalized for their mode choice with longer, hillier routes.

An analysis should be done comparing the bicycle route to the car route through the project area. The bicycle route should be comparable in terms of distance and topography.

5) **No giant parking garages**

P-043-005 Exhibit 2-2-19 shows three mammoth parking garages. At 400 spaces each, these will cost over a million dollars each to build. How about eliminating these garages, developing the land with mixed

P-043-001

Neither the CRC project nor the Delta Park projects are intended to address the southbound traffic congestion that currently exists near the I-5/I-405 split. However, traffic analyses show the congestion at the split will not be worsened because of the Columbia River Crossing project. The main reason is that fewer cars are expected to cross the river with a project in 2030 than without a project. This is due to the provision of improved transit service and tolling. Furthermore, because the Interstate will provide better mobility with the LPA, cut-through traffic on parallel neighborhood streets will be reduced.

P-043-002

In Section 3.1 of the FEIS, and in the Record of Decision, the project has identified a number of construction-period mitigations for bike facilities. As the project designs are advanced, these mitigations will also advance. The project and construction contractors will work with the community to provide suitable improvements and will refine these throughout the various stages of construction.

P-043-003

The data used in the analysis show that much of the exiting traffic has destinations within the subareas where the exits are. Many of these vehicles are, therefore, actually only using and only needing to use the Interstate for short trips. The Traffic Technical Report provides more details regarding these commute patterns. The project does recognize that many motorists exit the Interstate and use parallel routes in order to avoid the congestion on the Interstate. Many of these trips will return to the Interstate when congestion is relieved.

P-043-005 use TODs, and using the dollar saved to extant MAX to Clark College and through to the high-density neighborhoods along Fourth Plain and 18th Aves in Vancouver?

6) **Unrealistic assessment of northbound commute benefits**

P-043-006 Exhibits on page 3-153 shows a penalty to southbound Portland commuters for bridge construction. Traffic congestion (caused by Washington State Commuters) is simply shifted from downtown Vancouver to North Portland. But the northbound traffic shows no gridlock anywhere. This is suspect, as there is an equal amount of northbound traffic. It seems that it will be backed up in downtown Portland -- the delays will be on the Morrison Bridge and other I-5 on-ramps. These should be shown in the study.

7) **Bicycle Facilities in the proposal are not "World Class"**

P-043-007 Appendix F
Portland and Metro's endorsements (Portland Resolution No. 36618, July 9, 2008, and Metro's Resolution No. 08-3960B) both call for *World Class Bicycle Facilities* and for bicycle facility improvements *throughout the project area.*

Specifically, Portland calls for
BB 1. "The facility should meet or exceed standards set by "World-Class Facilities."

and Metro calls for
"The project should design "world class" bicycle facilities on the replacement bridge, bridge approaches, and throughout the bridge influence area that meet or exceed standards..."

The Bicycle and Pedestrian Committee did extensive research on their own time to identify what characterizes "World Class" facilities. They presented the material to the Project Sponsors Council, and their recommendations were systematically rejected. The main span is acceptable, but not world class. The approaches are poor, forcing bicycles to wander through all sorts of twists and turns, stopping and starting, and much out-of-direction travel. The facilities in the EIS are decidedly NOT "world class" when compared with the standards developed by PBAC.

Nor do they extend through the bridge influence area. There are no improvements south of Marine Drive in Portland or north of 7th St. in Vancouver. This is far short of the bridge influence area, and leaves bicyclists on outdated, dangerous, third-rate facilities in both Portland and Vancouver while they ride through the project influence area.

The CRC should follow these directives from Portland and Metro and upgrade the planned bicycle facilities.

P-043-004

The project has worked to shorten the bike pathways as much as possible while also keeping the grades (inclines) to a reasonable level and within established standards. Although the landing in Vancouver will require a loop ramp, the existing facility (west of I-5) currently relies on a long loop. The current east side loop, though smaller, requires sharp turns through a driveway and parking lot.

The idea of bringing a multi-use path all the way to the connector has been studied. A bike path from the River Crossing Bridge to the Community Connector will not be built due to geometric constraints through the SR 14 interchange. Standard vertical clearances under and over SR 14 ramps must be achieved and a 5% maximum path running grade is required for ADA compliance. A path through the SR 14 interchange would require excessively steep grades of 10-30%. Additionally, such a path would face complexities at the BNSF overcrossing, potentially enter into the Pearson Airspace and would impact Section 4(f)-protected properties to the east.

Also, the Reserve will be more accessible by bike since Apple Tree Park will be accessible from Main Street.

P-043-005

Decisions over the location and number of parking spaces provided at park and rides were designed to maximize ridership on light rail transit and are not expected to be eliminated. As described in the Indirect Effects Technical Report, transit-oriented development is predicted around transit stations and near the park and rides.

P-043-006

Although the specific reference could not be located, Mr. Buehler's point appears to be clear. The northbound commute will experience less congestion with the LPA, because the major bottleneck at the bridge will

be improved. In the southbound direction, however, there remains a congested bottleneck condition at the Rose Quarter. The LPA will reduce the number of cars entering the Rose Quarter from the north, but an improvement at that location will likely still be needed in the future, regardless of the CRC project outcomes.

P-043-007

As discussed in the DEIS and FEIS, a replacement bridge over the Columbia River will include dramatically improved bicycle and pedestrian facilities by providing:

- A new 16- to 20-foot multi-use pathway over the Columbia River completely separated from vehicle traffic due to the design of the Stacked Transit Highway Bridge;
- Protections from traffic noise, exhaust, and debris for pedestrians and bicyclists on the river crossing;
- More direct connections on each side of the river, consisting of stairs, ramps, and elevators, as well as pathway extensions that connect in with existing or planned facilities and public transit;
- Many new or enhanced sidewalks, bike lanes, and crosswalks near the bridge and throughout the project area.

Since the publication of the DEIS in May 2008, and the selection of the LPA in July 2008, the CRC project team has continued to work with the Pedestrian and Bicycle Advisory Committee and project partners to refine route and facility design. The updated design, as described in Chapter 2 (Section 2.2) of the FEIS, is the outcome of a long collaborative process.

From: Ron Buel [mailto:ronb@donavoncards.com]
Sent: Monday, September 19, 2011 12:23 PM
To: Columbia River Crossing
Cc: 'Nigel Jaquiss'; 'Jeff Manning'; sduin@oregonian.com; smirk@portlandmercury.com; Collette, Carlotta; carlhosticka@metrocouncil.or.us; Joe Cortright; bobstacey@mac.com; Shirley.craddick@oregonmetro.gov; mara@cfuture.org; jimhowell89@hotmail.com; fredtrain@aol.com; Chris Smith; Joe Smith; sharonnasset@aol.com; PerkinsRealty@comcast.net; 'Rep EyreBrewer'; Rep.mitchgreenlick@state.or.us
Subject: FW: [Bridgeteam] CRC's Final Environmental Impact Study

Dear Columbia River Crossing Feedback:

P-044-001 I read more than 200 pages of submitted testimony raising, as Fred Nussbaum says below, substantive comments about the faulty assumptions, analysis and conclusions in the DEIS. I can find **no** response to any of these questions and comments in the FEIS, nor have there been any truly substantive changes in the FEIS from the DEIS on the subjects we commented upon. None of the people who submitted this testimony in writing have ever been contacted by the CRC. Please explain why you have not responded to those of us who testified in writing, spending hours on our efforts. Please explain why there is **no** response to our testimony in the FEIS. Doesn't this make a mockery of the citizen participation process on the Columbia River Crossing?

Ronald A. Buel, 2817 NE 19th Ave., Portland, OR 97212 -- 503-358-8677

From: bridgeteam-bounces@smarterbridge.org [mailto:bridgeteam-bounces@smarterbridge.org] On Behalf Of
fredtrain@aol.com
Sent: Saturday, September 17, 2011 8:26 PM
To: feedback@columbiarivercrossing.org
Subject: Re: [Bridgeteam] CRC's Final Environmental Impact Study

P-044-002 Excuse me. The FEIS isn't only supposed to be another propaganda piece. It's supposed to answer all the comments received on the DEIS. You got a lot of substantive comments about the faulty assumptions, analysis and conclusions in the DEIS and documents leading up to it. Some comments were quite extensive in their scrutiny and suggestions of alternatives.

Fred Nussbaum
6510 SW Barnes Road
Portland, OR 97225
503.292.5549

P-044-001

The FEIS provides a summary of public input, responses to every letter submitted on the DEIS (Appendix P), and a summary of project changes that have occured based on public input (Section 6.4).

P-044-002

Please see the response above.

-----Original Message-----
From: Columbia River Crossing Project <feedback@columbiarivercrossing.org>
To: FredTrain <FredTrain@aol.com>
Sent: Thu, Sep 15, 2011 9:17 pm
Subject: CRC's Final Environmental Impact Study

You're Invited

to learn about plans to address safety and traffic problems on I-5.

Publication of the Columbia River Crossing (CRC) Final Environmental Impact Statement (EIS) brings the project closer to completing the planning phase. The Final EIS contains analyses of the project's potential environmental and community effects. It also describes how a replacement Interstate Bridge, light rail and other project elements will improve safety and relieve congestion.

Drop-In Information Sessions

Wednesday, October 12, 2011
2 – 4 p.m. and 6 – 8 p.m.
Vancouver Community Library
901 C Street, Vancouver, WA 98660

Thursday, October 13, 2011
2 – 4 p.m. and 6 – 8 p.m.
Jantzen Beach SuperCenter Community Room
1405 Jantzen Beach Center, Portland, OR 97217

PLAN YOUR TRIP: www.trimet.org or www.c-tran.com

For more information about the FEIS drop-in information sessions please visit our website.

Direct questions or comments to feedback@columbiarivercrossing.org

Hines, Maurice

From: Ron Buel [ronb@donavoncards.com]
Sent: Monday, October 24, 2011 2:52 PM
To: Columbia River Crossing
Cc: Joe Cortright; mara@clfuture.org; 'Jeff Manning'
Subject: Completely inadequate FEIS for CRC

Dear CRC:

P-045-001

As testimony on the CRC DEIS, Joe Cortright and I submitted a long paper about land-use in Clark County - the 5,000 acres of un-developed farmland in Clark County that is currently zoned for housing. The FEIS, like the DEIS, says there will be 30 years of static land-use - no growth in Clark County. This implies that a new freeway bridge would not make any difference to the rate of development in Clark County in the future. This is not a believable assumption. A new freeway bridge will bring new development, and therefore increased travel across the Columbia on I-5, within the 30 year period covered by the FEIS. Clark County and Vancouver planners assume population growth rates through 2030 - such population increases will be stimulated by perceptions that a new bridge will make travel easier and less congested, and you have not accounted for such growth in automobile travel across the Columbia caused by a new bridge. Nor do your air pollution figures, nor your carbon dioxide projections account for such induced travel.

It is also unrealistic to assume that light rail transit will carry 37% of trips in 2030 or 2035. This is far too high, since people will still have to get in their cars to drive to the park-and-ride garages near the light rail stations, and the trip on the Yellow Line has nine stops between Hayden Island and Portland's central city. Time savings on light rail will not be that great, compared to the automobile, especially if you are adding more freeway capacity. These light rail ridership figures are simply not realistic. Therefore, you have further under-estimated the travel on light rail.

Further, Stantec told Oregon State Treasurer Ted Wheeler that the Metro travel models used by the CRC are not capable of predicting what percentage of trips will use the I-205 Glenn Jackson Bridge instead of paying a toll to use the CRC. Therefore your projectios of what the un-tolled Glenn Jackson usage will be, when compared to toll rates on the CRC that are not yet final, has not been accurately assessed by your FEIS. Nor can you accurately assume what impact such route-changing will have on congestion on I-205, and the resulting impacts on air pollution and carbon from such switching of routes by commuters are similarly rendered inaccurate by this problem.

Your FEIS does not attempt to assess impacts on parallel arterials to I-5, nor on travel on arterials to and from entrances (and exits) on I-5. This is particularly troublesome because this means that you have not accurately assessed net effects on air pollution and greenhouse gas emissions in the nearby neighborhoods from CRC travel. Your work has only assessed the impacts on I-5 within the bridge impact area, leaving you making predictions of air pollution and carbon that cannot, therefore, be accurate on a net basis.

You have not accurately assessed the congestion impacts at Victory Blvd. or Delta Park, when the seven lanes going South coming off Hayden Island and Marine Drive South narrow to three lanes at Victory Blvd. This junction is

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P-045-001

As described in Chapter 3 (Section 3.4) of the DEIS and FEIS, and in the Indirect Effects Technical Report, highway capacity improvements and access improvements can induce development in suburban and rural areas that were not previously served, or were greatly underserved, by highway access. The DEIS outlines a comprehensive analysis of the potential induced growth effects that could be expected from the CRC project. A review of national research on induced growth indicates that there are six factors that tend to be associated with highway projects that induce sprawl. These are discussed in the Indirect Effects Technical Report. Based on the CRC project team's comparison of those national research findings to CRC's travel demand modeling, Metro's 2001 land use / transportation modeling, and a review of Clark County, City of Vancouver, City of Portland and Metro land use planning and growth management regulations, the DEIS and the FEIS conclude that the likelihood of substantial induced sprawl from the CRC project is very low. In fact, the CRC project will likely support the region's goals of concentrating development in regional centers, reinforcing existing corridors, and promoting transit and pedestrian friendly development and development patterns. The region's goals are reinforced by the project's location in an already urbanized area, the inclusion of new tolls that manage demand, the inclusion of new light rail, and the active regulation of growth management in the region.

In October 2008, the project convened a panel of national experts to review the travel demand model methodology and conclusions, including a land use evaluation. The panel unanimously concluded that CRC's methods and conclusions were valid and reasonable. Specifically, the panel noted that CRC would "have a low impact to induce growth… because the project is located in a mature urban area," and that it would "contribute to a better jobs housing balance in Clark County… a positive outcome of the project". These results are summarized in the "Columbia

P-045-001 going to be at 99% of capacity, stopping traffic and backing it up onto the bridge during every morning commute. As a result, projected improvements in peak Southbound congestion will not materialize from construction of the CRC. This also has air pollution, air toxic and greenhouse gas ramifications - they will be much worse than you projected for the CRC.

You have built a strawman of a No-build which vastly over-states the congestion that will occur in the traffic modeling years of 2030 and 2035 if there are no changes to the existing I-5 bridges. Traffic has been declining on the I-5 bridges over the last decade, especially in response to the increase in gasoline prices which, across the nation, is causing people to drive less. You make your CRC projections look better when compared to this unrealistic No-build strawman. You under-state the congestion that will occur with the CRC (and on the Glenn Jackson Bridge) while vastly over-stating traffic and congestion (and air pollution and carbon) from the No-build outcome.

P-045-002 I do not see in the FEIS projections of impact of construction (nor length of the in-water work window) on endangered salmon runs in the Columbia. The newest bridge design will also have more pillars near the shore, which will also have negative impacts after construction to the salmon run that have not been calculated in the FEIS. Net, net, you have not realistically projected the impact on salmon runs from construction and a completed bridge.

P-045-003 I do not see in the FEIS the impacts fairly assessed on the more than 20 historic sites near the project.

P-045-004 I do not see numbers on losses of jobs from the closing of 39 businesses (approximately 600 jobs) on Hayden Island and 50 businesses in Vancouver.

P-045-005 I do not see assessments of the economic impacts of disruption on businesses not taken by the CRC, from the seven years of construction of the CRC project.

Cordially,

Ronald A. Buel
2817 NE 19th Ave.
Portland, OR 97212

River Crossing Travel Demand Model Review Report" (November 25, 2008).

In 2010, Metro ran the MetroScope model (an integrated land use and transportation model) to forecast growth associated with transportation improvements of a 12-lane river crossing and light rail to Clark College. Even with a 12-lane river crossing, the model showed only minimal changes in employment location and housing demand compared to the No-Build Alternative.

For a more detailed discussion regarding potential indirect land use changes as a result of the CRC project, including the likely land use changes associated with the introduction of light rail, please see Chapter 3 (Section 3.4) of the FEIS. By 2030, the region's population is expected to increase by one million people. This increase will result in more people needing to travel between home, work, school, recreation, etc. In 2005, 135,000 vehicles crossed the Columbia River on the Interstate Bridge, which led to 4-6 hours of congestion each weekday. By 2030, 184,000 are predicted to cross the river, which would lead to 15 hours of daily congestion if no action is taken.

Congestion occurs when vehicle demand is greater than a transportation system's capacity. It results in slower speeds and increased travel times. CRC defines congestion as vehicles traveling less than 30 mph. The Columbia River Crossing project uses information gathered from Metro's nationally-recognized travel demand models to determine the project's effect on congestion. These models predict trip frequency, types or modes of transportation, destination, and time of day. Transportation planners use these models to analyze the effects of such factors as increased population and employment, transportation improvements, and new developments on the transportation system.

Traffic volumes fluctuate and did decrease during some years. Traffic

volumes obtained from the Oregon Department of Transportation's automatic traffic recorder (ATR) monitoring sites show that traffic volumes have, in fact, been increasing in the last few years. Whether the traffic volumes forecast for year 2030 will actually be achieved in that year should not be the only consideration. In its July 27, 2010, report, the Independent Review Panel expressed concerns about a longer horizon. The IRP commented "The desirability of living in the Portland/Vancouver region is not going to diminish, so populations will continue to grow…. [T]he IRP believes the greatest risk in the decision-making process is not over-sizing the bridges but not building enough capacity for the next 100 years."

Based on the Metro model's past ability to predict transportation effects, the CRC project is confident in the data received from Metro and uses it to determine what impact the project will have on congestion. The improvements proposed by the project to the highway and seven interchanges will help better accommodate increased future vehicle traffic. New auxiliary lanes and longer on/off ramps will allow safer and more efficient merging and weaving to enter or exit the freeway. Narrow lanes and shoulders will be widened to current standards. Shoulders will be added where they are currently missing. All of these changes will improve the flow of traffic in the bottleneck area of the Interstate Bridge.

The air quality evaluation presented in the DEIS assessed how emissions would be expected to change by 2030 and how the project would affect emissions of pollutants regulated by state and federal standards as well as vehicle emissions that are not regulated. Oregon and Washington, as well as the federal government, have established ambient air quality standards for criteria pollutants. These standards are based on human health risks. The DEIS evaluation included an analysis demonstrating that the CRC project would allow the region to retain conformity with state and federal air quality standards for relevant criteria pollutants. See the Air Quality Technical Report for a detailed

explanation of the state and federal regulations concerning air quality and the evaluation of how the project complies with relevant air quality regulations. See Section 3.10 of the FEIS for an updated explanation of the pollutants regulated by state and federal law.

The DEIS also evaluated how the project alternatives would affect emissions of mobile source air toxins (MSATs) from I-5 traffic. MSAT emissions from vehicles are not currently regulated. The evaluation in the DEIS found "that future (no-build or build) emissions of all pollutants would be substantially lower than existing emissions for the region and the subareas" (page 3-277). These reductions in emissions are largely the result of on-going reductions in vehicle emissions that will occur with or without the project, and are based on standard assumptions regarding future vehicles and fuel. The anticipated vehicle emission reductions are based largely on regulation-driven improvements in fleet fuel efficiency standards and cleaner gasoline and diesel fuels. Any extraordinary improvements in fleet fuel efficiency or fuels would result in even greater emission reductions. Projected reductions in vehicle fleet emissions would result in a 25% to 90% reduction in I-5 related criteria pollutant emissions over existing conditions, even with the anticipated growth in population, employment and VMT. In addition, the build alternatives would provide small further reductions in vehicle emissions at the regional level and for most pollutants in each of the subareas along I-5. CO and NOx emissions would be slightly higher with the project than with No-Build (but still lower than existing conditions) in the I-5 subarea between the SR 14 and SR 500 interchanges, as discussed in DEIS Chapter 3 (Section 3.10) and FEIS Chapter 3 (Section 3.10). The updated analysis conducted for the FEIS resulted in very similar findings to those in the DEIS.

P-045-002

Page 3-393 in Section 3.16 of the FEIS document provides discussion on the in-water timing of any necessary dredging and cofferdam

placement (November 1 through February 28) and in-water impact pile driving (September 15 through April 15). This page also summarizes the likely impacts to ESA-listed salmonids and eulachon from impact pile driving which was identified as the largest impact to aquatic systems of the project. Total shading from project construction is discussed on page 3-394. Exhibit 3.16-9 provides a summary of project elements' effects on ESA-listed species. Other activities are proposed to occur year-round as discussed in the Ecosystems Technical Report. Exhibit 5-1 in the Ecosystems Technical Report presents a proposed sequencing of in-water structure construction.

The LPA will not have an increased number of piers or pillars near the shore compared to that addressed in the DEIS or during ESA consultation. Removal of the existing bridge after construction of a new bridge will result in an increase in shallow water in the Columbia River and a loss in North Portland Harbor. Quantification of shallow water impacts are discussed on pages 3-390 and 3-391 of the FEIS.

Much more detailed analysis on short-term and long-term effects on listed and other native aquatic organisms is provided in Sections 4 and 5 of the Ecosystems Technical Report. Analyses in the technical report address near-shore and shallow-water effects from temporary structures and shallow-water structures, cofferdams, piers and shafts, shading, etc.

P-045-003

Section 3.8 of the FEIS provides details about each impact. The Archaeology and Historic Built Environment Technical Reports also provide additional information.

P-045-004

Section 3.4 of the FEIS and the Economics Technical Report describe the impacts to local jobs associated with displacements.

P-045-005

The impact of construction activities on businesses is considered in the FEIS. Please see discussions in Section 3.4 (Land Use and Economic Activity), specifically the subsections on Temporary Effects and Mitigation.

Hines, Maurice

From: Bob Clark [elvsy3k@yahoo.com]
Sent: Friday, October 21, 2011 9:43 PM
To: Columbia River Crossing
Subject: Public comment

To whom it may concern:

P-046-001 I recommend the light rail portion of the Columbia River Crossing Project (CRC) be eliminated in its entirety. My key objections are the link to the existing north portland light rail line is not a practical method for transporting the many bus riders going between Vancouver and central Portland (especially downtown Portland). The existing North Portland light rail commuter line is too slow and has too many stops requiring way too much time for the many folks traveling between these two points currently using the C-Tran bus service. Secondarily, the cost of the light rail portion of CRC is too much considering the small fraction light rail would represent of total trips by all modes.

Bottom line: Proceed with project but without its light rail component. Keep the C-tran service as is.

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P-046-001

Light rail has been endorsed by every local Sponsoring Agency (Vancouver City Council, C-TRAN, RTC, Portland City Council, TriMet, and Metro), whose boards include elected officials from throughout the area.

Annual light rail passenger trips crossing the I-5 bridge in 2030 are projected to be 6.1 million, with daily ridership around 18,700. The travel time for the morning commute by light rail between downtown Vancouver and Pioneer Square in downtown Portland will be approximately 34 minutes. Light rail would travel on a dedicated right-of-way, with more reliable travel times than auto drivers dealing with unpredictable road conditions, traffic congestion, and parking challenges.

The CRC project planning for light rail incorporates and supports the principles of the Vancouver's City Center Vision Plan. Downtown Vancouver has seen recent growth in higher density mixed use projects from three to 12 stories in height. In addition, another 4,000 downtown condominiums are proposed or pending as part of new developments. The core of Vancouver has, along with many of the larger corridors such as Fourth Plain Blvd, medium to high density residential development and an urban mix of uses. Transit demand in these areas is quite high, and ridership will increase with the introduction of light rail.

Long-term operation and maintenance of the new light rail line will be funded through C-TRAN and TriMet. For its share of the operations and maintenance funding, C-TRAN plans on having a public vote.

Hines, Maurice

From: jcortright [jcortright@gmail.com]
Sent: Monday, October 24, 2011 1:37 PM
To: Columbia River Crossing
Subject: Comments on FEIS
Attachments: Cortright_FEIS_Comments_24Oct2011.pdf; FHWA_NEPA_Guidance.pdf; NEPA Planning Requirements 2-9-11-1.docx; RE_ BRP recommendations and NEPA w attachment.pdf; RE_ FTA_FHWA re-eval checklist.pdf; Williams_Derry_2011_DisappearingCars.pdf; Williams_Derry_2011 _WashingtonVMT.pdf; Williams_Derry_WSDOT vs. Reality 2011.pdf; Williams-Derry 2011 Multnomah County _ Sightline Daily.pdf

P-047-001

Please accept the following letter and attachments as comments on the Final Environmental Impact Statement for the Columbia River Crossing.

Please confirm receipt of this correspondence at your earliest convenience.

Joseph Cortright
1424 NE Knott Street
Portland, OR 97212

503.515.4524

P-047-001

This introduction in Mr. Cortright's letter provides a brief summary of a few of the detailed concerns that he expresses in the body of his letter. Please see below for responses to each of his detailed comments that are noted in this introduction.

IMPRESA
ECONOMICS

October 24, 2011

Columbia River Crossing
c/o Heather Wills
CRC Environmental Manager
700 Washington Street, Suite 300
Vancouver, WA 98660

RE: Columbia River Crossing Final Environmental Impact Statement

Dear Ms. Wills:

P-047-001

I submit the following written comments for consideration as the US Department of Transportation reviews the Final Environmental Impact Statement for the proposed Columbia River Crossing.

The Final Environmental Impact Statement (FEIS) fails substantially to meet the requirements of the National Environmental Policy Act (NEPA), and therefore you, and your subordinates at the Federal Highway Administration and Federal Transit Administration, should decline to enter into a Record of Decision, and should instead undertake additional analysis to comply with NEPA.

The FEIS does not disclose either the true nature of the project as it is likely to be built, nor does it accurately disclose the impacts of this project on the region. I have several comments in the text of this letter, but I will highlight three in particular:

1. You do not know what portions of the project will be built, and as a result cannot accurately assess its impacts, because project funding has not been determined, and the project will be broken into phases, and there is no assurance that discrete phases of this project will have the effects presented here.
2. CRC traffic forecasts are wrong, the traffic models used to produce them have been acknowledged by their authors to be incapable of accurately forecasting traffic on tolled facilities, and traffic projections have not been revised since the DEIS to correct acknowledged errors and changes in conditions.
3. The FEIS fails to present any current or historical information on actual traffic levels on the I-5 bridges. Traffic volumes are significantly lower than represented in the FEIS, and are declining, not increasing.

Approval of the Final Environmental Impact Statement is a momentous responsibility: the Department of Transportation's obligation to certify to the citizens of the region and

P-047-001

the nation that it has fully analyzed, disclosed and considered the project's impact on the region's transportation system, its environment, and the region's communities and people. You have an important duty to assure that this information is accurate, complete and fair.

My analysis shows that the FEIS presents an incomplete, inaccurate and deceptive view of the project's impacts, and therefore US DOT ought to postpone proceeding further with this project until the information in the FEIS is corrected.

1. CRC project financing is highly uncertain, making it impossible to know what will actually be built and therefore what will be the actual environmental, social and land use impacts

P-047-002

In order to assess the impacts of the project, you have to know what the project is. It is clear from the record that the scale of the project will be adjusted to fit available financing. But as yet, the project's financing is simply conjectural: none of the sources of funding (federal highway earmarks, FTA transit funding, Oregon and Washington gas tax increases, tolls, and a CTRAN sales tax) have been committed to the project. The Governors have directed that the project be phased, and the CRC has indicated that it is planning to break the project into phases, but as yet, no meaningful action has been taken.

It is apparent from the staff report that the financial plan for the CRC is completely unresolved at this point. We have no idea what kind of project will actually be built, so we have no way of accurately assessing its impacts.

The CRC depends on a complex, multi-part financing plan. None of the parts of the plan have yet been approved by any of the bodies that must approve such funding. There are four key elements to this financing plan: toll bonds, Oregon and Washington appropriations, federal New Starts funding, and federal highway funding.

The CRC financing plan rests on seven key assumptions about decisions that will be made and amounts that will be provided for project funding:

1. Washington legislative approval of facility tolling.
2. Washington legislative approval of funding for the state share of the project.
3. Oregon legislative approval of funding for the state share of the project.
4. Earmarking or Federal Highway Administration approval of funding for the highway portion of the project.
5. Federal Transit Administration approval of New Starts Funding

P-047-002

It is common practice on large public proposals to secure the funds to construct the project after the NEPA phase is complete. In fact, to commit certain types of funds prior to issuing the ROD would violate federal law. Some types of federal funding commitments are considered "federal actions" and therefore cannot be made until after the ROD is issued.

Regarding phasing, the FEIS evaluates the full impacts of the entire project and evaluates how those impacts may differ if three elements were to be constructed at some later date. This is described on page 2-86 of the FEIS and the likely impacts are discussed in each section of Chapter 3 and in Chapter 5. As the FEIS notes (page 2-4), a wide range of possible cash flow scenarios and construction phasing scenarios are possible. Phasing a project can change the timing of impacts but does not generally make a significant difference in the character or magnitude of impacts. Prior to the ROD, it is not possible to know how much funding the project will receive or when it will receive it and therefore it is also not possible to know how it will be phased. Following the ROD, as commitments to funding are secured and the timing of funding becomes known, the effect of phasing or sequencing can be reviewed to determine if it would change the existing NEPA evaluation of environmental impacts and/or mitigation in a meaningful way. Any changes could be assessed through a NEPA re-evaluation, as appropriate, and a determination would be made at that time if any additional NEPA review would be needed.

This is consistent with NEPA and with Transportation Planning requirements. As described in an FHWA Guidance Memorandum[1], a major project that does not identify project phases in the ROD can decide at a later date to construct the major project in phases.

[1] This is from Question and Answer #28 of the 2/9/2011 Supplement to

the “January 28, 2008 Transportation Planning Requirements and their Relationship to NEPA Process Completion Distribution Memo”.

P-047-002

6. Oregon and Washington Treasurers' approvals for the authorization of toll-backed revenue bonds
7. Voter approval in the CTRAN district or a portion thereof of operating funds for light rail.

In order to construct the project as currently described by the Project Sponsors Council, all of these financial approvals must be made, and made at the full amount budgeted. If any of these sources of funds or approvals is not made, or if funding is provided at less than the budgeted amount or if funding or approval is delayed, there is no assurance that all of the component parts of the project will be constructed.

There are major risks that one or several of these assumptions are incorrect and that expected sources of funding will not materialize, and additional risks that they will not materialize in the amounts budgeted or on the schedule currently planned.

In addition, it now seems certain that the project will need to be broken into a series of separate phases. The timing and the ultimate scope of the Columbia River Crossing project will depend upon the amount of funds received for project construction. There is no assurance at this time that any given component of the project will be completed.

At the present time, it is highly likely that funding will not be available to construct the entire project as described. Acknowledging this fact, on July 20 of this year, Governor John Kitzhaber directed CRC to develop a “sequencing” plan for the project (Kitzhaber 2011):

> The Treasurer also identified potential replacement revenue strategies, which I appreciate and am willing to explore. But I believe that if we are going to get the CRC done, it is time to start planning for a project that adapts to the available resources and fits into today’s economic reality. To that end, I am going to ask the Oregon Department of Transportation and the CRC to prepare a sequencing plan that accommodates anticipated cash flow.
> (Kitzhaber 2011)

The need to sequence or phase the project to fit available funding is likely to result in major changes to the project's scope, timing and ultimate impacts. More than a year ago, the Independent Review Panel appointed by then-Governor Kulongoski and Governor Gregoire concluded that the project would need to be broken into phases because of the low likelihood of all of the projected funding materializing. The IRP recommended the project be broken into three phases each of 1 to $1.5 billion (Independent Review Panel 2010, page 186). The IRP is particularly significant because the Directors of the Oregon and Washington Department’s of Transportation both said that they accepted the report and agreed to implement its findings (Garrett and Hammond 2010). The IRP also recommended that phases be constructed to be independent and self-standing, so that the

P-047-002

project would be functional regardless of whether funding for subsequent phases was ever realized.

The IRP warned that there may not enough money to complete the whole project and that it ought to be designed so that it could be built in phases, and that if subsequent funding did not become available—which it specifically identified as a possibility—that the project would be functional.

> There is a possibility that despite best efforts to assemble funding, the Project Sponsors may encounter a significant shortfall in funding to complete all of CRC as currently envisioned. There is also a possibility that a number of current uncertainties in design and schedule will adversely affect the total cost of the project. Projects of this size and scope are often planned and developed assuming a phased construction effort. Phasing (as opposed to staging) refers to the completion of some major portion of a total project, with such completion having meaningful value, yet deferring subsequent construction till later, often uncertain, dates when additional funding can be obtained.
> Independent Review Panel 2010, Page 185

Because the project will be phased or sequenced, and that phasing plan has not even been presented, much less adopted, no one has any assurance as to what portion of the project will actually be built. Because the project consists of a diverse array of components, some of which increase traffic (new bridge lanes, new intersection capacity), and others which reduce or divert it (light rail transit, tolling), not knowing which phases will actually be built means that the FEIS fails to disclose what will be the net environmental, economic and social impacts of this project. This means the FEIS does not comply with the requirements of NEPA.

2. CRC traffic and toll revenue forecasts are inaccurate, meaning traffic and traffic related impacts are not accurately assessed.

P-047-003

Assessing the environmental, social and land use impacts of the Columbia River Crossing project depends on accurate estimates of future traffic levels. The FEIS purports to offer very detailed estimates of traffic flows across the I-5 bridge and related roadways, through the year 2030.

The traffic and toll revenue forecasts prepared for the Columbia River Crossing are not accurate. The original forecasts were prepared based on 2005 base year data, and were published in 2007, and incorporated in the May 2008, Draft Environmental Impact Statement. The language in the FEIS and DEIS is virtually identical in many cases. The Columbia River Crossing has not produced new forecasts of travel since that time.

P-047-003

This comment has four main elements, each addressed below.

“Actual traffic data show that CRC traffic projections are wrong.”

The methodology used for the CRC project is based on regional growth plans and uses the same models used for all transportation projects undertaken for the Portland-Vancouver region. CRC did not assume uniform growth of traffic from year to year. Estimating future traffic volumes requires a dynamic model with inputs on land use, socioeconomics, trip origins and destinations, and travel mode and route choice. The traffic forecasts used for the CRC project are based on the regional transportation forecasting model developed and operated by Metro and the Southwest Washington Regional Transportation Council (RTC). A multi-jurisdictional team, including all the local partners, has reviewed CRC traffic modeling forecasts. In addition, an independent review panel composed of national experts in the field of traffic modeling conducted an independent analysis in 2008 and validated the methods and results. The panel found that the travel demand model used for CRC is an advanced trip-based tool and that it was a valid tool for a project of this type.

See also the January 21, 2011 memorandum from ODOT Director Matt Garrett to members of the Oregon legislature.This memo responds to comments that Mr. Chris Gerard sent to members of the Oregon legislature in October 2010. Memo is located on CRC website at: http://www.columbiarivercrossing.org/FileLibrary/Memorandums/PlaidPantry_Response.pdf

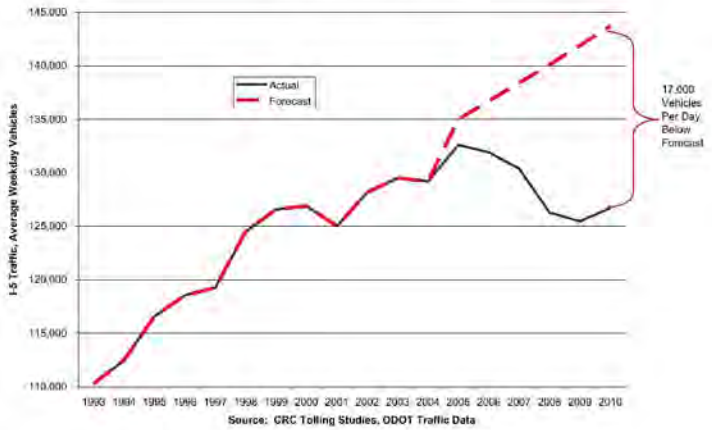
“Independent review confirmed flaws in CRC traffic forecasts”

The Oregon Treasurer contracted with two independent transportation specialists to review the traffic forecasts used for the EIS, from the

P-047-003

Actual traffic data show that CRC traffic projections are wrong. The CRC projections are that traffic on the I-5 bridges should have reached 143,700 vehicles per day in 2010. Actual traffic levels were 126,700 vehicles per day in 2010, 17,000 vehicles per day below the CRC forecast. These figures are based on our analysis of ODOT's data on traffic levels on I-5, through November 2010.

CRC Forecast v. Actual



In addition, the question is not merely whether traffic is increasing again now, but whether they will recover to the previous levels, and whether they will grow at anything close to the rate CRC projected in the DEIS. The evidence shows the growth rate is much slower than forecast, raising serious questions about the project's financial viability.

The Treasurer's independent review of the traffic forecasts confirmed the flaws in CRC traffic forecasts. In 2011, the Oregon State Treasurer retained Robert Bain of RB Consult to review the CRC finance plan and traffic projections. Bain concluded that:

- Traffic and revenue analyses prepare for the CRC were unsuitable for credit analysis
- CRC traffic projections were confusing and outdated
- Authors of the traffic projections failed to examine historical data or verify their models against actual trends

perspective of how they would be used for revenue forecasting. These independent reviews did not evaluate the suitability of the traffic forecasts for NEPA purposes. The RB Consult report includes the following statement regarding the intent of their review, "… the (CRC traffic forecast) reports to date have been prepared primarily to feed into an Environmental Impact Statement process. Others will be better placed to comment on their suitability in that particular context." [1] This statement clarifies that RB Consult did not review the traffic forecasting for its use in NEPA, nor did they consider themselves in a suitable position to provide such a review. Their comments to the Oregon Treasurer were in the context of revenue forecasting, and those comments were addressed by the project in the financial chapter of the FEIS (Chapter 4).

The other report: "Desktop Review of Traffic and Toll Revenue Forecasts" by C&M Associates, Inc. dated June 2011 provides additional perspective. C&M Associates' report explains the differences between the forecasting performed in support of the environmental process and the the future "investment grade" analysis. C&M states "the Desktop Review Team of C&M Associates, Inc. concurred with the statement of the Traffic and Revenue Study in that the purpose of the DEIS documents were to develop traffic forecasts for environmental assessment purposes." Also, C&M states "Based on peer reviews of the work to date and based on the initial review of the documents, the approach appears sound and reasonable for the purposes of the DEIS. The documents show a high level of scrutiny by peer review panels and a high level of coordination among project stakeholders during the DEIS process."[2] Another statement in the C&M Associates' report supports the adequacy of the approach used for the CRC project. The report states, "For the purposes of the DEIS, the generalized cost approach in the travel demand model with the post-processing utilizing VISSIM micro-simulation appears adequate for the forecast of traffic and revenues." [2]

P-047-003

- Diversion estimates to I-205 were "worrying."
- Overall, the CRC appears to have overestimated traffic.
- Toll revenue appears to be over-estimated by 25 percent.

(Bain 2011)

"Both ODOT and CRC consultants have concluded the models used to estimate CRC traffic do not produce valid, accurate estimates of traffic for tolled facilities."

This comment is based on a misunderstanding of the Tolling White Paper 3: Travel Demand Model Sufficiency. This white paper provided some useful suggestions, but it was developed to assess all of the transportation demand models currently used in the state of Oregon. This larger scale assessment provides comments about all models used throughout the state; not all statements are directed at Metro's model.

The white paper had several recommendations to improve modeling, some of which have already been implemented for the CRC project. The recommendations implemented include the CRC project team's use of Metro's Metroscope tool for assessing land use impacts and the VISSIM traffic simulation tool used for corridor analysis. In addition, the project conducted a stated preference survey to help assess the impact of imposing a toll on I-5. The fact that Metroscope and VISSIM have been used specifically for the CRC project and the data obtained from the stated preference survey addresses some of the alleged short-comings of the transportation demand model if it were used alone. This white paper also does not account for the detailed post-processing that was done by CRC. This step involves adjusting the raw transportation demand model outputs for the future to account for the imperfect match between model outputs and actual traffic volumes in the base year condition. This necessary and critical step helps increase the validity of corridor volumes. The post-processing procedures used for the CRC project are consistent with the National Cooperative Highway Research Program (NCHRP) Report 255 – Highway Traffic Data for Urbanized Area Project Planning and Design published by the National Academy of Science's Transportation Research Board.

P-047-003

Both ODOT and CRC consultants have concluded that the models used to estimate CRC traffic do not produce valid, accurate estimates of traffic for tolled facilities. In February 2009, the Oregon Department of Transportation received a report prepared by Parsons Brinckerhoff, David Evans and Associates Inc., and Stantec Consulting Services Inc. The authors of this report all happen to be contractors for the Columbia River Crossing project. The report is entitled *Tolling White Paper 3: Travel Demand Model Sufficiency*. This document is available on the Internet at the following address: http://www.oregon.gov/ODOT/TD/TP/docs/LRPU/twp3.pdf

ODOT's report finds that the current models used to forecast traffic in Oregon, and specifically in the Portland Metropolitan Area, including the Metro model, are inadequate to accurately predict traffic volumes on tolled facilities, such as the proposed Columbia River Crossing. Consider ODOT's summary of this report:

> Existing models in Oregon are rated as excellent for the purposes they were designed, and some are internationally recognized. However, Oregon models have not been specifically designed to evaluate toll projects, so **planners are not able to confidently forecast travel patterns for projects that are considering tolling/pricing. Existing models are not able to determine how travelers would change their mode, route, travel time, or destination in response to tolling/pricing.**
> Oregon Department of Transportation, Tolling and Travel Demand Model Sufficiency, Highlights of Tolling White Paper 3, March 2009, page 1, http://www.oregon.gov/ODOT/TD/TP/docs/LRPU/Highlight3.pdf#Tolling_White_Paper_3
> (Emphasis added)

As the ODOT study shows, the Oregon Department of Transportation and the principal contractors for the Columbia River Crossing concur that the traffic forecasting methods used by the CRC are not accurate or reliable. Accurate estimates of future traffic levels are central to assessing the need for this project, justifying its size, evaluating its environmental impacts, and most crucially, determining the viability of its financial plan.

The recession does not explain the decline in I-5 traffic, and in any case, CRC has not revised its traffic projections or impact analysis to reflect the much slower rate of growth. It has been claimed that the decline in traffic since 2005 is attributable to the economic recession which began in December 2007. The current staff report alludes to this same argument, claiming that the traffic projections and financial documents need to be "recalibrated to reflect stalled economic growth." (Staff report, PDF page 30). Robert Bain, the consultant to the Oregon State Treasurer conclusively disposed of this argument in his report:

> Traffic volumes using the I-5 Bridge have flattened-off over the last 15-20 years; well before the current recessionary period. This is highlighted by the red dotted

The Oregon Modeling Steering Committee (OMSC) provided a more detailed response to the Tolling White Paper 3, refuting a number of the details of the paper and its conclusions (http://www.oregon.gov/ODOT/TD/TP/docs/LRPU/Report.pdf).

"CRC has not revised its traffic projections to reflect the much slower rate of growth."

Traffic forecasts are not based simply on projecting recent trends, but on developing future forecasts of transportation use based on other variables including population and employment forecasts. Metro's transportation demand model relies on the adopted land use plans of the region's cities and counties including the areas identified for residential, commercial, and industrial development. The approach used to develop traffic volume forecasts for the EIS is summarized on page 3-27 of the FEIS and is detailed in the CRC Traffic Technical Report. In its July 27, 2010 report, the Independent Review Panel expressed concerns that too much focus on the 2030 planning horizon could lead to undersizing the bridge. The IRP commented "The desirability of living in the Portland/Vancouver region is not going to diminish, so populations will continue to grow…. [T]he IRP believes the greatest risk in the decision-making process is not over-sizing the bridges but not building enough capacity for the next 100 years." As noted in the FEIS (page 3-27), it is important to remember that a delay in meeting the 20 year traffic forecasts would have little meaningful effect on the design of a facility intended to serve long-term needs and to last for many decades.

[1] Bain, Robert. (2011). Columbia River Crossing Review of Traffic & Revenue Reports and Related Material, Summary Report, RBConsult Ltd., London, 4 July 2011.

[2] Vargas, Herbert. (2011) Columbia River Crossing Desktop Review of

P-047-003

trend line in the chart below which was estimated up to and including the year 2006 (i.e. it omits the recent 2007 – 2010 period characterised by fuel price hikes and economic recession). The clear inference is that the flattening-off is a long-term traffic trend; not simply a manifestation of recent circumstances. (Bain 2011, page 3)

And even though CRC financial plans now concede that DEIS projections are wrong, the traffic estimates in the FEIS—which form the basis of the claims about the project's environmental, social, traffic and economic impacts—have not been revised to reflect this new reality—they are essentially the same traffic figures given in the DEIS.

Most of the impact analysis in the FEIS is based, directly or indirectly, on comparisons of traffic levels between the no-build alternative and the proposed project, and these traffic level estimates are drawn from data that has been shown to be wrong, from models that are not even designed forecast traffic for tolled facilities like the CRC, and which have not been updated to reflect the acknowledged changes that have occurred since the DEIS was published. Consequently, the FEIS does not constitute a fair and reasonable analysis or disclosure of the environmental, social, and economic impacts of the CRC.

3. The FEIS fails to meet US DOT's own requirement that funding be reasonably available in the region's fiscally constrained transportation plan.

P-047-004

U.S. DOT policy requires that US DOT not approve a Final Environmental Impact Statement for any project for which reasonably available funding has not been identified in the region's approved fiscally constrained transportation plan. The US DOT's transportation planning requirements provide:

Table 2. Fiscal Constraint Requirement before Approving the NEPA Decision

Before a Final Environmental Decision (ROD, FONSI, CE) is approved in:	Fiscal Constraint must be demonstrated by:
Metropolitan Areas	• Entire Project is in the MTP • At least one subsequent phase of the Project is in the TIP (more if within TIP timeframe) • Full funding is reasonably available for the completion of the entire Project

Source: U.S. Department of Transportation, Office of Planning, Environment, and Realty, Supplement to January 28, 2008 "Transportation Planning Requirements and Their Relationship to NEPA Process Completion" February 9, 2011

Traffic and Revenue Forecasts, Final Report, C&M Associates, Inc., Dallas, June 30, 2011.

P-047-004

While US senators and members of congress, as well as federal agency officials, have expressed a variety of opinions regarding the potential for CRC to obtain different types and levels of federal funding, the current project finance plan identifies reasonably foreseeable funding sources for the completion of the project (chapter 4 of the FEIS). The CRC project is in the Metropolitan Transportation Plan (MTP), the Regional Transportation Plan (RTP) and the State Transportation Improvement Programs (STIP).

The current adopted State Transportation Improvement Programs (STIPs) for Oregon and Washington include funding for the I-5/Columbia River Crossing project. The Oregon STIP covers the years 2010 to 2013 and provides $83,854,000 from a variety of sources which is slated for preliminary engineering design. The Washington STIP covers the years 2011 to 2014 and provides a total of $52,001,000 for preliminary engineering design. The Washington STIP also includes $200,000 to fund preliminary engineering design of interim safety improvements on I-5 in the CRC project area.

The draft Oregon STIP for 2012 to 2015 is currently under development and will be adopted over the next few months. This document identifies $58,853,000 for the I-5/Columbia River Crossing project, all of which is earmarked for preliminary engineering. The Metropolitan Transportation Improvement Program (MTIP) for the Portland MPO also includes the same dollar amount for CRC and is designated for preliminary engineering.

The draft Washington STIP for 2012-2015 is currently under development and will be adopted over the next few months. This

P-047-004

Nearly all of the elements of the financial plan for the CRC are speculative or un-approved.

A cornerstone of the CRC finance plan is the claim that $400 million will be available from the federal government as a result of an earmark or other discretionary funding, over and above funding that would otherwise come to the region, because of the alleged special character of this project. (The latest version of the plan actually assumes a $500 earmark in some scenarios).

For years, CRC advocates have traded on the idea that the CRC is a special project that will get funding from "a special pot" that wouldn't otherwise be available to the region, and that it wouldn't compete for dollars that could go to other projects, like federal formula funds. For example, earlier this year, Matt Garrett, ODOT director said:

> "Federal highway funds are being sought from a category known as Projects of National Significance. Very few projects in the country and no other projects in the region can compete for these funds . . . . These sources are unique to the CRC project and do not affect other Oregon projects."

Notice in particular three things about Mr. Garrett's statements. First, the passive voice and indefinite form "funds will be sought." Second, Mr. Garrett is silent on what would happen if these discretionary funds either aren't available, or fall short of the amounts being "sought." And third, Mr. Garrett in no way rules out seeking funding for CRC from other sources.

The just released FEIS Financial Plan, however, opens the door to using funding the CRC using federal formula allocations that are available for a wide range of projects in the region and the state. The financial plan tries to downplay the likelihood that these funds will be used.

"Federal Revenue and Financing Options"

Federal Formula Funds

ODOT, WSDOT, C-TRAN, TriMet, Portland's Metro Regional Government (Metro), and the Southwest Washington Regional Transportation Council (RTC) receive transportation funding from a variety of federal formula grant programs. In an urban area, the metropolitan planning organizations (MPOs) program these funds to specific eligible uses. In the Portland-Vancouver region, this is accomplished through Metro's or RTC's Metropolitan Transportation Improvement Program (MTIP) processes. State and federal funds are also programmed in ODOT's and WSDOT's State Transportation Improvement Programs (STIPs). While federal formula funds potentially could be used for the CRC project, many of these funds are currently programmed for other uses, and the finance plan for the CRC

document identifies $38,548,000 for the I-5/Columbia River Crossing project, which is designated for right-of-way acquisition. The MTIP for the Vancouver MPO, which was adopted on October 4, 2011 by the Regional Transportation Council's Board of Directors acting as the MPO, includes the same project and dollar amount as the draft STIP.

P-047-004

project does not anticipate reprogramming of these funds.
(Final Environmental Impact Statement, Finance Plan, Section 4.3.1, page 4-7)

It is clear from this wording that there is no definitive determination of whether any funds are actually available or committed for the CRC. The wording of the FEIS Financial Plan makes it clear that everything about the plan is effectively hypothetical, and will change later.

> As stated earlier, the financial plan scenarios discussed above are illustrative of the financial tradeoffs between the alternatives. The finance plan will be refined during final design, and the final plan may differ from the scenarios discussed above.
> (Final Environmental Impact Statement, Financial Plan, page 4-18)

The current illustrative financial plan scenarios are valid if, and only if, the CRC could obtain a $400 million to $500 million earmark or discretionary allocation. That was always at best just a speculation. Recent developments in Washington DC make it clear that it is a virtual impossibility.

ODOT Director Matt Garrett conceded there was currently no evidence that there would be any such funding available as part of the transportation reauthorization process:

> We thought there might be a specific project of national significance. At least with the language we have right now, the discretionary money is not really clear where that's going to present itself.
> Matt Garret, Metro LUFO Hearing August 11, 2011

More recently, Peter DeFazio, a key legislator, whose support is vital to any federal funding, has repeatedly expressed his dismay about the size and cost of the CRC. On August 7, DeFazio told the Associated Press that the outlook for funding for the Columbia River Crossing is now "very, very, very, very grim." (Fought and Cooper 2011).

In the Oregonian on August 14, DeFazio said:

> "I kept on telling the project to keep the costs down, don't build a gold-plated project," a clearly frustrated DeFazio said. "How can you have a $4 billion project? They let the engineers loose, told them to solve all the region's infrastructure problems in one fell swoop... They need to get it all straight and come up with a viable project, a viable financing plan that can withstand a vigorous review."
> (Manning, Jeff. "Columbia River Crossing could be a casualty of the federal budget crunch", The Oregonian, August 14, 2011).

P-047-004

Later, DeFazio told Oregon Public Broadcasting:

> "I said, how can it cost three or four billion bucks to go across the Columbia River? . . . Now with the proposed Republican cuts in transportation . . . they want to cut this [transportation spending] by 35 percent, that means minimally we lose 600,000 to a million jobs and projects like this don't go forward. . . . Right now it's very problematic. . . . The Columbia River Crossing problem was thrown out to engineers, it wasn't overseen: they said solve all the problems in this twelve-mile corridor and they did it in a big engineering way, and not in an appropriate way.
> "Think Out Loud," Oregon Public Broadcasting, August 18, 2011.

Federal transportation funding faces major cutbacks. There are no earmarks or projects of national significance. As a result, CRC's funding strategy is tantamount to "bait and switch": advocates tell everyone that the federal money for the CRC will come from a "special pot" of earmarks that won't compete with other local projects, and but it should be increasingly clear that when this doesn't materialize, they will seek funding from all of the other sources of funds listed in the FEIS.

When they do, this will reduce the amount of money available for other projects in the region. Because the CRC is such a large project with a high risk of cost overruns, and because it faces revenue shortfalls from other funding sources, it would likely be a drain on the region's transportation financing capacity the next decade. Indeed, the recently released project schedule—which does not include phasing—extends the construction period to 2023. No one in the region has identified, approved, or committed funds for the construction of the CRC. Therefore, to move forward with this project would be a violation of US DOT's own policy requiring that the reasonable availability of funds for a project in a fiscally constrained plan be in place prior to approving the FEIS.

4. Historical data show that traffic levels on I-5 are declining, and prove that FEIS traffic estimates are inaccurate

P-047-005

The levels of traffic crossing the I-5 and I-205 bridges are the central issue raised by this FEIS. The need for the project is predicated on the claim that traffic levels are steadily increasing, and that additional capacity is needed. The Environmental Impact Statement's claims hinge on a comparison of predicted future traffic levels with, and without the bridge.

P-047-005

There are six needs behind the proposed CRC project. Highway congestion, which is already substantial in this section of I-5 and is projected to grow worse as the region's population increases, is among those needs, as described in Chapter 1 of the FEIS.

The traffic volume cited in the FEIS (134,000) was from a specific count conducted in October 2005 when all ramps and the mainline volumes were obtained simultaneously. The October 2005 day, which needed to be selected in advance for the major traffic counting effort, was within one percent of the average weekday traffic volume for the entire year. Average weekday volumes for August 2005 exceeded 140,000. Traffic volumes do fluctuate and decreased between 2006 and 2009. Traffic volumes obtained from the Oregon Department of Transportation's automatic traffic recorder (ATR) monitoring sites show that traffic volumes have been increasing in since 2009. The most recent data available from ODOT's ATR sites on I-5 indicate that the AWDT for 2010 is 1.12% above the 2009 volumes. For the first six months of 2011, the ODOT data showed a 1.00% increase over 2010. During the peak hours of travel, the return to higher volumes has been even more pronounced. For example, in the northbound direction on I-5, between 3:00 pm and 7:00 pm, volumes increased by 8.6% between 2008 and 2009 and another 8.6% between 2009 and 2010. These data are from Portland State University's Portal data, the official transportation archive for the Portland-Vancouver metropolitan region, data set for MP 307.9 (the Interstate Bridge).

It's also important to put the relationship between the 2030 forecasts and the project design into perspective. Whether the population and traffic forecasts are met by 2030 or 2035 makes no meaningful difference to the design of a facility intended to last for many decades and to serve long-term needs.

P-047-005

Even though traffic is at the heart of the need for this project, and is central to evaluating and disclosing its environmental impacts, the FEIS contains a paucity of actual data on traffic levels. The baseline traffic levels reported in the FEIS are purported to represent 2005 "base year" conditions.

The FEIS contains no actual data on current traffic levels over the I-5 bridges. The most recent data are from 2005.

According to the FEIS, the levels of reported traffic in 2005 was 134,000 vehicles per day. That figure is, in fact, not accurate. According to ODOT's published data, traffic in 2005 was 132,600 vehicles per day. If the FEIS does not even contain correct data about so-called "base year" traffic six years ago, how can anyone put any faith in the project's projections of traffic levels two decades hence?

We are a significant way (more than 20 percent) through the forecast period, and the FEIS contains no information that would enable one to validate the estimates contained in traffic projections. Actual data on traffic levels over the I-5 and I-205 bridges between 2005 and 2011 are omitted from the FEIS. The FEIS actually contains no historical time series data on traffic levels.

The CRC predicts sustained rapid growth in the no-build scenario, but has done nothing to validate its predictions, even though we have six years of actual experience since the base year of their projections. The base year for the forecasts of future traffic for the Columbia River Crossing is 2005, with a stated level of 134,000 vehicles per day. The CRC forecasts that traffic in the no-build scenario on the I-5 bridges will be 184,000 vehicles per day in 2030.

We now have nearly six years of experience—more 20 percent of the planning period--since the base year of the CRC traffic forecasts. CRC has done nothing to test whether their estimates have been borne out by actual experience.

The Oregon and Washington Departments of Transportation collect data that track the average level of traffic volumes on I-5 across the Columbia River. These data are reported by the Southwest Washington Regional Transportation Council. Data are from the council website: http://www.rtc.wa.gov/data/traffic/brdgawd.asp "Columbia River Bridges." The following table shows average annual traffic over the I-5 Columbia River Bridges for the past 15 years. It also displays the annual growth rate of traffic each year, compared to the preceding year, and the average annual growth rate for three five-year periods.

P-047-005

Average Daily Traffic, I-5 Bridges,

Year	Average Daily Traffic	Annual Growth Rate
1994	112,988	
1995	116,589	3.2%
1996	118,558	1.7%
1997	120,644	1.8%
1998	124,516	3.2%
1999	126,589	1.7%
2000	126,903	0.2%
2001	125,652	-1.0%
2002	128,162	2.0%
2003	129,657	1.2%
2004	130,279	0.5%
2005	132,603	1.8%
2006	131,916	-0.5%
2007	130,389	-1.2%
2008	126,278	-3.2%
2009	125,436	-0.7%
Annual Average Growth (Five-year Periods)		
1994-1999		2.3%
1999-2004		0.6%
2004-2009		-0.8%

This data shows several key trends. First, for the past four years, average traffic levels on the I-5 bridges have been declining, not increasing. Second, the growth rate in traffic on the I-5 bridges has been decelerating for the entire period shown in this table. Growth rates averaged 2.3 percent per year during the late 1990s, only 0.6 percent per year in the next five-year period through 2004, and traffic decreased at an average rate of 0.8 percent per year for the past five years. Third, the slowdown in traffic growth rates and the annual decline in traffic clearly preceded the recession that began in December 2007.

It is apparent that the baseline forecast for growth of I-5 traffic included in the Final Environmental Impact Statement assumed a very dramatic acceleration in traffic growth from historical trends. To grow from a 2005 level estimated at 134,000 to a projected 2030 level of 184,000 in the FEIS base case, I-5 traffic would need to increase 1.3 percent per year over the 25-year period, 2005 to 2030. That would require more than doubling the rate of growth actually observed in the 1999-2004 period (0.6 percent). And as illustrated above, the historical data show that the rate of traffic increase has been decelerating (and now declining) and not increasing, as forecast in the FEIS. The FEIS and the traffic projections offer no explanation as to why the rate of increase of traffic should more than double from this long term trend.

P-047-005

Figure 1 shows the actual level of traffic reported by the Regional Planning Council (from the table above), and the forecast level of traffic growth required to achieve the 2030 projection of 184,000 vehicles per day. The actual level of traffic recorded in 2009 was roughly 14,000 vehicles less than the more than 140,000 vehicles per day implied by the CRC traffic forecasts. Whereas the CRC forecast implied that traffic over the I-5 bridges (in the no build scenario) would increase by almost 7,000 vehicles per day; in reality, the number of vehicles crossing the bridge declined by 7,000.

Figure 1: I-5 Bridge Traffic: Actual v. Predicted

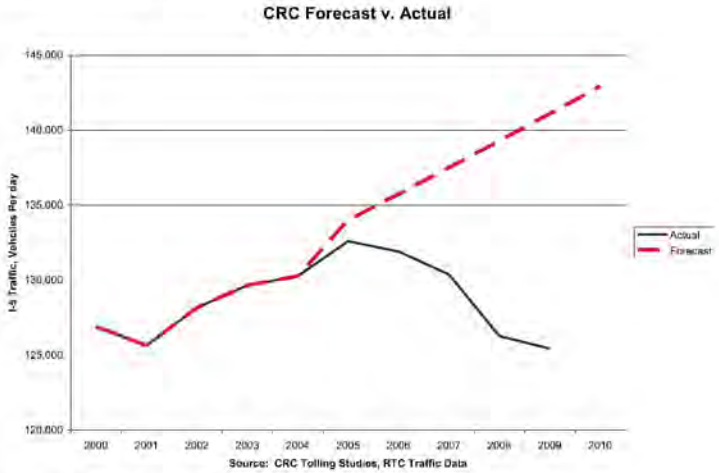
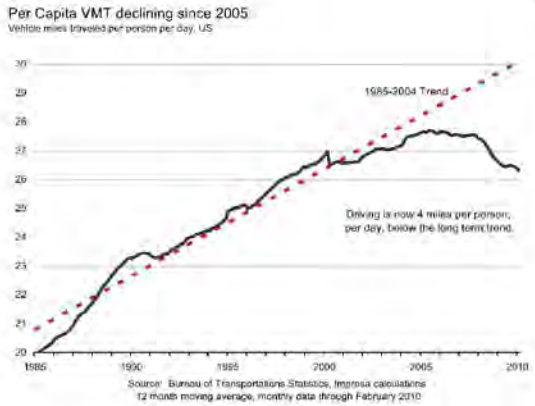


Figure 2: National Trends in Vehicle Miles Traveled

P-047-005



As Figure 2 makes clear, travel demand estimates based on pre-2005 trends are very likely to overestimate travel demand growth. Following the big increase in gas prices after 2004, American citizens began driving less. That trend has persisted over the past five years.

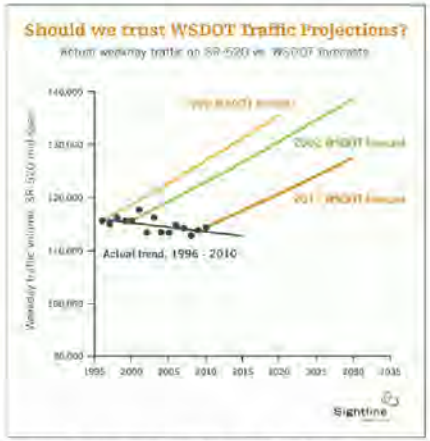
It might be argued that the past four years of declining traffic are a temporary aberration, and that in the longer term, forecast growth will make up for these declines. This is unlikely to be true for three reasons. First, as noted above, the trend has been for a decelerating rate of growth over the past 15 years. Second, as discussed below, changes in gas prices and consumer behavior that are very long term in nature are behind the decline in CRC traffic. And third, the departure from forecast experienced so far means it is likely impossible to make up the shortfall over the remaining time in the forecast period. In order to reach the expected No-Build 2030 traffic volumes of 184,000 from the actual 2009 level of traffic, traffic would have to increase by 1.85 percent per year for each of the next 20 years. That is a growth rate about forty percent faster than the 1.30 percent forecast in the DEIS, and two and a half times faster than the 0.7 percent growth rate actually observed over the fifteen year period 1994 to 2009. The CRC project materials provide no basis for believing such a dramatic increase in driving will occur.

The tendency to overestimate future traffic levels in mature travel corridors is also apparently an endemic problem with the current methodology used to predict future transportation demand. After a careful review of the literature, the Government Accountability Office found:

P-047-005

> . . . current travel demand models tend to predict unreasonably bad conditions in the absence of a proposed highway or transit investment. Travel forecasting, as previously discussed, does not contend well with land-use changes or effects on nearby roads or other transportation alternatives that result from transportation improvements or growing congestion. Before conditions get as bad as they are forecasted, people make other changes, such as residence or employment changes to avoid the excessive travel costs.
> (Government Accountability Office, 2005)

This pattern—of overestimating future growth is a regular and repeated characteristic of the models used by the sponsoring agencies. For example, consider the Washington Department of Transportation's models of traffic levels on the 520 Floating Bridge in the Seattle area. They invariably predict increasing levels of traffic—which are not realized in practice. In fact, rather than increasing, traffic levels have generally declined.



Source: Williams-Derry, 2011 "WSDOT vs. Reality" www.sightline.com

The weakness of transportation models in accurately predicting future traffic levels is a continuing problem. So it is not merely the CRC traffic projection model that is problematic; rather the entire class of four-step (trip generation, assignment, mode, routing models) have proved inaccurate in practice. After an exhaustive review of the state of the art, the Transportation Research Board of the National Academies wrote:

P-047-005

> "In 2005, as has been true for the past four decades, these models could not provide accurate information to inform decision making on many transportation and land use policies or traffic operation projects."
> (Committee for Determination of the State of the Practice in Metropolitan Area Travel Forecasting, 2007)

While technology has allowed for faster computation, and more detailed mapping, they conclude:

> "The practice of metropolitan travel forecasting has been resistant to fundamental change. Every 10 years or so there begins a cycle of research, innovation, resolve to put innovation into practice, and eventual failure to affect any appreciable change in how travel forecasting is practiced."
> (Committee for Determination of the State of the Practice in Metropolitan Area Travel Forecasting, 2007) pages 123-124.

This FEIS document is predicated on the belief that models and their results somehow trump reality. Traffic levels across the I-5 bridges have never been as high as asserted in the base case (2005) modeling for the FEIS. And they are not increasing, nor increasing at a rate more than double any time during the past twenty years, they are in fact declining. There are serious reasons to doubt the reliability of these models, especially given the dramatic changes in gas prices, and observable, non-transitory changes in travel behavior. It is especially egregious that the FEIS omits any presentation of actual trend data on traffic levels, and instead relies entirely on its own unverified models. As a result, the FEIS is not a factual or scientific document: it is a fairy-tale. Such a document cannot possibly be construed to comply with the requirements of the National Environmental Policy Act.

5. An "Investment-grade traffic forecast" would show substantially different traffic and pollution effects

P-047-006

CRC has not prepared an investment-grade forecast. Investment grade forecasts use more realistic assumptions about travel behavior on tolled facilities. While in public statements, CRC officials have claimed that the investment grade forecast is a mere "refinement" of the forecasts contained in the FEIS, that is untrue. The investment grade forecasts show that traffic may be much more sensitive to tolls that allowed for in the FEIS models. For example, the Investment Grade Forecast prepared for the Washington State Department of Transportation showed that traffic levels on the 520 Floating Bridge would fall by almost half when tolls were introduced, because drivers would shift to the parallel and un-tolled I-90 bridge. (Wilbur Smith & Associates, Wilbur Smith Associates, "SR 520 Bridge Investment Grade Traffic and Revenue Study," Washington

P-047-006

There are a variety of modeling and forecasting tools and each has its particular uses, functions and limitations. The federal, state and local CRC partners fully recognize that an "investment grade" traffic forecast will need to be made at the appropriate time, for a particular purpose.

Investment grade forecasting has a particular purpose – primarily to manage financial risk associated with repayment of bonds through toll revenues. This differs from the travel demand forecasting that is done for the purposes of planning and designing a facility. This latter type of modeling is intended primarily to understand how the alternatives would be likely to affect transportation system operations and related environmental impacts. It is used to help determine the size and character of the project, and to understand its impacts. Neither type of modeling can be said to be more accurate than the other. Each type has its own primary purpose and function. See the response to Mr. Cortright's previous comment regarding independent review of the traffic forecasts. That response includes an explanation of the difference in purpose of investment grade forecasting versus NEPA forecasting, as quoted from the C&M report.

P-047-006

State Department of Transportation, August 29, 2011, http://www.wsdot.wa.gov/NR/rdonlyres/A3B026EC-C9AF-4B43-BA31-4CB30FFD2CEB/0/SR520InvestmentGradeStudy.pdf.)

The situation is nearly identical for the Columbia River Crossing. While the I-5 bridge is proposed to be tolled, the parallel I-205 bridge is not. Consequently, more traffic may be diverted from I-5 to I-205, producing much higher levels of congestion than estimated in the FEIS. The failure to accurately estimate traffic effects means that the FEIS does not comply with NEPA because it doesn't reveal what the actual patterns of traffic will be under the LPA. CRC should be required to disclose the actual patterns of traffic than can be expected by undertaking an "investment grade" analysis prior as part of the NEPA review.

6. Metroscope estimates of induced demand effects are implausible and contradict FEIS travel estimates

P-047-007

The FEIS relies for validation of its minimal impacts on land use on the Metro "Metroscope" model. The results of the Metroscope model are not plausible, and are not consistent with the literature on induced demand. The Metroscope forecast predicts that the existing 6 travel lanes on the I-5 bridge would accommodate 18,067 trips in the afternoon peak in 2030 under the No-Build alternative. In contrast, the LPA is predicted without tolls--with 10 lanes of traffic—is predicted would accommodate just 18,643 trips in the two hours of the afternoon peak in 2030. There is no reasonable basis for estimating that a 66% increase in capacity (3 lanes to 5 lanes) would produce only a 3% increase in traffic over the next decade compared to the no-build.

The Metroscope model is based in part on the Metro transportation forecasting model, which the Oregon Department of Transportation and CRC consultants have determined are not capable of accurately predicting traffic on tolled facilities.

In addition, there is no evidence that the Metroscope models are consistent with, or support the traffic forecasts contained in the FEIS. The FEIS claims that automobile traffic during the PM peak hour would be 33% higher under the LPA than under the No-build (FEIS, Summary, Exhibit 18). The Metroscope model claims that automobile traffic during the PM peak hour would be 10% lower under the LPA than under the No-Build (Metroscope, Figure 3.3-1 2030 PM 2-Hour Travel Time Histograms by Alternative, page 25). Far from confirming the findings of the FEIS, the Metroscope model contradicts them. With plainly contradictory evidence that is unexplained by the FEIS, no one can reasonably assume that the FEIS accurately characterizes the environmental impacts of the LPA.

P-047-007

Metroscope's principal use for the EIS was to test the indirect or induced land use effects of the CRC project, including its added highway capacity, light rail transit, and tolling. Metroscope provides an estimated projection of how the project might indirectly affect land use (household and job location) over time. The results of various model runs are intended to be assessed against each other.

While Metroscope modeling is used to test the potential indirect land use effects from the project, it is not used to predict the project's direct effects on traffic operations, ridership or other performance metrics. Both tools start with the results of Metro's regional travel demand model but then take different steps in order to address the particular analytical questions that each is intended to answer. As a result of these different steps, the results of the volumes reported from the VISSIM model will never exactly match those of the regional travel demand model. However, the FEIS traffic demands illustrate similar patterns to the Metroscope traffic demands when comparing the No-Build and Build-with-Tolls scenarios. As for comparing the volumes shown in the FEIS, Summary, Exhibit 18 (traffic throughput) and volumes shown in Metroscope Figure 3-1.1 (traffic demand) this is an apples-to-oranges comparison. As stated on Page 3-9 of the FEIS the terms traffic demand and traffic throughput have different meanings. Traffic demand refers to the total number of motorists attempting to access the transportation system, including those caught in congestion. Traffic throughput is the total number of motorists actually able to travel through the transportation facility. When traffic demand exceeds traffic throughput, congestion occurs and some motorists are forced to take alternative routes or experience delays.

See also the response to comment P-047-010 below.

7. Projections grossly over-estimate base case traffic, and under-estimate induced demand, thereby biasing estimates and concealing the project's true environment impacts.

P-047-008

It is evident that the FEIS creates a fictitiously high level of predicted no-build traffic for two reasons. First, this creates a justification for the project. Second, it enables the project to claim that the traffic volumes created by the LPA will be less than the artificially inflated "no-build" scenario, and will therefore have fewer impacts.

8. Models fail to adjust for changing gasoline prices and dramatic shift in traffic trends.

P-047-009

The modeling for the CRC is based on 1994 vintage regional transportation surveys, and implicitly assumes that gasoline prices will be low and stable. It does not reflect the tripling of gasoline prices in the past decade or their effects on travel behavior, mode choice, and land use development patterns.

CRC traffic forecasts appear to be badly out of date, and there is no evidence that they have been adjusted to deal with current gasoline prices or development trends. The CRC traffic forecasts are poorly documented, and don't indicate what baseline data were used, what assumptions were made, and what error and uncertainty factors are associated with these estimates. It appears from the documents included in the Draft Environmental Impact Statement that traffic projections were made in 2007, based on 2005 data. The key measures of traffic activity (184,000 crossings of the I-5 bridge in the no-build, and 178,000 in the build alternatives), have remained essentially unchanged for several years. (See for example, Draft Environmental Impact Statement, Summary, Exhibit 26 Summary of Transportation Effects and Cost for Each Alternative, Page S-30). The forecast documents, including those released in 2010, use the same numbers (184,000 in the no-build, and 181,000 for the LPA) as the project has publicly quoted since the DEIS was released in 2008. The forecast documents refer to the "current year" for traffic purposes as "2005." The modeling was based on Metro's transportation model (Columbia River Crossing, 2010f). The Metro model was calibrated based on behavioral data collected in 1994 and assumes that real gasoline prices would not increase at all, i.e. that gasoline prices increase no faster than the rate of inflation (Higgins, 2008).

P-047-008

Mr. Cortright's assertion that the No-Build Alternative's traffic forecasts are overestimated and that the effect of induced demand are underestimated is addressed in responses to his other comments, above and below.

P-047-009

Metro's regional travel demand model uses the total auto operating cost (on a per-mile basis) of a vehicle as an input into the model's forecast of travel demand and resulting roadway volumes. The total auto operating cost of a motor vehicle is based upon an annual calculation made by AAA. The total operating costs include gas, oil, maintenance and tires. For future year forecasts (i.e., 2030), the model assumes that this auto operating cost per mile will rise with inflation.

Fuel costs within the Metro travel demand model are considered as part of the auto operating cost, which consists of gasoline and oil, tire, and general vehicle maintenance costs on a per mile basis. In reviewing historical data, the cost to operate a vehicle has increased almost exactly the same as the inflation rates for nearly two decades, even during times of fluctuating fuel prices. This is partly a result of consumers' responses, both in the short term and longer term. Travelers reaction options to rapidly changing fuel prices are somewhat limited in the short term, but over the long term many consumers tend shift to more fuel efficient vehicles. Changing technologies and policy actions are expected to further improve fuel efficiencies.

The Travel Demand Review Panel, which conducted its review in late 2008, assessed the project's approach with regard to vehicle operating costs. One of the specific questions asked of the Panel was "Are fuel price and vehicle operating cost assumptions used in the model reasonable?" The Panel's response was unambiguous. It states "The Panel concluded that the vehicle operating cost assumptions, of which

P-047-009

There is clear evidence that the persistently much higher level of gas prices since 2005 has produced a sea change in consumer behavior. Nationally, per capita driving has been in decline since 2004, and is now at 1999 levels.

Consumers are not only driving less, but are scrapping cars faster than they are buying new ones. Nationally, the number of vehicles in operation declined by four million in 2009 (Brown, 2010). In Oregon, vehicle registrations have declined by 30,000 compared to the previous year (Har, 2010).

The rise in gasoline prices and a growing interest in alternatives to car-dependent living has triggered a shift in housing markets within metropolitan areas. The biggest price decreases in housing and the highest foreclosure and default rates have been recorded in outlying suburban locations (Cortright, 2008).

The CRC's transportation model is based on observations made in 2005, and assumes the consumers will continue to behave as they did in 1994 (when gasoline cost $1.10 gallon). As a result CRC predicts the rate of increase of vehicle travel will be double that of the previous decade. This is highly suspect in a world where gasoline prices have more than doubled, where driving is in decline, and consumer behavior patterns are obviously changing.

A wealth of evidence shows that car ownership is declining, the number of young drivers is declining, that vehicle miles traveled are declining, and that gasoline sales are declining, both nationally and in Oregon and Washington. The FEIS contains no analysis of these trends. See for example articles by Williams-Derry, 2011.

9. FEIS claims about induced demand are incorrect and the FEIS summary of induced demand literature distorts the professional consensus.

P-047-010

The FEIS misrepresents the academic literature on induced demand and distorts the findings of its own literature review.

The FEIS report on Indirect Effects (Appendix A, page A-1) reports that the predecessor of the CRC commissioned Parsons Brinckerhoff to conduct a literature review of 75 studies of the effect of transportation facilities on demand. While the text of the report purports to summarize the findings of the report, the FEIS neither includes quotations from the actual report or the report itself. I obtained a copy of the report. Among its conclusions:

> 1.5. Households reinvest travel time savings in longer trips and more travel.

fuel costs are a component, used in the model for the primary travel demand forecasts were reasonable. The Panel confirmed that vehicle operating costs (which consists of gasoline and oil, tire, and general maintenance costs on a per mile basis) is the appropriate measure to use as it reflects the long-term relationship between fuel price and vehicle fleet fuel efficiency. In the Panel's opinion there was an adequate stratification of fuel cost, other costs and buildup of auto operating costs in the modeling process."[1]

Recent traffic count data fluctuations are discussed in other responses to Mr. Cortright's letter.

[1] Outwater, Maren. (2008) Columbia River Crossing Travel Demand Model Review Panel Report, Travel Demand Model Review Panel, Vancouver, November 25, 2008

P-047-010

The citations from the academic literature noted in the Mr. Cortright's comment do not contradict the literature referenced in the CRC FEIS. The main difference between the citations is that Mr. Cortright did not include the more detailed findings about induced demand from the academic literature as discussed in the FEIS. While some reports noted that increased highway capacity tends to have an effect on induced growth, the literature provides much more information on the specific variables that are associated with induced growth. These variables are important in evaluating the potential induced growth effects of any specific proposal, including the proposed CRC project. They are discussed in the Final EIS (pages 3-116 through 3-119) and further detailed in the CRC Indirect Effects Technical Report.

P-047-010

> Household location choice is influenced by many factors including: housing costs, access to jobs, access to goods and services, type of community, amenities/quality of life, public services/schools and property tax rates. The more numerous non-work trips for personal, family, civic, education, and recreation, may prove to be equally as significant as the work trip in housing location choice, especially for multiple worker households. Evidence suggests that households do not locate so as to minimize their travel distance from work; rather, they tend to keep their overall travel time within a certain amount, Despite differences in travel conditions and opportunities across US cities over the past 20-year, people spend the same amount of time per day, on average, in travel. The stability in commuting travel times suggests that transport accessibility improvements will allow households to locate further away from jobs, and that that any travel time savings may be used for more travel. (In the Vancouver-Portland region it may lead to household locations in outlying cities, rather than in the "rural sprawl" that typifies most other metropolitan areas.) The development shift to the suburbs in the past few decades initially reduced commute travel times as housing and jobs co-located along previously uncongested freeways. However, the increased traffic congestion of suburban areas has led to larger increases of late in suburban commute times.
>
> Parsons Brinckerhoff, Land Use-Transportation Literature Review For the I-5 Trade Corridor Regional Land Use Committee, September 17, 2001, page 12

The latest literature on induced demand—which is not addressed in the FEIS or DEIS—takes the very strong view that additional transportation capacity directly induces additional travel. One paper published by the National Bureau of Economic Research, elevates the proposition to a "fundamental law"—finding that for interstate highways in metropolitan areas distances traveled increase one for one with interstate highway lane miles. (Duranton & Turner, The Fundamental Law of Road Congestion: Evidence from US Cities, National Bureau of Economic Research, 2009, No. 15376).

Moreover, the FEIS too narrowly defines induced demand to be demand resulting from changes in land use patterns due to changes in accessibility. This is only one of several sources of induced, or generated demand. Additional transportation system capacity can cause more and longer trips even without changes in land use patterns. See for example Litman:

> Traffic congestion tends to maintain equilibrium. Congestion reaches a point at which it constrains further growth in peak-period trips. If road capacity increases, the number of peak-period trips also increases until congestion again limits further traffic growth. The additional travel is called "generated traffic." Generated traffic consists of diverted traffic (trips shifted in time, route and destination), and induced vehicle travel (shifts from other modes, longer trips and

P-047-010

new vehicle trips). Research indicates that generated traffic often fills a significant portion of capacity added to congested urban road.
Litman, Todd, Generated Traffic and Induced Travel, Implications for Transport Planning, Victoria Transport Policy Institute, 8 June 2011,

10. The results of regional travel demand models were manually adjusted by CRC advocates to shift additional traffic to I-5.

P-047-011

The models used to predict traffic are purported in the FEIS to be robust, verifiable, and scientific. But in fact, the Metro travel model is a black box, with the key factors driving predicted outcomes not accessible to outside scrutiny. In addition, the CRC officials concede having manually adjusted the outputs of the model to produce different results.

While the CRC traffic forecasts based their initial estimates on the regional transportation model, they adjusted these estimates to shift some forecast traffic from I-205 to I-5. The authors of the study labeled this manual adjustment "post-processing"—but it simply means that they used their own judgment to select higher values for I-5 than those produced by the regional transportation model. The reasonableness of this adjustment is debatable. The CRC claims that an analysis of 2005 actual traffic data shows that actual traffic on I-5 was underestimated, relative to I-205 by the regional model. The authors made no apparent attempt to see if their adjustment was supported by data in any subsequent year. But each year after 2005, traffic volumes have been proportionately higher on I-205 than I-5, undercutting the stated basis for this "post-processing" adjustment.

According to the report, the effect of the "post-processing" adjustment was to increase traffic volumes assigned to the I-5 bridges by 6 percent over the levels predicted by the regional transportation model without this modification.

The report concedes:

> However, the post processing methodology forecasts less traffic diversion from I-5 to I-205; forecasted 2030 average weekday volumes on the I-5 Bridge are about 6 percent higher with the post-processing methodology than with the regional travel demand models.
> (Columbia River Crossing, 2010b).

P-047-011

"Post processing" is the technique used to improve the results of future traffic volume forecasts by adjusting for the differences in traffic volumes between the observed base year traffic volumes and the travel demand model. Post processing is a comprehensive, systematic approach to account for the fact that the results of a traffic forecasting model, which may be highly accurate on a regional basis, may not be accurate for individual facilities, ramps, or intersections. The procedures used for the CRC project are consistent with the National Cooperative Highway Research Program (NCHRP) Report 255 – Highway Traffic Data for Urbanized Area Project Planning and Design published by the National Academy of Science's Transportation Research Board.

In its report to the Oregon State Treasury, C&M Associates commented on the traffic forecasting process. Its report states "Traffic and revenue were forecasted for a range of options considering the Metro model and a post-processing method utilizing the results of the VISSIM model that considered operational constraints." C&M Associates also explained "All the (sic) three models, the regional Metro model, the VISUM model and the VISSIM microsimulation model were validated." It should be clear that this independent, outside expert found the methods to be appropriate and that accepted techniques were used.

P-047-011

The effect of this adjustment is to understate the amount of diversion that will occur to I-205, even with the relatively high value of time estimates used in the travel demand model.

Despite its technical sounding name "post-processing" really represents a judgment on the part of the CRC to disregard the outputs of the Metro travel demand model, and to manually choose the values for traffic.

11. CRC has failed to disclose visual impacts.

P-047-012

The Columbia River Crossing will have an enormous impact on the views from downtown Vancouver and on Hayden Island. The project will cross the river approximately 70 to 80 feet in the air, and touch down up to a quarter mile away. Almost nothing in the Final Environmental Impact Statement reveals how this massive structure will affect the views and light of human beings standing on the ground anywhere near the structure.

The project's visual impact technical report contains only a handful of computer simulated images of the bridge. Nearly all of them are taken from distant points floating in the air (where no human being will ever actually perceive the structure). For example, Figure 4-8 shows the bridge from a point somewhere along Hayden Island riverfront, several hundred feet east of the bridge, using a "wide angle" perspective that diminishes the perceived height of the structure. Figure 4-12 shows the bridge from a point hovering several hundred feet above downtown Vancouver. Figure 4-13 shows a portion of the structure relatively close up, but again, from the perspective of someone floating somewhere in the air, and not on the ground. Figure 4-13 also depicts the now discarded open-web design, rather than the truss currently proposed.

The decision to present such a limited and artificial set of perspectives represents a conscious attempt on the part of the sponsoring agencies to conceal the project's visual impacts. It is a decades-old gambit: Robert Moses used the same scheme to try to sell a proposed Brooklyn-Battery Bridge in the 1930s. He concealed the fact that the bridge would have obliterated views from the ground (and the lower ten stories of buildings) in Lower Manhattan, by showing the bridge as it might be viewed, in the words of Robert Caro "by a high flying and myopic pigeon." (Caro, Robert. 1976. The Power Broker. Page 464). It was exactly this kind of chicanery that NEPA was designed to prevent.

Under NEPA, the sponsoring agencies have an affirmative responsibility to disclose the impacts the project will have on the environment, including the viewshed. The presented FEIS not only fails to do so, but presents evidence that conceals and distorts the bridge's visual impacts. As such, the FEIS fails to comply with NEPA, and the agencies should

P-047-012

The project has followed current guidance and methods for assessing visual impacts. The visual analysis is described in detail in the CRC Visual and Aesthetics Technical Report. These methods were approved by the local, state, and federal sponsoring agencies. Though there are not many computer simulations in the FEIS, the analysis is based on not just simulations but also plan and profile drawings, photographs, view corridors and view sheds. These all contribute to understanding and considering visual impacts, and they are referenced or included in the FEIS. These means were sufficient for the public and decision makers to select a locally preferred alternative including bridge type. As the project enters final design, there will be continued effort to engage the community in design and aesthetic issues. The project will be charged with maximizing the aesthetic opportunities with the composite truss bridge. This will include developing new simulated views to inform the decisions to be made during final design.

P-047-012 be directed to present a fair and accurate set of renderings disclosing the visual impact as it will be perceived by humans standing on the ground near the structure.

12. Despite making major changes to the project, the CRC did not undertake a supplemental environmental impact statement, as required by NEPA.

P-047-013 The FEIS claims:

> Both agencies concluded from these determinations that these changes and new information would not result in any new significant environmental impacts that were not previously considered in the DEIS. These changes in impacts are described in Appendix O of this FEIS. (FEIS, page 2-86.)

The implication is that the standard is "new significant environmental impacts." But this is not the standard that triggers the need for a supplemental environmental impact statement. The standard is whether there are significant changes to the project.

The project is changed is from the project described in the DEIS in several ways: The footprint on Hayden Island is significantly different. An arterial bridge is being built to Hayden Island. The bridge will be a composite truss, not an open-web. The number of lanes on the bridge will be different. At least one of the garages in downtown Vancouver is proposed to be built partially underground, and not entirely above ground as in the DEIS. The size of the Clark College park and ride lot has been more than doubled. Moreover, because the project is likely to be phased, and there is no certainty as to which phases will actually ever be completed, the project as completed may be very different than the one described in the FEIS, with different environmental impacts.

CRC proponents have implied that the full build FEIS represents the envelope of maximum impacts, and that any smaller project would have lesser impacts, but that is not correct. Some aspects of the project have environmental benefits (tolling, transit), and others have negative environmental effects. Implementing just a portion of the project would likely divert traffic to different locations, with different effects. Prior to issuing a record of decision, DOT should prepare an FEIS that reflects the actual project proposed to be built, and not one that may include many components or features that may never be constructed.

The sponsoring agencies cannot know whether there are "significant impacts" from these changes without undertaking a supplemental environmental impact statement. Moreover,

P-047-013

The test of whether or not a supplemental DEIS is required is not whether or not there have been changes to project. Revisions after the DEIS are common. The CEQ NEPA regulations (40 CFR 1500) describe two basic situations in which agencies are required to prepare a supplemental EIS:

"Agencies shall prepare supplements to either draft or final environmental impact statements if:

- *The agency makes substantial changes in the proposed action that are relevant to environmental concerns;*
- *There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." (1502.9(c)(1))*

Applying this to FTA and FHWA projects is further clarified in Title 23, Part 771 of the United States Code of Federal Regulations:

(a) … An EIS shall be supplemented whenever the Administration determines that:

(1) Changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS; or

(2) New information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS. (23 CFR S 771.130)

The design refinements made after the DEIS were considered and reviewed by FTA and FHWA, consistent with 40 CFR 1502.9(c)(1) and

P-047-013

the objectives of NEPA—giving the public the opportunity to review and comment on this analysis of impacts—is thwarted if the sponsoring agency is allowed to make substantial changes to a project after the DEIS.

The DOT claim that these changes don't cause significant impacts, is in fact, not the appropriate legal standard for determining whether a supplemental EIS should be prepared. The standard, according to the Council on Environmental Quality, is whether the project is substantially different than proposed in the DEIS. CEQ NEPA regulations (40 CFR 1500) describe two basic situations in which agencies are required to prepare a supplemental EIS, one of them is that:

> "Agencies shall prepare supplements to either draft or final environmental impact statements if:
> o The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or ***

Conclusion

P-047-014

The purpose of the National Environmental Policy Act is to assure citizens that all of the important economic, social, and environmental impacts of investment and policy decisions are carefully assessed and fully disclosed *before* the decisions are made. The version of the Final Environmental Impact Statement before you today falls far short of meeting that standard. Because of acknowledged funding uncertainties, and an abject failure to develop a phasing plan that everyone acknowledges will be needed, you really have no idea what project will actually be built, and therefore no way to assess its impacts. The project's traffic projections—which are utterly central to most of the key claims about the project's environmental, energy, social and traffic effects—are not only simply and demonstrably wrong, they are based on a model that the project's sponsors and consultants have acknowledged is incapable of accurately predicting traffic levels on tolled facilities. And despite acknowledging that their projections are wrong, CRC advocates have made essentially no changes to the traffic figures presented years ago in the DEIS. Finally, it is apparent the prospects for a massive $400 million to $500 million earmark for this project, which were always at best speculative, are now virtually impossible. The financial element of the FEIS is not even available in final form, and even then it not really a plan, but rather an "illustrative scenario"—as the project sponsors concede in a candid moment.

The Columbia River Crossing Final Environmental Impact Statement fails to accurately assess these important impacts and disclose their consequences to the people of the region. The U.S. Department of Transportation and its constituent agencies should reject

23 CFR 771.130(a). See discussion on page 2-86 and Appendix O of the FEIS. None of the project refinements made after the DEIS would result in new significant environmental impacts that were not previously evaluated in the DEIS.

P-047-014

Mr. Cortright's conclusion is a summarized restatement of some of the detailed comments in the body of his letter. Please see the responses above to these comments.

P-047-014 this Environmental Impact Statement, refrain from undertaking a Record of Decision, and insist that these issues be addressed.

Very truly yours,

Joseph Cortright

Attached files provided electronically are an integral part of these comments.

References

P-047-014

Bain, Robert. (2011). Columbia River Crossing Review of Traffic & Revenue Reports and Related Material, Summary Report, RBCONSULT Ltd, London 4 July, 2011.

Boxer, Barbara, & Imhofe, James. (2011, July 19). Moving Ahead for Progress in the 21st Century Bipartisan Bill Outline. Senate Environment and Public Works Committee. Retrieved from http://epw.senate.gov/public/index.cfm?FuseAction=Majority.PressReleases&ContentRecord_id=43ff8abd-802a-23ad-4f87-e7d37ed3d493

Columbia River Crossing. (2008a). *Draft Environmental Impact Statement*. Vancouver, WA: Columbia River Crossing.

Columbia River Crossing. (2008b, October 13-14). Columbia River Crossing Travel Demand Model Review. Columbia River Crossing. Retrieved from http://www.columbiarivercrossing.org/FileLibrary/GeneralProjectDocs/TravelDemandRP_binder.pdf

Columbia River Crossing. (2010a). *Tolling Study Committee Report*. Vancouver, WA: Columbia River Crossing.

Columbia River Crossing. (2010b). *Traffic Effects for Tolling Scenarios*. Vancouver, WA: Columbia River Crossing.

Columbia River Crossing. (2010c). Finance Plan - Draft Report. Vancouver, WA: Columbia River Crossing (September). (AH-3010-10-10-11).

Cortright, J. (2008, June 30). Comments on Columbia River Crossing Draft Environmental Impact Statement. Author.

Cortright, J. (2010, October). Financial Analysis of the Columbia River Crossing. Impresa, Inc.

Fought, T., & Cooper, J. J. (2011, August 7). Debt deal could deal Columbia bridge a blow | The Columbian. *columbian.com*. Retrieved August 7, 2011, from http://www.columbian.com/news/2011/aug/07/debt-deal-could-deal-colu/

Garrett, M., & Hammond, Paula. (2010, September 28). Response to the Columbia River Crossing Independent Review Panel's Recommendation. Oregon Department of Transportation.

Garrett, M. (2011, January 21). Letter to Legislative Leadership.

P-047-014

Independent Review Panel. (2010). *Columbia River Crossing Independent Review Panel Final Report*. Olympia: Author.

Kitzhaber, J. (2011a, April 25). Columbia River Crossing Bridge-Type Announcement. Retrieved from http://governor.oregon.gov/Gov/media_room/speeches/s2011/columbia_r...

Kitzhaber, J. (2011b, July 20). Governor Kitzhaber statement on Treasurer Wheeler's CRC report. *Press Release*. Salem, OR.

Oregon Department of Transportation. (2009). Tolling and Travel Demand Model Sufficiency, Highlights of Tolling White Paper 3, March 2009, page 1, http://www.oregon.gov/ODOT/TD/TP/docs/LRPU/Highlight3.pdf#Tolling_White_Paper_3

Oregon State Treasury Debt Management Division. (2011, July 20). Columbia River Crossing Financial Plan Review. Oregon State Treasury.

Parsons Brinckerhoff, David Evans and Associates Inc., and Stantec Consulting Services Inc. (2009). *Tolling White Paper 3: Travel Demand Model Sufficiency*. (February). http://www.oregon.gov/ODOT/TD/TP/docs/LRPU/twp3.pdf

Transportation Research Board, Committee for Determination of the State of the Practice in Metropolitan Area Travel Forecasting. (2007). *Metropolitan Travel Forecasting: Current Practice and Future Direction* Washington: Transportation Research Board of the National Academies.

Washington Legislative Evaluation and Accountability Program Committee. (2011). 2011-13 Biennium Transportation Budget Nickel/TPA Highway Project List LEAP Transportation Document 2011-1 as developed April 19, 2011. Washington Legislature. Retrieved from http://leap.leg.wa.gov/leap/budget/leapdocs/stLEAPDoc2011-1_0422.pdf

Supplement to January 28, 2008 "Transportation Planning Requirements and Their Relationship to NEPA Process Completion" February 9, 2011

Background

P-047-014

The Office of Planning, Environment, and Realty issued an informational memorandum on January 28, 2008, explaining the relationship between certain Transportation Planning and Air Quality Conformity regulations and the timing of a final NEPA decision (Record of Decision (ROD), Finding of No Significant Impact (FONSI), or Categorical Exclusion (CE)). However, in clarifying the requirements, additional questions arose from the field after the memorandum's release. In response to the questions, this document clarifies and simplifies information on what transportation planning requirements must be addressed before FHWA can make a final National Environmental Policy Act (NEPA) decision.

A project must meet various planning and NEPA requirements. The procedures of the different requirements, direct the project sponsors to meet all the following:

- All Projects requiring Federal action or that are to be implemented with Federal-aid must come from a fiscally constrained Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP) or from a fiscally constrained Statewide Transportation Planning Program (STIP) [23 CFR Part 450].
- The TIP and STIP shall include a project or a phase of a project, only if full funding can reasonably be anticipated to be available for the period contemplated for completion of the project. [23 U.S.C. § 135(g)(4)(E) and § 134(j)(3)(D)].
- NEPA project approval can only be given when the NEPA documents meet all applicable environmental laws and Executive Orders or reasonable assurances of compliance are provided in accordance with 23 CFR § 771.133.
- In air quality nonattainment and maintenance areas, additional Clean Air Act and EPA requirements apply. [42 U.S.C. § 7506(c) and 40 CFR Part 93]. See Questions 25-27 for more information.

Requirements

The purpose of this document is to identify primary terminology, promote consistency, and to better explain the requirements discussed in this section. The definitions are reflected below in Table 1 and also in the Glossary.

Before the FHWA [1] can sign the final NEPA decision (i.e., ROD, FONSI, or CE), the proposed Project ("Project") as defined in the NEPA document must meet the following specific criteria:

- **For Metropolitan Planning Areas (within a MPO):**
  - The Project or phases of the Project within the time horizon of the MTP must be included in the fiscally constrained MTP, and other phases of the Project and the associated costs beyond the MTP horizon must be referenced in the Plan.

[1] For those States that have programmatic agreements with FHWA, all of the requirements in this section apply.

P-047-014

Table 1. Terms and Definitions

Terms	Definition
Project *(capital P)*	In this document, the term "Project" (*capital P*) refers to a specific proposed facility or other action as defined in the NEPA document (e.g., a bridge or a new highway) and includes every "phase of a Project", from Highway Planning and Research, Preliminary Engineering, Right-Of-Way (ROW) acquisition, through Construction.
project *(small p)*	The term "project" (*small p*) is used here as a reference to a phase of a Project, or a component of such a phase (e.g., bridge piers or highway landscaping related to a Project).
Fiscal Constraint	The MTP, TIP and the STIP have sufficient financial information for demonstration that a Project in the MTP, TIP and STIP can be implemented using committed, available, or reasonably available revenue resources.
Available Funds	Funds derived from existing sources dedicated to or historically used for transportation purposes. For example, apportioned/authorized Federal-aid dollars or toll revenues for the next 2- 4 years. [23 CFR § 450.104]
Committed Funds	Funds that have been dedicated or obligated for transportation purposes. For example, funds obligated for a Federal-aid Project or toll revenues for the next 2 years. [23 CFR § 450.104]
Reasonably Available	The term "reasonably available" in this guidance is synonymous with "reasonably anticipated to be available" and "reasonably expected to be available". Determining whether a future funding source is "reasonably available" requires a judgment decision. Two important considerations in determining whether an assumption is "reasonable" are (a) evidence of review and support of the new revenue assumption by State and local officials and (b) documentation of the rationale and procedural steps to be taken with milestone dates for securing the funds. For example, a new tax for transportation purposes requiring local and/or State legislation and/or support from the Governor is reasonable if there is clear evidence of sufficient support (both governmental and public) to enact the new tax, and a strategy exists for securing those approvals within the time period for implementing specific projects.

- The Project or phase of the Project must be in the fiscally constrained TIP, which includes:
  - At least one subsequent Project phase, or the description of the next Project phase for information purposes only in unusual instances[2].
  - All Federal-aid Projects or Project phases and State/locally funded, regionally significant projects that require a Federal action. [23 CFR § 450.324(d)]
  - Full funding is reasonably available for the completion of all the phase(s) of the Project within the time period anticipated for completion of the Project.[3] [23 CFR § 450.324(h)-(i)]

[2] "Unusual instances" may include anticipated lengthy permitting delays (such as § 404) or likely Project litigation. Please refer to Question 15 for more information.

[3] "The term "phase of a Project" refers to activities such as design, acquisition of right-of-way, and construction. For a discussion of the distinction between "phase of a Project" and "phased Projects", see Question 22. See also the definition of "Project" and "project" in Table 1 and in the Glossary.

P-047-014

- **For Non-metropolitan Areas:**
  - The Project must be consistent with the Long Range Statewide Transportation Plan (also referred to as SLRP).
  - The Project or phase of the Project must be in the fiscally constrained (STIP), which includes:
    - If the completion of the Project is beyond the timeframe of the STIP, the STIP must contain at least one subsequent Project phase, or a description of the next Project phase for informational purposes.
    - All Federal-aid projects or project phases and State/locally funded, regionally significant projects that require a Federal action [23 CFR § 450.216(h)]
    - Full funding is reasonably available for the completion of all phase(s) of the Project. [23 CFR § 450.216(l)-(m)]

Table 2 describes the fiscal constraint actions that must be in place before a final environmental decision is taken (see the attached Questions and Answers for more detail).

Table 2. Fiscal Constraint Requirement before Approving the NEPA Decision

Before a Final Environmental Decision (ROD, FONSI, CE) is approved in:	Fiscal Constraint must be demonstrated by:
Metropolitan Areas	• Entire Project is in the MTP • At least one subsequent phase of the Project is in the TIP (more if within TIP timeframe) • Full funding is reasonably available for the completion of the entire Project
Non-Metropolitan Areas (Outside MPO)	• Project is consistent with the SLRP • At least one subsequent phase of the Project is in the STIP (more if within STIP timeframe) • Full funding is reasonably available for the completion of the entire Project

3

P-047-014

Table 3 details the Federal planning and environmental requirements that must be met whether or not the environmental process is funded with Federal-aid (see the attached Questions and Answers for more detail).

Table 3. Federal-aid Eligibility and the Associated Environmental /Planning Requirements

If the Environmental process is funded with:	NEPA process can start:	Required actions before the Final Environment Decision can be approved:
Federal Funds	• Corridor/feasibility (Planning and Environment Linkages - PEL) studies: the study does **not** need to be in the fiscally constrained MTP or SLRP and can start at any time, but the study must be in the Unified Planning Work Program (UPWP) or State Planning and Research (SPR) work program when funded with Metropolitan Planning (PL)/SPR funds. If the study is using capital funds (National Highway System (NHS) and Surface Transportation Program (STP), then it needs to be identified in the UPWP or SPR work program, and/or in the TIP or STIP. • Tier I – Environmental Impact Statement (EIS) can start prior to being in the fiscally constrained MTP or SLRP if the scope is for corridor planning or feasibility study and will not include decisions directly resulting in Project implementation activities of any kind (e.g., ROW purchase)	
	• NEPA study must be in the MTP or consistent with the SLRP • NEPA phase of the Project must be in TIP or STIP	• One subsequent phase of Project is in the STIP/TIP
If the Environmental process is funded with:	**Environmental process can start:**	**Required actions before the Final Environment Decision can be approved:**
Non Federal Funds	• After the planning level purpose and need has been identified • Project does **not** need to be in the fiscally constrained MTP Project does **not** need to be fiscally constrained STIP/TIP	• Project is amended into the fiscally constrained MTP • NEPA phase of the Project is amended into the TIP or STIP • One subsequent phase of Project is in the STIP/TIP • Project must meet all NEPA requirements

Questions and Answers

General

P-047-014

1. What is a Project?

Title 23 defines a project as an undertaking to construct a particular portion of a highway, or the particular portion of a highway so constructed or any undertaking eligible for assistance under Title 23. [23 U.S.C. § 101(a)(21)]

In the regulations, 23 CFR § 1.2(b), the term is defined as an undertaking by a State highway department for highway construction, including preliminary engineering, acquisitioning of ROW and actual construction, or any highway planning and research, or for any other work or activity to carry out the provisions of the Federal Laws for the administration of Federal aid for highways.

This document uses "Project" (capital 'P') when referencing a specific undertaking described in the NEPA document (e.g., a bridge replacement), including all phases through construction. The term "project" (small 'p') is used here as a reference to a phase of a Project, or a component of such a phase (e.g., bridge piers or highway landscaping related to a Project) (*see* a more detailed definition in the Glossary).

2. What is a phase of a Project?

A Project phase is defined as separate portion of a Project such as Preliminary Engineering (PE), environment/NEPA, final design, ROW, utility relocation, construction, and/or partial construction (i.e, a component or "project"). [23 CFR § 1.2(b), § 450.216(i) and § 450.324(e)] There may be a project agreement for an individual phase of a Project.

3. What is Fiscal Constraint?

Fiscal constraint means that the MTP, TIP, and STIP include sufficient financial information to demonstrate that Projects in the MTP, TIP, and STIP can be implemented using committed, available, or reasonably available revenue sources, with assurance that the Federally supported transportation system is being adequately operated and maintained. Additionally, Projects in non-attainment and maintenance areas can be included in the first two years of the TIP and STIP only if funds for those Projects are "available" or "committed". [23 CFR § 450.216(m) and § 450.324(i)]

4. What is the NEPA decision?

NEPA decisions occur when the FHWA approves a Project location or selects a Project alternative by signing a ROD or FONSI, or approves a CE after it has determined that the Project has satisfied the planning and environmental requirements. [23 CFR Part 771]

5. What are the planning requirements?

They are the statutory requirements included in 23 U.S.C. § 134 and § 135. The implementing planning regulations are in 23 CFR Part 450. The most applicable sections on this subject can be found in the following:

- 23 CFR § 450.214 - Statewide Transportation Plan
- 23 CFR § 450.216 – Statewide Transportation Improvement Program
- 23 CFR § 450.322 – Metropolitan Transportation Plan

P-047-014

- 23 CFR § 450.324 – Metropolitan Transportation Improvement Program

6. What is the difference between an "action" defined in 23 CFR Part 771, and the term "action" used in the planning regulation?

In 23 CFR Part 771, the term "action" means a Project (highway or transit) proposed for FHWA funding or approval, which may or may not involve a commitment of Federal funds. Further, "Administration action" is approval by the FHWA of the applicant's request for funds for construction, or other activities which may or may not involve a commitment of Federal funds. [23 CFR § 771.107(b)-(c)]

In planning, we have not provided a formal definition for "action"; however, when we refer to Projects "… that require actions by FHWA," the meaning is similar to the definition of "Administration action" as stated above. [23 CFR § 450.216(h)] An action in a planning context is a step taken to advance Projects to implementation whether or not the Projects will be receiving Federal (Title 23 or 49) funds.

7. What are "regionally significant" projects?

Regionally significant projects, which may or may not be funded with Title 23 or 49 funds, are Projects anywhere in the State that have direct impact on a regional transportation system or those Projects that serve regional transportation needs (e.g., major activity centers, major planned developments such as major retail malls, sport complexes, or employment centers, or transportation terminals) and are normally part of the metropolitan or regional transportation network model. For example, these Projects can include actions such as granting access to Interstate Highways or principal arterial system, which require Federal approval, but not necessarily Federal funds. [23 CFR § 450.104]

Fiscal Constraint of Plans, TIPs, and STIPs

8. Is the term "fiscally constrained" different as it applies to the Transportation Plan, STIP, and TIP?

No, the methodology and standards for developing and assessing fiscal constraint for the Transportation Plan, STIP and TIP are the same.

However, the fiscal constraint information in the STIP and TIP should be more refined than that found in the transportation plan (MTP or SLRP). The STIP and TIP require a 4-year fiscal constraint demonstration that indicates the resources committed and/or reasonably expected to be available to carry out the programs. This means that the STIP and TIP must demonstrate and balance their revenue forecast with their expected expenditure forecast (total estimated project costs) for the near term (4-year) period while adequately operating and maintaining the federally supported transportation system. [23 CFR § 450.216(m) and § 450.324(h)]

It is more challenging for the transportation plan to forecast future revenues/costs for a 20-year time frame and to predict the exact nature of funding sources. Although near term MTP financial information is expected to be fairly accurate, the estimates for the outer years (10+ years) of the plan may be less precise. If cost ranges or bands are used (which are allowable in the outer years of the plan), associated revenues should be reasonably expected to be available to cover Project expenditures, including the upper limit of those bands or ranges. Over time, more current financial

P-047-014

data and forecasts can be developed as the MTP is updated every four to five years (or more frequently).

For outer years beyond the timeframe of the TIP and STIP, project sponsors must identify reasonably available source of funding for their Project, which should include a defined funding strategy for the completion of their Projects.

Table 4 provides information on the funding requirements and type of revenue resources that are associated with the planning documents and timeframe.

Table 4. Planning Documents and the Application of the Fiscal Constraint Funding Requirements

Planning Documents	*Project Fiscal Constraint Funding Requirements*		
	Year 1 - Year 2	Year 3 – Year 4	Year 5 – Year 20+
Metropolitan Transportation Plan (MTP)	Committed Funds	Available Funds	Reasonably Available
Statewide Long-range Transportation Plan (SLRP)	Fiscal Constraint is not required for the SLRP, but the State may want to develop, as an option, a financial plan to demonstrate what funds are reasonably available for the State project implementation.		
Transportation Improvement Program (TIP)	Committed Funds	Available Funds	For projects in the TIP and STIP that go beyond the 4 year life of the TIP/STIP, funding for Year 5 and beyond to project completion must be reasonably available.
Statewide Transportation Improvement Program (STIP)	Committed Funds	Available Funds	

9. Does full funding have to be shown in the TIP or STIP, or is it only in the Transportation Plan?

When Projects are programmed in the STIP/TIP, it is with the understanding that full funding can reasonably be anticipated to be available for the Project within the time period contemplated for the completion of the Project. That is, the estimated total cost of an entire Project and how that cost is expected to be covered, must be shown in the STIP or TIP (or in the financial element of an associated transportation plan) through the Project's anticipated year of completion. As allowed in the MTP, reasonable strategies for ensuring the availability of proposed funding sources to cover the estimated total cost of Projects may be identified to demonstrate fiscal constraint in a STIP/TIP. [23 U.S.C. § 135(g)(4)(E), 23 CFR § 450.216(i) and (m), 23 U.S.C. § 134(j)(3)(D) and 23 CFR § 450.324(e) and (i)]

For Projects in the metropolitan planning areas, estimated full Project costs need to be shown in the Metropolitan Transportation Plan. Besides demonstrating currently available and reasonably anticipated revenues to cover those costs, the financial element of a MTP may recommend strategies to ensure the availability of additional funding sources to cover the costs of all Projects and programs described in the MTP. For more discussion on this issue, see Question 13 below.

Non-metropolitan Projects do not need to be specifically identified or have their costs shown in the Long-Range Statewide Transportation Plan, but the Projects do need to be consistent with that plan.

P-047-014

10. Are non-metropolitan Projects exempt from meeting the fiscal constraint requirements?

Although there are no Federal requirements for the SLRP to be fiscally constrained, some States have instituted this as a State requirement. In those States, non-metropolitan Projects and the SLRP should be fiscally constrained as determined by State rules and procedures.

Also, within the environmental analysis for a non-metropolitan Project or corridor study, much of the information concerning cost, Project schedule, source of funds, and commitments by Project sponsor are documented. In most cases, the fiscal constraint demonstration or other financial information is included in the environmental documents.

When rural Projects are programmed, the key is to secure available funding and correctly list it in the fiscally constrained STIP prior to the ROD/FONSI/CE being approved. The Project sponsor should document Project funding and demonstrate fiscal constraint in the financial plan portion of the STIP. The STIP's financial plan is a good practice and should be used to fully document the STIP's fiscal constraint determination. Further, the financial information can subsequently be used in the Financial Plan required for Projects costing $500 million or more.

11. Do corridor or feasibility studies need to comply with the fiscal constraint requirement?

Planning studies must be listed either in the work programs, STIP/TIP, or both. [23 CFR § 420.119(e), 23 CFR § 450.216(g)(2) and (4)]

For those studies funded with NHS, STP, or other Federal-aid, the State should list the cost for these planning studies in the STIP/TIP to meet fiscal constraint requirements, unless the State and the MPO(s) have choosen to exclude them from the STIP/TIP [23 CFR § 450.216(g)(4)].

However, the majority of corridor and feasibility studies are funded with PL or SPR funds. The PL/SPR funded projects should be listed in the UPWP or SPR Work Program as appropriate, but do not need to appear in the STIP. [23 CFR § 450.216(g)(3)]

12. Does the fiscal constraint requirement apply to a Tier I EIS?

A Tier I EIS, a corridor study, or a feasibility study may be initiated prior to any resulting Project being fiscally constrained in the MTP.

A Tier I EIS can be a broad study that is based on early decisions made in the planning process, such as the type of project, the general location, and the major design features. In cases where a Tier I EIS is similar to a major corridor and/or investment study described in 23 CFR § 450.212 and § 450.318, the Tier I ROD may be signed without demonstrating fiscal constraint. In cases where the purpose of the Tier I is only to be a corridor or similar study, there should be a discussion as to why this type of documentation is being used. A Tier I EIS is a NEPA document, and a corridor study is more effectively carried out as a planning document.

When the scope of the Tier I document is clearly defined to include a decision that could result in a Federally-funded action (such as the purchase of ROW), the Project must be listed in the MTP and STIP/TIP, with one subsequent phase listed in the existing STIP/TIP before the Tier I ROD can be signed. The subsequent phase (Tier II) will be the continuation of the NEPA process. In the case of a "No Build" decision, the ROD can be signed without a subsequent phase of work listed. Because of the nature of the Tier I decision making, Tier I Project cost estimation may be broader (e.g., use of banding) than for the regular projects.

P-047-014

As provided in Appendix A of 23 CFR Part 450, the option of linking the transportation planning and NEPA process may be the most appropriate vehicle for corridor/feasibility study rather than the Tier I EIS. Linking Planning and NEPA connects the environmental analysis with the analyses that are used to develop the MTP, STIP/TIP, or planning-level/corridor/subarea/feasibility studies. When done in accordance with Appendix A, these analyses or studies are still within the scope of the planning process and are not subject to the fiscal constraint requirement. [23 CFR § 450.212, § 450.318, and Appendix A]

13. Does the MTP need to include a Project phase that is planned for future years, beyond the 20-year horizon?

Yes, regulations require that the entire Project described in the ROD, FONSI, or CE shall be consistent with the MTP. In the metropolitan areas, only the Project phases within the 20-year time horizon of the MTP must be fiscally constrained, but other phases and associated costs need to be referenced in the plan. [23 CFR § 450.322(f)(10)] Illustrative Projects are not part of the fiscally constrained MTP, and are listed only for informational purposes, until such time as additional resources beyond those identified in the MTP are to become available. [23 CFR § 450.322(f)(10)(vii)]

14. What assurance is needed to determine if a Project meets fiscal constraint?

Within the NEPA documentation, a discussion should be included on the planning information that was used to develop the Project. It should provide information about the Project and its relationship with the current MTP and TIP, including corridor or feasibility study information, a comparison of design concept and scope, and specific references in the current transportation plan and the TIP to assist in identifying the Project.

15. If the majority of the Project implementation is beyond the four year time frame of the STIP/TIP, does the full Project cost information still need to be in the STIP/TIP?

For Projects scheduled to start within the existing STIP/TIP years, if the majority of the work will be conducted in years beyond the STIP/TIP time frame, only the Project costs within the next four years must be in the STIP/TIP. [23 CFR § 450.216(m), § 450.324(e)] For portions of the Project that are beyond the STIP/TIP years, the Project must be in the fiscally constrained MTP and the estimated total Project cost must be described within the financial element of the MTP, STIP, and/or applicable TIP. For more information about this, please review Questions 8, 9, and 10. [23 CFR § 450.216(m), § 450.322(f), § 450.324(h)-(i)]

16. Can the environmental decision be signed if the next phase of the Project (e.g. PE, final design, ROW, utility relocation, construction, or construction phase) is beyond the horizon of the STIP/TIP and is not included in the STIP?

Generally at least one subsequent phase of the Project must be included in the approved STIP/TIP before the FHWA can sign the ROD or FONSI, or approve the CE. However, in the unusual instances where no subsequent phase of the Project falls within the STIP/TIP timeframe, then a description of the Project must be included in the STIP/TIP for informational purposes and identified as being beyond the horizon of the STIP/TIP. "Unusual instances" refers to situations where an agency can expect lengthy Project delays after the final NEPA decision.

P-047-014

17. What happens to a Project when the revenue situation changes and the Project may or may not be in the fiscally constrained Metropolitan Transportation Plan?

In cases where the FHWA finds a MTP to be fiscally constrained and a revenue source is subsequently removed or substantially reduced (i.e., by legislative or administrative actions), the FHWA will not withdraw the original determination of fiscal constraint; however, in such cases, the FHWA will not act on an updated or amended MTP until such time that it reflects the changed revenue situation.

However, if the MPO expects that the revenue situation has changed and projects identified in the plan cannot be financially supported to completion, we recommend the MPO revise its revenue numbers and amend the plan.

Further, when the MPO updates its MTP, we suggest the MPO request that project sponsors revisit their current projects that are in the existing fiscally constrained plan to ensure that the Project description (e.g. project scope, location, and purpose and need) and associated cost estimates are still valid and that funding resources are still available for the completion of the Project. Also, Project sponsors should advise and update the MPO with current information for the MTP if their Project cost estimates have been revised due to NEPA document re-evaluation or a supplemental EIS.

18. Can the ROD/FONSI/CE be approved when the funding in the environmental documentation does not match what is in the MTP or STIP/TIP?

No. As the final environmental review is completed, it is important to ensure that the cost estimates are consistent with costs described in the MTP and STIP/TIP. If there is a significant difference between the Project cost estimates in the final environmental document compared to the MTP and/or STIP/TIP, this potentially may impact the overall fiscal constraint demonstration and the mix of future projects selected for funding in the MTP and STIP/TIP if the Project is underfunded. In this case, a plan and/or STIP/TIP amendment is necessary prior to the final NEPA decision.

Note: We recommend that environmental documentation and planning documents use Year of Expenditure (YOE) dollars for the cost estimates. *See* Question 21.

19. Does the Long-Range Statewide Transportation Plan (SLRP) have to be fiscally constrained?

No. The planning regulations do not require the Long-Range Statewide Transportation Plan to be fiscally constrained, although some States have found it beneficial to include a statewide financial plan. The financial plan can show how longer-range statewide transportation projects can be implemented, indicate the resources that are reasonably available (i.e., reasonably available public and private funds), and identify revenue shortfalls and potential financial strategies to fund the needed projects and programs. [23 CFR § 450.214(l)]

20. How does a State monitor all the non-metropolitan Major Projects and ensure that there is adequate funding in the future years in absence of a statewide financial plan?

A Project with a total estimated cost of $500 million or more that is receiving Federal financial assistance is designated as a Major Project. Section 106(h)(3) of Title 23 states a Finance Plan shall be produced for a Major Project and should demonstrate the Project's fiscal constraint and also document all the existing on-going future commitments such as required for Major Projects. Since most Major Projects are multi-year projects, the Major Project information will appear in the STIP and will be carried over to future STIP(s). This information is not only critical to ensure that the current STIP meets the fiscal constraint requirement, but also to ascertain that there is adequate

P-047-014

future funding to complete the Major Project. Furthermore, the financial plan for the STIP could capture the anticipated funding commitments for all Major Projects in one document.

In addition, a Project with a total cost between $100 million and $500 million, while not classified as Major Project, requires the preparation of Finance Plans that must be made available to FHWA upon request. [23 U.S.C. § 106(i)]

Year of Expenditure (YOE) Funds

21. What is Year of Expenditure (YOE)?

Year of Expenditure dollars are dollars that are adjusted for inflation from the present time to the expected year of construction. By using YOE dollars, this ensures that the more accurate cost estimates are used in planning, programming and implementation of the Project.

The planning regulations require that revenue and cost estimates in the MTP, STIP, and TIP, must use inflation or growth rate(s) to reflect "year of expenditure dollars," based on reasonable financial principles and information, developed cooperatively by the State, MPOs, and public transportation operators. [23 CFR § 450.216(l), § 450.322 (f)(10)(iv), and § 450.324(h)] Year of expenditure cost estimates should also be used in NEPA documentation.

In addition, the Major Project Guidance requires financial information associated with the Project (NEPA phase through final construction) must be included in the Major Project financial plan, regardless of the source of funding. These costs must be expressed in YOE dollars and estimated using a risk based approach.

See Major Project Financial Guidance:
http://www.fhwa.dot.gov/ipd/project_delivery/resources/financial_plans/guidance.htm.

Environmental Studies and Planning Process

22. One of the examples (Colorado: I-25) in the January 28, 2008, memorandum described a phased NEPA decision-making process, sometimes described as "phased RODs/FONSIs". Is this allowed as a mechanism to break-up a larger Project to deal with limited available Project funding and fiscal constraint or for political reasons?

A Project that will be built over time with multiple work phases based on one NEPA decision document is not a phased ROD/FONSI. it is a *phased Project.* A phased ROD/FONSI occurs when there is one NEPA evaluation document but from that evaluation document, a NEPA decision document (ROD/FONSI) is issued for only a section or portion of the proposed Project (e.g., construction of a two mile section of a proposed 10 mile long highway).

The FHWA acknowledges some Projects that are currently in the midst of a lengthy NEPA process anticipate use of phased decision making. It is expected that these Projects will proceed, but the FHWA expects the future use of the phased ROD/FONSI concept will be limited to situations where there are unanticipated changes in circumstances after the planning process, or where the phased nature of the decision making on a corridor or project is fully discussed and defined in the context of the NEPA study on which the phased decision will be based (including agency and public

P-047-014

involvement). This approach should be considered only after consultation with both the Office of Project Development and Environmental Review and the Office of Chief Counsel.

23. How should the planning process be used to determine Projects, needs, and priorities?

Statewide and Metropolitan transportation planning should be the foundation for highway and transit Project decisions, emphasizing public involvement, and consideration of environmental and other factors. The planning process identifies the transportation system needs and the Projects that will address these needs. With the fiscal constraint requirement, the planning process can recommend and advance only those Projects that a State/MPO/local agency can afford to implement.

In the overall planning process, corridor, subarea, or other focused planning studies should clearly identify the purpose and need of proposed Projects and weed out those that are not environmentally and/or financially feasible unless new or additional revenue sources are identified. Transportation agencies need to consider methods to improve linkages between planning and environmental issues in order to focus subsequent NEPA review on a more limited list of Project options. In this manner, agencies can better evaluate Project feasibility and costs before launching into what can be a long and expensive NEPA review process.

24. Does starting the environmental analysis process for a Project (even with State or local funds) ensure future Federal-aid funding?

No, starting the environmental analysis process does not ensure future Federal funding commitments. If however, a Project sponsor wants to advance a Project that is not in the fiscally constrained plan or STIP/TIP, it may do so with its own funds. In this case, Federal funds are not to be used to conduct the environmental analysis process. The project sponsor assumes the risk that the Project may not be eligible for or receive Federal funds, if later requested. By not being part of the broader transportation planning process, this Project still has to compete for the available limited Federal funds that have not been assigned to other Projects. A final NEPA decision for the Project will not be made until all appropriate elements listed in the "Requirements" section" of this document have been met.

Nonattainment and Maintenance Areas

25. What Projects are subject to the project level transportation conformity requirements?

Project level conformity applies to nonexempt (those projects not listed in 40 CFR § 93.126) FHWA/FTA projects. For purposes of conformity, an FHWA/FTA project is any highway or transit project which is proposed to receive funding assistance and approval through the Federal Aid Highway program or the Federal mass transit program, or requires FHWA or FTA approval for some aspect of the project, such as connection to an interstate highway or deviation from applicable design standards on the interstate system.

26. What are the transportation conformity requirements that must be addressed before the NEPA decision can be signed?

Before the NEPA decision (ROD, FONSI, or CE) can be signed by the FHWA, regulations require that a project level conformity determination be made for all nonexempt FHWA/FTA projects that are subject to transportation conformity. [40 CFR§ 93.104(d)]

P-047-014

In the metropolitan areas, conformity for a nonexempt FHWA/FTA project can be demonstrated if the Project is part of a conforming metropolitan transportation plan and TIP, and meets all the project level conformity requirements. [40 CFR § 93.104(d) and § 93.109]

For a nonexempt FHWA/FTA project in a "donut" area (part of the nonattainment and maintenance area that lies outside of the metropolitan planning area boundary), the Project must be included in the regional emissions analysis that supported the conformity determination of the associated metropolitan transportation plan and TIP and meet all applicable project level conformity requirements. [40 CFR § 93.109]

In an isolated rural non-attainment and maintenance area, Project level conformity must meet all the requirements in 40 CFR § 93.109(l) prior to the FHWA signing or approving the ROD, FONSI, or CE.

For more information, please see http://www.fhwa.dot.gov/environment/conformity/feis_rod.htm.

27. How do transportation conformity requirements apply in tiered EIS documents?

The transportation conformity regulation (40 CFR § 93.126) states that "specific activities that do not involve or lead directly to construction, such as planning and technical studies" are exempt from the requirement to determine conformity. Therefore, project-level conformity requirements, including any relevant hot-spot analyses, do not apply for the Tier 1 EIS. However, should a named Tier 1 analysis transition into a Tier 2 product and the project sponsor decides to seek a decision leading to a selected alignment, with the ROD allowing acquisition of right of way and authorization of final design, P,S &E, etc., then project level conformity would be required.

In the Tier 2 EIS, the preferred alternative would be selected from the shorter list of alternatives identified in the Tier 1 EIS. All requirements for project-level conformity apply for the preferred alternative selected in the Tier 2 EIS. Project-level conformity must be determined before the Tier 2 ROD can be signed.

Major Projects: Phased Construction and Operational Independence

28. For a Major Project, if the Project phases are not identified in the approved environmental decision, can the state decide at a later date to construct the Major Project in phases?

Yes, on a case-by-case basis, the scope of work described by the ROD, FONSI, or CE can be divided into a phased Project that corresponds to operationally independent increments of work (as described in question below and Question 22 above) which will be built non-concurrently. The FHWA Division Office will need to consult with the FHWA Project Delivery Team (formerly the Major Projects Team) prior to making this determination. In cases where the scope of the work is divided into a phased Project after the NEPA decision, Major Project requirements will apply only to the individual Projects meeting the Major Project designation requirements.

29. What requirements need to be met before determination of operational independence and non-concurrent construction is approved by the FHWA (HQ and Division)?

"Operational independence" is a project management and financial planning concept that applies to Projects that are subject to 23 U.S.C. § 106(h). An operationally independent phase of the Project is a component of the overall Project that can be built and can function as a viable transportation facility even if the rest of the Project described in the environmental document is never built.

P-047-014

Multiple contracts developed for bidding by the Owner for contract administration purposes or due to funding shortfalls are generally not considered to be operationally independent.

Operational Independence is further defined and discussed in the guidance on operational independence and non-concurrent construction[4] and in FHWA Major Project guidance[5].

Note that "operational independence" is not the same as NEPA "independent utility" and the two concepts are used for different purposes. In 23 CFR § 771.111(f), the FHWA's assessment of independent utility and logical termini occurs during the NEPA review in order to ensure a meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated. This includes considering whether the Project will result in a usable facility and will be a reasonable expenditure even if no additional improvements in the area are made. Given the extensive record of such NEPA determinations, distinguishing the Major Project Review requirements from the environmental review requirements helps avoid unintended consequences in implementing 23 U.S.C. § 106(h).

FHWA Division Office's Roles and Responsibilities

30. Whose job is it to make sure that all planning requirements are in place before final NEPA decision is made?

Under the Federal-aid program, it is the role of the FHWA Division Office to help the State, MPO(s), and Project sponsors navigate through and meet these requirements. The Division Office should have all environmental and planning information at hand. The planners and environmental specialists should work closely and develop a process or system that can help track all the relevant information as the environmental documents are being completed.

31. Why is fiscal constraint requirement critical now?

Fiscal constraint has been a critical part of the planning and project development processes since the passage of ISTEA in 1991. In today's limited fiscal environment, it is critical that we provide due diligence as to how public funds are expended. When making NEPA decisions, including the decisions whether to initiate the NEPA process, it is incumbent on the Division Office to consider the broader context of fiscal stewardship. Fiscal stewardship is a critical role and responsibility for the FHWA and is engrained throughout the transportation decision making process: from fiscal constraint requirements in the transportation planning process, to reasonable cost estimates of alternatives in project development and the NEPA process, to financial plans and Major Project requirements during design and construction.

The FHWA must actively encourage transparency, consistency, and reasonableness with regard to planned expenditures of public resources, and attempt to ensure that consistent messages are being provided throughout the planning, project development, NEPA, design, construction, operation, and environmental mitigation follow-up processes.

[4] http://www.fhwa.dot.gov/ipd/project_delivery/resources/operational_construction/memo_operational_independence.htm
[5] http://www.fhwa.dot.gov/ipd/project_delivery/resources/general/mpg_memo.htm

P-047-014

32. . How do we ensure that environmental studies are for real and viable projects?

An effective transportation planning process requires the MPOs and the States to make the appropriate decisions that will benefit the transportation system and the region. A robust planning process that includes planning/corridor/subarea/feasibility studies, environmental analysis, and financial planning will help project sponsors, the MPOs, and the States to determine if completing all of the proposed Projects is achievable, given the anticipated revenues and the relative priorities of these Projects. The planning process, when appropriately used as a screening mechanism, ensures that only those "viable" Projects that meet funding and priority requirements will advance. These "viable Projects" will be limited in number and with the smaller number of Project commitments, the FHWA can better leverage its staff resources in reviewing and providing oversight of the NEPA process.

P-047-014

Appendix A

STATUTORY AND REGULATORY REQUREMENTS FOR FISCAL CONSTRAINT / FINANCIAL PLANNING IN THE FEDERAL TRANSPORTATION PLANNING PROCESS

Type of Plan/Program/ Project	Fiscal Constraint requirement?	Financial Plan Required?	Update Schedule/Notes
Metropolitan Transportation Plan	Yes	Yes	Plans must have at least a 20-year time horizon and be updated every 5 years in attainment areas and every 4 years in non-attainment and maintenance areas. Also, for nonattainment and maintenance areas, the financial plan shall address the specific financial strategies required to ensure the implementation of TCMs in the applicable SIP.
Metropolitan Transportation Improvement Programs (TIPs)	*Yes – must be fiscally constrained by year	Yes	Must be updated at least every four years; MPO must develop Annual Listing of Obligated Projects consistent with the categories identified in the TIP. Also, in nonattainment or maintenance areas, projects included for the first 2 years of the TIP shall be limited to those for which funds are available or committed.
Statewide Transportation Improvement Programs (STIP)	Yes – must be fiscally constrained by year	Not mandatory, but if not included, financial issues should be addressed in some other way	Not less than 4-year time horizon; must be updated at least every four years; funding shown in STIP must be consistent with funding shown in the TIPs for the metro portions of the statewide program. Also, in nonattainment or maintenance areas, projects included for the first 2 years of the STIP shall be limited to those for which funds are available or committed.
Statewide Transportation Plan	Not required	Not required, but must reference or contain information on the availability of financial and other resources needed to carry out the plan	No mandatory update schedule. Not less than 20-year horizon.
FHWA Major projects (>$500 Million cost)	Yes, near term phases must be part of fiscally-constrained TIP and STIP	Yes. NOTE: this is a project-specific financial plan that is different than the region's financial Plan for the Long Range Transportation Plan	Single project plan.
FTA Major Capital Investments (Mainly New Starts)	Yes, must be in fiscally constrained TIP and STIP	Yes	Project level plan. Projects entering the FTA New Starts process also require Alternatives Analysis pursuant to 49 U.S.C. §5309(e)(2).

16

Glossary

P-047-014

Air Quality Attainment areas
An area considered to have air quality that meets or exceeds the U.S. Environmental Protection Agency (EPA) health standards used in the Clean Air Act. An area may be an attainment area for one pollutant and a nonattainment area for others.

Air Quality Maintenance areas
Any geographic region of the United States previously designated nonattainment pursuant to the CAA Amendments of 1990 and subsequently re-designated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended.

Air Quality Non-attainment area
A geographic region of the United States that the EPA has designated as not meeting a given national ambient air quality standard (NAAQS).

Banding
For the outer years (i.e., beyond the first 10 years) of the MTP, the financial plan may reflect aggregate cost ranges/cost bands, as long as the future funding source(s) is reasonably expected to be available.

Categorical Exclusion (CE)
A Project may be categorically excluded from a detailed environmental analysis in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) if it meets certain criteria that a Federal agency has previously determined as having no significant environmental impact and does not involve unusual circumstances that require evaluation. Types of actions typically considered by FHWA to be categorically excluded are described in 23 CFR § 771.117.

Conformity
A process to assess the consistency of any transportation plan, program or project with State air quality implementation plans. The transportation conformity process is defined by the Clean Air Act as amended and implemented by 40 CFR Part 51 and Part 93.

Donut area
Geographic areas outside a metropolitan planning area boundary, but inside the boundary of a nonattainment or maintenance area that contains any part of a metropolitan area(s). These areas are not isolated rural nonattainment and maintenance areas.

Final NEPA Decision
A final NEPA decision is documented in a ROD, FONSI, or CE determination.

Finding of No Significant Impact (FONSI)
A Federal agency prepares a written environmental assessment (EA) to determine whether or not a project would have significant impacts on the environment. If the answer is no, the agency issues a finding of no significant impact (FONSI). The FONSI may address measures which an agency will take to reduce (mitigate) potentially significant impacts.

Independent Utility
Project must be usable and be a reasonable expenditure even if no additional improvements in the area are made , as described in 23 CFR § 771.111(f).

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

P-047-014

ISTEA (Public Law 102-240) is a Federal law that made major changes to transportation planning and policy as embodied in Title 23 of the United Stated Code.

Isolated rural nonattainment and maintenance areas

Areas that do not contain or are not part of any metropolitan planning area as designated under the transportation planning regulations. Isolated rural areas do not have federally-required metropolitan transportation plans or TIPs and do not have Projects that are part of the emissions analysis of any MPO's metropolitan transportation plan or TIP. Projects in such areas are instead included in statewide transportation improvement programs. These areas are not donut areas.

Long-range Plan (LRP)

This is a 20-year horizon plan that identifies facilities that should function as an integrated transportation system, and are developed pursuant to Title 23 and 49, U.S.C. (United States Code). It gives emphasis to those facilities that serve important national and regional transportation functions, and includes a financial plan that demonstrates how the long-range plan can be implemented. Both the SLRP and MTP are examples of long-range plans.

Long-Range Statewide Transportation Plan (also referred to as SLRP)

Long-range Statewide Transportation Plan means the official, statewide, multimodal, transportation plan covering a period of no less than 20 years developed through the statewide transportation planning process.

Major Project

Federal-aid Project funded under Title 23 with an estimated total cost of $500 Million or more. Major Projects are requires to submit a project management plan and an annual financial plan to FHWA for review.

Metropolitan Planning Organization (MPO)

The organizational entity designated by Federal law with lead responsibility for developing transportation plans and programs for urbanized areas of 50,000 or more in population.

Metropolitan Transportation Plan (MTP)

This is the official multimodal transportation plan addressing no less than a 20-year planning horizon that is developed, adopted, and updated by the MPO through the metropolitan transportation planning process.

NEPA and NEPA Process

The National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.) requires Federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. There are three NEPA classes of action: categorical exclusions (CEs), which may apply if an action meets established criteria and has no significant environmental impacts individually or cumulatively; environmental impact statements (EISs), which are required for actions with significant environmental impacts; and environmental assessments (EAs), which are used to evaluate an action when the significance of environmental impacts is not certain. An EA may result in a finding of no significant impact (FONSI) if analysis shows there are no significant environmental impacts or the action includes mitigation for potentially significant impacts, or an EA may result in the preparation of an EIS.

Non-metropolitan Area

The term "non-metropolitan areas" means all areas of a State that are outside the MPO planning boundary areas.

P-047-014

Operational Independence

This is a term unique to Major Project Guidance, which describes conditions under which a component of the overall Major Project may proceed if the component can be built and can function as a viable transportation facility even if the rest of the Project described in the environmental document is never built.

Project

A Project is an undertaking by a State highway department or local agency for highway, transit, or other action eligible for Federal funding or requiring Federal approval. In this document, the term "Project" (capital 'P') refers to a specific proposed facility or other action as defined in the NEPA document and includes every "phase of a Project", such as preliminary engineering, acquisition of rights-of-way and actual construction, unless otherwise stated. The term "project" (small 'p') is used here as a reference to a phase of a Project, or a component of such a phase (e.g., bridge piers or highway landscaping related to a Project).

Record of Decision (ROD)

A ROD presents the environmental decision by the Federal agency for a Project, the basis for the decision, identifies the selected alternative, and summarizes any mitigation measures that will be incorporated in the Project. The ROD can only be signed once the Project final EIS meets all the requirements in 23 CFR Part 771.

Regional Transportation Plan (RTP)

Some states refer to their MTP as RTP. They are the same document.

Statewide Transportation Improvement Program (STIP)

This is a statewide prioritized listing/program of transportation projects covering a period of four years that is consistent with the long-range statewide transportation plan, metropolitan transportation plans, and TIPs, and required for Projects to be eligible for funding under title 23 U.S.C. and title 49 U.S.C. Chapter 53.

Transportation Improvement Program (TIP)

Also known as a transportation program, a TIP is a prioritized listing/program of transportation projects covering a period of four years that is developed and formally adopted by an MPO as transportation plan, and required for Projects to be eligible for funding under title 23 U.S.C. and title 49 U.S.C. Chapter 53.

Year of Expenditure (YOE)

Year of expenditure dollars are dollars that are already adjusted for inflation. For example, if two identical items each have a current value of $1,000, it may in fact, cost $1,000 to purchase one of them in the first year of a Project, while it is estimated to cost $1,200 to purchase the other in the fourth year of a Project.

From: james.saxton@dot.gov
To: Wills, Heather; Ted.Uyeno@dot.gov; Gehrke, Linda; McAvoy, John
Cc: Heilman, Jeff
Subject: RE: BRP recommendations and NEPA
Date: Monday, March 14, 2011 2:57:08 PM
Attachments: CRC supplemental evaluations and BRP 2.3.14.11 ss suggested edits.docx

P-047-014

Heather,

FTA has made some suggested edits. Overall, the paper is reflective of previous discussions. Please keep in mind that while we anticipate that a re-eval appears sufficient for the composite truss based on the information we have at this time, without the current benefit of the re-eval, we cannot commit that a re-eval is all that will be needed. Thanks for the opportunity to review.

Steve

From: Wills, Heather [mailto:WillsH@columbiarivercrossing.com]
Sent: Monday, March 14, 2011 10:45 AM
To: Saxton, James (FTA); Uyeno, Ted (FTA); Gehrke, Linda (FTA); McAvoy, John
Cc: Heilman, Jeff
Subject: BRP recommendations and NEPA
Importance: High

Good morning!

Attached is a draft document that outlines the implications of the BRP recommendation related to NEPA, and specifically the need to do a supplemental EIS. We have outlined that a composite truss bridge type on the same alignment would not require a supplemental EIS because any impacts have already been disclosed in the DEIS. Further, we outline why the high level bridges would likely require an SEIS based on the environmental impacts that have not been disclosed.

This weekend I went back and reviewed all the screening documents to see how we documented the rationale for dismissing the high level bridges, and it was because they would cause safety impacts to aviation. The high bridges were not dismissed because of permitting issues, which I think is an important point. Furthermore, the screening criteria, as well as the dismissed alternatives, were adopted by the task force, InterCEP and discussed with the public in various venues.

We would greatly appreciate your review of the attached document that comprehensively discusses all of these issues. It would be helpful to have your feedback by tomorrow if possible. I know that is quick. Just let me know what you are able to do.

Thanks!
Heather

Heather Wills | Environmental Manager
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P-047-014

Implications of the BRP report on the NEPA process

This paper addresses the key questions regarding the BRP report and its effect on the NEPA process:

1. ~~Does~~ Do the new information and recommendations in the BRP report~~,~~ warrant the preparation of a supplemental DEIS (SDEIS)?
2. Would a SDEIS be required to advance either the cable-stayed or tied arch bridge to an FEIS?
3. Would a SDEIS be required to advance the composite truss bridge to an FEIS?

Based on NEPA regulations, case law, and conversations with the federal lead agencies, the consideration of the information and recommendations in the BERP report do not require preparation of an SDEIS. Similarly an SDEIS is not needed to screen out the high level bridges and advance the composite truss to an FEIS. However, an SDEIS would likely be required before one of the high-level bridges could be included in an FEIS or ROD. The difference between the process required for the different bridge types hinges primarily on the variance in impacts. The high level bridges would result in new, likely significant impacts that were not evaluated for the range of alternatives in the DEIS. The composite truss bridge type is nearly identical in character and in all issues bearing on environmental impacts to one or more of the alternatives evaluated in the DEIS. Furthermore, the composite truss would be the environmentally preferable option for the river crossing.

NEPA Regulations

CEQ NEPA regulations as well as FHWA and FTA NEPA regulations are clear that a supplemental EIS is not required merely because there is new information or new ideas. The expectation is that a DEIS cover a reasonable range of alternatives. At any point in the NEPA process, any person or group can suggest new ideas or provide new information, and the lead agencies should consider that information. However, that such ideas or information arise is not an inherent cause for preparing a supplemental EIS. A supplemental EIS is required only if the proposed action would result in significant environmental impacts that were not evaluated in the previous EIS (the new impacts could be the result of changes in the project itself or through changes in environmental information relevant to the proposed action's impacts). The key issue is that, in this situation, a SDEIS is required only if the proposed action itself changes, or environmental circumstances change, such that the proposed action would have new, significant impacts not evaluated in a previous EIS.

If the CRC proposed action for the river crossing bridge type is revised to the cable-stayed design, there would be new, potentially significant impacts not evaluated in the DEIS. If the proposed action for the river crossing is revised to the composite truss, there would be no new significant impacts that were not previously evaluated in the DEIS.

CEQ NEPA regulations (40 CFR 1500) describe two basic situations in which agencies are required to prepare a supplemental EIS:

- *"Agencies shall prepare supplements to either draft or final environmental impact statements if:*
  - *The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or*

P-047-014

- *There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."* (1502.9(c)(1))

This aspect of the CEQ regulations is essentially mirrored and supplemented in the FHWA and FTA NEPA regulations. The following is from Title 23, Part 771 of the United States Code of Federal Regulations. This regulation prescribes the policies and procedures of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) for implementing the National Environmental Policy Act.

(a) A draft EIS, final EIS, or supplemental EIS may be supplemented at any time. An EIS shall be supplemented whenever the Administration determines that:

(1) Changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS; or

(2) New information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS. (23 CFR S 771.130)

The following describes how these parallel elements of the CEQ and the FTA/FHWA NEPA Regulations regarding supplemental EISs relate to the current situation for the CRC project.

When the Proposed Action Changes

The following is the language from CEQ and FTA/FHWA NEPA regulations regarding when changes in the proposed action would require preparation of a supplemental EIS. Agencies are to prepare a supplemental if:

- *The agency makes substantial changes in the proposed action that are relevant to environmental concerns* (40 CFR1502.9(c)(1))
- *Changes to the proposed action would result in significant environmental impacts that were not evaluated in the EIS* (23 CFR 771. 130 (a)(1))

As noted previously, the mere presence of new design or project ideas does not trigger the need for an SDEIS. There must be actual changes to the proposed action, and those changes must result in new, significant environmental impacts not previously evaluated in an EIS. Merely considering new information and considering new ideas does not constitute a change in the proposed action.

If the composite truss is advanced there would be no substantial changes in the proposed action relevant to environmental concerns; there would be no significant environmental impacts from the proposed action that were not evaluated in the DEIS. Environmental impacts would be essentially the same as those evaluated for the open web box and well within the scope of impacts evaluated and disclosed in the DEIS. The composite truss bridge would not require an SDEIS before advancing to an FEIS. The current process to gather public and agency input, evaluate impacts and conduct a "re-evaluation" has indicated that the composite truss design could advance directly to an FEIS.

For the high-level bridges, however, because of their additional and potentially significant environmental impacts that were not evaluated in the DEIS, an SDEIS would likely be required

P-047-014

before they could advance to an FEIS and ROD. The primary concern is that these bridge types were evaluated by the project (with public and agency input) in 2006-07 and were dropped from further consideration, primarily because of aviation-related concerns. That evaluation and conclusion were communicated to the public and agencies in 2007 and these bridge types were referenced in the DEIS as options that had been evaluated but were no longer being considered.

To change that conclusion at this point in time would introduce potentially significant impacts and regulatory issues that were not evaluated in the DEIS, including substantial above-deck structures on the river crossing, substantial intrusion into Pearson Field airspace, the likelihood of a hazard determination from FAA, impacts on airfield operations and safety, and potential liability associated with any such impacts. Changing to this bridge type introduces new, potentially significant issues that were not evaluated or proposed in the DEIS. Bridges that would have these kinds of impacts were eliminated before the DEIS was published.

In addition, the cable-stayed or tied arch bridge would have greater impacts to threatened and endangered species due to the need for more in-water construction. They have fewer but larger bridge pier foundations than the composite truss, thus requiring 10 - 20% more temporary pile driving than the composite truss bridge and potentially the need for additional, larger coffer dams. The cable-stayed or tied arch bridge would also have three to four more acres of impervious surface area and therefore more storm water runoff, requiring more upland area to treat the runoff.

When New Information Arises

The following are the parallel excerpts from the CEQ and FTA/FHWA NEPA regulations regarding when new information or new circumstances require preparation of a supplemental EIS. Agencies are to prepare supplements if:

- *There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.* (40 CFR 1502.9(c)(1))
- *New information or circumstances relevant to environmental concerns and bearing on the proposed action or its impacts would result in significant environmental impacts not evaluated in the EIS.* (23 CFR 771. 130 (a)(1))

These conditions clearly do not indicate that the mere presence of new information, even significant information, requires the preparation of a supplemental EIS. The new information has to both significant and relevant to the environmental concerns of the proposed action or its impacts. As 23 CFR clarifies, the new information has to result in significant environmental impacts from the proposed action not evaluated in the EIS. This condition refers to the situation in which the proposed action itself may not have changed since the DEIS, but new information, for example regarding environmental conditions, has come to light such that significant environmental impacts not previously evaluated in the existing DEIS, will now result from the proposed action.

The BERP report clearly provides some new information that was not available during the DEIS. The BERP report recommends not advancing the open web design and instead recommends that the project advance either the composite truss, cable-stayed or tied arch bridge type. The BERP made these recommendations based on new analysis they conducted regarding cost and

P-047-014

schedule risks; they did not evaluate environment impacts and their recommendations were not based on environmental concerns.

The BERP report also provides information regarding aviation safety and FAA regulatory standards. However, this information is not fundamentally different from what was used in 2006-7 to evaluate conceptual bridge types (low, mid, and high level bridges). That evaluation led the project and CRC Task Force to drop "high-level bridges" (including cable-stayed and tied arch designs) from further consideration. The "Draft Components Step A Screening Report" (CRC 2007) documents the criteria that were used to evaluate and either advance or drop bridge options in that phase of project development.

As documented in the 2007 report, this screening criterion was based on impacts to safety, including aviation, traffic and navigation safety. The airspace-related safety question was based on encroachment; it did not rely on the outcome of any reviews or approvals from FAA. Rather, the screening criteria were built off of the project's Problem Statement and the Purpose and Need, and they were adopted by the 39-member CRC Task Force. The aviation safety criterion stated that in order for a component to be advanced for further consideration, it:

- *Must not create a significant new encroachment into the Pearson Airpark airspace, and*
- *Must not encroach into PDX airspace.* (p. 3-16)

The 2007 report notes that all of the high level bridges failed the first part of this criterion and some might also fail the second part. Failing either part of this criterion was rationale for dropping that option from further consideration. Through this evaluation and following input from the public and recommendations from the Task Force, high level bridges were dropped from further consideration.

The 2010 BERP study and recommendations do not change this basic finding from the 2007 analysis and report – both the cable-stayed and tied arch bridge designs recommended by the BERP would fail to meet the first half of this adopted criterion. The BRP suggested that impacts on the airspace might be allowed by FAA, but that is irrelevant to the adopted criterion that eliminated these bridge types in 2007. While there is no prohibition against changing screening criteria at this time, nothing in the BERP report provides new information that would reverse or negate the fundamental rationale upon which the 2007 criteria were based. Therefore, the 2010 BERP report does not provide significant new information regarding aviation issues or the reasoning used to eliminate high level bridges from further consideration. It also does not provide new information bearing on significant environmental impacts from the proposed action. As noted above, an SDEIS would likely be triggered only if the high-leveled bridges become part of the proposed action. Changing the proposed action to the composite truss would not.

When it is unclear if a Supplemental is required

When the conditions that require agencies to prepare a supplemental EIS are absent, then agencies can conclude that a supplemental EIS is not required. The FTA and FHWA NEPA Regulations also provide a process that agencies can follow if they are uncertain about the significance of new impacts that would result from changes in the proposed action (23 CFR § 771.130):

P-047-014

(c) Where the Administration is uncertain of the significance of the new impacts, the applicant will develop appropriate environmental studies or, if the Administration deems appropriate, an EA to assess the impacts of the changes, new information, or new circumstances. If, based upon the studies, the Administration determines that a supplemental EIS is not necessary, the Administration shall so indicate in the project file.

The "environmental studies" cited in the above text are not synonymous with "supplemental EIS". The regulation clearly states that the "studies" would be used to determine whether or not a supplemental EIS is needed. The more appropriate instrument to accomplish this would be a NEPA "Re-evaluation" – the purpose of a NEPA re-evaluation is precisely to determine if, based on changes that have occurred since the previous EIS, a supplemental is required. CRC project staff, ~~together~~ after discussions with FTA and FHWA, has evaluated the environmental impacts of the BERP recommendations based on currently available information and have provided this information to elected officials, the public and other stakeholders for review and comment. Following the public outreach process, and direction from the governors regarding bridge type, the lead agencies will conduct a NEPA re-evaluation on whichever bridge type(s) is/are advanced. As previously described, the cable-stayed and tied arch bridge types would likely require an SDEIS, while the composite truss very likely would not.

Would the purposes of NEPA be furthered by preparing a Supplemental EIS on the BERP recommendations?

In addition to specifying when agencies must prepare supplemental EISs, the CEQ NEPA regulations also indicate when agencies may prepare one but are not required to.

- *Agencies may also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so.* (1502.9(c)(2)).

The two main purposes of NEPA are to ensure environmental information is available to decision makers and the public before actions are taken, and to have better informed decisions based on environmental ~~consequences~~implications.[1] New information is continually developed during the NEPA process, but that doesn't mean that an SDEIS is needed to ensure that it is available to decision makers and the public, or to better inform decisions based on environmental consequences. The environmental consequences of the BERP recommendations have been and are continuing to be made available to the public and agencies for comment, and to decision makers before actions are taken. A Supplemental EIS on the BERP recommendations would not add meaningful opportunities for public / agency involvement that the project has not already made available in the past or currently.

In fact, a SDEIS on the full range of BERP recommendations would be contrary to elements of CEQ NEPA regulations that require agencies to reduce excessive paperwork (40 CFR Section 1500.4) and to reduce delay (40 CFR Section 1500.5). While an SDEIS would likely be needed before advancing either of the high level bridges to an FEIS or ROD, an SDEIS is not needed or appropriate for merely considering and screening the BERP recommendations.

Following the release of the BERP report, the project reviewed the comments received during the preparation of the DEIS, the DEIS comment period and comments received while the bridge panel was convened. It was clear that the public, both through the CRC Task Force meetings and open houses during the 2006-2007screening process had several opportunities to comment

P-047-014

on high level bridges, including the elimination of them from further consideration. Also, there was opportunity in the summer of 2008 to comment on the DEIS discussion of "alternatives eliminated from further consideration", which included all high level bridges. Finally, during the BERP process and subsequent to publication of the report in 2010 and early 2011, the public was invited again to comment on this issue and the BERP report and recommendations.

The project team evaluated the new information presented in the BERP report to explore how the information might affect the findings in the DEIS and if the bridge type should be changed from the open web to one of the recommendations in the report. Impacts cannot be precisely measured without more detailed designs, but the magnitude of the additional impacts associated with the high level bridges is high enough to clearly conclude that the composite truss is environmentally preferable to either the cable-stayed and tied arch bridges.

Case Law Regarding when a Supplemental EIS is or is not needed

The court decisions listed below reinforce the above conclusions drawn from the regulations, including:

- Changes in the proposed action only require a supplemental EIS if they result in significant impacts not previously evaluated in an EIS.
- The availability of new information or new ideas does not trigger the need for a supplemental EIS; new circumstances only require a supplemental EIS if they result in significant impacts from the proposed action not evaluated in a previous EIS.

Two of the court decisions below also clarify that new economic/cost information, and changes that improve environmental impacts of the proposed action, do not require preparation of a supplemental EIS. The following case law references are from Robinson (2006).

- A supplemental EIS is not necessary *"every time new information comes to light after the EIS is finalized."* – Marsh v Oregon Natural Resources Council, N 94 supra, 490 US at 373.
- *"The new circumstance must present a seriously different picture of the environmental impact of the proposed project from what was previously envisioned."* – Sierra Club v. Froehlke, 816 F.2d 205, 210 (5th Cir. 1987)
- *"The key to whether a SEIS is necessary is not whether the area has undergone significant change, but whether the proposed road work will have a significant impact on the environment in a manner not previously evaluated and considered"* – South Trenton Residents Against 29 v FHWA, 176 F.3d 658 (3rd Cir. 1999)
- *"The test is whether the new information so alters the project's character that a new 'hard look' at the environmental consequences is necessary."* – Sierra Club v. Froehlke, 816 F.2d 205, 210 (5th Cir. 1987)
- Economic recalculations do not require a supplemental EIS if the initial environmental conclusions need not be changed accordingly - Native Ecosystems Council v. United States Forest Service, 54 Fed. App. 901, 2003 US App. LEXIS 353 (9th Cir. 2003)
- The US Army Corps of Engineers changed some aspects of a proposed regional water project after the FEIS. These changes made a difference in the environmental consequences, and plaintiffs argued that a supplemental EIS was needed given these changes. The court said that the changes actually resulted in a reduction in

P-047-014

environmental impacts and upheld the agency's determination that no SEIS was needed. – Arkansas Wildlife Federation v. US Army Corps of Engineers, 431 F.3d 1096 (8th Cir. 2005)

CEQ NEPA Regulations regarding the purpose of NEPA process (40CFR Sec. 1500.1).

(a) The National Environmental Policy Act (NEPA) is our basic national charter for protection of the environment. It establishes policy, sets goals (section 101), and provides means (section 102) for carrying out the policy. Section 102(2) contains "action-forcing" provisions to make sure that federal agencies act according to the letter and spirit of the Act. The regulations that follow implement section 102(2). Their purpose is to tell federal agencies what they must do to comply with the procedures and achieve the goals of the Act. The President, the federal agencies, and the courts share responsibility for enforcing the Act so as to achieve the substantive requirements of section 101.

(b) NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA. Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail.

(c) Ultimately, of course, it is not better documents but better decisions that count. NEPA's purpose is not to generate paperwork--even excellent paperwork--but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment. These regulations provide the direction to achieve this purpose

From: Wills, Heather
To: "John.McAvoy@dot.gov"
Cc: Saxton, Steve
Subject: RE: FTA/FHWA re-eval checklist
Date: Tuesday, March 29, 2011 8:33:28 AM

P-047-014

I would really rather just use the one we already did and add two signature blocks. Since there is no prescribed format for re-evaluations I think this will work.

Heather Wills | Environmental Manager
p. 360.816.2199
willsh@columbiarivercrossing.org

-----Original Message-----
From: John.McAvoy@dot.gov [mailto:John.McAvoy@dot.gov]
Sent: Tuesday, March 29, 2011 7:55 AM
To: Wills, Heather
Cc: Saxton, Steve
Subject: FTA/FHWA re-eval checklist

Heather-

Steve had a FTA/FHWA re-evaluation template. I think we only need minor revisions to reflect the CRC's role (in place of WsDOT) as the local official. Transfer the data to this template, send it back to me, and I think we might be in a good position.

-John

John McAvoy, PE
Major Project Manager
FHWA-Oregon Division
610 E. 5th Ave.
Vancouver, WA 98661
Office: (360) 619-7591
Cell: (503) 949-5980

-----Original Message-----
From: Saxton, James (FTA)
Sent: Tue 3/29/2011 7:33 AM
To: McAvoy, John (FHWA)
Subject: RE: NEPA Experts

We can certainly craft a reply that limits the decision to the narrow question at hand. I think Ted will insist.

I've attached a joint form. Below is a link.

http://www.fta.dot.gov/regions/region10/regional_offices_7747.html

-----Original Message-----
From: McAvoy, John (FHWA)
Sent: Tuesday, March 29, 2011 7:27 AM
To: Saxton, James (FTA)
Subject: RE: NEPA Experts

P-047-014

Steve-

This morning I got an email from our NEPA experts stating, "I think the answer to the narrow question of whether the composite truss on the same alignment, assuming no other changes, is fairly easy and agree that a supplemental DEIS is not necessary." There is still concern that this narrow question will provide the CRC with an opening for interpretation and application to other decisions. For now, I think this provides what we need to complete the re-evaluation.

I still think we can craft the signature blocks with a little revision to reflect a co-federal lead decision process. (You know, turn the FTA document into a FTA/FHWA document). I'll work with Heather on that if it's OK with you.

-John

John McAvoy, PE
Major Project Manager
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610 E. 5th Ave.
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Office: (360) 619-7591
Cell: (503) 949-5980

-----Original Message-----
From: Saxton, James (FTA)
Sent: Tue 3/29/2011 7:03 AM
To: McAvoy, John (FHWA)
Subject: NEPA Experts

Any resolution with your NEPA experts?

Sightline Daily
News & Views for a Sustainable Northwest

Sightline Institute

Disappearing Cars, Circa 2002

Northwest traffic started leveling out long before the recession began.

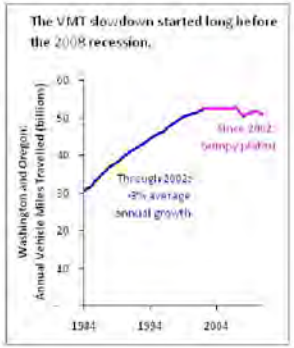
Clark Williams-Derry on August 8, 2011 at 12:03 pm

This post is 15 in the series: Dude, Where Are My Cars?

P-047-014 For months now, we've been tracking the fact that vehicle travel in the Northwest—both in general, and on specific urban highways—has been surprisingly flat for years, even decades.

One of the most common reactions to this news has been: *well, duh, there's a recession on.* A few folks have argued that once the recession lifts we'll see vehicle travel resume its steady ascent.

I think that misses the point of what we're finding. **The slowdown in vehicle travel started long, long before the current recession began.** In fact, it started back when the economy appeared to be humming along quite nicely.



The graph to the right shows it best. Total annual vehicle travel in Washington and Oregon grew steadily for many years. Then, in about 1999, growth started to moderate. And after a few years of slower-than-average increases, traffic volumes essentially plateaued in 2002.

Since 2008 we've seen driving dip, tick upward, and then dip again—which is perfectly consistent with what's happened with the economy and fuel prices.

But the interesting part of the story isn't the recent trends. It's what happened *about a decade ago* to make the VMT curve flatten out.

Remember, there was a bit of a recession in 2002—the year of the VMT plateau. But from 2002 through 2007, unemployment in the Northwest fell steadily, even as the population of Oregon and Washington grew at a steady clip.

But still, despite increases in both population and economic activity, VMT in the two states barely budged from 2002 until the recession began.

I'll leave it to some future PhD student to figure out precisely what caused the shift in VMT trends in the late 1990s and early 2000s. I have lots of theories:

Major urban highways hitting **capacity constraints**;

Increases in gas prices, coupled with a growing belief that gas prices wouldn't ever hit the lows of the late 1990s again;

Demographic changes, with more senior citizens and smaller families leading to less driving per person;

Land use shifts that let more people walk, bike, or take shorter, chained car trips for daily errands;

Possibly, declines in **new road construction**;

An increase in **flexible work schedules**, with more people working from home on some days;

The **internet** cutting back on shopping and/or work trips;

Cultural shifts that substituted tech toys for cars as objects of desire; and

Economic shifts, with fewer teens working (or looking for work) and widening income disparities that made it hard for some folks to pay for cars and gas.

Those are just theories; some are probably wrong. But regardless of the precise reasons, the trends themselves are clear enough. The

P-047-014 Where are my cars?" story doesn't simply follow the trajectory of the recession. It's a more complex story, with older roots.

Previous post in series:
« Washington's 700 Million Gallon Diet

Next post in series:
A Generational Shift In Driving? »

Read more in Land Use & Transportation

Comments

Eugene Wasserman says:
August 10, 2011 at 10:29 am

The major increase in the 1980's for vehicle miles traveled was from the increase of women moving in to the work force. That shows the step increase in vehicle miles traveled.

In the 2000 to 2010 years the City of Seattle lost 40,655 jobs, while the region outside Seattle gained 51,130 which would cause a plateau on urban highways.

Seattle's population growth was below the region's growth.

The plateau in the urban highway BMT's traveled are probably the result of the plateau of Seattle's population's growth and the major decrease in Seattle's employment.

Reply

Eric de Place says:
August 10, 2011 at 11:10 am

Eugene,

I don't follow your reasoning. The chart shows total VMT for Washington and Oregon combined, not for Seattle by itself.

If employment and population really did shift outside of Seattle (or other city centers) during the 2000s one would assume that would have exerted an upward pressure on VMT. So, in other words, the plateau in VMT starting in 2002 is even more remarkable.

Reply

SpencerPDX says:
August 11, 2011 at 1:48 am

In your list of potential reasons for declining VMT you might also consider adding a bullet point for environmental concerns.

The early 2K's is about when I started paying serious attention to troubling information about the impact of formerly fossilized carbon on climate. I imagine I'm not the only one.

Not that most of us (myself included) totally stopped driving because of this concern.

But where in the early nineties I saw driving as a fairly guilt-free activity that was a form of recreation in and of itself, now I tend to look at it as something I only do when the destination warrants it. And that mainly comes down to the fact that in the intervening years the burning of fossil fuels started to seem like an all-around bad idea, a thing to be avoided if possible. (Especially if an alternative like biking or walking is easy and pleasant.)

So while environmental concern might not lead to major behavior changes for most of us, it could contribute to a trend away from driving. This in much the same way that high gas prices won't entirely stop people from driving, but might make them think twice about it.

Reply

Clark Williams-Derry says:

August 11, 2011 at 7:09 am

P-047-014 That's a good point, Spencer! And I suppose we could add national security concerns as another possibility. After 9/11, a lot of folks who never think twice about the environment started thinking hard about the security implications of oil imports.

Reply

Eugene Wasserman says:
August 11, 2011 at 7:05 am

VMT's generally follow employment growth. So I cannot totally explain the plateau except to guess the as people and jobs move to the suburbs people are actually closer to their jobs. The other guess would be that as people sit in traffic they are driving less miles.

The decline would be the impact of gas prices which if I remembered correctly occurred before the recession.

Reply

Clark Williams-Derry says:
August 11, 2011 at 7:18 am

For the Northwest, I think it's fair to say that VMTs used to follow employment growth. But since the late 1990s they haven't – or at least, not consistently.

I agree that road capacity constraints in urban areas may be part of the story. But again, the trends are statewide, and not all roads in the major metro areas of the NW are clogged at rush hour. And besides, some roads started becoming capacity constrained long before 2002.

My sense is that the biggest determinant of the trends has been gas prices – which hit all time inflation-adjusted lows in about 1999, and have followed a bumpy upward path since then. A lot of those other trends may have their roots in gas prices.

Reply

Eugene Wasserman says:
August 12, 2011 at 9:25 am

It is important to take into account the increasing consultants and workers working out of their homes and the probably reduction of in store retailing because of Amazon.

Reply

SpencerPDX says:
August 19, 2011 at 9:40 pm

Another theory to add to the pile, this one from Ezra Klein:

"What could explain this cultural shift? Maybe more young people are worried about the price of gas or the environment. But—and this is just a theory—technology could play a role, too. Once upon a time, newly licensed teens would pile all their friends into their new car and drive around aimlessly. For young suburban Americans, it was practically a rite of passage. Nowadays, however, teens can socialize via Facebook or texting instead—in the Zipcar survey, more than half of all young adults said they'd rather chat online than drive to meet their friends"

http://www.washingtonpost.com/blogs/ezra-klein/post/why-are-americans-driving-less/2011/08/18/gIQALv7tNJ_blog.html

Reply

Sightline Daily
News & Views for a Sustainable Northwest

Sightline

Washington's 20 Billion Mile Diet

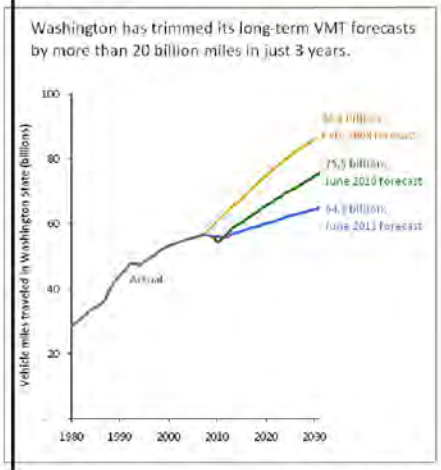
State traffic forecasts have changed radically in just three years.

Clark Williams-Derry on August 2, 2011 at 11:32 am

This post is 13 in the series: Dude, Where Are My Cars?

P-047-014 According to the most recent forecasts from the Washington State Office of Financial Management, drivers in Washington State will rack up about 65 billion miles on the highways in 2031.

I have no idea if that number is anywhere close to accurate. Nobody does. But what I do know is that the current estimate is 21 billion miles *lower* than the forecast that OFM made 3 years ago, and more than 10 billion miles lower than their forecast from just last year. The chart has the details:



It's awfully tempting to suggest this chart shows that OFM is gradually groping towards more realistic traffic projections.

But does it, really? To be honest, I don't actually know if the blue line is more "realistic" than the orange line. Sure, the blue line is more consistent with the actual traffic trends over the last decade--a period when annual VMT growth slowed to a crawl. But I don't have a crystal ball that tells me which of the three lines is the most "realistic" depiction of the future.

Instead, I think the real lessons of the chart lie elsewhere.

The first lesson is this: *nobody has any special insight into the future*. Future VMT trends aren't a feature of objective reality that smart people can sit in a room and puzzle out. They're just ***guesses***. Sometimes new information comes in, and the guesses change. Sometimes they change radically, enough to make the best guesses from a year earlier look ludicrous. So it's important to remember that even if particular forecast matches up with your world view, *it's still just a guess*.

Which leads to a second lesson: *nobody should take official VMT forecasts too seriously*. Three years ago, the "official" guess was that

P-047-014 here would be lots of new demand for road space, and lots of new gas tax revenue to pay for it. Today, the "official" guess is that statewide gas consumption peaked in 2002 or 2003, never to rise again; that gas tax revenues are going to decline unless the state ramps up the tax rate; and that the demand for new road space is going to slow to a crawl. Those are two completely contradictory views from the same agency in the same political administration. So all the hot air that was spewed about the dire need for new transportation megaprojects to avoid the near-certainty of a trafficopalypse showed nothing more than hubris, overconfidence, and a dismal understanding of how forecasting actually works.

And there's a third lesson here: *forecasts can be dangerous*. People have a tendency to take official forecasts awfully seriously. But the decisions we made three years ago that we "had" to put lots of new megaprojects into the pipeline, based on forecasts of massive gridlock in 20 years, could very easily turn out to be dreadfully costly mistakes. When we place too much confidence in any one forecast, we can wind up making terrible decisions.

To me, the rapid change in traffic forecasts argues for a new way to think about transportation investments: that we make them smaller, more versatile, more nimble, more creative, and less likely to lock us into huge long-term expenses for projects that we might not actually need. In short, it argues for an approach that's the *exact opposite* of all the multi-billion dollar bridges, tunnels, and highway expansions that are on the docket in the Northwest.

Previous post in series:
« WSDOT vs. Reality

Next post in series:
Washington's 700 Million Gallon Diet »

Read more in Land Use & Transportation

Comments

Southender says:
August 2, 2011 at 11:50 am

Great post as usual.

As a side note to actual state VMT, the most conservative estimate of the unrecovered costs of driving is $0.15/mile (source: FHWA) (a subsidy by any other name, but anyway...). If we were to asses just the most direct costs, Washington state and its communities would receive $9.75bn every year. That money would go a long way toward dealing with pavement condition, structurally deficient bridges, and even Sen Haugen's beloved ferries -- and would reduce a bit of VMT to boot.

Reply

Jim says:
August 2, 2011 at 10:14 pm

I've seen this graph before and it used to justify why we don't need the vast road infrastructure that the state is planning. I take the point that the WSDOT estimates are based on models and are just projections, but the obvious point hasn't been made. I don't know whether its justifiable, but I'll make the point anyway.

Doesn't the "rapid change in traffic forecasts" seem to correspond nicely to the drop in our economy and the shedding of jobs? Would it therefore suggest that these traffic improvements are not unnecessary when the economy returns, jobs return, and people begin commuting to work again?

Reply

Clark Williams-Derry says:
August 3, 2011 at 8:51 am

Jim-

The economy is definitely a major force in the trends from 2008.

It's possible that forecasters are feeling gloomy, and their long-term GDP growth forecasts have been affected by the short-term

P-047-014

economic woes.

But reading the numbers, VMT growth slowed WAY before the economy cratered. As I read things, it looks like the forecasts are moving towards a belief that "things in the future will look like they did from 2001-2007, rather than from 1992 through 2000." In some ways, what's happening is that an OLD vintage of super-over-optimistic forecasts that seemed reasonable in the 1990s is going away, and a NEW vintage of semi-optimistic forecasts that match the early 2000's is coming into force.

Here's what I think has changed in the models:

1) Forecasters now think that oil prices are going to remain high. As recently as 2008, ALL of the major oil forecasts showed oil prices at ~$30/barrel and roughly flat/declining as far as the eye can see. The runup that started in 2005 was seen as a temporary blip. But even though the economy is still struggling mightily, oil prices are high -- so high & ascending oil prices are now built into the models. (Incidentally, from what I've seen the models are based on assumptions that gas will be ~$3 per gallon).

2) Forecasters now better understand how consumers react to high gas prices. For a couple of decades, gas price blips had no appreciable effect on demand. When gas prices went from $1 to $1.20, nobody batted an eye everyone kept buying. So the "professional" opinion was that gas price elasticity was incredibly low -- people would continue to drive no matter how high prices got. But it seems that gas at $4 a gallon has really made a dent in people's appetite for travel. Elasticity is higher than people thought. Couple that with higher than expected gas prices, and you get a significant dampening effect on driving.

3) The understanding of demographics -- seniors driving less, fewer teens and young people working -- may have changed, altering long-term estimates of trip generation.

There are probably other factors. The important thing, though, is that the long-term projections now show that the future will be like 2001-2007, not like the roaring 1990s. That may still be too optimistic! But it's not *just* that the sour economy in 2011 is changing expectations for economic growth in 2030; it's also that the models are catching up to the reality of what was happening in the early 2000s.

Reply

Steve Erickson says:
August 3, 2011 at 10:25 am

These sorts of grossly inflated forecasts have disastrous consequences for long term planning and economics. Right now there are two different sewer projects being planned on Whidbey Island that are based on straight line projections of 10 year old OFM "high-mid" population forecasts that are demonstrably way higher than has actually occurred. This is the result of a combination of the lag in updating the County's GMA population forecasts, attributable to the lack of planning dollars available right now, and the boomers previously in power consistently choosing from the high end of OFM population forecasts, despite hindsight consistently showing that the reality was different. So, now Oak Harbor (current population: about 23,000) is planning a $60 million new sewage plant and the non-municipal urban growth area of Freeland (current population: about 4,000) is planning a $40 million sewer.

Looking at census data since 1970 reveals that since 1980 the rate of population increase has dropped by about 50% for each succeeding decade. If this long term trend continues the 2010-2020 population increase rate will be close to 0%. In fact, Island County has actually lost population (a bit over 3%) in the last 3 years. So, Whidbey and Camano Island may be about to achieve a steady state population or decline. This is something boomers just can't comprehend.

Reply

Sightline Daily
News & Views for a Sustainable Northwest

Sightline

WSDOT vs. Reality

Puget Sound traffic forecasts don't even pass the laugh test.

Clark Williams-Derry on July 13, 2011 at 1:15 am

This post is 12 in the series: Dude, Where Are My Cars?

P-047-014 I wish I were making this up. The Washington State Department of Transportation continues to insist that traffic volumes on the SR-520 bridge across Lake Washington are going up up up—even though actual traffic volumes have been flat or declining for more than a decade! Here's a chart that makes the point.

In a charitable mood, you could forgive the 1996 projections. Back then, rapid traffic growth on SR-520 was a recent memory: up through about 1988, traffic growth was both steady and rapid.

By 2011, however, it should have been perfectly obvious that the old predictions were proving inaccurate. Yet WSDOT just kept *doubling down on their mistakes*—insisting that their vision of the future remained clear, even as their track record was looking worse and worse. So now they've wound up with an official traffic forecast, in the final Environmental Impact Statement no less, that doesn't even pass the laugh test.

It would be funny—if the state weren't planning billions in new highway investments in greater Seattle, based largely on the perceived "need" to accommodate all the new traffic that the models are predicting will show up, any day now.

In case you don't believe me about the numbers, feel free to check out the sources directly. I'd be happy to be corrected.

The data on recent traffic volumes—the dark green dots—come from three sources. I start with WSDOT's biennial Ramp and Roadway Report. Then, to add in the missing years I factor in data from the Annual Traffic Report series and Seattle's Traffic Flow Data. The blue trend line is just the basic linear regression of the blue dots, as calculated by Excel.

The light orange line is based on a projection that dates back to 1996, which was mentioned in WSDOT's 1999 Trans-Lake Washington

P-047-014

study. Since that report is only available on CD-ROM, but not online, I'll quote the report directly:

> Under the No Action solution set, Trans-Lake travel [on SR-522, SR-520, and I-90] is expected to increase by about 168,000 daily person-trips...in the year 2020...because capacity is limited on SR 520, only about 20,000 additional vehicle...trips are expected there.

(If current trends hold, the projections of 20,000 additional vehicle trips will be off by about 20,000 additional vehicle trips.)

The green line is from the 2002 Trans-Lake Washington Project report, also available on CD-ROM, which projected that traffic under the "No-Action Alternative" would grow by 20 percent through 2030.

The dark orange line—127,400 cars by 2030—is from the recently released Final Environmental Impact Statement for the SR-520 bridge replacement project. It's based on the projections described in part 1 of the "transportation discipline report" (see Exhibit 5-3 on p. 92 of the pdf, and the projections for SR-520 at Midspan under the 2030 No Build Alternative: 127,400 vehicles by 2030).

I could have included another projection from the 2006 Draft Environmental Impact Statement—127,860 vehicles per day by 2030, as claimed in Exhibit 10-8 in Appendix R part 6. But it was getting hard to fit all the wrongness on a single chart.

Now, I know that total traffic volumes aren't the only traffic trends worth paying attention to. The traffic models make projections about peak-hour delays as well, which are probably what commuters care most about. But given that the models have proven so stubbornly and preposterously wrong about traffic volume trends, it's hard to believe that they have much of value to say about future traffic delays.

[Thanks to Jake Kennon and Pam MacRae for help with the numbers!]

Previous post in series:
← The Tolled Tunnel: Almost An Earthquake?

Next post in series:
Washington's 20 Billion Mile Diet →

Read more in Land Use & Transportation

Comments

Cheryl dos Remedies says:
July 13, 2011 at 11:36 am

This is WSDOT's reality: a 12-lane highway cutting through the Arboretum's wetlands, from Montlake to Foster Island.

It breaks down like this: 3 lanes of traffic + 2 lanes of ramps + 1 lane of shoulder x 2 = 12.

I'm not sure how to reconcile the traffic data above with what I know about this project, so Clark, I could use your help.

During peak hours, my understanding is that I-5 cannot handle the increased traffic of a 6-lane bridge, so WSDOT is planning 4 lanes of ramps in the Arboretum's wetlands to store cars as they try to merge onto I-5. This will prevent back-ups into the Montlake neighborhood and at the I-5 interchange itself.

Word on the street is that the "ramps will be removed from the Arboretum," but this just isn't true. It is true that the existing ramps that peel off and connect to Lake Washington Boulevard (LWB) will be eliminated, yet the negative impacts to the Arboretum increase. Here's how: WSDOT is planning for the new ramps placed in the wetlands to connect back into LWB, just at a point that is technically outside of the Arboretum. WSDOT expects highway traffic to increase through the heart of the Arboretum along LWB.

Under current federal regulations, we should not be able to bisect a historic park with highway traffic at all, but WSDOT leans on the state's "pre-existing conditions."

Watch this video and please pay especially close attention to 3:40 - 3:50 and 4:14 - 4:30: http://www.youtube.com/watch?v=nCY7COUSs0k

And next time you are on I-5, count the lanes and imagine that swath pavement cutting through the Arboretum. Imagine kayaking in the Arboretum with 12 lanes of highway overhead.

12 lanes of highway to store idling cars in Seattle's most pristine wetlands. . . this is WSDOT's reality? This is insane.

Reply

Randy says:
July 13, 2011 at 1:01 pm

P-047-014 Bottom line, Seattle and WSDOT have no clue what they're doing. If you think effective traffic management is creating HOV lanes in on ramps and going from 6 lanes to 2 lanes downtown is effective, you're high. Even the express lanes aren't express any more. When it takes 45 minutes to get across either the 90 or 520 bridge, it is obvious there is no planning. There was no plan for traffic management in Seattle and I've lived in much larger cities where traffic wasn't half as aggravating. Add to the poor planning drivers who have NO clue how to drive and it all becomes a pile of mess.

I challenge anyone to figure out how to get the appropriate amount of traffic across any highway in this town all the while focusing on the environment. It can't be both ways. We can't expect to fix traffic issues and keep ALL environmentalists happy. It seems to me all the idling I do on the highway is worse for the environment.

Reply

archie says:
July 13, 2011 at 8:05 pm

Congestion pricing.

Reply

Clark Williams-Derry says:
July 14, 2011 at 2:29 am

bingo.

G-Man (Type E) says:
July 15, 2011 at 12:16 pm

No one will pay for congestion. They get plenty of it for free already.

How about "De-congestion price" or "free-flowing lanes charge" or "guaranteed travel time price" or anything else that accurately conveys that concept? How about instead of saying we want to toll or price a highway, we say we would like to sell commuters access to guaranteed free-flowing lanes. Focus on the benefit, and to support projects like pricing I-5 express lanes, let's trot out the evidence from other cities that this actually improves traffic flow in adjacent non-tolled lanes as well.

Randy,
If we add an extra lane you will pay more taxes or tolls for 30 years on an improvement that alleviates your idling for maybe 5 years max. After that congestion would be back to today's levels but with a higher cost to clean air, water and land. If we used variable tolls you would pay daily at your own discretion. A sign could say - this lane $5 / 15 minutes, that lane free / 30 minutes and you make your choice. How's that for freedom? (for the 520, your free alternative would be I-90 and any smartphone now can tell you the time difference). Variable tolls that assure travel time also mean faster, more reliable buses - means more people using them - means less competition on the road from other drivers - means lower tolls and a faster commute for you - a virtuous circle! You're wrong to think there isn't a solution - there is always a path to progress if we are bold enough to act without fear, grounded in solid evidence of the real relationships that shape our world.

Danny says:
July 25, 2011 at 2:12 pm

WSDOT already has some congestion pricing in place, why not bring it to Seattle?
http://www.wsdot.wa.gov/NR/rdonlyres/A43B9DD4-4228-482E-8F82-CEE3198315A0E/69595/2ndAnnualReport_I67HOTLanes2.pdf

P-047-014

Paul Sirkeland says:
July 13, 2011 at 2:58 pm

Well, Clark, as Kurt Vonnegut might have said, "Hi ho!"

I actually derive some hope here. If in the face of explosive growth in Redmond and at Microsoft over the last 16 years, and in the face of such moderate gas prices and overall population growth we still managed to reduce traffic volume, it makes me believe that there is some fundamental dynamic driving us (no pun intended) to drive less. Not sure what it is, but its impact is a positive one, and perhaps unstoppable.

As far as the DOT models go, I would wonder exactly how they were built. Typically models like that are not just linear extrapolations from the past. They are usually 'build ups' of various economic projections - this much freight traffic, this much commercial traffic, this much commuter traffic, etc. You add them up and get your total.

So what in the DOT models didn't happen, and why? Are we telecommuting more? Is freight going somewhere else? Is commercial activity developing in a different geographic pattern than projected?

Answers like that would substantiate the fallacy of the models, and perhaps lead to improvements that might yield more accurate estimates of future traffic.

Nice work here, Clark.

Paul

Reply

Clark Williams-Derry says:
July 13, 2011 at 3:17 pm

Paul - I don't pretend to be an expert on the models. But the PSRC travel model is basically a "4 step" model. Step 1 is to estimate demand for trips, based on projections of population, income, employment, fuel costs, and other economic/demographic factors. Step 2 is figure out where the trips go, based on a "gravity model" of the attractiveness of various destinations. Step 3 is to assign mode, and step 4 assigns routes.

My working hypothesis – which is really no more than a guess – is that step 1 isn't working well. Despite income & growth, we're not generating as many trips per person as we used to. I agree, that's a good thing overall, but some of the big causes aren't all good: high gas prices that cause economic hardship to families; lower-than-anticipated employment, particularly in certain demographics; etc. Regardless of the reasons, total VMT trends aren't moving the way people were anticipating they would. Things have changed. Will they change back? Who knows?!

But I also sense that there's something broken in Step 2. That is, the models overestimate the "attractiveness" of crossing 520. The models suggest that people should be lining up earlier & earlier to get to jobs & stores on the other side of the lake. Maybe they are – but if so, it's not reflected in total traffic volumes. And it seems to me that the flaws with the trip distribution step of the model surfaced long before the mid 2000's, when gas prices started to rise in earnest.

Reply

DJStroky says:
July 13, 2011 at 4:38 pm

Step 4 is where the bulk of the error comes from in my opinion. Most models won't immediately stop assigning traffic onto a road if the volume/capacity ratio goes over 1.

I think the real reason traffic hasn't grown on 520 is that it has been completely at capacity for the last 10 years or more. And not just 520, wherever there are roads that are completely clogged no growth ought to be expected.

Carl says:
July 15, 2011 at 12:08 pm

Then when we create new capacity on 520, there will be induced demand to drive it since it will be easier.

I wonder whether DOT has modeled the effects of tolling, or whether people understand that it is $7 round trip in peak times

P-047-014

Clark Williams-Derry says:
July 15, 2011 at 3:20 pm

Carl
I agree. I think that it's likely that if the bridge were widened and had no tolls, it would quickly get saturated with additional traffic.

Eric Doherty says:
July 13, 2011 at 5:42 pm

If I remember correctly it was General Motors that funded the development of 4-step traffic models.

Someone less polite than me might say that computer assisted BS is still BS. Good thing I am so polite and would never say such things.

Clark Williams-Derry says:
July 13, 2011 at 4:57 pm

DJStoky -
Good point. Maybe a synthesis: the results of step 4 don't get fed back into step 2. When roads get full (step 4) the increased travel times aren't properly factored back into the "attractiveness" of the affected destinations (step 2).

Reply

Levin Nock says:
July 15, 2011 at 10:27 pm

What will it take for the transportation planning industry to update the industry standard of modeling to include things like feedback loops, verification and calibration? A masters student would be flunked for a thesis with such woefully inadequate modeling, yet we continue to invest billions of dollars based on this "guidance".

Levin Nock says:
July 15, 2011 at 11:05 pm

Based on Rob's message below, it sounds like the actual models are quite sophisticated, but the results are usually labeled incorrectly. Has anybody seen a traffic forecast chart labeled "Number of trips that people wish they could take, in the absence of any congestion or congestion pricing"? I've never seen it. The word "forecast" suggests that the forecaster expects something to actually happen not that they expect people to wish for something that will never happen.

Ellin says:
July 13, 2011 at 3:27 pm

As you calculate the width of the new Floating Bridge (Stage 1, said to be funded) and the new West Approach Bridge (Stage 2, unfunded), note the additional 14-foot lane for the bicycle/pedestrian path, 10 foot shoulders, 11-foot general purpose lanes, 12-foot HOV lanes, all capable of being restriped for more lanes, and a gap ranging from 35 to 40 or so feet reserved for Light Rail between the "North Bridge" and the "South Bridge." WSDOT's Request for Proposals (RFP) is for a "Future Six-Lanes Plus Two HCT Configuration, not for a Four-Lanes Plus Two HOV Lanes to be converted to HCT later. See the RFP on WSDOT's site.

Reply

Rob says:
July 14, 2011 at 9:46 pm

This is a good observation, but not difficult to explain in modeling terms. Transportation models (all of them, not just WSDOT's, which is also the PSRC's) attempt to model demand, not throughput. In real life, traffic on both I-90 and SR 520 has been constrained by capacity

P-047-014

a long time. Eastbound and westbound traffic is about equal, not because there's equal demand each way, but because capacity limits have been reached in both directions. So yes, traffic's not likely to grow a lot more with the current facility – but that doesn't mean there aren't lots of people who would cross the lake if it weren't so onerous.

There is a volume-delay curve in the model that attempts to show how traffic will slow if demand exceeds capacity, but it's not perfect. When the model is calibrated to current conditions, it's tweaked until it produces results that match current volumes, so it's forced to show demand equal to throughput. But as population and employment grow in the future, the model will try to add trips incrementally throughout the network, so it's likely to show some growth. This effect is most pronounced for cross-lake trips, since there are no alternative routes to the two cross-lake highways. In other places the model is more successful finding other routes to move the demand to.

Demand has also been slowing recently because of the prolonged recession. The most effective transportation demand management strategy remains to wreck the economy – but it's not clear that's a good strategy to plan for over the longer term. Also, if 520 is widened, even for HOV, there will be more throughput because (1) there is a ton of latent demand there, and (2) in addition to increased capacity, just having shoulders will stop breakdowns and wrecks to bring traffic to a halt.

I think the take-away from this should be that model results should always be accompanied with a primer on modeling limitations. They aren't perfect, and every modeler will be honest about that. In real life traffic probably won't increase if the bridge isn't expanded, and it will get only marginally more congested. But more people will "wish" they could cross the lake than will be able to, and whether it's a good or bad thing to accommodate them is a policy choice, not a technical issue.

Reply

Clark Williams-Derry says:
July 14, 2011 at 10:31 pm

I totally agree with you about the limits of models – and that responsible modelers are always careful to respect those limits. If only we could get everyone to read a treatise on modeling limits (along with examples of obvious failure) before they were even allowed to contemplate model outputs, the world might be a better place.

But unfortunately, I'd argue that's not even close to the role that modeling plays in the public debate. Instead, politicians and project boosters treat model outputs as near-certain predictions of perpetual gridlock. In fact, I'd argue that the models underpin & prop up a broad and deeply flawed consensus about how travel habits change over time.

Which brings up a question – should we even bother to use models in a case like 520? The current crop of models is simply useless at predicting actual traffic trends, and the near-universal misinterpretation of model outputs deeply distorts the debate.

If politicians had the courage to say "we are building a wider bridge because we think that a lot of people would like to drive on it," we'd have an honest debate about the costs & benefits. But instead they say "ZOMG you'll all be stuck in traffic armageddon!!! I know it's true because....models!" And we wind up building more megaprojects than we need, paid for by people who don't see much benefit from them.

Reply

Levin Nock says:
July 16, 2011 at 7:41 am

It appears that the calibration process fudges the model, to pretend that the model is related to reality. Since 1996 and before, there have been plenty of people wishing they could travel more on 520; even in 1996, 2002 and 2011 when WSDOT pretended there were none. Since WSDOT wants to model wishes, rather than actual traffic, they should draw a horizontal line up around 200,000 or 300,000 or somewhere above, sloping gently upward, to make crystal clear that the only way to address this demand is with light rail and commuter rail, or possibly complete networks of free-flowing bus lanes and cycle paths.

Reply

Jessica says:
July 15, 2011 at 11:30 am

Clark, do you have data (and free time) to add actual traffic volumes from earlier years? I'd like to see when the downward trend started and whether the slopes of WSDOT's estimates have ever matched actual traffic growth. That is, has traffic ever grown that fast? If so, how long ago?

Thanks for this post-it's exactly why I donate to Sightline every month!

Reply

Jesse says:
July 15, 2011 at 7:24 pm

P-047-014 I now we need some increased capacity, but I'd rather that errored on the side of shoulders and HOV lanes. Those by themselves would double the size of 520 and probably greatly increase throughput.
But as I love to quote an Orlando traffic engineer: "Widening roads to solve traffic congestion is like loosening your belt to cure obesity."

Reply

Levin Nack says:
July 16, 2011 at 7:20 am

Here's a corollary:
"Forecasting Seattle traffic while assuming there's no congestion is like forecasting Seattle weather while assuming there's no rain."
It's not very useful, and it just might be misleading.

Reply

Southender says:
July 18, 2011 at 12:54 pm

People have commented that the translake connections are capacity constrained, which may have some merit with 520, though volumes and hours of delay are decreasing. Latent demand would likely absorb the freed up capacity if that were true.

Also, the I-90 bridge was forcast to have significant increases in traffic volume, which it has the capacity to sustain. Likewise, the models have significantly overestimated the ADT and peak-hour volumes there as well.

With the trends begining a long-term reversal in 1996, especially when compared to regional population growth, it's also hard to argue that the effect of either of the two recessions that happenend over that time-period is solely or even largely responsible for the decline.

Reply

Bryan says:
July 19, 2011 at 3:01 pm

I would think it would be readily apparent to everybody (but apparently it is not) that the reason traffic has been trending down is because natural changes to the structure of growth occured due to the restriction that seattle traffic placed upon that growth.

In most other cities you would see the core grow as whole local economy grew. Financial, shopping, etc would typically grow in the core as the outer businesses grew. So compare those traffic projects to Bellevue growth during that time. The growth of Bellevue could largely be attributed to the utter lack of access to downtown Seattle provided by the capacity of 520 and 90 (as well as horrible I-5 connections at their western termination).

Reply

Ralphus says:
July 19, 2011 at 9:48 pm

Using a linear regression to predict future traffic volumes from historic ones is a deeply flawed methodology. In fact, it is the almost assuredly the same methodology WSDOT used to generate the inaccurate growth predictions you're discussing (although perhaps using a longer time frame or area-wide figures). Maybe volumes really will not display much growth, as you predict, but a linear regression is not much proof of that.

Also, I thought clarification on the actual base-data in your graph might be pertinent. WSDOT's Ramp and Roadway Report provides Average Weekday Traffic (AWDT) volumes reflecting Tuesday through Thursday. This data is almost exclusively drawn from electronics in the roadway that are primarily purposed for real-time traffic management. However, most statistics in the Annual Traffic Report are

P-047-014 nual Average Daily Traffic (AADT) volumes reflecting Sunday through Saturday. This data is drawn from the WSDOT HQ traffic counting program, which is designed to collect data for planning purposes. Because weekday volumes are almost always higher than Sunday through Saturday averages, the statistics found in these two sources are not comparable. The only exception would be for the 150 or so permanent traffic recorders for which data is provided in the Annual Traffic Report. For these recorders (which are the most accurate that WSDOT has at its disposal) both AADTs and AWDTs are provided. One of these is on the 520 bridge, and is listed in the Annual Traffic Report as recorder D10. The AWDTs for this recorder are listed below, although the older ones need to be requested from WSDOT since AWDTs were not carried in the report until 2001.

2009 : 106599
2008 : 105994
2007 : 107040
2006 : 108237
2005 : 111035
2004 : 110293
2003 : 110524
2002 : 109719
2001 : 110541
2000 : 111786
1998 : 112671
1997 : 111281
1996 : 108719
1995 : 110094

Reply

Clark Williams-Derry says:
July 21, 2011 at 4:10 am

Ralphus-

It seems like you think that the dark green line is a prediction. This line is nothing more than a regression, describing the past trends. I'm not offering my own predictions here – only an observation that past predictions haven't held up.

Reply

Ron Richings says:
July 25, 2011 at 2:08 pm

I don't have a problem with your basic critique, but the graph that you used is really a bit misleading by virtue of eliminating the scale below 90,000. If you presented the full graph down to the zero base what now looks like a fairly vast discrepancy would instead look, correctly, like a relatively small proportion of complete traffic estimates.
I know, I know, people often use only sections of graphs to help illustrate their points, but it is really bad practise when used to give an overall impression for general public consumption.

Reply

Rhys Roth says:
July 26, 2011 at 3:37 pm

On the other hand, what really matters in terms of rationalizing expansion of the bridge is how much ADDITIONAL traffic is expected when. From that standpoint, Clark's graph focuses exactly on the essential information and does put it in proper perspective.

Reply

Stu Ramsey says:
July 26, 2011 at 3:56 pm

Wow, it's not everyday you see an extened discussion of the weaknesses of transportation models! I used to make a comfortable living

P-047-014

...nning this exact type of model, and I agree with many of the concerns raised. The models inherently assume that people will make the same decisions in the future that they did in the past. And that all trips will be completed, no matter how congested the network gets.

By and large, modellers spend a lot of time agonizing over small modelling questions (will this road have a capacity of 600 or 700 vehicles per hour?) and ignoring the larger ones (will there be carbon pricing? will the built environment encourage more active modes?).

For the truly dedicated student, I discuss these questions on my web site. You can go to http://www.transportplanet.ca/presentations.htm and scroll down slightly to the various links for "Of Mice and Elephants". Your choice of PowerPoint file, 40-minute video, or peer-reviewed technical (but still readable) article.

Among other things, I concur with Clark's statement that there are times when we would be better off to not run the model at all.

Reply

political_incorrectness says:
August 18, 2011 at 1:59 pm

They are trying to pull a George Massey tunnel with 520. 6 lanes to 2 never works and ends up forming one giant queue. Also, this might have negative consequences with I-5 southbound which suffers from chronic congestion from Lake City Way to the Ship Canal Bridge after the express lanes change over. Realistically, I-5 will probably need to be rebuilt for a 4x2x2x4 configuration in order to get the best throughput. It will be damn expensive but I think that is probably the best way to do it if I-5 is rebuilt. If they are expecting Eastside growth, they should probably allow transit expansion across the bridge. I find it disturbing that some believe the express lanes on I-90 provide valuable capacity when they are merged at the very end and only cause congestion later.

Reply

Dave says:
August 26, 2011 at 9:45 am

I think the heart of the matter here is a questions of how one manages the uncertainty of the future. Forecasts are not predictions of the future so much as they are risk management tools.

I completely agree that the trendline forecasts typically assume future trends will basically match the past. I'm working on the update to the GMA Transportation Element guidebook right now and one of the main new themes I'm trying to develop is how to manage uncertainty. Many have observed that our ability to predict the future based on the past is significantly less now that it was 20 years ago. If any of you care to visit the project webe site, I'd be very interest in your comments. We are releasing preliminary drafts chapter-by-chapter, with a final draft coming after that.

Reply

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Sightline Daily
News & Views for a Sustainable Northwest

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Dude, Where Are My Cars: Multnomah County

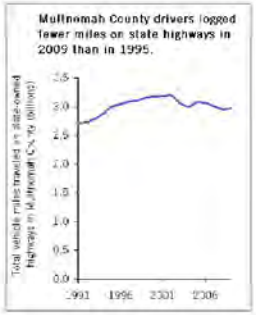
In Oregon's most populous county, there was less driving on state highways in 2009 than 1995.

Clark Williams-Derry on October 3, 2011 at 3:11 pm

This post is 18 in the series: Dude, Where Are My Cars?

P-047-014

Continuing my obsession with flat-lining traffic trends, here's a chart showing that drivers in Multnomah County--Oregon's most populous county, and home to Portland--logged fewer miles on state-owned highways in 2009 than they did in 1995. Traffic volumes on those roads hit their all-time peak in 2002.



The numbers all come from the Oregon DOT website (here's a link to the actual spreadsheet with county-level VMT figures).

What puzzles me is: why aren't the facts about flat traffic trends more widely known? It's not like they're particularly new; throughout the northwest, traffic growth has been defying predictions for well over a decade. Yet still, many folks who ought to know the trends are disinclined to believe them.

For example, one of the most common reactions (including an unflattering comment by an *Oregonian* reporter) to our report last month on Peak Gas--which showed that gasoline consumption in Oregon and Washington flattened out in 1999--was that the trend was largely caused by gains in the fuel efficiency of cars and trucks.

The thing is, *that's not actually true*.

For much of the period of "peak gas," the light-duty vehicle fleet was actually getting *less* efficient. Through the mid-2000s, the auto industry was focusing its technology improvements on increasing horsepower, not improving fuel efficiency. Meanwhile, sales of SUVs, minivans, and pickup trucks were gradually edging out cars. Between these two trends, the fuel efficiency of new light-duty vehicles fell fairly steadily from 1987 all the way through 2004. It was only in 2007 or so, after SUV sales had cooled a bit, that the average new vehicle was as efficient as the one it was replacing. (See this Department of Energy spreadsheet for details.)

So saying that a decade's worth of flat gas consumption was due to improving vehicle efficiency is simply an error; the trend included a long period of declining average mpg, and a shorter period, particularly after 2008, when the average mpg of the vehicle fleet improved. For the most part, the trend of flat-lining gas consumption is explained by the flat-lining in state-wide VMT.

To me, what this points out is the danger of relying on intuition and hearsay instead of hard data. Intuition says that we're driving more than ever, so any declines in gas consumption *must* be due to more efficient vehicles. Reality, however, tells a different story: person for person, we're driving less; total vehicle travel is holding roughly steady; and the gains in vehicle efficiency have been real, but more modest and more recent than you might think.

Previous post in series:
- Peak Gas Hits Oregon

Comments

rex burkholder says:

October 7, 2011 at 10:43 am

P-047-014 An interesting area to investigate for you is that, within the Metro region, there has been very little addition to the state highway network in the last 10 years. I would daresay that in Multnomah County, actual miles in the state system have declined as local governments assume control of large sections of state highways, including MLK Blvd (ex-99E), Sandy (ex-30).

There is also the phenomena, seen on the I-5 crossing data, that roads do fill up, and more vehicles on the road is just physically impossible as well as deterring to additional traffic.

We shouldn't be surprised that we get flat lining of traffic growth on a facility when we've stopped adding to the size of those facilities. I'd be interested in what has happened in WA state which has had the money and the push to add lots of new capacity in the last 10 years. Is driving plateauing???

Reply

Jesse says:
October 7, 2011 at 2:12 pm

Rex,
Check out the rest of the "Dude, Where's My Cars?" series. Most is about Washington.

Reply

U.S. Department of Transportation
Federal Highway Administration

TECHNICAL ADVISORY

GUIDANCE FOR PREPARING AND PROCESSING ENVIRONMENTAL AND SECTION 4(F) DOCUMENTS

T 6640.8A
October 30, 1987

P-047-014

1. PURPOSE. To provide guidance to Federal Highway Administration (FHWA) field offices and to project applicants on the preparation and processing of environmental and Section 4(f) documents.

2. CANCELLATION. Technical Advisory T 6640.8, "Guidance Material for the Preparation of Environmental Documents," dated February 24, 1982, is canceled effective on November 27, 1987.

3. APPLICABILITY

   a. This material is not regulatory. It has been developed to provide guidance for uniformity and consistency in the format, content, and processing of the various environmental studies and documents pursuant to the National Environmental Policy Act (NEPA), 23 U.S.C.109(h) and 23 U.S.C. 138 (Section 4(f) of the DOT Act) and the reporting requirements of 23 U.S.C. 128.

   b. The guidance is limited to the format, content and processing of NEPA and Section 4(f) studies and documents. It should be used in combination with a knowledge and understanding of the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA (40 CFR 1500-1508), FHWA's Environmental Impact and Related Procedures (23 CFR 771) and other environmental statutes and orders (see Appendix A).

   c. This guidance should not be used until November 27, 1987, the effective date of the 1987 revisions to 23 CFR 771.

Ali F. Sevin
Director, Office of
Environmental Policy

GUIDANCE FOR PREPARING AND PROCESSING ENVIRONMENTAL AND SECTION 4(F) DOCUMENTS

Background

An earlier edition of this advisory (dated February 24, 1982) placed major emphasis on environmental impact statements (EISs) and provided limited guidance on environmental assessments (EAs) and other environmental studies needed for a categorical exclusion (CE) determination or a finding of no significant impact (FONSI). The revised guidance gives expanded coverage to CE determinations, EAs, FONSIs, EISs, supplemental EISs, reevaluations, and Section 4(f) evaluations. This material is not regulatory. It does, however, provide for uniformity and consistency in the documentation of CEs and the development of environmental and Section 4(f) documents.

The FHWA subscribes to the philosophy that the goal of the NEPA process is better decisions and not more

P-047-014

documentation. Environmental documents should be concise, clear, and to the point, and should be supported by evidence that the necessary analyses have been made. They should focus on the important impacts and issues with the less important areas only briefly discussed. The length of EAs should normally be less than 15 pages and EISs should normally be less than 150 pages for most proposed actions and not more than 300 pages for the most complex proposals. The use of technical reports for various subject areas would help reduce the size of the documents.

The FHWA considers the early coordination process to be a valuable tool in determining the scope of issues to be addressed and in identifying and focusing on the proposed action's important issues. This process normally entails the exchange of information with appropriate Federal, State and local agencies, and the public from inception of the proposed action to preparation of the environmental document or to completion of environmental studies for applicable CEs. Formal scoping meetings may also be held where such meetings would assist in the preparation of the environmental document. The role of other agencies and other environmental review and consultation requirements should be established during scoping. The Council on Environmental Quality (CEQ) has issued several guidance publications on NEPA and its regulations as follows: (1) "Questions and Answers about the NEPA Regulations," March 30, 1981; (2) "Scoping Guidance," April 30, 1981; and (3) "GuidanceRegarding NEPA Regulations," July 28, 1983. This nonregulatory guidance is used by FHWA in preparing and processing environmental documents. Copies of the CEQ guidance are available in the FHWA Office of Environmental Policy (HEV-11).

Note, highway agency (HA) is used throughout this document to refer to a State and local highway agency responsible for conducting environmental studies and preparing environmental documents and to FHWA's Office of Direct Federal Programs when that office acts in a similar capacity.

SECTION SUBJECT

P-047-014

. CATEGORICAL EXCLUSION (CE)

Categorical exclusions are actions or activities which meet the definition in 23 CFR 771.117(a) and, based on FHWA's past experience, do not have significant environmental effects. The CEs are divided into two groups based on the action's potential for impacts. The level of documentation necessary for a particular CE depends on the group the action falls under as explained below.

A. Documentation of Applicability

The first group is a list of 20 categories of actions in 23 CFR 771.117(c) which experience has shown never or almost never cause significant environmental impacts. These categories are non-construction actions (e.g., planning, grants for training and research programs) or limited construction activities (e.g., pedestrian facilities, landscaping, fencing). These actions are automatically classified as CEs, and except where unusual circumstances are brought to FHWA's attention, do not require approval or documentation by FHWA. However, other environmental laws may still apply. For example, installation of traffic signals in a historic district may require compliance with Section 106, or a proposed noise barrier which would use land protected by Section 4(f) would require preparation of a Section 4(f) evaluation (23 CFR 771.135(i)). In most cases, information is available from planning and programming documents for the FHWA Division Office to determine the applicability of other environmental laws. However, any necessary documentation should be discussed and developed cooperatively by the highway agency (HA) and the FHWA.

The second group consists of actions with a higher potential for impacts than the first group, but due to minor environmental impacts still meets the criteria for categorical exclusions. In 23 CFR 771.117(d), the regulation lists examplesof 12 actions which past experience has found appropriate for CE classification. However, the second group is not limited to these 12 examples. Other actions with a similar scope of work may qualify as CEs. For actions in this group, site location is often a key factor. Some of these actions on certain sites may involve unusual circumstances or result in significant adverse environmental impacts. Because of the potential for impacts, these actions require some information to be provided by the HA so that the FHWA can determine if the CE classification is proper (23 CFR 771.117(d)). The level of information to be provided should be commensurate with the action's potential for adverse environmental impacts. Where adverse environmental impacts are likely to occur, the level of analysis should be sufficient to define the extent of impacts, identify appropriate mitigation measures, and address known and foreseeable public and agency concerns. As a minimum, the information should include a description of the proposed action and, as appropriate, its immediate surrounding area, a discussion of any specific areas of environmental concern (e.g., Section 4(f), wetlands, relocations), and a list of other Federal actions required, if any, for the proposal.

The documentation of the decision to advance an action in the second group as a CE can be accomplished by one of the following methods:

1. Minor actions from the list of examples:

P-047-014

Minor construction projects or approval actions need only minimum documentation. Where project-specific information for such minor construction projects is included with the Section 105 program and clearly shows that the project is one of the 12 listed examples in Section 771.117(d), the approval of the Section 105 program can be used to approve the projects as CEs. Similarly, the three approval actions on the list (examples (6), (7) and (12)) should not normally require detailed documentation, and the CE determination can be documented as a part of the approval action being requested.

2. Other actions from the list of examples:

   For more complex actions, additional information and possibly environmental studies will be needed. This informationshould be furnished to the FHWA on a case-by-case basis for concurrence in the CE determination.

3. Actions not on the list of examples:

   Any action which meets the CE criteria in 23 CFR 771.117(a) may be classified as a CE even though it does not appear on the list of examples in Section 771.117(d). The actions on the list should be used as a guide to identify other actions that may be processed as CEs. The documentation to be submitted to the FHWA must demonstrate that the CE criteria are satisfied and that the proposed project will not result in significant environmental impacts. The classification decision should be documented as a part of the individual project submissions.

4. Consideration of Unusual Circumstances

   Section 771.117(b) lists those unusual circumstances where further environmental studies will be necessary to determine the appropriateness of a CE classification. Unusual circumstances can arise on any project normally advanced with a CE; however, the type and depth of additional studies will vary with the type of CE and the facts and circumstances of each situation. For those actions on the fixed list (first group) of CEs, unusual circumstances should rarely, if ever, occur due to the limited scope of work. Unless unusual circumstances come to the attention of the HA or FHWA, they need not be given further consideration. For actions in the second group of CEs, unusual circumstances should be addressed in the information provided to the FHWA with the request for CE approval. The level of consideration, analysis, and documentation should be commensurate with the action's potential for significant impacts, controversy, or inconsistency with other agencies' environmental requirements.

   When an action may involve unusual circumstances, sufficient early coordination, public involvement and environmental studies should be undertaken to determine the likelihood of significant impacts. If no significant impacts are likely to occur, the results of environmental studies and any agency and public involvement should adequately support such a conclusion and be included in the request to the FHWA for CE approval. If significant impacts are likely to occur, an EISmust be prepared (23 CFR 771.123(a)). If the likelihood of significant impacts is uncertain even after studies have been undertaken, the HA should consult with the FHWA to determine whether to prepare an EA or an EIS.

XIII. ENVIRONMENTAL ASSESSMENT (EA)

The primary purpose of an EA is to help the FHWA and HA decide whether or not an EIS is needed. Therefore, the EA should address only those resources or features which the FHWA and the HA decide will have a likelihood for being significantly impacted. The EA should be a concise document and should not contain long descriptions or detailed information which may have been gathered or analyses which may have been conducted for the proposed action. Although the regulations do not set page limits, CEQ recommends that the length of EAs usually be less than 15 pages. To minimize volume, the EA should use good quality maps and exhibits and incorporate by reference and summarize background data and technical analyses to support the concise discussions of the alternatives and their impacts.

P-047-014 The following format and content is suggested:

A. Cover Sheet.

There is no required format for the EA. However, the EIS cover sheet format, as shown in Section V, is recommended as a guide. A document number is not necessary. The due date for comments should be omitted unless the EA is distributed for comments.

B. Purpose of and Need for Action.

Describe the locations, length, termini, proposed improvements, etc. Identify and describe the transportation or other needs which the proposed action is intended to satisfy (e.g., provide system continuity, alleviate traffic congestion, and correct safety or roadway deficiencies). In many cases the project need can be adequately explained in one or two paragraphs. On projects where a law, Executive Order, or regulation (e.g., Section 4(f), Executive Order 11990, or Executive Order 11988) mandates an evaluation of avoidance alternatives, the explanation of the project need should be morespecific so that avoidance alternatives that do not meet the stated project need can be readily dismissed.

C. Alternatives.

Discuss alternatives to the proposed action, including the no-action alternative, which are being considered. The EA may either discuss (1) the preferred alternative and identify any other alternatives considered or (2) if the applicant has not identified a preferred alternative, the alternatives under consideration. The EA does not need to evaluate in detail all reasonable alternatives for the project, and may be prepared for one or more build alternatives.

D. Impacts.

For each alternative being considered, discuss any social, economic, and environmental impacts whose significance is uncertain. The level of analysis should be sufficient to adequately identify the impacts and appropriate mitigation measures, and address known and foreseeable public and agency concerns. Describe why these impacts are considered not significant. Identified impact areas which do not have a reasonable possibility for individual or cumulative significant environmental impacts need not be discussed.

E. Comments and Coordination.

Describe the early and continuing coordination efforts, summarize the key issues and pertinent information received from the public and government agencies through these efforts, and list the agencies and, as appropriate, members of the public consulted.

F. Appendices (if any).

The appendices should include only analytical information that substantiates an analysis which is important to the document (e.g., a biological assessment for threatened or endangered species). Other information should be referenced only (i.e., identify the material and briefly describe its contents).

G. Section 4(f) Evaluation (if any).

If the EA includes a Section 4(f) evaluation, the EA/Section 4(f) evaluation or, if prepared separately, the Section 4(f) evaluation by itself must be circulated to the appropriate agencies for Section 4(f) coordination (23 CFR 771.135(i)). Section VII provides specific details on distribution and coordination of Section 4(f) evaluations. Section IX provides information on format and content of Section 4(f) evaluation.

If a programmatic Section 4(f) evaluation is used on the proposed project, this fact should be included and the Section 4(f) resource identified in the EA. The avoidance alternatives evaluation called for in Section 771.135(i) need not be repeated in the EA. Such evaluation would be part of

P-047-014

the documentation to support the applicability and findings of the programmatic document.

H. EA Revisions.

Following the public availability period, the EA should be revised or an attachment provided, as appropriate, to (1) reflect changes in the proposed action or mitigation measures resulting from comments received on the EA or at the public hearing (if one is held) and any impacts of the changes, (2) include any necessary findings, agreements, or determination (e.g., wetlands, Section 106, Section 4(f)) required for the proposal, and (3) include a copy of pertinent comments received on the EA and appropriate responses to the comments.

XXXIV. FINDING OF NO SIGNIFICANT IMPACT (FONSI)

The EA, revised or with attachment(s) (see paragraph above), is submitted by the HA to the FHWA along with (1) a copy of the public hearing transcript, when one is held, (2) a recommendation of the preferred alternative, and (3) a request that a finding of no significant impact be made. The basis for the HA's finding of no significant impact request should be adequately documented in the EA and any attachment(s).

After review of the EA and any other appropriate information, the FHWA may determine that the proposed action has no significant impacts. This is documented by attaching to the EA a separate statement (sample follows) which clearly sets forththe FHWA conclusions. If necessary, the FHWA may expand the sample FONSI to identify the basis for the decision, uses of land from Section 4(f) properties, wetland finding, etc.

The EA or FONSI should document compliance with NEPA and other applicable environmental laws, Executive Orders, and related requirements. If full compliance with these other requirements is not possible by the time the FONSI is prepared, the documents should reflect consultation with the appropriate agencies and describe when and how the requirements will be met. For example, any action requiring the use of Section 4(f) property cannot proceed until FHWA gives a Section 4(f) approval (49 U.S.C. 303(c)).

XXXV. DISTRIBUTION OF EAs AND FONSIs

A. Environmental Assessment

After clearance by FHWA, EAs must be made available for public inspection at the HA and FHWA Division offices (23 CFR 771.119(d)). Although only a notice of availability of the EA is required, the HA is encouraged to distribute a copy of the document with the notice to Federal, State, and local government agencies likely to have an interest in the undertaking and to the State intergovernmental review contacts. The HA should also distribute the EA to any Federal, State, or local agency known to have interest or special expertise (e.g., EPA for wetlands, water quality, air, noise, etc.) in those areas addressed in the EA which have or may have had potential for significant impact. The possible impacts and the agencies involved should be identified following the early coordination process. Where an individual permit would be required from the Corps of Engineers (COE) (i.e., Section 404 or Section 10) or from the Coast Guard (CG) (i.e., Section 9), a copy of the EA should be distributed to the involved agency in accordance with the U.S. Department of Transportation (DOT)/Corps of Engineers Memorandum of Agreement or the FHWA/U.S. Coast Guard Memorandum of Understanding, respectively. Any internal FHWA distribution will be determined by the Division Office on a case-by-case basis.

B. Finding of No Significant Impact

Formal distribution of a FONSI is not required. The HA must send a notice of availability of the FONSI to Federal, State, and local government agencies likely to have an interest in the undertaking and the State intergovernmental review contacts (23 CFR 771.121(b)). However, it is encouraged that agencies which commented on the EA (or requested to be informed) be advised of the project decision and the disposition of their comments and be provided a copy of the FONSI. This fosters good lines of communication and enhances interagency coordination.

P-047-014 LIE Environmental Impact Statement (EIS) -- FORMAT AND CONTENT

A. Cover Sheet

Each EIS should have a cover sheet containing the following information:

(EIS NUMBER)

Route, Termini, City or County, and State

Draft (Final) (Supplement)

Environmental Impact Statement

Submitted Pursuant to 42 U.S.C. 4332 (2) (c)(and where applicable, 49 U.S.C. 303) by the U.S. Department of Transportation, Federal Highway Administration and State Highway Agency and(As applicable, any other joint lead agency)

Cooperating Agencies (Include List Here, as applicable)

Date of Approval

For (State Highway Agency)

Date of Approval

For FHWA

The following persons may be contacted for additional information concerning this document:

(Name, address, and telephone number of FHWA Division Office contact)

(Name, address, and telephone number of HA contact)

A one-paragraph abstract of the statement.

Comments on this draft EIS are due by (date) and should be sent to (name and address).

The top left-hand corner of the cover sheet of all draft final and supplemental EISs contains an identification number. The following is an example:

FHWA-AZ-EIS-87-01-D(F)(S)

FHWA name of Federal agency

AZ name of State (cannot exceed four characters)

EIS environmental impact statement

87 year draft statement was prepared

01 sequential number of draft statement for each calendar year

D designates the statement as the draft statement

F designates the statement as the final statement

S designates supplemental statement and should be combined with draft (DS) or final (FS) statement designation. The year and sequential number will be the same as those used for the original draft EIS.

The EIS should be printed on 8 1/2 x 11-inch paper with any foldout sheets folded to that size. The

P-047-014

wider sheets should be 8 1/2 inches high and should open to the right with the title or identification on the right. The standard size is needed for administrative recordkeeping.

B. Summary

The summary should include:

1. A brief description of the proposed FHWA action indicating route, termini, type of improvement, number of lanes, length, county, city, State, and other information, as appropriate.
2. A description of any major actions proposed by other governmental agencies in the same geographic area as the proposed FHWA action.
3. A summary of all reasonable alternatives considered. (The draft EIS must identify the preferred alternative or alternatives officially identified by the HA (40 CFR 1502.14(e)). The final EIS must identify the preferred alternative and should discuss the basis for its selection (23 CFR 771.125(a)(1)).
4. A summary of major environmental impacts, both beneficial and adverse.
5. Any areas of controversy (including issues raised by agencies and the public).
6. Any major unresolved issues with other agencies.
7. A list of other Federal actions required for the proposed action (i.e., permit approvals, land transfer, Section 106 agreements, etc.).

C. Table of Contents

For consistency with CEQ regulations, the following standard format should be used:

1. Cover Sheet
2. Summary
3. Table of Contents
4. Purpose of and Need for Action
5. Alternatives
6. Affected Environment
7. Environmental Consequences
8. List of Preparers
9. List of Agencies, Organizations, and Persons to Whom Copies of the Statement are Sent
10. Comments and Coordination
11. Index
12. Appendices (if any)

D. Purpose of and Need for Action

Identify and describe the proposed action and the transportation problem(s) or other needs which it is intended to address (40 CFR 1502.13). This section should clearly demonstrate that a "need" exists and should define the "need" in terms understandable to the general public. This discussion

P-047-014

should clearly describe the problems which the proposed action is to correct. It will form the basis for the "no action" discussion in the "Alternatives" section, and assist with the identification of reasonable alternatives and the selection of the preferred alternative. Charts, tables, maps, and other illustrations (e.g., typical cross-section, photographs, etc.) are encouraged as useful presentation techniques.

The following is a list of items which may assist in the explanation of the need for the proposed action. It is by no means all-inclusive or applicable in every situation and is intended only as a guide.

1. Project Status - Briefly describe the project history including actions taken to date, other agencies and governmental units involved, action spending, schedules, etc.
2. System Linkage - Is the proposed project a "connecting link?" How does it fit in the transportation system?
3. Capacity - Is the capacity of the present facility inadequate for the present traffic? Projected traffic? What capacity is needed? What is the level(s) of service for existing and proposed facilities?
4. Transportation Demand - Including relationship to any statewide plan or adopted urban transportation plan together with an explanation of the project's traffic forecasts that are substantially different from those estimates from the 23 U.S.C. 134 (Section 134) planning process.
5. Legislation - Is there a Federal, State, or local governmental mandate for the action?
6. Social Demands or Economic Development - New employment, schools, land use plans, recreation, etc. What projected economic development/land use changes indicate the need to improve or add to the highway capacity?
7. Modal Interrelationships - How will the proposed facility interface with and serve to complement airports, rail and port facilities, mass transit services, etc.?
8. Safety - Is the proposed project necessary to correct an existing or potential safety hazard? Is the existing accident rate excessively high? Why? How will the proposed project improve it?
9. Roadway Deficiencies - Is the proposed project necessary to correct existing roadway deficiencies (e.g., substandard geometrics, load limits on structures, inadequate cross-section, or high maintenance costs)? How will the proposed project improve it?

E. Alternatives

This section of the draft EIS must discuss a range of alternatives, including all "reasonable alternatives" under consideration and those "other alternatives" which were eliminated from detailed study (23 CFR 771.123(c)). The section should begin with a concise discussion of how and why the "reasonable alternatives" were selected for detailed study and explain why "other alternatives" were eliminated. The following range of alternatives should be considered when determining reasonable alternatives:

1. "No-action" alternative: The "no-action" alternative normally includes short-term minor restoration types of activities (safety and maintenance improvements, etc.) that maintain continuing operation of the existing roadway.
2. Transportation System Management (TSM) alternative: The TSM alternative includes those activities which maximize the efficiency of the present system. Possible subject areas to include in this alternative are options such as fringe parking, ridesharing, high-occupancy vehicle (HOV) lanes on existing roadways, and traffic signal timing optimization. This limited construction alternative is usually relevant only for major projects proposed in urbanized

P-047-014

areas over 200,000 population.

For all major projects in these urbanized areas, HOV lanes should be considered. Consideration of this alternative may be accomplished by reference to the regional transportation plan, when that plan considers this option. Where a regional transportation plan does not reflect consideration of this option, it may be necessary to evaluate the feasibility of HOV lanes during early project development. Where a TSM alternative is identified as a reasonable alternative for a "connecting link" project, it should be evaluated to determine the effect that not building a highway link in the transportation plan will have on the remainder of the system. A similar analysis should be made where a TSM element(s) (e.g., HOV lanes) is part of a build alternative and reduces the scale of the highway link.

While the above discussion relates primarily to major projects in urbanized areas, the concept of achieving maximum utilization of existing facilities is equally important in rural areas. Before selecting an alternative on new location for major projects in rural areas, it is important to demonstrate that reconstruction and rehabilitation of the existing system will not adequately correct the identified deficiencies and meet the project need.

3. Mass Transit: This alternative includes those reasonable and feasible transit options (bus systems, rail, etc.) even though they may not be within the existing FHWA funding authority. It should be considered on all proposed major highway projects in urbanized areas over 200,000 population. Consideration of this alternative may be accomplished by reference to the regional or area transportation plan where that plan considers mass transit or by an independent analysis during early project development.

   Where urban projects are multi-modal and are proposed for Federal funding, close coordination is necessary with the Urban Mass Transportation Administration (UMTA). In these situations, UMTA should be consulted early in the project-development process. Where UMTA funds are likely to be requested for portions of the proposal, UMTA must be requested to be either a joint lead agency or a cooperating agency at the earliest stages of project development (23 CFR 771.111(d)). Where applicable, cost-effectiveness studies that have been performed should be summarized in the EIS.

4. Build alternatives: Both improvement of existing highway(s) and alternatives on new location should be evaluated. A representative number of reasonable alternatives must be presented and evaluated in detail in the draft EIS (40 CFR 1502.14(a)). For most major projects, there is a potential for a large number of reasonable alternatives. Where there is a large number of alternatives, only a representative number of the most reasonable examples, covering the full range ofalternatives, must be presented. The determination of the number of reasonable alternatives in the draft EIS, therefore, depends on the particular project and the facts and circumstances in each case.

   Each alternative should be briefly described using maps or other visual aids such as photographs, drawings, or sketches to help explain the various alternatives. The material should provide a clear understanding of each alternative's termini, location, costs, and the project concept (number of lanes, right-of-way requirements, median width, access control, etc.). Where land has been or will be reserved or dedicated by local government(s), donated by individuals, or acquired through advanced or hardship acquisition for use as highway right-of-way for any alternative under consideration, the draft EIS should identify the status and extent of such property and the alternatives involved. Where such lands are reserved, the EIS should state that the reserved lands will not influence the alternative to be selected.

   Development of more detailed design for some aspects (e.g., Section 4(f), COE or CG permits, noise, wetlands, etc.) of one or more alternatives may be necessary during preparation of the draft and final EIS in order to evaluate impacts or mitigation measures or to address issues raised by other agencies or the public. However, care should be taken to avoid unnecessarily specifying features which preclude cost-effective final design options.

   All reasonable alternatives under consideration (including the no-build) need to be developed

P-047-014

to a comparable level of detail in the draft EIS so that their comparative merits may be evaluated (40 CFR 1502.14(b) and (d)). In those situations where the HA has officially identified a "preferred" alternative based on its early coordination and environmental studies, the HA should so indicate in the draft EIS. In these instances, the draft EIS should include a statement indicating that the final selection of an alternative will not be made until the alternatives' impacts and comments on the draft EIS and from the public hearing (if held) have been fully evaluated. Where a preferred alternative has not been identified, the draft EIS should state that all reasonable alternatives are underconsideration and that a decision will be made after the alternatives' impacts and comments on the draft EIS and from the public hearing (if held) have been fully evaluated.

The final EIS must identify the preferred alternative and should discuss the basis for its selection (23 CFR 771.125(a)(1)). The discussion should provide the information and rationale identified in Section VIII (Record of Decision), paragraph (B). If the preferred alternative is modified after the draft EIS, the final EIS should clearly identify the changes and discuss the reasons why any new impacts are not significant.

F. Affected Environment

This section provides a concise description of the existing social, economic, and environmental setting for the area affected by all alternatives presented in the EIS. Where possible, the description should be a single description for the general project area rather than a separate one for each alternative. The general population served and/or affected (city, county, etc.) by the proposed action should be identified by race, color, national origin, and age. Demographic data should be obtained from available secondary sources (e.g., census data, planning reports) unless more detailed information is necessary to address specific concerns. All socially, economically, and environmentally sensitive locations or features in the proposed project impact area (e.g., neighborhoods, elderly/minority/ ethnic groups, parks, hazardous material sites, historic resources, wetlands, etc.), should be identified on exhibits and briefly described in the text. However, it may be desirable to exclude from environmental documents the specific location of archeological sites to prevent vandalism.

To reduce paperwork and eliminate extraneous background material, the discussion should be limited to data, information, issues, and values which will have a bearing on possible impacts, mitigation measures, and on the selection of an alternative. Data and analyses should be commensurate with the importance of the impact, with the less important material summarized or referenced rather than be reproduced. Photographs, illustrations, and other graphics should be used with the text to give a clear understanding of the area and the important issues. Other Federal activities which contribute to the significance of the proposed action's impacts should be described.

This section should also briefly describe the scope and status of the planning processes for the local jurisdictions and the project area. Maps of any adopted land use and transportation plans for these jurisdictions and the project area would be helpful in relating the proposed project to the planning processes.

G. Environmental Consequences

This section includes the probable beneficial and adverse social, economic, and environmental effects of alternatives under consideration and describes the measures proposed to mitigate adverse impacts. The information should have sufficient scientific and analytical substance to provide a basis for evaluating the comparative merits of the alternatives. The discussion of the proposed project impacts should not use the term significant in describing the level of impacts. There is no benefit to be gained from its use. If the term significant is used, however, it should be consistent with the CEQ definition and be supported by factual information.

There are two principal ways of preparing this section. One is to discuss the impacts and mitigation measures separately for each alternative with the alternatives as headings. The second (which is advantageous where there are few alternatives or where impacts are similar for the various alternatives) is to present this section with the impacts as the headings. Where appropriate, a

P-047-014

sub-section should be included which discusses the general impacts and mitigation measures that are the same for the various alternatives under consideration. This would reduce or eliminate repetition under each of the alternative discussions. Charts, tables, maps, and other graphics illustrating comparisons between the alternatives (e.g., costs, residential displacements, noise impacts, etc.) are useful as a presentation technique.

When preparing the final EIS, the impacts and mitigation measures of the alternatives, particularly the preferred alternative, may need to be discussed in more detail to elaborate on information, firm-up commitments, or address issues raised following the draft EIS. The final EIS should also identify anynew impacts (and their significance) resulting from modification of or identification of substantive new circumstances or information regarding the preferred alternative following the draft EIS circulation. Note: Where new significant impacts are identified a supplemental draft EIS is required (40 CFR 1502.9(c)).

The following information should be included in both the draft and final EIS for each reasonable alternative:

1. A summary of studies undertaken, any major assumptions made and supporting information on the validity of the methodology (where the methodology is not generally accepted as state-of-the-art).

2. Sufficient supporting information or results of analyses to establish the reasonableness of the conclusions on impacts.

3. A discussion of mitigation measures. These measures normally should be investigated in appropriate detail for each reasonable alternative so they can be identified in the draft EIS. The final EIS should identify, describe and analyze all proposed mitigation measures for the preferred alternative.

In addition to normal FHWA program monitoring of design and construction activities, special instances may arise when a formal program for monitoring impacts or implementation of mitigation measures will be appropriate. For example, monitoring ground or surface waters that are sources for drinking water supply; monitoring noise or vibration of nearby sensitive activities (e.g., hospitals, schools); or providing on-site professional archeologist to monitor excavation activities in highly sensitive archeological areas. In these instances, the final EIS should describe the monitoring program.

1. A discussion, evaluation and resolution of important issues on each alternative. If important issues raised by other agencies on the preferred alternative remain unresolved,the final EIS must identify those issues and the consultations and other efforts made to resolve them (23 CFR 771.125(a)(2)).

   Listed below are potentially significant impacts most commonly encountered by highway projects. These factors should be discussed for each reasonable alternative where a potential for impact exists. This list is not all-inclusive and on specific projects there may be other impact areas that should be included.

2. Land Use Impacts

   This discussion should identify the current development trends and the State and/or local government plans and policies on land use and growth in the area which will be impacted by the proposed project.

   These plans and policies are normally reflected in the area's comprehensive development plan, and include land use, transportation, public facilities, housing, community services, and other areas.

   The land use discussion should assess the consistency of the alternatives with the comprehensive development plans adopted for the area and (if applicable) other plans used

P-047-014

in the development of the transportation plan required by Section 134. The secondary social, economic, and environmental impacts of any substantial, foreseeable, induced development should be presented for each alternative, including adverse effects on existing communities. Where possible, the distinction between planned and unplanned growth should be identified.

3. Farmland Impacts

Farmland includes 1) prime, 2) unique, 3) other than prime or unique that is of statewide importance, and 4) other than prime or unique that is of local importance.

The draft EIS should summarize the results of early consultation with the Soil Conservation Service (SCS) and, as appropriate, State and local agriculture agencies where any of the four specified types of farmland could be directly orindirectly impacted by any alternative under consideration. Where farmland would be impacted, the draft EIS should contain a map showing the location of all farmlands in the project impact area, discuss the impacts of the various alternatives and identify measures to avoid or reduce the impacts. Form AD 1006 (Farmland Conversion Impact Rating) should be processed, as appropriate, and a copy included in the draft EIS. Where the Land Evaluation and Site Assessment score (from Form AD 1006) is 160 points or greater, the draft EIS should discuss alternatives to avoid farmland impacts.

If avoidance is not possible, measures to minimize or reduce the impacts should be evaluated and, where appropriate, included in the proposed action.

4. Social Impacts

Where there are foreseeable impacts, the draft EIS should discuss the following items for each alternative commensurate with the level of impacts and to the extent they are distinguishable:

(a) Changes in the neighborhoods or community cohesion for the various social groups as a result of the proposed action. These changes may be beneficial or adverse, and may include splitting neighborhoods, isolating a portion of a neighborhood or an ethnic group, generating new development, changing property values, or separating residents from community facilities, etc.

(b) Changes in travel patterns and accessibility (e.g., vehicular, commuter, bicycle, or pedestrian).

(c) Impacts on school districts, recreation areas, churches, businesses, police and fire protection, etc. This should include both the direct impacts to these entities and the indirect impacts resulting from the displacement of households and businesses.

(d) Impacts of alternatives on highway and traffic safety as well as on overall public safety.

(e) General social groups specially benefitted or harmed by the proposed project. The effects of a project on the elderly, handicapped, nondrivers, transit-dependent, and minority and ethnic groups are of particular concern and should be described to the extent these effects can be reasonably predicted. Where impacts on a minority or ethnic population are likely to be an important issue, the EIS should contain the following information broken down by race, color, and national origin: the population of the study area, the number of displaced residents, the type and number of displaced businesses, and an estimate of the number of displaced employees in each business sector. Changes in ethnic or minority employment opportunities should be discussed and the relationship of the project to other Federal actions which may serve or adversely affect the ethnic or minority population should be identified.

The discussion should address whether any social group is disproportionally impacted

P-047-014

and identify possible mitigation measures to avoid or minimize any adverse impacts. Secondary sources of information such as census and personal contact with community leaders supplemented by visual inspections normally should be used to obtain the data for this analysis. However, for projects with major community impacts, a survey of the affected area may be needed to identify the extent and severity of impacts on these social groups.

5. Relocation Impacts

The relocation information should be summarized in sufficient detail to adequately explain the relocation situation including anticipated problems and proposed solutions. Project relocation documents from which information is summarized shouldbe referenced in the draft EIS. Secondary sources of information such as census, economic reports, and contact with community leaders, supplemented by visual inspections (and, as appropriate, contact with local officials) may be used to obtain the data for this analysis. Where a proposed project will result in displacements, the following information regarding households and businesses should be discussed for each alternative under consideration commensurate with the level of impacts and to the extent they are likely to occur:

(a) An estimate of the number of households to be displaced, including the family characteristics (e.g., minority, ethnic, handicapped, elderly, large family, income level, and owner/tenant status). However, where there are very few displacees, information on race, ethnicity and income levels should not be included in the EIS to protect the privacy of those affected.

(b) A discussion comparing available (decent, safe, and sanitary) housing in the area with the housing needs of the displacees. The comparison should include (1) price ranges, (2) sizes (number of bedrooms), and (3) occupancy status (owner/tenant).

(c) A discussion of any affected neighborhoods, public facilities, non-profit organizations, and families having special composition (e.g., ethnic, minority, elderly, handicapped, or other factors) which may require special relocation considerations and the measures proposed to resolve these relocation concerns.

(d) A discussion of the measures to be taken where the existing housing inventory is insufficient, does not meet relocation standards, or is not within the financial capability of the displacees. A commitment to last resort housing should be includedwhen sufficient comparable replacement housing may not be available.

(e) An estimate of the numbers, descriptions, types of occupancy (owner/tenant), and sizes (number of employees) of businesses and farms to be displaced. Additionally, the discussion should identify (1) sites available in the area to which the affected businesses may relocate, (2) likelihood of such relocation, and (3) potential impacts on individual businesses and farms caused by displacement or proximity of the proposed highway if not displaced.

(f) A discussion of the results of contacts, if any, with local governments, organizations, groups, and individuals regarding residential and business relocation impacts, including any measures or coordination needed to reduce general and/or specific impacts. These contacts are encouraged for projects with large numbers of relocatees or complex relocation requirements. Specific financial and incentive programs or opportunities (beyond those provided by the Uniform Relocation Act) to residential and business relocatees to minimize impacts may be identified, if available through other agencies or organizations.

(g) A statement that (1) the acquisition and relocation program will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and (2) relocation resources are available to all residential and business relocatees without discrimination.

P-047-014

6. Economic Impacts

Where there are foreseeable economic impacts, the draft EIS should discuss the following for each alternative commensurate with the level of impacts:

(a) The economic impacts on the regional and/or local economy such as the effects of the project on development, tax revenues and public expenditures, employment opportunities, accessibility, and retail sales. Where substantial impacts on the economic viability of affected municipalities are likely to occur, they should also be discussed together with a summary of any efforts undertaken and agreements reached for using the transportation investment to support both public and private economic development plans. To the extent possible, this discussion should rely upon results of coordination with and views of affected State, county, and city officials and upon studies performed under Section 134.

(b) The impacts on the economic vitality of existing highway-related businesses (e.g., gasoline stations, motels, etc.) and the resultant impact, if any, on the local economy. For example, the loss of business or employment resulting from building an alternative on new location bypassing a local community.

(c) Impacts of the proposed action on established business districts, and any opportunities to minimize or reduce such impacts by the public and/or private sectors. This concern is likely to occur on a project that might lead to or support new large commercial development outside of a central business district.

7. Joint Development

Where appropriate, the draft EIS should identify and discuss those joint development measures which will preserve or enhance an affected community's social, economic, environmental, and visual values. This discussion may be presented separately or combined with the land use and/or social impacts presentations. The benefits to be derived, those who will benefit (communities, social groups, etc.), and the entities responsible for maintaining the measures should be identified.

8. Considerations Relating to Pedestrians and Bicyclists

Where current pedestrian or bicycle facilities or indications of use are identified, the draft EIS should discuss the current and anticipated use of the facilities, the potential impacts of the affected alternatives, and proposed measures, if any, to avoid or reduce adverse impacts to the facility(ies) and its users. Where new facilities are proposed as a part of the proposed highway project, the EIS should include sufficient information to explain the basis for providing the facilities (e.g., proposed bicycle facility is a link in the local plan or sidewalks will reduce project access impact to the community). The final EIS should identify those facilities to be included in the preferred alternative. Where the preferred alternative would sever an existing major route for non-motorized transportation traffic, the proposed project needs to provide a reasonably alternative route or demonstrate that such a route exists (23 U.S.C. 109(n)). To the fullest extent possible, this needs to be described in the final EIS.

8. Air Quality Impacts

The draft EIS should contain a brief discussion of the transportation-related air quality concerns in the project area and a summary of the project- related carbon monoxide (CO) analysis if such analysis is performed. The following information should be presented, as appropriate.

(a) Mesoscale Concerns: Ozone (O_3), Hydrocarbons (HC), and Nitrogen Oxide (NO_X) air quality concerns are regional in nature and as such meaningful evaluation on a project-by-project basis is not possible. Where these pollutants are an issue, the air quality emissions inventories in the State Implementation Plan (SIP) should be

P-047-014

referenced and briefly summarized in the draft EIS. Further, the relationship of the project to the SIP should be described in the draft EIS by including one of the following statements:

1 This project is in an area where the SIP does not contain any transportation control measures. Therefore, the conformity procedures of 23 CFR 770 do not apply to this project.

2 This project is in an area which has transportation control measures in the SIP which was (conditionally) approved by the Environmental Protection Agency (EPA) on (date). The FHWA has determined that both the transportation plan and the transportation improvement program conform to the SIP. The FHWA has determined that this project is included in the transportation improvement program for the (indicate 3C planning area). Therefore, pursuant to 23 CFR 770, this project conforms to the SIP.

Under certain circumstances, neither of these statements will precisely fit the situation and may need to be modified. Additionally, if the project is a Transportation Control Measure from the SIP, this should be highlighted to emphasize the project's air quality benefits.

(b) Microscale Concerns: Carbon monoxide is a project- related concern and as such should be evaluated in the draft EIS. A microscale CO analysis is unnecessary where such impacts (project CO contribution plus background) can be judged to be well below the 1- and 8-hour National Ambient AirQuality Standards (or other applicable State or local standards). This judgment may be based on (1) previous analyses for similar projects; (2) previous general analyses for various classes of projects; or (3) simplified graphical or "look-up" table evaluations. In these cases, a brief statement stating the basis for the judgment is sufficient.

For those projects where a microscale CO analysis is performed, each reasonable alternative should be analyzed for the estimated time of completion and design year. A brief summary of the methodologies and assumptions used should be included in the draft EIS. Lengthy discussions, if needed, should be included in a separate technical report and referenced in the EIS. Total CO concentrations (project contribution plus estimated background) at identified reasonable receptors for each alternative should be reported. A comparison should be made between alternatives and with applicable State and national standards. Use of a table for this comparison is recommended for clarity.

As long as the total predicted 1-hour CO concentration is less than 9 ppm (the 8-hour CO standard), no separate 8-hour analysis is necessary. If the 1-hour CO concentration is greater than 9 ppm, an 8-hour analysis should be performed. Where the preferred alternative would result in violations of the 1 or 8-hour CO standards, an effort should be made to develop reasonable mitigation measures through early coordination between FHWA, EPA, and appropriate State and local highway and air quality agencies. The final EIS should discuss the proposed mitigation measures and include evidence of the coordination.

9. Noise Impacts

The draft EIS should contain a summary of the noise analysis including the following for each alternative under detailed study:

(a) A brief description of noise sensitive areas (residences, businesses, schools,parks, etc.), including information on the number and types of activities which may be affected. This should include developed lands and undeveloped lands for which development is planned, designed, and programmed.

P-047-014

(b) The extent of the impact (in decibels) at each sensitive area. This includes a comparison of the predicted noise levels with both the FHWA noise abatement criteria and the existing noise levels. (Traffic noise impacts occur when the predicted traffic noise levels approach or exceed the noise abatement criteria or when they substantially exceed the existing noise levels). Where there is a substantial increase in noise levels, the HA should identify the criterion used for defining "substantial increase." Use of a table for this comparison is recommended for clarity.

(c) Noise abatement measures which have been considered for each impacted area and those measures that are reasonable and feasible and that would "likely" be incorporated into the proposed project. Estimated costs, decibel reductions and height and length of barriers should be shown for all abatement measures.

Where it is desirable to qualify the term "likely," the following statement or similar wording would be appropriate. "Based on the studies completed to date, the State intends to install noise abatement measures in the form of a barrier at (location(s)). These preliminary indications of likely abatement measures are based upon preliminary design for a barrier of _____ high and _____ long and a cost of $_____ that will reduce the noise level by _____ dBA for _____ residences (businesses, schools, parks, etc.). (Where there is more than one barrier, provide information for each one.) If during final design these conditions substantially change, the abatement measures might not be provided. A final decision onthe installation of abatement measure(s) will be made upon completion of the project design and the public involvement process."

(d) Noise impacts for which no prudent solution is reasonably available and the reasons why.

10. Water Quality Impacts

The draft EIS should include summaries of analyses and consultations with the State and/or local agency responsible for water quality. Coordination with the EPA under the Federal Clean Water Act may also provide assistance in this area. The discussion should include sufficient information to describe the ambient conditions of streams and water bodies which are likely to be impacted and identify the potential impacts of each alternative and proposed mitigation measures. Under normal circumstances, existing data may be used to describe ambient conditions. The inclusion of water quality data spanning several years is encouraged to reflect trends.

The draft EIS should also identify any locations where roadway runoff or other nonpoint source pollution may have an adverse impact on sensitive water resources such as water supply reservoirs, ground water recharge areas, and high quality streams. The 1981 FHWA research report entitled "Constituents of Highway Runoff," the 1985 report entitled "Management Practices for Mitigation of Highway Stormwater Runoff Pollution," and the 1987 report entitled "Effects of Highway Runoff on Receiving Waters" contain procedures for estimating pollutant loading from highway runoff and would be helpful in determining the level of potential impacts and appropriate mitigative measures. The draft EIS should identify the potential impacts of each alternative and proposed mitigation measures.

Where an area designated as principal or sole-source aquifer under Section 1424(e) of the Safe Drinking Water Act may be impacted by a proposed project, early coordination with EPA will assist in identifying potential impacts. The EPA will furnish information on whether any of the alternatives affect the aquifer. This coordination should also identify any potential impacts to the critical aquifer protection area (CAPA), if designated, within affected sole-source aquifers. If none of thealternatives affect the aquifer, the requirements of the Safe Drinking Water Act are satisfied. If an alternative is selected which affects the aquifer, a design must be developed to assure, to the satisfaction of EPA, that it will not contaminate the aquifer (40 CFR 149). The draft EIS should document coordination with EPA and identify its position on the impacts of the various alternatives. The final EIS should show that EPA's

P-047-014

concerns on the preferred alternative have been resolved.

Wellhead protection areas were authorized by the 1986 Amendments to the Safe Drinking Water Act. Each State will develop State wellhead protection plans with final approval by EPA. When a proposed project encroaches on a wellhead protection area, the draft EIS should identify the area, the potential impact of each alternative and proposed mitigation measures. Coordination with the State agency responsible for the protection plan will aid in identifying the areas, impacts and mitigation. If the preferred alternative impacts these areas, the final EIS should document that it complies with the approved State wellhead protection plan.

11. Permits

If a facility such as a safety rest area is proposed and it will have a point source discharge, a Section 402 permit will be required for point source discharge (40 CFR 122). The draft EIS should discuss potential adverse impacts resulting from such proposed facilities and identify proposed mitigation measures. The need for a Section 402 permit and Section 401 water quality certification should be identified in the draft EIS.

For proposed actions requiring a Section 404 or Section 10 (Corps of Engineers) permit, the draft EIS should identify by alternative the general location of each dredge or fill activity, discuss the potential adverse impacts, identify proposed mitigation measures (if not addressed elsewhere in the draft EIS), and include evidence of coordination with the Corps of Engineers (in accordance with the U.S. DOT/Corps of Engineers Memorandum of Agreement) and appropriate Federal, State and local resource agencies, and State and local water quality agencies. Where the preferred alternative requires an individual Section 404 or Section 10 permit, the final EIS should identify for eachpermit activity the approximate quantities of dredge or fill material, general construction grades and proposed mitigation measures.

For proposed actions requiring Section 9 (U.S. Coast Guard bridge) permits, the draft EIS should identify by alternative the location of the permit activity, potential impacts to navigation and the environment (if not addressed elsewhere in the document), proposed mitigation measures and evidence coordination with the U.S. Coast Guard (in accordance with the FHWA/U.S. Coast Guard Memorandum of Understanding). Where the preferred alternative requires a Section 9 permit, the final EIS should identify for each permit activity the proposed horizontal and vertical navigational clearances and include an exhibit showing the various dimensions.

For all permit activities the final EIS should include evidence that every reasonable effort has been made to resolve the issues raised by other agencies regarding the permit activities. If important issues remain unresolved, the final EIS must identify those issues, the positions of the respective agencies on the issues and the consultations and other efforts made to resolve them (23 CFR 771.125(a)).

12. Wetland Impacts

When an alternative will impact wetlands the draft EIS should (1) identify the type, quality, and function of wetlands involved, (2) describe the impacts to the wetlands, (3) evaluate alternatives which would avoid these wetlands, and (4) identify practicable measures to minimize harm to the wetlands. Wetlands should be identified by using the definition of 33 CFR 328.3(b) (issued on November 13, 1986) which requires the presence of hydrophytic vegetation, hydric soils and wetland hydrology. Exhibits showing wetlands in the project impact area in relation to the alternatives, should be provided.

In evaluating the impact of the proposed project on wetlands, the following two items should be addressed: (1) the importance of the impacted wetland(s) and (2) the severity of this impact. Merely listing the number of acres taken by the various alternatives of a highway proposal does not provide sufficient information upon which to determine the degree

P-047-014

ofimpact on the wetland ecosystem. The wetlands analysis should be sufficiently detailed to provide an understanding of these two elements.

In evaluating the importance of the wetlands, the analysis should consider such factors as: (1) the primary functions of the wetlands (e.g., flood control, wildlife habitat, ground water recharge, etc.), (2) the relative importance of these functions to the total wetland resource of the area, and (3) other factors such as uniqueness that may contribute to the wetlands importance.

In determining the wetland impact, the analysis should show the project's effects on the stability and quality of the wetland(s). This analysis should consider the short- and long-term effects on the wetlands and the importance of any loss such as: (1) flood control capacity, (2) shore line anchorage potential, (3) water pollution abatement capacity, and (4) fish and wildlife habitat value. The methodology developed by FHWA and described in reports numbered FHWA-IP-82-23 and FHWA IP-82-24, "A Method for Wetland Functional Assessment Volumes I and II," is recommended for use in conducting this analysis. Knowing the importance of the wetlands involved and the degree of the impact, the HA and FHWA will be in a better position to determine the mitigation efforts necessary to minimize harm to these wetlands. Mitigation measures which should be considered include preservation and improvement of existing wetlands and creation of new wetlands (consistent with 23 CFR 777).

If the preferred alternative is located in wetlands, to the fullest extent possible, the final EIS needs to contain the finding required by Executive Order 11990 that there are no practicable alternatives to construction in wetlands. Where the finding is included, approval of the final EIS will document compliance with the Executive Order 11990 requirements (23 CFR 771.125(a)(1)). The finding should be included in a separate subsection entitled "Only Practicable Alternative Finding" and should be supported by the following information:

(a) a reference to Executive Order 11990;

(b) an explanation why there are no practicable alternatives to the proposed action;

(c) an explanation why the proposed action includes all practicable measures to minimize harm to wetlands; and

(d) a concluding statement that: "Based upon the above considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use."

13. Water Body Modification and Wildlife Impacts

For each alternative under detailed study the draft EIS should contain exhibits and discussions identifying the location and extent of water body modifications (e.g., impoundment, relocation, channel deepening, filling, etc.). The use of the stream or body of water for recreation, water supply, or other purposes should be identified. Impacts to fish and wildlife resulting from the loss degradation, or modification of aquatic or terrestrial habitat should also be discussed. The results of coordination with appropriate Federal, State and local agencies should be documented in the draft EIS. For example, coordination with FWS under the Fish and Wildlife Coordination Act of 1958.

14. Floodplain Impacts

National Flood Insurance Program (NFIP) maps or, if NFIP maps are not available, information developed by the highway agency should be used to determine whether an alternative will encroach on the base (100-year) floodplain. The location hydraulic studies required by 23 CFR 650, Subpart A, must include a discussion of the following items commensurate with the level of risk or environmental impact, for each alternative which

P-047-014

encroaches on base floodplains or would support base floodplain development:

(a) The flooding risks;

(b) The impacts on natural and beneficial floodplain values;

(c) The support of probable incompatible floodplain development (i.e., any development that is not consistent with a community's floodplain development plan);

(d) The measures to minimize floodplain impacts; and

(e) The measures to restore and preserve the natural and beneficial floodplain values.

The draft EIS should briefly summarize the results of the location hydraulic studies. The summary should identify the number of encroachments and any support of incompatible floodplain developments and their potential impacts. Where an encroachment or support of incompatible floodplain development results in substantial impacts, the draft EIS should provide more detailed information on the location, impacts and appropriate mitigation measures. In addition, if any alternative (I) results in a floodplain encroachment or supports incompatible floodplain development having significant impacts, or (2) requires a commitment to a particular structure size or type, the draft EIS needs to include an evaluation and discussion of practicable alternatives to the structure or to the significant encroachment. The draft EIS should include exhibits which display the alternatives, the base floodplains and, where applicable, the regulatory floodways.

If the preferred alternative includes a floodplain encroachment having significant impacts, the final EIS must include a finding that it is the only practicable alternative as required by 23 CFR 650, Subpart A. The finding should refer to Executive Order 11988 and 23 CFR 650, Subpart A. It should be included in a separate subsection entitled "Only Practicable Alternative Finding" and must be supported by the following information.

(a) The reasons why the proposed action must be located in the floodplain;

(b) The alternatives considered and why they were not practicable; and

(c) A statement indicating whether the action conforms to applicable State or local floodplain protection standards.

For each alternative encroaching on a designated or proposed regulatory floodway, the draft EIS should provide a preliminary indication of whether the encroachment would be consistent with or require a revision to the regulatory floodway. Engineering and environmental analyses should be undertaken, commensurate with the level of encroachment, to permit the consistency evaluation and identify impacts. Coordination with the Federal Emergency Management Agency (FEMA) and appropriate State and local government agencies should be undertaken for each floodway encroachment. If the preferred alternative encroaches on a regulatory floodway, the final EIS should discuss the consistency of the action with the regulatory floodway. If a floodway revision is necessary, the EIS should include evidence from FEMA and local or State agency indicating that such revision would be acceptable.

15. Wild and Scenic Rivers

If the proposed action could have foreseeable adverse effects on a river on the National Wild and Scenic Rivers System or a river under study for designation to the National Wild and Scenic Rivers System, the draft EIS should identify early coordination undertaken with the agency responsible for managing the listed or study river (i.e., National Park Service (NPS), Fish and Wildlife Service (FWS), Bureau of Land Management (BLM), or Forest Service (FS)). For each alternative under consideration, the EIS should identify the potential adverse

P-047-014

effects on the natural, cultural, and recreational values of the listed or study river. Adverse effects include alteration of the free-flowing nature of the river, alteration of the setting or deterioration of water quality. If it is determined that any of the alternatives could foreclose options to designate a study river under the Act, or adversely affect those qualities of a listed river for which it was designated, to the fullest extent possible, the draft EIS needs to reflect consultation with the managing agency on avoiding or mitigating the impacts (23 CFR 771.123(c)). The final EIS should identify measures that will be included in the preferred alternative to avoid or mitigate such impacts.

Publicly owned waters of designated wild and scenic rivers are protected by Section 4(f). Additionally, public lands adjacent to a Wild and Scenic River may be subject to Section 4(f) protection. An examination of any adopted or proposed management plan for a listed river should be helpful in making the determination on applicability of Section 4(f). For each alternative that takes such land, coordination with the agency responsible for managing the river (either NPS, FWS, BLM, or FS) will provide information on the management plan, specific affected land uses, and any necessary Section 4(f) coordination.

16. Coastal Barriers

The Coastal Barrier Resources Act (CBRA) establishes certain coastal areas to be protected by prohibiting the expenditure of Federal funds for new and expanded facilities within designated coastal barrier units. When a proposed project impacts a coastal barrier unit, the draft EIS should: include a map showing the relationship of each alternative to the unit(s); identify direct and indirect impacts to the unit(s), quantifying and describing the impacts as appropriate; discuss the results of early coordination with FWS, identifying any issues raised and how they were addressed, and; identify any alternative which (if selected) would require an exception under the Act. Any issues identified or exceptions required for the preferred alternative should be resolved prior to its selection. This resolution should be documented in the final EIS.

17. Coastal Zone Impacts

Where the proposed action is within, or is likely to affect land or water uses within the area covered by a State Coastal Zone Management Program (CZMP) approved by the Department of Commerce, the draft EIS should briefly describe the portion of the affected CZMP plan, identify the potential impacts, and include evidence of coordination with the State Coastal Zone Management agency or appropriate local agency. The final EIS should include the State Coastal Zone Management agency's determination on consistency with the State CZMP plan. (In some States, an agency will make a consistency determination only after the final EIS is approved, but will provide a preliminary indication before the final EIS that the project is "not inconsistent" or "appears to be consistent" with the plan.) (Fordirect Federal actions, the final EIS should include the lead agency's consistency determination and agreement by the State CZM agency.) If the preferred alternative is inconsistent with the State's approved CZMP, it can be Federally funded only if the Secretary of Commerce makes a finding that the proposed action is consistent with the purpose or objectives of the CZM Act or is necessary in the interest of national security. To the fullest extent possible, such a finding needs to be included in the final EIS. If the finding is denied, the action is not eligible for Federal funding unless modified in such a manner to remove the inconsistency finding. The final EIS should document such results.

18. Threatened or Endangered Species

The HA must obtain information from the FWS of the DOI and/or the National Marine Fisheries Service (NMFS) of the Department of Commerce to determine the presence or absence of listed and proposed threatened or endangered species and designated and proposed critical habitat in the proposed project area (50 CFR 402.12(c)). The information may be (1) a published geographical list of such species or critical habitat; (2) a project-specific notification of a list of such species or critical habitat; or (3) substantiated information from other credible sources. Where the information is obtained from a published

P-047-014

geographical list the reasons why this would satisfy the coordination with DOI should be explained. If there are no species or critical habitat in the proposed project area, the Endangered Species Act requirements have been met. The results of this coordination should be included in the draft EIS.

When a proposed species or a proposed critical habitat may be present in the proposed project area, an evaluation or, if appropriate, a biological assessment is made on the potential impacts to identify whether any such species or critical habitat are likely to be adversely affected by the project. Informal consultation with FWS and/or NMFS should be undertaken during the evaluation. The draft EIS should include exhibits showing the location of the species or habitat, summarize the evaluation and potential impacts, identify proposed mitigation measures, and evidence coordination with FWS and/or NMFS. If the project is likely to jeopardize the continued existence of any proposed species or result in the destruction oradverse modification of proposed critical habitat, the HA in consultation with the FHWA must confer with FWS and/or NMFS to attempt to resolve potential conflicts by avoiding, minimizing, or reducing the project impacts (50 CFR 402.10(a)). If the preferred alternative is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat, a conference with FWS and/or NMFS must be held to assist in identifying and resolving potential conflicts. To the fullest extent possible, the final EIS needs to summarize the results of the conference and identify reasonable and prudent alternatives to avoid the jeopardy to such proposed species or critical habitat. If no alternatives exist, the final EIS should explain the reasons why and identify any proposed mitigation measures to minimize adverse effects.

When a listed species or a designated critical habitat may be present in the proposed project area, a biological assessment must be prepared to identify any such species or habitat which are likely to be adversely affected by the proposed project (50 CFR 402.12). Informal consultation should be undertaken or, if desirable, a conference held with FWS and/or NMFS during preparation of the biological assessment. The draft EIS should summarize the following data from the biological assessment:

(a) The species distribution, habitat needs, and other biological requirements;

(b) The affected areas of the proposed project;

(c) Possible impacts to the species including opinions of recognized experts on the species at issue;

(d) Measures to avoid or minimize adverse impacts; and

(e) Results of consultation with FWS and/or NMFS.

In selecting an alternative, jeopardy to a listed species or the destruction or adverse modification ofdesignated critical habitat must be avoided (50 CFR 402.01(a)). If the biological assessment indicates that there are no listed species or critical habitat present that are likely to be adversely affected by the preferred alternative, the final EIS should evidence concurrence by the FWS and/or NMFS in such a determination and identify any proposed mitigation for the preferred alternative.

If the results of the biological assessment or consultation with FWS and/or NMFS show that the preferred alternative is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat, to the fullest extent possible, the final EIS needs to contain: (l) a summary of the biological assessment (see data above for draft EIS); (2) a summary of the steps taken, including alternatives or measures evaluated and conferences and consultations held, to resolve the project's conflicts with the listed species or critical habitat; (3) a copy of the biological opinion; (4) a request for an exemption from the Endangered Species Act; (5) the results of the exemption request; and (6) a statement that (if the exemption is denied) the action is not eligible for Federal funding.

19. Historic and Archeological Preservation

P-047-014

The draft EIS should contain a discussion demonstrating that historic and archeological resources have been identified and evaluated in accordance with the requirements of 36 CFR 800.4 for each alternative under consideration. The information and level of effort needed to identify and evaluate historic and archeological resources will vary from project to project as determined by the FHWA after considering existing information, the views of the SHPO and the Secretary of Interior's "Standards and Guidelines for Archeology and Historic Preservation." The information for newly identified historic resources should be sufficient to determine their significance and eligibility for the National Register of Historic Places. The information for archeological resources should be sufficient to identify whether each warrants preservation in place or whether it is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place. Where archeological resources are not a major factor in the selection of a preferred alternative, the determination ofeligibility for the National Register of newly identified archeological resources may be deferred until after circulation of the draft EIS.

The draft EIS discussion should briefly summarize the methodologies used in identifying historic and archeological resources. Because Section 4(f) of the DOT Act applies to the use of historic resources on or eligible for the National Register and to archeological resources on or eligible for the National Register and which warrant preservation in place, the draft EIS should describe the historical resources listed in or eligible for the National Register and identify any archeological resources that warrant preservation in place. The draft EIS should summarize the impacts of each alternative on and proposed mitigation measures for each resource. The document should evidence coordination with the SHPO on the significance of newly identified historic and archeological resources, the eligibility of historic resources for the National Register, and the effects of each alternative on both listed and eligible historic resources. Where the draft EIS discusses eligibility for the National Register of archeological resources, the coordination with the SHPO on eligibility and effect should address both historic and archeological resources.

The draft EIS can serve as a vehicle for affording the Advisory Council on Historic Preservation (ACHP) an opportunity to comment pursuant to Section 106 requirements if the document contains the necessary information required by 36 CFR 800.8. The draft EIS transmittal letter to the ACHP should specifically request its comments pursuant to 36 CFR 800.6.

To the fullest extent possible, the final EIS needs to demonstrate that all the requirements of 36 CFR 800 have been met. If the preferred alternative has no effect on historic or archeological resources on or eligible for the National Register, the final EIS should indicate coordination with and agreement by the SHPO. If the preferred alternative has an effect on a resource on or eligible for the National Register, the final EIS should contain (a) a determination of no adverse effect concurred in by the Advisory Council on Historic Preservation, (b) an executed memorandum of agreement (MOA), or (c) in the case of a rare situation where FHWA is unable to conclude the MOA, a copyof comments transmitted from the ACHP to the FHWA and the FHWA response to those comments.

The proposed use of land from an historic resource on or eligible for the National Register will normally require an evaluation and approval under Section 4(f) of the DOT Act. Section 4(f) also applies to all archeological sites on or eligible for the National Register and which warrant preservation in place. (See Section IX for information on Section 4(f) evaluation.)

20. Hazardous Waste Sites

Hazardous waste sites are regulated by the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). During early planning, the location of permitted and nonregulated hazardous waste sites should be identified. Early coordination with the appropriate Regional Office of the EPA and the appropriate State agency will aid in identifying known or potential hazardous

P-047-014

waste sites. If known or potential waste sites are identified, the locations should be clearly marked on a map showing their relationship to the alternatives under consideration. If a known or potential hazardous waste site is affected by an alternative, information about the site, the potential involvement, impacts and public health concerns of the affected alternative(s), and the proposed mitigation measures to eliminate or minimize impacts or public health concerns should be discussed in the draft EIS.

If the preferred alternative impacts a known or potential hazardous waste site, the final EIS should address and resolve the issues raised by the public and government agencies.

21. Visual Impacts

The draft EIS should state whether the project alternatives have a potential for visual quality impacts. When this potential exists, the draft EIS should identify the impacts to the existing visual resource, the relationship of the impacts to potential viewers of and from the project, as well as measures to avoid, minimize, or reduce the adverse impacts. When there is potential for visual quality impacts, the draft EIS shouldexplain the consideration given to design quality, art, and architecture in the project planning. These values may be particularly important for facilities located in visually sensitive urban or rural settings. When a proposed project will include features associated with design quality, art or architecture, the draft EIS should be circulated to officially designated State and local arts councils and, as appropriate, other organizations with an interest in design, art, and architecture. The final EIS should identify any proposed mitigation for the preferred alternative.

22. Energy

Except for large scale projects, a detailed energy analysis including computations of BTU requirements, etc., is not needed. For most projects, the draft EIS should discuss in general terms the construction and operational energy requirements and conservation potential of various alternatives under consideration. The discussion should be reasonable and supportable. It might recognize that the energy requirements of various construction alternatives are similar and are generally greater than the energy requirements of the no-build alternative. Additionally, the discussion could point out that the post-construction, operational energy requirements of the facility should be less with the build alternative as opposed to the no-build alternative. In such a situation, one might conclude that the savings in operational energy requirements would more than offset construction energy requirements and thus, in the long term, result in a net savings in energy usage.

For large-scale projects with potentially substantial energy impacts, the draft EIS should discuss the major direct and/or indirect energy impacts and conservation potential of each alternative. Direct energy impacts refer to the energy consumed by vehicles using the facility. Indirect impacts include construction energy and such items as the effects of any changes in automobile usage. The alternative's relationship and consistency with a State and/or regional energy plan, if one exists, should also be indicated.

The final EIS should identify any energy conservation measures that will be implemented as a part of the preferred alternative. Measures to conserve energy include theuse of high-occupancy vehicle incentives and measures to improve traffic flow.

23. Construction Impacts

The draft EIS should discuss the potential adverse impacts (particularly air, noise, water, traffic congestion, detours, safety, visual, etc.) associated with construction of each alternative and identify appropriate mitigation measures. Also, where the impacts of obtaining borrow or disposal of waste material are important issues, they should be discussed in the draft EIS along with any proposed measures to minimize these impacts. The final EIS should identify any proposed mitigation for the preferred alternative.

24. The Relationship Between Local Short-term Uses of Man's Environment and the

P-047-014

Maintenance and Enhancement of Long-term Productivity

The EIS should discuss in general terms the proposed action's relationship of local short-term impacts and use of resources, and the maintenance and enhancement of long-term productivity. This general discussion might recognize that the build alternatives would have similar impacts. The discussion should point out that transportation improvements are based on State and/or local comprehensive planning which consider(s) the need for present and future traffic requirements within the context of present and future land use development. In such a situation, one might then conclude that the local short-term impacts and use of resources by the proposed action is consistent with the maintenance and enhancement of long-term productivity for the local area, State, etc.

25. Any Irreversible and Irretrievable Commitments of Resources Which Would be Involved in the Proposed Action

The EIS should discuss in general terms the proposed action's irreversible and irretrievable commitment of resources. This general discussion might recognize that the build alternatives would require a similar commitment of natural, physical, human, and fiscal resources. An example of such discussion would be as follows:

"Implementation of the proposed action involves a commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the proposed facility is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion will ever be necessary or desirable.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material are expended. Additionally, large amounts of labor and natural resources are used in the fabrication and preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect upon continued availability of these resources. Any construction will also require a substantial one-time expenditure of both State and Federal funds which are not retrievable.

The commitment of these resources is based on the concept that residents in the immediate area, State, and region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, and greater availability of quality services which are anticipated to outweigh the commitment of these resources."

H. List of Preparers

This section should include lists of:

1. State (and local agency) personnel, including consultants, who were primarily responsible for preparing the EIS or performing environmental studies, and a brief summary of their qualifications, including educational background and experience.
2. The FHWA personnel primarily responsible for preparation or review of the EIS and their qualifications.
3. The areas of EIS responsibility for each preparer.

I. List of Agencies, Organizations, and Persons to Whom Copies of the Statement are Sent

Draft EIS: List all entities from which commentsare being requested (40 CFR 1502.10). Final EIS: Identify those entities that submitted comments on the draft EIS and those receiving a copy of the final EIS (23 CFR 771.125(a) and (g)).

P-047-014

J. Comments and Coordination

1. The draft EIS should contain copies of pertinent correspondence with each cooperating agency, other agencies and the public and summarize: 1) the early coordination process, including scoping; 2) the meetings with community groups (including minority and non-minority interests) and individuals; and 3) the key issues and pertinent information received from the public and government agencies through these efforts.

2. The final EIS should include a copy of substantive comments from the U.S. Secretary of Transportation (OST), each cooperating agency, and other commentors on the draft EIS. Where the response is exceptionally voluminous the comments may be summarized. An appropriate response should be provided to each substantive comment. When the EIS text is revised as a result of the comments received, a copy of the comments should contain marginal references indicating where revisions were made, or the response to the comments should contain such references. The response should adequately address the issue or concern raised by the commentor or, where substantive comments do not warrant further response, explain why they do not, and provide sufficient information to support that position.

   The FHWA and the HA are not commentors within the meaning of NEPA and their comments on the draft EIS should not be included in the final EIS. However, the document should include adequate information for FHWA and the HA to ascertain the disposition of the comment(s).

3. The final EIS should (1) summarize the substantive comments on social, economic, environmental, and engineering issues made at the public hearing, if one is held, or the public involvement activities or which were otherwise considered and (2) discuss the consideration given to any substantive issue raised and provide sufficient information to support that position.

4. The final EIS should document compliance with requirements of all applicable environmental laws, Executive Orders, and other related requirements, such as Title VI of the Civil Rights Act of 1964. To the extent possible, all environmental issues should be resolved prior to the submission of the final EIS. When disagreement on project issues exists with another agency, coordination with the agency should be undertaken to resolve the issues. Where the issues cannot be resolved, the final EIS should identify any remaining unresolved issues, the steps taken to resolve the issues, and the positions of the respective parties. Where issues are resolved through this effort, the final EIS should demonstrate resolution of the concerns.

K. Index

The index should include important subjects and areas of major impacts so that a reviewer need not read the entire EIS to obtain information on a specific subject or impact.

L. Appendices

The EIS should briefly explain or summarize methodologies and results of technical analyses and research. Lengthy technical discussions should be contained in a technical report. Material prepared as appendices to the EIS should:

1. consist of material prepared specifically for the EIS;

2. consist of material which substantiates an analysis fundamental to the EIS;

3. be analytic and relevant to the decision to be made; and

4. be circulated with the EIS within FHWA, to EPA (Region), and to cooperating agencies and be readily available on request by other parties. Other reports and studies referred to in the EIS should be readily available for review or for copying at a convenient location.

CLXXXVIIIONS FOR PREPARING FINAL EISs

P-047-014 The CEQ regulations place heavy emphasis on reducing paperwork, avoiding unnecessary work, and producing documents which are useful to decisionmakers and to the public. With these objectives in mind, three different approaches to preparing final EISs are presented below. The first two approaches can be employed on any project. The third approach is restricted to the conditions specified by CEQ (40 CFR 1503.4(c)).

A. Traditional Approach

Under this approach, the final EIS incorporates the draft EIS (essentially in its entirety) with changes made as appropriate throughout the document to reflect the selection of an alternative, modifications to the project, updated information on the affected environment, changes in the assessment of impacts, the selection of mitigation measures, wetland and floodplain findings, the results of coordination, comments received on the draft EIS and responses to these comments, etc. Since so much information is carried over from the draft to the final, important changes are sometimes difficult for the readerto identify. Nevertheless, this is the approach most familiar to participants in the NEPA process.

B. Condensed Final EIS

This approach avoids repetition of material from the draft EIS by incorporating, by reference, the draft EIS. The final EIS is, thus, a much shorter document than under the traditional approach; however, it should afford the reader a complete overview of the project and its impacts on the human environment.

The crux of this approach is to briefly reference and summarize information from the draft EIS which has not changed and to focus the final EIS discussion on changes in the project, its setting, impacts, technical analysis, and mitigation that have occurred since the draft EIS was circulated. In addition, the condensed final EIS must identify the preferred alternative, explain the basis for its selection, describe coordination efforts, and include agency and public comments, responses to these comments, and any required findings or determinations (40 CFR 1502.14(e) and 23 CFR 771.125(a)).

The format of the final EIS should parallel the draft EIS. Each major section of the final EIS should briefly summarize the important information contained in the corresponding section of the draft, reference the section of the draft that provides more detailed information, and discuss any noteworthy changes that have occurred since the draft was circulated.

At the time that the final is circulated, an additional copy of the draft EIS need not be provided to those parties that received a copy of the draft EIS when it was circulated. Nevertheless, if, due to the passage of time or other reasons, it is likely that they will have disposed of their original copy of the draft EIS, then a copy of the draft EIS should be provided with the final. In any case, sufficient copies of the draft EIS should be on hand to satisfy requests for additional copies. Both the draft EIS and the condensed final EIS should be filed with EPA under a single final EIS cover sheet.

C. Abbreviated Version of Final EIS

The CEQ regulation (40 CFR 1503.4(c)) provides the opportunity to expedite the final EIS preparation where the only changes needed in the document are minor and consist of factual corrections and/or an explanation of why the comments received on the draft EIS do not warrant further response. In using this approach, care should be exercised to assure that the draft EIS contains sufficient information to make the findings in (2) below and that the number of errata sheets used to make required changes is small and that these errata sheets together with the draft EIS constitute a readable, understandable, full disclosure document. The final EIS should consist of the draft EIS and an attachment containing the following:

1. Errata sheets making any necessary corrections to the draft EIS;

2. A section identifying the preferred alternative and a discussion of the reasons it was selected. The following should also be included in this section where applicable:

P-047-014

(a) final Section 4(f) evaluations containing the information described in Section IX of these guidelines;

(b) wetland and finding(s);

(c) floodplain finding(s);

(d) a list of commitments for mitigation measures for the preferred alternative; and

3. Copies (or summaries) of comments received from circulation of the draft EIS and public hearing and responses thereto.

   Only the attachment need be provided to parties who received a copy of the draft EIS, unless it is likely that they will have disposed of their original copy, in which case both the draft EIS and the attachment should be provided (40 CFR 1503.4(c)). Both the draft EIS and the attachment must be filed with EPA under a single final EIS cover sheet(40 CFR 1503.4(c)).

CXCDISTRIBUTION OF EISs AND SECTION 4(f) EVALUATIONS

A. Environmental Impact Statement

1. After clearance by FHWA, copies of all draft EISs must be made available to the public and circulated for comments by the HA to: all public officials, private interest groups, and members of the public known to have an interest in the proposed action or the draft EIS; all Federal, State, and local government agencies expected to have jurisdiction, responsibility, interest, or expertise in the proposed action; and States and Federal land management entities which may be affected by the proposed action or any of the alternatives (40 CFR 1502.19 and 1503.1). Distribution must be made no later than the time the document is filed with EPA for Federal Register publication and must allow for a minimum 45-day review period (40 CFR 1506.9 and 1506.10). Internal FHWA distribution of draft and final EISs is subject to change and is noted in memorandums to the Regional Administrators as requirements change.

2. Copies of all approved final EISs must be distributed to all Federal, State, and local agencies and private organizations, and members of the public who provided substantive comments on the draft EIS or who requested a copy (40 CFR 1502.19). Distribution must be made no later than the time the document is filed with EPA for Federal Register publication and must allow for a minimum 30-day review period before the Record of Decision is approved (40 CFR 1506.9 and 1506.10). Two copies of all approved EISs should be forwarded to the FHWA Washington Headquarters (HEV-11) for recordkeeping purposes.

3. Copies of all EISs should normally be distributed to EPA and DOI as follows, unlessthe agency has indicated to the FHWA offices the need for a different number of copies:

   (a) The EPA Headquarters: five copies of the draft EIS and five copies of the final EIS (This is the "filing requirement" in Section 1506.9 of the CEQ regulation.) to the following address:

   Environmental Protection Agency
   Office of Federal Activities
   (A-104), 401 M Street, SW
   Washington, D.C. 20460

   (b) The appropriate EPA Regional Office responsible for EPA's review pursuant to Section 309 of the Clean Air Act: five copies of the draft EIS and five copies of the final EIS.

   (c) The DOI Headquarters to the following address:

P-047-014

U.S. Department of the Interior
Office of Environmental Project Review
Room 4239
18th and C Streets, NW
Washington, DC 20240

(i) All States in FHWA Regions 1, 3, 4, and 5, plus Hawaii, Guam, American Samoa, Virgin Islands, Arkansas, Iowa, Louisiana, and Missouri: 12 copies of the draft EIS and 7 copies of the final EIS.

(ii) Kansas, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas: 13 copies of the draft EIS and 8 copies of the final EIS.

(iii) New Mexico and all States in FHWA Regions 8, 9, and 10,except Hawaii, North Dakota, and South Dakota: 14 copies of the draft EIS and 9 copies of the final EIS.

Note: DOI Headquarters will make distribution within its Department. While not required, advance distribution to DOI field offices may be helpful to expedite their review.

B. Section 4(f) Evaluation

If the Section 4(f) evaluation is included in a draft EIS, the DOI Headquarters does not need additional copies of the draft or final EIS/Section 4(f) evaluation. If the Section 4(f) evaluation is processed separately or as part of an EA, the DOI should receive seven copies of the draft Section 4(f) evaluation for coordination and seven copies of the final Section 4(f) evaluation for information. In addition to coordination with DOI, draft Section 4(f) evaluations must be coordinated with the officials having jurisdiction over the Section 4(f) property and the Department of Housing and Urban Development (HUD) and the United States Department of Agriculture (USDA) where these agencies have an interest in or jurisdiction over the affected Section 4(f) resource (23 CFR 771.135(i)). The point of coordination for HUD is the appropriate Regional Office and for USDA, the Forest Supervisor of the affected National Forest. One copy should be provided to the officials with jurisdiction and two copies should be submitted to HUD and USDA when coordination is required.

CXCVRECORD OF DECISION--FORMAT AND CONTENT

The Record of Decision (ROD) will explain the reasons for the project decision, summarize any mitigation measures that will be incorporated in the project, and document any required Section 4(f) approval. While cross-referencing and incorporation by reference of the final EIS (or final EIS supplement) and other documents are appropriate, the ROD must explain the basis for the project decision as completely as possible, based on the information contained in the EIS (40 CFR 1502.2). A draft ROD should be prepared by the HA and submitted to the Division Officewith the final EIS. The following key items need to be addressed in the ROD:

A. Decision.

Identify the selected alternative. Reference to the final EIS (or final EIS supplement) may be used to reduce detail and repetition.

B. Alternatives Considered.

This information can be most clearly organized by briefly describing each alternative and explaining the balancing of values which formed the basis for the decision. This discussion must identify the environmentally preferred alternative(s) (i.e., the alternative(s) that causes the least damage to the biological and physical environment) (40 CFR 1505.2(b)). Where the selected alternative is other than the environmentally preferable alternative, the ROD should clearly state the reasons for not selecting the environmentally preferred alternative. If lands protected by Section 4(f) were a factor in the selection of the preferred alternative, the ROD should explain how the Section 4(f) lands

P-047-014

influenced the selection.

The values (social, economic, environmental, cost-effectiveness, safety, traffic, service, community planning, etc.) which were important factors in the decisionmaking process should be clearly identified along with the reasons some values were considered more important than others. The Federal-aid highway program mandate to provide safe and efficient transportation in the context of all other Federal requirements and the beneficial impacts of the proposed transportation improvements should be included in this balancing. While any decision represents a balancing of the values, the ROD should reflect the manner in which these values were considered in arriving at the decision.

C. Section 4(f).

Summarize the basis for any Section 4(f) approval when applicable (23 CFR 771.127(a)). The discussion should include the key information supporting such approval. Where appropriate,this information may be included in the alternatives discussion above and referenced in this paragraph to reduce repetition.

D. Measures to Minimize Harm.

Describe the specific measures adopted to minimize environmental harm and identify those standard measures (e.g., erosion control, appropriate for the proposed action). State whether all practicable measures to minimize environmental harm have been incorporated into the decision and, if not, why they were not (40 CFR 1505.2(c)).

E. Monitoring or Enforcement Program.

Describe any monitoring or enforcement program which has been adopted for specific mitigation measures, as outlined in the final EIS.

F. Comments on Final EIS.

All substantive comments received on the final EIS should be identified and given appropriate responses. Other comments should be summarized and responses provided where appropriate.

For recordkeeping purposes, a copy of the signed ROD should be provided to the Washington Headquarters (HEV-11). For a ROD approved by the Division Office, copies should be sent to both the Washington Headquarters and the Regional Office.

CCI SECTION 4(f) EVALUATIONS--FORMAT AND CONTENT

A Section 4(f) evaluation must be prepared for each location within a proposed project before the use of Section 4(f) land is approved (23 CFR 771.135(a)). For projects processed with an EIS or an EA/FONSI, the individual Section 4(f) evaluation should be included as a separate section of the document, and for projects processed as categorical exclusions, as a separate Section 4(f) evaluation document. Pertinent information from various sections of the EIS or EA/FONSI may be summarized in the Section 4(f) evaluation to reduce repetition. Where an issue on constructive use Section 4(f) arises and FHWA decides that Section 4(f) does not apply, the environmental document should contain sufficientanalysis and information to demonstrate that the resource(s) is not substantially impaired.

The use of Section 4(f) land may involve concurrent requirements of other Federal agencies. Examples include consistency determinations for the use of public lands managed by the Bureau of Land Management, compatibility determinations for the use of land in the National Wildlife Refuge System and the National Park System, determinations of direct and adverse effects for Wild and Scenic Rivers, and approval of land conversions under Section 6(f) of the Land and Water Conservation Fund Act. The mitigation plan developed for the project should include measures which would satisfy the various requirements. For example, Section 6(f) directs the Department of the Interior (National Park Service) to assure that replacement lands of equal value, location, and usefulness are provided as conditions to approval of land conversions. Therefore, where a Section 6(f) land conversion is proposed for a highway project, replacement land will be necessary. Regardless of the mitigation proposed, the draft and final

P-047-014 Section 4(f) evaluations should discuss the results of coordination with the public official having jurisdiction over the Section 4(f) land and document the National Park Service's position on the Section 6(f) land transfer, respectively.

A. Draft Section 4(f) Evaluation

The following format and content are suggested. The listed information should be included in the Section 4(f) evaluation, as applicable.

1. Proposed Action.

   Where a separate Section 4(f) evaluation is prepared, describe the proposed project and explain the purpose and need for the project.

2. Section 4(f) Property.

   Describe each Section 4(f) resource which would be used by any alternative under consideration. The following information should be provided:

   (a) A detailed map or drawing of sufficient scale to identify the relationship of the alternatives to the Section 4(f) property.

   (b) Size (acres or square feet) and location (maps or other exhibits such as photographs, sketches, etc.) of the affected Section 4(f) property.

   (c) Ownership (city, county, State, etc.) and type of Section 4(f) property (park, recreation, historic, etc.).

   (d) Function of or available activities on the property (ball playing, swimming, golfing, etc.).

   (e) Description and location of all existing and planned facilities (ball diamonds, tennis courts, etc.).

   (f) Access (pedestrian, vehicular) and usage (approximate number of users/visitors, etc.).

   (g) Relationship to other similarly used lands in the vicinity.

   (h) Applicable clauses affecting the ownership, such as lease, easement, covenants, restrictions, or conditions, including forfeiture.

   (i) Unusual characteristics of the Section 4(f) property (flooding problems, terrain conditions, or other features) that either reduce or enhance the value of all or part of the property.

3. Impacts on the Section 4(f) Property(ies).

   Discuss the impacts on the Section 4(f) property for each alternative (e.g., amount of land to be used, facilities andfunctions affected, noise, air pollution, visual, etc.). Where an alternative (or alternatives) uses land from more than one Section 4(f) property, a summary table would be useful in comparing the various impacts of the alternative(s). Impacts (such as facilities and functions affected, noise, etc.) which can be quantified should be quantified. Other impacts (such as visual intrusion) which cannot be quantified should be described.

4. Avoidance Alternatives.

   Identify and evaluate location and design alternatives which would avoid the Section 4(f) property. Generally, this would include alternatives to either side of the property. Where an alternative would use land from more than one Section 4(f) property, the analysis needs to

P-047-014

evaluate alternatives which avoid each and all properties (23 CFR 771.135(i)). The design alternatives should be in the immediate area of the property and consider minor alignment shifts, a reduced facility, retaining structures, etc. individually or in combination, as appropriate. Detailed discussions of alternatives in an EIS or EA need not be repeated in the Section 4(f) portion of the document, but should be referenced and summarized. However, when alternatives (avoiding Section 4(f) resources) have been eliminated from detailed study the discussion should also explain whether these alternatives are feasible and prudent and, if not, the reasons why.

5. Measures to Minimize Harm.

   Discuss all possible measures which are available to minimize the impacts of the proposed action on the Section 4(f) property(ies). Detailed discussions of mitigation measures in the EIS or EA may be referenced and appropriately summarized, rather than repeated.

6. Coordination.

   Discuss the results of preliminary coordination with the public official having jurisdiction over the Section 4(f) property and with regional (or local) offices of DOI and, as appropriate, the Regional Office of HUD and the Forest Supervisor of the affected National Forest. Generally, the coordination should include discussion of avoidance alternatives, impacts tothe property, and measures to minimize harm. In addition, the coordination with the public official having jurisdiction should include, where necessary, a discussion of significance and primary use of the property.

   Note:The conclusion that there are no feasible and prudent alternatives is not normally addressed at the draft Section 4(f) evaluation stage. Such conclusion is made only after the draft Section 4(f) evaluation has been circulated and coordinated and any identified issues adequately evaluated.

B. Final Section 4(f) Evaluation

When the preferred alternative uses Section 4(f) land, the final Section 4(f) evaluation must contain (23 CFR 771.135(i) and (j)):

1. All the above information for a draft evaluation.

2. A discussion of the basis for concluding that there are no feasible and prudent alternatives to the use of the Section 4(f) land. The supporting information must demonstrate that "there are unique problems or unusual factors involved in the use of alternatives that avoid these properties or that the cost, social, economic, and environmental impacts, or community disruption resulting from such alternatives reach extraordinary magnitudes" (23 CFR 771.135(a)(2)). This language should appear in the document together with the supporting information.

3. A discussion of the basis for concluding that the proposed action includes all possible planning to minimize harm to the Section 4(f) property. When there are no feasible and prudent alternatives which avoid the use of Section 4(f) land, the final Section 4(f) evaluation must demonstrate that the preferredalternative is a feasible and prudent alternative with the least harm on the Section 4(f) resources after considering mitigation to the Section 4(f) resources.

4. A summary of the appropriate formal coordination with the Headquarters Offices of DOI (and/or appropriate agency under that Department) and, as appropriate, the involved offices of USDA and HUD.

5. Copies of all formal coordination comments and a summary of other relevant Section 4(f) comments received an analysis and response to any questions raised. Where new alternatives or modifications to existing alternatives are identified and will not be given

P-047-014

further consideration, the basis for dismissing these alternatives should be provided and supported by factual information. Where Section 6(f) land is involved, the National Park Service's position on the land transfer should be documented.

6. Concluding statement as follows: "Based upon the above considerations, there is no feasible and prudent alternative to the use of land from the (identify Section 4(f) property) and the proposed action includes all possible planning to minimize harm to the (Section 4(f) property) resulting from such use."

CCXOTHER AGENCY STATEMENTS

A. The FHWA review of statements prepared by other agencies will consider the environmental impact of the proposal on areas within FHWA's functional area of responsibility or special expertise (40 CFR 1503.2).

B. Agencies requesting comments on highway impacts usually forward the draft EIS to the FHWA Washington Headquarters for comment. The FHWA Washington Headquarters will normally distribute these EISs to the appropriate Regional or Division Office (per Regional Office request) and will indicate where the comments should be sent. The Regional Office may elect to forward the draft statement to the Division Office for response.

C. When a field office has received a draft EIS directly from another agency, it may comment directly to that agency if the proposal does not fall within the types indicated in item (d) of this section. If more than one DOT Administration is commenting at the Regional level, the comments should be coordinated by the DOT Regional Representative to the Secretary or designee. Copies of the FHWA comments should be distributed as follows:

1. Requesting agency--original and one copy.
2. P-14--one copy.
3. DOT Secretarial Representative--one copy.
4. HEV-11--one copy.

D. The following types of actions contained in the draft EIS require FHWA Washington Headquarters review and such EISs should be forwarded to the Director, Office of Environmental Policy, along with Regional comments, for processing:

1. actions with national implications, and
2. legislation or regulations having national impacts or national program proposals.

CCXREEVALUATIONS

A. Draft EIS Reevaluation

If an acceptable final EIS is not received by FHWA within 3 years from the date of the draft EIS circulation, then a written evaluation is required to determine whether there havebeen changes in the project or its surroundings or new information which would require a supplement to the draft EIS or a new draft EIS (23 CFR 771.129(a)). The written evaluation should be prepared by the HA in consultation with FHWA and should address all current environmental requirements. The entire project should be revisited to assess any changes that have occurred and their effect on the adequacy of the draft EIS.

There is no required format for the written evaluation. It should focus on the changes in the project, its surroundings and impacts, and any new issues identified since the draft EIS. Field reviews, additional studies (as necessary), and coordination (as appropriate) with other agencies should be undertaken and the results included in the written evaluation. If, after reviewing the written evaluation, the FHWA concludes that a supplemental EIS or a new draft EIS is not required, the

P-047-014

decision should be appropriately documented. Since the next major step in the project development process is preparation of a final EIS, the final EIS may document the decision. A statement to this fact, the conclusions reached, and supporting information should be briefly summarized in the Summary Section of the final EIS.

B. Final EIS Reevaluation

There are two types of reevaluations required for a final EIS: consultation and written evaluation (23 CFR 771.129(b) and (c)). For the first, consultation, the final EIS is reevaluated prior to proceeding with major project approval (e.g., right-of-way acquisition, final design, and plans, specifications, and estimates (PS&E)) to determine whether the final EIS is still valid. The level of analysis and documentation, if any, should be agreed upon by the FHWA and HA. The analysis and documentation should focus on and be commensurate with the changes in the project and its surroundings, potential for controversy, and length of time since the last environmental action. For example, when the consultation occurs shortly after final EIS approval, an analysis usually should not be necessary. However, when it occurs nearly 3 years after final EIS approval, but before a written evaluation is required, the level of analysis should be similar to what normally would be undertaken for a written evaluation. Although written documentation is left to the discretion of the DivisionAdministrator, it is suggested that each consultation be appropriately documented in order to have a record to show the requirement was met.

The second type of reevaluation is a written evaluation. It is required if the HA has not taken additional major steps to advance the project (i.e., has not received from FHWA authority to undertake final design, authority to acquire a significant portion of the right-of-way, or approval of the PS&E) within any 3-year time period after approval of the final EIS, the final supplemental EIS, or the last major FHWA approval action.

The written evaluation should be prepared by the HA in consultation with FHWA and should address all current environmental requirements. The entire project should be revisited to assess any changes that have occurred and their effect on the adequacy of the final EIS.

There is no required format for the written evaluation. It should focus on the changes in the project, its surroundings and impacts, and any new issues identified since the final EIS was approved. Field reviews, additional environmental studies (as necessary), and coordination with other agencies should be undertaken (as appropriate to address any new impacts or issues) and the results included in the written evaluation. The FHWA Division Office is the action office for the written evaluation. If it is determined that a supplemental EIS is not needed, the project files should be documented appropriately. In those rare cases where an EA is prepared to serve as the written evaluation, the files should clearly document whether new significant impacts were identified during the reevaluation process.

CCXS SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENTS (EISs)

Whenever there are changes, new information, or further developments on a project which result in significant environmental impacts not identified in the most recently distributed version of the draft or final EIS, a supplemental EIS is necessary (40 CFR 1502.9(c)). If it is determined that the changes or new information do not result in new or different significant environmental impacts, the FHWA Division Administrator should document the determination. (After final EIS approval, this documentation could take the form of notationto the files; for a draft EIS, this documentation could be a discussion in the final EIS.)

A. Format and Content of a Supplemental EIS

There is no required format for a supplemental EIS. The supplemental EIS should provide sufficient information to briefly describe the proposed action, the reason(s) why a supplement is being prepared, and the status of the previous draft or final EIS. The supplemental EIS needs to address only those changes or new information that are the basis for preparing the supplement and were not addressed in the previous EIS (23 CFR 771.130(a)). Reference to and summarizing the previous EIS is preferable to repeating unchanged, but still valid, portions of the original document. For example, some items such as affected environment, alternatives, or impacts which are

P-047-014

unchanged may be briefly summarized and referenced. New environmental requirements which became effective after the previous EIS was prepared need to be addressed in the supplemental EIS to the extent they apply to the portion of the project being evaluated and are relevant to the subject of the supplement (23 CFR 771.130(a)). Additionally, to provide an up-to-date status of compliance with NEPA, it is recommended that the supplement summarize the results of any reevaluations that have been performed for portions of or the entire proposed action. By this inclusion, the supplement will reflect an up-to-date consideration of the proposed action and its effects on the human environment. When a previous EIS is referenced, the supplemental EIS transmittal letter should indicate that copies of the original (draft or final) EIS are available and will be provided to all requesting parties.

B. Distribution of a Supplemental EIS

A supplemental EIS will be reviewed and distributed in the same manner as a draft and final EIS (23 CFR 771.130(d)). (See Section VII for additional information.)

XII. Appendices

Two appendices are included as follows:

Appendix A:Environmental Laws, Authority, and Related Statutes and Orders

Appendix B:Preparation and Processing of Notices of Intent.

ENVIRONMENTAL LAWS, AUTHORITY, AND RELATED STATUTES AND ORDERS

AUTHORITY:

42 United States Code (U.S.C.) 4321 et seq., National Environmental Policy Act of 1969, as amended.

23 U.S.C. 138 and 49 U.S.C. 303, Section 4(f) of the Department of Transportation (DOT) Act of 1966.

23 U.S.C. 109(h), (i), and (j) standards.

23 U.S.C. 128, Public Hearings.

23 U.S.C. 315, Rules, Regulations, and Recommendations.

23 Code of Federal Regulations (CFR), Part 771, Environmental Impact and Related Procedures.

40 CFR 1500 et seq., Council on Environmental Quality, Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act.

49 CFR 1.48(b), DOT Delegations of Authority to the Federal Highway Administration.

DOT Order 5610.1c, Procedures for Considering Environmental Impacts, September 18, 1979, and subsequent revisions.

RELATED STATUTES AND ORDERS: The following is a list of major statutes and orders on the preparation of environmental documents.

7 U.S.C. 4201 et seq., Farmland Protection Policy Act of 1981.

16 U.S.C. 461 et seq., Archaeological and Historic Preservation Act; and 23 U.S.C. 305.

16 U.S.C. 470f, Sections 106, 110(d), and 110(f) of the National Historic Preservation Act of 1966.

16 U.S.C. 662, Section 2 of the Fish and Wildlife Coordination Act.

P-047-014

16 U.S.C. 1452, 1456, Sections 303 and 307 of the Coastal Zone Management Act of 1972.

16 U.S.C. 1271 et. seq., Wild and Scenic Rivers Act.

16 U.S.C. 1536, Section 7 of the Endangered Species Act of 1973.

33 U.S.C. 1251 et seq., Clean Water Act of 1977.

33 U.S.C 1241 et seq., Resource Conservation and Recovery Act.

42 U.S.C. 300(f) et seq., Safe Drinking Water Act.

42 U.S.C. 4371 et seq., Environmental Quality Improvement Act of 1970.

42 U.S.C. 4601 et seq., Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

42 U.S.C. 4901 et seq., Noise Control Act of 1972.

42 U.S.C. 9601 et seq., Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

42 U.S.C. 7401 et seq., Clean Air Act.

42 U.S.C. 2000d-d4, Title VI of the Civil Rights Act of 1964.

43 U.S.C. Coastal Barriers Resources Act of 1982.

Executive Order 11514, Protection and Enhancement of Environmental Quality, as amended by Executive Order 11991, dated May 24, 1977.

Executive Order 11593, Protection and Enhancement of the Cultural Environment, dated May 13, 1971, implemented by DOT Order 5650.1, dated, November 20, 1972.

Executive Order 11988, Floodplain Management, dated May 24, 1977, implemented by DOT Order 5650.2, dated April 23, 1979.

Executive Order 11990, Protection of Wetlands, dated May 24, 1977, implemented by DOT Order 5660.1A, dated August 24, 1978.

Preparation and Processing of Notices of Intent

The CEQ regulations and Title 23, Code of Federal Regulations, Part 771, Environmental Impact and Related Procedures, require the Administration to publish a notice of intent in the Federal Register as soon as practicable after the decision is made to prepare an environmental impact statement (EIS) and before the scoping process (40 CFR 1501.7). A notice of intent will also be published when a decision is made to supplement a final EIS, but will not be necessary when preparing a supplement to a draft EIS (23 CFR 771.130(d)). The responsibility for preparing notices of intent has been delegated to Regional Federal Highway Administrators and subsequently redelegated to Division Administrators. The notice should be sent directly to the Federal Register at the address provided in Attachment 1 and a copy provided to the Project Development Branch (HEV-11), Office of Environmental Policy, and the appropriate Region Office.

In cases where a notice of intent is published in the Federal Register and a decision is made not to prepare the draft EIS or, when the draft EIS has been prepared, a decision is made not to prepare a final EIS, a revised notice of intent should be published in the Federal Register advising of the decision and the reasons for not preparing the EIS. This applies to future and current actions being processed.

Notices of intent should be prepared and processed in strict conformance with the guidelines in Attachment 1 in order to ensure acceptance for publication by the Office of the Federal Register. A sample of each notice of intent for preparation of an EIS and a supplemental EIS is provided as Attachment 2.

P-047-014

The Project Development Branch (HEV-11) will serve as the Federal Register contact point for notice of intent. All inquiries should be directed to that office.

GUIDELINES FOR PREPARATION AND PROCESSING OF NOTICES OF INTENT

FORMAT

1. Typed in black on white bond paper.
2. Paper size: 8 1/2" x 11".
3. Margins: Left at least 1 1/2", all others 1".
4. Spacing: All material double spaced (except title in heading).
5. Heading: Four items on first page at head of document (see Attachment 2):
   - Billing Code No. 4910-22 typed in brackets or parentheses
   - DEPARTMENT OF TRANSPORTATION (all upper case)
   - Federal Highway Administration
   - ENVIRONMENTAL IMPACT STATEMENT; COUNTY OR CITY, STATE (all upper case; single space)
6. Text: Five sections - AGENCY, ACTION, SUMMARY, FOR FURTHER INFORMATION CONTACT, AND SUPPLEMENTARY INFORMATION; each section title in upper case followed by colon (see Content (below) and Samples 1 and 2).
7. Closing:
   - Include the Catalog of Federal Domestic Assistance number and title
   - Issued on:

     (indent 5 spaces and type or stamp in date when document is signed)
   - Signature line

     (begin in middle of page; type name, title, and city under the signature; use name and title of the officialactually signing the document (e.g., "John Doe, District Engineer," not "John Doe, for the Division Administrator"))
8. Document should be neat and in form suitable for public inspection. Two or more notices of intent can be included in a single document by making appropriate revisions to the heading and text of the document.

CONTENT

1. AGENCY: Federal Highway Administration (FHWA), DOT.
2. ACTION: Notice of Intent.
3. SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be prepared for a proposed highway project in . . . .
4. FOR FURTHER INFORMATION CONTACT: This section should state the name and address of a person or persons within the FHWA Division Office who can answer questions about the proposed action and the EIS as it is being developed. The listing of a telephone number is optional. State and/or local officials may also be listed, but always following the FHWA contact person.

P-047-014

8. SUPPLEMENTARY INFORMATION: This section should contain:

   a. a brief narrative description of the proposed action (e.g., location of the action, type of construction, length of the project, needs which will be fulfilled by the action);

      For a supplement to a final EIS add: the original EIS number and approval date, and the reason(s) for preparing the supplement;

   b. a brief description of possible alternatives to accomplish the goals of the proposed action (e.g., upgrade existing facility, do nothing (should always be listed), construction on new alignment, mass transit, multi-modal design); and

   c. a brief description of the proposed scoping process for the particular action including whether, when, and where any scoping meeting will be held.

      For a supplement to a final EIS: the scoping process is not required for a supplement; however, scoping should be discussed to the extent anticipated for the development of the supplement;

      In drafting this section -

      - use plain English
      - avoid technical terms and jargon
      - always refer to the proposed action or proposed project (e.g., the proposed action would . . .)
      - identify all abbreviations
      - list FHWA first when other agencies (State or local) are listed as being involved in the preparation of the EIS

PROCESSING

1. Send three (3) duplicate originals each signed in ink by the issuing officer to:

   Office of the Federal Register
   National Archives and Records Administration
   Washington, DC 20408

2. The duplicates must be identical in all respects. The Federal Register will accept electrostatic copies as long as they are readable and individually signed.

3. Three (3) additional copies are required if material is printed on both sides. If a single original and two certified copies are sent, the statement "CERTIFIED TO BE A TRUE COPY OF THE ORIGINAL" and the signature of a duly authorized certifying officer must appear on each certified copy.

4. A record should be kept of the date on which each notice is mailed to the Federal Register.

5. Send one (1) copy each to the Project Development Branch (HEV-11) and the Regional office.

S A M P L E 1

[4910-22]

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

ENVIRONMENTAL IMPACT STATEMENT: WASHINGTON COUNTY, WASHINGTON

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Intent.

P-047-014 SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be prepared for a proposed highway project in Washington County, Washington.

FOR FURTHER INFORMATION CONTACT: James West, District Engineer, Federal Highway Administration, 400 Market Street, State Capital, Washington 98507, Telephone: (206) 222-2222.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Washington Department of Transportation and the Washington County Highway Department, will prepare an environmental impact statement (EIS) on a proposal to improve U.S. Route 10 (U.S. 10) in Washington County, Washington. The proposed improvement would involve the reconstruction of the existing U.S. 10 between the towns of Eastern and Western for a distance of about 20 miles.

Improvements to the corridor are considered necessary to provide for the existing and projected traffic demand. Also included in this proposal is the replacement of the existing East End Bridge and a new interchange with Washington Highway 20 (W.H. 20) west of Eastern. Alternatives under consideration include (1) taking no action; (2) using alternate travel modes; (3) widening the existing two-lane highway to four lanes; and (4) constructing a four-lane, limited access highway on new location. Incorporated into and studied with the various build alternatives will be design variations of grade and alignment.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State, and local agencies, and to private organizations and citizens who have previously expressed or are known to have interest in this proposal. A series of public meetings will be held in Eastern and Western between May and June 1985. In addition, a public hearing will be held. Public notice will be given of the time and place of the meetings and hearing. The draft EIS will be available for public and agency review and comment prior to the public hearing. No formal scoping meeting is planned at this time.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments, and suggestions are invited from allinterested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: March 26, 1985.

John Doe
Division Administrator
Capital

S A M P L E 2

[4910-22]

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

ENVIRONMENTAL IMPACT STATEMENT: WASHINGTON COUNTY, WASHINGTON

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Intent.

P-047-034

SUMMARY: The FHWA is issuing this notice to advise the public that a supplement to a final environmental impact statement will be prepared for a proposed highway project in Washington County, Washington.

FOR FURTHER INFORMATION CONTACT: James West, District Engineer, Federal Highway Administration, 400 Market Street, State Capital, Washington 98507, Telephone: (206) 222-2222.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Washington Department of Transportation and the Washington County Highway Department, will prepare a supplement to the final environmental impact statement (EIS) on a proposal to improve U.S. Route 10 (U.S. 10) in Washington County, Washington. The original EIS for the improvements (FHWA-WA-EIS-85-06-F) was approved on December 21, 1985. The proposed improvements to U.S. 10 provide a divided four-lane, limited access highway on new location between the towns of Western and Eastern for a distance of about 20 miles. Improvements to the corridor are considered necessary to provide for existing and projected traffic demand.

The location and preliminary design of the western 15 miles portion of the proposed facility, from Western to U.S. 20, have been approved. However, substantial changes in the local street system and land use development in Eastern have reduced the suitability of the approved location east of U.S. 20. The portion of the proposed facility east of U.S. 20 is now to be restudied to determine if a new route location and connection to I-90 would be appropriate.

Alternatives under consideration include (1) taking no action and terminating the facility at U.S. 20; (2) constructing a four-lane, limited access highway on the approved location; (3) widening the existing two-lane U.S. 10 to four lanes with a connection to U.S. 20; and (4) constructing a four-lane, limited access highway on new location and connecting to I-90. Incorporated into and studied with the various build alternatives will be design variations of grade and alignment.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State, and local agencies, and to private organizations and citizens who havepreviously expressed or are known to have interest in this proposal. A public meeting will be held in Eastern in August 1987. In addition, a public hearing will be held. Public notice will be given of the time and place of the meeting and hearing. The draft supplemental EIS will be available for public and agency review and comment prior to the public hearing. No formal scoping meeting will be held.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to the FHWA at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Research, Planning, and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: April 23, 1987.

John Doe
Division Administrator
Capital