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MEMO

DATE: February 5, 2013

TO: Planning and Sustainability Commission

FROM: Eric Engstrom, BPS

CC: Susan Anderson and Joe Zehnder, BPS; Mike Rosen, BES

SUBJECT: West Hayden Island Work Session #3 (February 12, 2013)

Background

On November 27, 2012 the Planning and Sustainability Commission (PSC) asked staff to develop a work plan and timeline to further examine major unresolved topics related to the November 21st WHI draft plan. On December 11, 2012 PSC approved a work plan and timeline which includes a series of work sessions and hearings through April 2013.

You asked that staff prepare written responses to all PSC questions with the assistance of technical experts and core stakeholders (Attachments A and B). One week prior to each work session you will receive a packet which will contain: 1) answers to PSC questions to be discussed at the session, 2) all feedback received from technical experts and stakeholders, 3) significant outstanding issues, and 4) staff recommendations. This is the third such packet and covers questions related to community health and transportation.

Work Session Discussion Topics

The discussion topics for the 3rd session on February 12, 2013 will include:
1) Health report follow-up
2) Stage 2 HIA
3) Housing fund proposal
4) Construction Monitoring
5) Best Management Practices
6) Truck Cap
7) Columbia River Crossing (CRC) relationship and Hayden Island Drive (NHID) Plans

Partner and Stakeholder Input

We have also initiated communication with a number of technical experts and stakeholders related to the above topics. Over the past several weeks we have consulted with:

Moriah McSharry McGrath, Research Analyst, Health Assessment & Evaluation, MCHD
Elizabeth Clapp, Research Analyst, Health Assessment & Evaluation, MCHD
Steve White, Project Manager, Oregon Public Health Institute
Chelsea Catto, Manufactured Home Park Program Director, CASA of Oregon
Heather Wills, Casy Liles, Aaron Myton, Jeff Heilman (Parametrix, Inc.) - CRC
Marah Danielson - ODOT
Deena Platman, Josh Naramore, Tim Collins - Metro
Paul Smith, Ning Zhou, Bob Hillier, Eva Huntsinger, Jamie Jeffrey, Mathew Machado, Wendy Cawley, Kurt Krueger - PBOT
Philip Healy, Greg Theisen and Scott King - Port of Portland
Community Stakeholders: Ron Schmidt, HINoon Chair; Lucinda Karlic, HILP President; Herman Kachold, HILP Vice President; Jon Ostar, OPAL; Island Residents: Marty Slapikas, Tom Dana, Victor Viets, Stefan Karlic, Donna Murphy; Pam Ferguson; President of Manufactured Homeowner's Association

Significant issues identified through technical expert/stakeholder input:

- HIA phase 2: permit sequencing and appropriate timing
- Housing Funds: timing and amount
- Construction Impacts
- Update on BMPs document and development of performance standards
- Truck Cap: Basis for calculating the 205 maximum trucks per day

Discussion and Recommendations

HIA phase 2: permit sequencing, appropriate timing, baseline health study

The Phase 2 HIA should be timed so that it can be considered as an input to a NEPA process that would be triggered by a development permit which includes rail, marine terminal(s), docks and infrastructure. BPS acknowledges the lack of clarity around the sequencing of permits. This needs to be more clearly spelled out in the IGA to ensure that the timing of the HIA aligns with the future terminal development permit.

Recommendations:

- More clearly lay out the trigger of HIA based on likely permitting sequence.
- Mandate that a baseline health study of the population is conducted as part of the 2nd stage HIA.
- Require that an experienced HIA practitioner or a member of the Society of Practitioners of HIAs is lead author of the HIA. BPS and the Port will consult with Multnomah County Health Department to determine the lead author.

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Housing Funds: Timing

Currently the draft IGA indicates that the Portland Housing Bureau (PHB) will deliver a detailed plan for the distribution and use of the funds to City Council within 9 months of receiving the initial disbursement of planning funds to set up the program. This initial disbursement would take place within 6 months of the annexation or 6 months from the date all appeals are resolved. The remainder of the funds would be available within one year of City Council approval of the housing plan.

The Port has expressed concern about the commitment to funding residential health improvement measures without knowing the specific terminal development plans for WHI, or the specific impacts. They have indicated that a community mitigation funding package should be based on the detailed HIA described above.

Recommendation: BPS recommends changing the timeline for the planning and disbursement of the housing funds to align with the completion of the stage 2 HIA. The HIA will define health impacts based on a specific terminal development. BPS, PHB and HIA practitioners can then more definitively define the uses for the housing fund based on the findings of the HIA.

Construction Impacts

The Hayden Island community has expressed concerns that the Health Analysis and the BMPS document do not address mitigation measures for Port construction activities. The Community has requested that the City document what existing codes and regulations are in place to protect the community against future construction impacts. BPS also agrees to review best practices that the Port has implemented in the past with construction at terminals 4, 5 and 6. This supplemental information will be provided under separate cover at the February 12 work session. The goal of this research will be to determine if there are some tools, measures, practices to reduce construction impacts that can be defined as part of the current IGA, or as part of the performance standards and BMPs noted above.

Update on BMPs document and development of performance standards

The Port has updated a BMPs/Green Performance Goals document which currently contains 51 of the 82 mitigation measures from the WHI Health Analysis. The Port is also in the process of drafting a Sustainability Policy for a Green Port facility on WHI. This supplemental information will be provided under separate cover at the February 12th work session. The Port proposes to develop performance standards to address multiple issue areas rather than rely only on BMPs that may or may not apply when marine terminals are built in the future. Included with this would be some penalty for non-compliance with the performance standards.

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Recommendation: BPS recommends integrating the Sustainability Policy into the IGA, including performance standards and non-compliance clauses. We also suggest the BMP document be noted as a working document that represents the best practices at this time. The Reporting and Adaptive management framework in the IGA will be updated to include a process for monitoring progress toward the performance standards, and updating the BMPS.

Truck Cap: Basis for calculating the 205 maximum trucks per day

Both the plan district zoning code and the IGA contain provisions limiting the total number of heavy truck trips to 205 (i.e. 102.5 round trips) per day. In the case of the zoning code, there is no provision to ask for an adjustment or variance to this number. If the number of heavy truck trips is exceeded, it would trigger the city's code compliance process. Further violations would result in additional letters requesting compliance, the assigning of fines, and would ultimately force the Port to go through a legislative amendment process to consider amending the truck trip number.

There needs to be some clarification on the time period associated with calculating the 205 heavy trucks per day maximum. The community has suggested that if this number is exceeded on any one day than the Port is in violation. The Community has also raised concerns about the remedies in the event of a truck cap violation and the need for third party monitoring or audit of truck trips.

Recommendations:

- BPS recommends calculating the 205 heavy trucks per day as an average over any one-month period. BPS feels this is a reasonable approach to calculating the truck cap based on information received from the Port monitoring operations of daily truck traffic at terminals 4 and 5.
- The draft IGA should be updated to clarify that truck data must be collected in a way that can be independently verifiable through an external third party audit.

CRC Relationship and NHID Improvements

Although staff does not have any recommendations to change the proposed IGA or code related to NHID plans or the CRC, we do anticipate discussion of commission questions on those topics. Staff will provide an update on CRC coordination at the Feb 12 meeting, and be prepared to discuss NHID questions.

Attachments

A) Planning and Sustainability Questions and Staff Responses
B) Community Health and Transportation Technical Comments
C) Portland Housing Bureau Memo
D) Transportation Maps: Routing of Trucks to I-5
E) Transportation Planning Rule letter

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Attachment A
Planning and Sustainability Commission Questions and Staff Responses

Health Questions

General Health Analysis Report Follow-up

37. What are the health risks of this facility? Are they as severe as some describe? How does this compare to risks that other Portlanders already experience?

Answer: The WHI Health Analysis is based on the potential impacts of one specific development scenario developed by BPS, the WHI Advisory Committee and project consultant Workey Parsons. The scenario includes: 1) retaining 500 acres of open space with some recreational trials, and 2) up to 300 acres of marine terminal development in side a rail loop. The scenario also includes road improvements to Hayden Island drive and assumes that the Columbia River Crossing is built. Currently, there is not a development proposal or permit for development. The concept plan considers 3 facilities on WHI including 2 bulk and 1 auto facility within a 300 acres footprint. If annexation occurs, while we do not know what could develop here in the future, this scenario was used in our research to reflect a potential full build out scenario. Based on other like facilities around the world and through literature review and discussions with the local community, the following seven factors were addressed in this health assessment: Air quality, Noise and vibration, Light, Physical activity, Traffic safety, Community design and housing, Employment, and Cumulative and synergistic impacts.

The Health Analysis found that the development scenario would likely impact all seven factors to some degree—some in negative ways and some in positive ways. The most likely negative health impacts are related to **air quality, noise and vibration, and community design and housing**. These factors show potential for negatively impacting health by increasing respiratory illness, cardiovascular disease, cancer, sleep disruption, and localized economic instability.

In general, the local population on Hayden Island, particularly those living in manufactured or floating homes, is likely to experience the negative health impacts of the development scenario.

Air Quality

There is no development on WHI now, but we assume that construction and port operations in the future would increase air toxins on the island and in adjacent communities. This assumption is based on the development proposed as part of the concept plan, as well as emissions at existing port facilities at terminals 4 and 5. DEQ's 2017 modeled projections for the island, plus the addition of projected marine facility emissions from a potential development could increase air toxins 2-3 times from what we see right now on WHI.

Diesel particulate matter (PM) from trucks, trains, and boats are one of the biggest health concerns related to future development. Increasingly strict air quality standards already adopted will lead to reduced emissions by new engines, over time. The challenge is predicting turnover rates for vehicle fleet engines or locomotive train car replacement. That fleet turnover has already started, and will continue in the years after 2017, with continued progress before terminal operations are expected to begin (in the mid 2020's). For example, the Environmental Protection Agency (EPA) has estimated that with the implementation of the North American Emission Control Area that diesel PM emissions from oceangoing vessels

will be reduced by 74% by 2020. Beginning in 2007, truck engine manufacturers have been required to meet the EPA standards that reduce particulate matter by 90 percent. The proposed code and agreement addresses this by limiting the number of trucks with a truck cap, and through a housing fund to improve or replace manufactured homes nearby (people in older manufactured homes are more likely to experience poor indoor air quality).

Noise and Vibration

The Health Analysis indicated that noise and vibration levels could increase for individuals residing or working along freight routes. Noise from activities at the actual Port facility may be buffered to some extent by distance, buildings, and vegetation. Baseline noise data collected in July 2012 indicate that people living closer to Hayden Island Drive or along the Columbia River experience more roadway-related noise. Aircraft noise also is a contributor to noise on the island. However, when aircraft noise is not present, the noise in the community is generally at the same level found in most urban settings. The City's Noise Control Office reviewed the Health Analysis and noted that future noise is a concern, and should be addressed. The Noise Office believes that when a specific development proposal to review, the noise issue can be more rigorously assessed. The proposed code and agreement tries to address this by limiting the number of trucks, by improvements to North Hayden Island Drive, and through a housing fund to improve or replace manufactured homes nearby (people in older manufactured homes are more susceptible to noise impacts).

Community Design and Housing

The Health Analysis notes that a marine terminal development on WHI could have two major effects on the housing on the island including, a decrease in housing values and disruption to the community's social relationships especially for the HI Manufactured Home Community and floating homes in close proximity to the development. The report notes that the prevalence or severity of housing-related changes is difficult to predict given the uncertainty of the future development scenario; however, vacancies in the manufactured home community spurred by concerns over increased air pollution, noise and vibration, and light, or declining property values, could be harmful to the a close-knit community. Older units could also be decommissioned more rapidly than normal if their desirability decreases as a result of those concerns. The proposed code and agreement tries to address this by limiting the number of trucks, by improvements to North Hayden Island Drive, through a community fund, and through a housing fund to improve or replace manufactured homes nearby.

38. Can we properly assess/plan mitigation for health impacts without baseline health data for the immediate community? What is the basis of the City/county position that a full impacted population baseline is not needed as part of this decision?

Answer: Through the Health Analysis we analyzed 2010 demographics for the island. We know from the census and other recent local surveys that Hayden Island residents have a higher percentage of seniors, persons on fixed incomes. As a result, we know that this existing community is likely to have a higher percentage of persons with pre-existing medical conditions, and we know it is especially vulnerable to future impacts described in the report.

However, the timing of a future development is estimated to begin no earlier than 2023 (construction) with operations beginning no earlier than 2026. The population will change during that ten year period. A baseline health survey in 2012 may not tell us much about who will be impacted in 2023 or 2026. At the time of the HIA we would also know the type of

terminal that is being planned and be able to look more closely at baseline health conditions as they may relate to the development being proposed.
Recommendation: BPS recommends that a baseline health study of the population be conducted as part of the 2nd stage HIA (described in more detail below).

39. Do we have any way to estimate the effect of the health report mitigation measures in reducing impact? Are there additional measures that City staff would recommend from those considered?

Answer: It was beyond the scope of the Health Analysis to estimate the effect of the menu of mitigation measures. These strategies, categorized by potential impact area, were identified in the Health Analysis team's review of scientific literature, established best management practices, recommendations of Health Impact Assessments of other port projects, comments gathered through the West Hayden Island planning process, and the professional experience of the Health Analysis team. They were intended for use by stakeholders and decision-makers to prioritize mitigations measures based on local context, needs, preferences, and resources. The goal of the proposed annexation agreement is to maximize benefits, minimize harms, and encourage an equitable distribution among population groups. That discussion will be complex, with many policy considerations. Staff has not identified a ranking method that would precisely quantify these considerations.

BPS began a discussion and prioritization of the menu of mitigation measures with the WHI Advisory Committee in November 2012. While the AC was not able to get through all of the measures, they did reach agreement on adding 51 of the 82 measures to the IGA's BMPs/WHI Green Performance Goal document . An additional eight measures are outside of the Port's purview. The AC could not reach consensus on the remaining 23 measures and were therefore excluded from consideration.

At this time the City does not have recommendations for additional mitigation measures. We recommend that the list of BMPS, as well as the mitigation measures not already adopted by the Advisory Committee be revisited at the time of the 1st terminal permit (and reevaluated periodically, at least every 5 years) to assess the relevance of the BMP or mitigation measure to the type of development being proposed. The Reporting and Adaptive Management section of the IGA will be updated to reflect periodic review of the BMP document. It will also be important at the time of terminal development to determine if additional mitigation measures need to be included that the 1st Health Analysis did not anticipate.

Best Management Practices (BMPs)

40. Where do we stand with regard to onsite BMP's?

Answer: As noted above, the Port has updated a Best Management Practices document which currently contains 51 of the 82 mitigation measures from the Health Analysis. The Port is also in the process of drafting a Sustainability Policy for WHI. This supplemental information will be provided under separate cover at the February 12 work session.

The document will lay out performance standards to address multiple issue areas rather than list out a number of specific strategies that may or may not apply when marine terminals are built in the future. Included with this would be some penalty for non-compliance with the performance standards. This would be rolled up into the Port's environmental performance management system for the project.

BPS recommends, in addition to the Sustainability Policy which will include performance standards and non-compliance clauses, that the BMP document be noted as a working document that represents the best practices at this time. The Reporting and Adaptive management framework in the IGA will be updated to include a process for monitoring and updating the BMPS.

41. Can the City or Port impose additional emissions, noise, or safety requirements on trucks or trains that call on the site, beyond those already required by State or federal law?

Answer: The City of Portland and the Port of Portland do not have the legal authority to impose additional requirements on trains that call on the future WHI terminal site. No port authority or jurisdiction has this authority.

The railroads operate two types of locomotives on their system, line haul and switchers. Line haul locomotives power cargo trains around the system from origin to destination. Switchers work at rail yards, port facilities and harbor terminals. Many switchers are owned by terminals, yards or class two or three railroads, not by the mainlines. Both types of locomotives number in the tens of thousands across the system. The UP Railroad, for example, has about 8000 locomotives in their fleet, roughly 6000 line haul and 2000 switchers.

Line haul locomotives are high speed and high power. They are not tethered to any single site or region and transfer from railroad to railroad. A Canadian Pacific or Norfolk and Southern locomotive may be operating in Portland's Lake Yard or Albina Yard depending on origin or destination of the haul.

Class I railroads commonly dedicate switchers temporarily to a region until they are pulled off for service and then sent to either the same or new location. At non-railroad terminal locations switchers may be owned by the terminal, tenant or a third-party operator. Switcher fleets including locomotives with electrical generators are being used in areas of poor air quality at facilities in Illinois, Texas and California. These locomotives are usually located in areas that do not meet Federal air quality standards. Their purchase is funded through private/public partnerships. These locomotives are maintained at specialized facilities that service multiple units with a dedicated maintenance crew. This precludes the distribution of a single locomotive, with electrical generator, in areas where air quality is not poor. Because Portland does meet federal air quality standards, we are a lower priority to receive these locomotives.

EPA emission reduction standards for locomotives first went into effect in 2000 and apply to all newly manufactured locomotives and retrofits occurring as fleets are maintained. EPA locomotive engine rules will reduce NOx, HC and PM emissions by about 90%. Based on current maintenance and replacement patterns the estimated fleet mix for 2025 is as follows:

- 25-50% locomotives will be Tier 1 and 2, (manufactured between 2002-2010)
- 20-30% locomotives will be Tier 3 (manufactured between 2011 -2014) ,and
- 20-30% locomotives will be Tier 4 (manufactured 2015 and beyond).

The Tier 4 engines will produce less emissions and our projected to emit 90% less particulate matter than the Tier II standards.

Stage Two HIA

42 and 43). What is the specific trigger for the future second stage HIA? How do we implement second-stage HIA and ensure recommendations are followed?

Answer: Currently the IGA states: "The HIA will be completed before the Port submits the first federal permit or federal funding application for development on WHI. The term "development" includes rail or marine terminal development on WHI, or related docks and causeways below ordinary high water in the Columbia River. The term "permits" includes federal permit or funding applications submitted by entities acting as agents of the Port, or by any lessee of Port property on WHI. The Port will notify and secure the cooperation of it agents and lessees in complying with this requirement." With the Mayor's Amendments on November 21 staff added the establishment of an endowment that the Port would manage in consultation with the Advisory Committee in the amount of $1 million. The earnings from this fund will be used to implement further mitigation measures that may be recommended in the second stage HIA.

The HIA should occur through a NEPA Environmental Impact Statement (EIS) or Environmental Assessment (EA) process that would be triggered by a development permit which includes rail, marine terminals and/or docks and infrastructure. BPS acknowledges the lack of clarity around the sequencing of permits and knows that this needs to be clearly spelled out in the IGA to ensure that the timing of the HIA aligns with the future terminal development permit as opposed to another permit that could trigger NEPA . For example, if wetland filling occurs prior to a development permit, NEPA will be triggered but there would be insufficient information to analyze health impacts because a terminal user would not be identified.

BPS recommends the following updates to the IGA:

- Require that an experienced HIA practitioner or a member of the Society of Practitioners of HIAs is the lead author of the HIA. BPS and the Port will consult with Multnomah County Health Department to determine the lead author.
- More clearly lay out the trigger of HIA based on likely permitting sequence and determine if supplemental HIAs or health assessments are needed based on additional development permits.
- Mandate that a baseline health study of the population is conducted as part of the 2nd stage HIA.

Mayor's Housing Fund Proposal

44. The Mayor's proposal suggests new park development and a housing fund as measures to offset impacts on human health. Do we have any way to quantify the offsetting benefit?

The Health Analysis did not quantify the potential offsetting benefits of upgrades to housing or opportunities for new park development. However, through the literature review conducted by the health analysis team, staff have identified a few resources that may be of interest to the PSC that directly discuss benefits of such measures. These measures do not

undo the potential impacts, but there is evidence that there is a cause and effect relationship pushing in the opposite direction helping to offset impacts.

Physical Activity

According to the Health Analysis, physical inactivity is among the top preventable causes of premature death and disability locally and nationally, and increasing opportunities for physical activity can positively impact the following health outcomes: heart disease, high blood pressure, stroke, obesity, type 2 diabetes, mental health, temporary illness/injuries and even life expectancy.

The Health Analysis discusses improved opportunities for physical activity by expanding infrastructure for biking and walking along Hayden Island Drive and a trail system on West Hayden Island.

For new park development, the IGA currently discusses the contribution of funds from the City and the Port to be used for park land acquisition on Hayden Island, and recreational facilities including trails, parking lot, restrooms and overlook development on West Hayden Island. These improvements could make the planned open space on WHI more accessible to both island residents and visitors. Connectivity to these new facilities and between communities would also be improved with the proposed improvements for North Hayden Island Drive.

Resources:

1) McNeill, L.H., Kreuter, M.W., and Subramanian, S.V. (2006). Social environment and physical activity: a review of concepts and evidence. Social Science and medicine (1982), 63(4), 1011-1022.

2) Nieman, D.C. (1998). The exercise-health connection. Champaign, Ill: Human Kinetics.

3) Tilahun, N., Levinson, D., and Krizek, K. (2007). Trails, lanes, or traffic: Valuing bicycle facilities with an adaptive stated preference survey. Transportation Research Part A, 41(4), 287-301.

Housing Fund

The Health Analysis indicated that people living in manufactured homes may be especially susceptible to housing-related health problems. There is a long history of health problems associated with manufactured homes, though these problems have become less common as successive building and installation codes have been established by federal and state entities. While the Health Analysis did not quantify the offsetting benefits of a future housing rehabilitation fund, the report cites a number of studies that point to the benefits for improved health outcomes by improving our home environments.

Residents of older manufactured homes may be exposed to more outdoor allergens and air toxins from building materials. The Portland Housing Bureau found that more than half of the manufactured homes on Hayden Island were built before 1980. This suggests there is a need for upgrade or replacement assistance at the park.

Resources:

1) Braubach, Matthias, Jacobs, David E., & Ormandy, David. (2011). Environmental burden of disease associated with inadequate housing. Copenhagen, Denmark: WHO Regional Office for Europe. Retrieved from http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Housing-and-health/publications/2011/environmental-burden-of-disease-associated-with-inadequate-housing.-full-version

2) Sterling, D. A., & Lewis, R. D. (1998). Pollen and Fungal Spores Indoor and Outdoor of Mobile Homes. Annals of Allergy, Asthma & Immunology, 80(3), 279–285. doi:10.1016/S1081-1206(10)62971-7

45. How was the $3.6M derived? I would like to see a formal agreement that delineates monitoring of the local community air quality, health, etc. to use the funds that are being set aside to directly mitigate the issues as they arise.

Answer: At former Mayor Adam's request, the Portland Housing Bureau (PHB) researched what services would most benefit the residents of the HI Manufactured Home Community and how a future program could be administered (Attachment C). PHB looked at the size of the park, the age of the units and variety of needs and life circumstances of the residents in their research. They found that some of the most beneficial services provided by a fund should include:

- Full Home Weatherization (Approx. $7,000/unit)
- Window Replacement (Approx. $2-3,000/unit)
- Down Payment Grants for Newer Homes On-Site or Relocation (up to $5,000- Assumes average credit score requiring 10% down payment on $50,000 home).

PHB found that providing options for low-income residents to choose from would ensure that the City is meeting the needs of the greatest number of residents within the park. Residents would be able to increase the comfort of their homes, and those who may choose to move from the park would be partially compensated for the inconvenience. They also stated that all three options would allow relief from any potential light or noise pollution resulting from increased industrial activity due to the Port's development on the island.

The City came up with $3.6 million as a base sum for the housing fund with the assumption that the amount can be matched 1:1 with State and Federal dollars, and participate contributions, potentially tripling the value of this fund and increasing the potential for retrofits and other improvements to the manufactured homes in the park. This amount, with matching funds, would allow for substantial upgrades to existing homes in the park and also allow for funds to assist with new purchases or relocation. The amount was based on the estimated values noted above, and the number of homes in question.

Currently the IGA indicates that PHB will deliver a more detailed plan for the distribution and use of the funds to City Council within 9 months of receiving the initial disbursement of planning funds to set up the program. Air quality monitoring is not one of the uses that has been identified for the use of these funds. However, depending on the type of terminal(s) this could be reevaluated at the time of the second stage HIA. The IGA indicates that the remainder of the funds will be available within one year of City Council approval of the housing plan.

BPS recommends changing the timeline for the planning and disbursement of the housing funds to align with the completion of the stage 2 HIA. The HIA will define health impacts based on a specific terminal development. BPS, PHB and HIA pracitioners can more definitively define the uses for the housing fund based on the findings of the HIA.

Other

46. How are construction impacts [on the community] assessed/mitigated?

Answer: Specific construction impacts were not assessed in the Health Analysis. We need to have more specifics on the types of terminals and the timing for development before we can assess potential mitigation for construction. The proposed IGA includes a requirement for an ongoing WHI advisory committee, which will be charged with developing a good neighbor agreement with the Port to be implemented during planning and design, construction, and subsequent terminal operations.

The Community has requested that the City document what existing codes and regulations are in place to protect the community against future construction impacts. BPS also agrees to review best practices that the Port has implemented in the past with construction at terminals 4, 5 and 6. This supplemental information will be provided under separate cover at the February 12 work session. The goal of this research will be to determine if there are some tools, measures, practices to reduce construction impacts that can be defined as part of the current IGA or as part of the performance standards and BMPs noted above.

47. How strong is the argument/evidence that port facility would cause residential displacement? How likely is it that the project will destabilize home ownership in the nearby community. If so, how can this be mitigated?

Answer: The Health Analysis notes that it is hard to predict how the prevalence and/or severity of housing related health conditions would change under a development scenario on WHI. If the proximity to port operations and the attendant noise, vibration, light decrease the desirability of the manufactured home community, older homes might be decommissioned more rapidly than is currently the case. The report goes on to say that people who do not want to live near construction or port operations may move away and remaining residents may have new people or vacant housing units as neighbors. The report notes that development induced displacement is connected to a number of individual and community health problems. Concerns about future development may depress housing prices regardless of the characteristics the development (or even if development never occurs).

The Health Analysis notes that owners of manufactured homes or floating homes face the challenge of owning their homes but not owning the land or slip. Manufactured home owners are vulnerable to park closures regardless of the prevailing state of the real estate market. Though manufactured homes are built off-site, it is generally difficult to move them to a new site once they have been installed. The main point made by the report is that manufactured home owners are inherently less able to cope with such destabilization, if it occurs, due to the structure of financing for those homes.

In terms of mitigation, one of the three options PHB does propose for the housing fund is to use it for down payment grants for newer homes on-site or relocation.

Hayden Island Plan and Current zoning

The manufactured home community is split into two parts; the Northshore and the Southshore development. The current base zoning of the Northshore community is currently R2 (Residential 2,000) which is a residential zone that typically allows 1 unit per 2,000 square feet of site area, although the majority of the RV park is currently zoned CG (General Commercial). The Southshore community is currently zone R3 (Residential 3,000) which typically allows 1 unit per 3,000 square feet of site area.

The Hayden Island Plan (2009) recently amended the Comprehensive Plan and Zoning Designations on the the eastern portion of the Northshore development from CG to R2. Part of the intent of this change was to provide a zoning in keeping with the current use, since the manufactured home park was a non-conforming use in the CG zone (See Section 33.251.030). This amended zoning also removes any future pressure to convert part of the park into commercial uses. Since the current zoning was recently reviewed through the Hayden Island process, it is not likely to change in the near future.

It should be noted that the manufactured housing community is also located within the Portland International Airport Noise Impact Zone (the 'x' overlay). This zone has limitations on overall density within certain residential zones that could apply to the park if it were ever slated for redevelopment.

The combination of the existing zoning and the overlay zone limit the types of redevelopment opportunities that could occur in the future which could potentially discourage closure of the park in the future.

48. Understand what a full-blown economic justice point of view would say about impacts on mfg homes community.

Answer: The Health Analysis indicated that the populations that would be most impacted by a future Port development would be those living in the manufactured or floating homes. The closer people live to the proposed WHI development site, the more likely they will be affected. While a full economic justice analysis was not conducted as part of the Health Analysis, the health analysis team did identify some important characteristics of the manufactured home community that would be relevant to a more detailed analysis:

Housing type, ownership and financial characteristics of the community:

- The manufactured home community is a valuable affordable housing resource and it is the only source of affordable housing for lower-income individuals currently available on Hayden Island. This is particularly concerning because of the recent loss of many affordable housing units across the state because of other manufactured home community closures.
- Financing of floating and manufactured homes are done differently than single family homes resulting in housing costs that are high and volatile. These home owners face the challenge of divided asset ownership where one party owns the home and then rents the plot of land or moorage. The Health Analysis indicates that without the

companion land (or slip) manufactured homes or floating homes are less likely to appreciate in value than traditional homes.
  - Manufactured homes have historically been ineligible for traditional mortgages, relaying more on personal property loans with higher interest rates. Consequently, these housing types put households at a disadvantage for accumulating wealth.
  - Census Bureau statistics between 2006 and 2010 showed that 51.8% of Hayden Island households were paying more than 30% of their household income on housing costs. Amoung renters that statistic was 84.1%

Additional comments from Andrée Tremoulet (community development and manufactured housing expert)- *Dr. Tremoulet participated in the technical review of the WHI Health Analysis and provided some additional comments that are relevant to this question.*

<u>In the case of a Manufactured Park Closure</u>
The residents would likely to lose:

- All or part of their equity in the investment that they own, as older manufactured homes are not easily relocated and vacant parcels for those that can be moved are hard to find.
- Shelter
- Community—more than most traditional neighborhoods, manufactured housing communities support dense social networks among neighbors.
- The loss of one's home, one's primary financial asset, and one's community is profoundly destabilizing. There is some evidence (although not conclusive) that premature deaths among older adults occurred as a result of manufactured home park closures in Oregon during the housing boom.
- Manufactured housing has been called the state's primary source of unsubsidized affordable owner-occupied housing. The cost to build 500 units of affordable rental housing in Portland could easily exceed $80 million. If the households who live in manufactured housing are displaced, some may well seek affordable/subsidized rental housing, which is in short supply.

<u>Potential Impacts on Manufactured Home Communities without actual displacement</u>

- All the relevant issues applicable to residents in general (e.g., noise, vibration, air quality, physical activity, traffic safety) are applicable to these residents as well.
- If the impacts are so negative that they result in some residents simply deserting their homes or selling them to the park owner for a fraction of what they paid for them initially, this will have impacts both on those leaving and those remaining in the community.
- Impacts on those leaving include loss of equity in their homes and all of the impacts of displacement. Displacement is particularly hard on the young (school age children) and the elderly.
- Impacts on those remaining include the disruption of social networks, potential decrease of property value due to nearby vacancies and increased difficulty with selling one's home. Also, when a park owner purchases homes from residents who leave but is not able to sell them to new homebuyers, he/she may rent the homes. There have been cases in central Oregon where park owners have rented homes to "all comers" (without

adequate background checks, etc.) because they needed the rent, with terrible impacts on the existing homeowners, who are "stuck" in a rapidly deteriorating environment because they can neither move nor sell their homes.

Key citations from by health analysis team:

1) Tremoulet, A. (2010). Policy responses to the closure of manufactured home parks in Oregon [doctoral dissertation]. Retrieved August 24, 2012, from http://archives.pdx.edu/i/etd/502

2) Fullilove, M. T. (2004). *Root shock: How tearing up city neighborhoods hurts America, and what we can do about it*. New York: One World/Ballantine Books.

3) Fullilove, M. T., & Wallace, R. (2011). Serial forced displacement in American cities, 1916-2010. *Journal of Urban Health*, 88(3), 381–389. doi:10.1007/s11524-011-9585-2

Transportation Questions

CRC

68. Timing relationship to CRC?

Answer: The current CRC schedule anticipates a federal funding agreement by mid- to late-2013 with the first phases of construction to begin in 2014. Given this start date the project is expected to be completed by 2020. The draft IGA, section 3.1.4, defines that CRC "completion" is based on the implementation of critical project elements necessary to serve WHI traffic and other island traffic. The IGA also specifies that if the CRC is not completed prior to terminal development then additional traffic analyses would have to be completed. As part of this new analysis new or additional traffic impact mitigation projects would be identified that are required to serve WHI. The current expectation of the soonest that development permits on West Hayden Island could be granted is about 2022-2023 and the soonest that WHI produces substantial traffic is about 2025.

69. What happens if the CRC is not built, or if the interim interchange does not meet the City's expectation?

Answer: What happens if the CRC is not built?
The CRC project is contained within the Regional Transportation Plan (RTP). If the CRC is not built within the current project schedule it is still expected to be completed or under construction within the 20+ year planning horizon of the RTP. If there is a future decision to not build the CRC the RTP would have to be amended to remove the project.

If the CRC does not materialize the entire region's transportation planning assumptions and analytical model would need to be updated. This issue is vastly larger than traffic associated with development of WHI. All traffic analyses region-wide are based on consistent underlying planning assumptions – about land uses and the transportation system in place in 2035 (note: The 2035 RTP is currently being updated to account for changed future land uses and new travel behavior information and it still contains the CRC). The City's TSP is also required to

be consistent with the RTP planning assumptions, and be updated as necessary to assure consistency.

Not only would a new traffic impact analysis for WHI have to be conducted without the CRC, the City would also likely need to revisit the adopted Hayden Island Plan (HIP), The HIP and associated land uses assumed new regional traffic capacity and safety improvements and new high-capacity transit facilities and access provided by the CRC. With no CRC project it is likely that expectations about future commercial and residential development on the Island would have to be scaled down.

Under the WHI concept plan a majority of materials would be arriving and departing via barge and rail instead of trucks. The Port's impact on road traffic is small, relative to other traffic sources on the island. If there is no CRC project, there would be a greater impact on the other existing and currently planned commercial, industrial and residential uses on the island, which are expected to generate much more traffic.

What happens if the interim interchange does not meet the City's expectation?
The CRC project is currently investigating a potential Initial Construction Package (ICP) design for the CRC project. The ICP is intended to be compatible with the full build project design but allow for some components to be deferred to a later implementation date. The purpose of the ICP is to provide a functional project design but meet reduced cost targets established by the Governor's office. It is possible that the ICP design, and not the full build design, will be in place when WHI develops.

The federal environmental documents for the CRC have assumed WHI development and associated general traffic and truck volumes. The assumed level of development on WHI for the CRC work was derived from analyses conducted by the Port in 1999. The site traffic and truck trip production from that analysis is comparable and slighter higher than the "high impact" analyses conducted by PBOT for the current WHI concept plan. Traffic analysis now being conducted by CRC for the ICP design will use the same traffic and truck assumptions as used for full build project and will have to meet ODOT standards for traffic mitigation and management.

The ICP will contain the critical project components required to serve Hayden Island as a whole as well as WHI. These include the river crossing bridge and freeway mainline improvements, a new local bridge spanning North Portland Harbor, a light rail station on Hayden Island and new freeway access ramps. There are two significant differences in traffic circulation between the ICP concept and the full build design. One is that the freeway ramps will primarily direct traffic to/from N. Hayden Island Drive instead of equally to NHID and to N. Jantzen Drive. The other difference is that N. Tomahawk Island Drive is not provided as a local street under I-5 connecting the east and west sides of the freeway.

The City is actively reviewing the ICP as this design evolves and is working cooperatively with the CRC team to develop a project design that is compatible with the Hayden Island Plan and addresses local traffic circulation needs and congestion mitigation. Some aspects of the ICP concept are less compatible with the Hayden Island Plan than the full build design, and some aspects are more compatible. Actually managing truck movements serving the mall properties and the island as a whole will be more challenging than managing trucks destined for WHI. This is discussed under Question 71, below. In addition to traffic and truck circulation the City is also reviewing the ICP design in terms of pedestrian and bicycle

circulation and access to destinations such as the LRT station, the local bridge leading to Bridgeton and Kenton and the multi-use path facility crossing the river to Vancouver.

North Hayden Island Drive

70. The WHI bridge costs relative to costs of NHID?

Answer: As a technical supplement to the West Hayden Island Plan documents, David Evans and Assoc. prepared a memo titled "West Hayden Island Bridge Cost Investigation" (dated 8/29/12). Several prior technical studies are referenced and updated costs are prepared. Opportunities for cost savings, the effects of increasing the vertical clearance and potential reduction of the number of piers in the water are also identified. There is a discussion about the potential re-use of the I-5 spans from the CRC project. The cost estimate for a two-lane bridge is $58 million to $81 million.

PBOT prepared two estimates for North Hayden Island Drive. Both assumed street facility improvements for traffic, trucks, bicycles and pedestrians. One was a rough cost assignment prepared as part of the transportation modeling analysis (dated 2/27/12). This assumed a comparatively significant roadway improvement including some segments of right-of-way expansion. This cost estimate was $21.3 million to $24.2 million. PBOT prepared an updated estimate (dated 11/2/12) that is based on a higher level of information detail and utilized a more strategic investment design approach. This estimate did not require or assume right-of-way costs but cost contingencies were included. This cost estimate was $9.7 million.

71. How will trucks get routed to Interstate 5? There should be a map with streets and connections that make sense to people and traffic flow on the island (Attachment D).

Answer: The routing of trucks between West Hayden Island and the freeway will use N. Hayden Island Drive for a substantial component of the trip lengths, although there may be some differences depending on the CRC interchange design. The ICP design has a similar freeway ramp configuration and traffic exchange locations with the local street network as exists today. So, with the ICP design it is generally expected that trucks destined between the freeway and WHI will almost exclusively use NHID for nearly the entire trip lengths.

With the full build design the freeway ramps serving trips to/from the north are located on the south side of the island (on N. Jantzen Dr.). It is likely that most trucks from WHI will continue to stay on N. Hayden Island Drive and travel under I-5 to access the northbound on/off ramps from the east side of the freeway. But some WHI trucks may travel through mall streets for this access. These routing patterns are displayed on the attached exhibit. The streets serving the mall will need to be designed for truck movements in order to serve the commercial businesses in the mall area, aside from WHI traffic.

72. What other residential streets have similar number of trucks today?

Answer: Transportation analysis conducted for West Hayden Island has estimated that approximately 920 trucks per day would be on North Hayden Island Drive adjacent to the residential land uses in year 2035. This figure includes an estimated 340 trucks originating

from industrial land uses in WHI. These figures vary somewhat depending on assumptions and the methodology employed, but staff feels this is a reasonable estimate for this purpose.

In attempting to find comparable circumstances to NHID a brief overview of other neighborhoods was conducted where there are residential areas adjacent to streets with a relatively high level of truck activity and where the source of the truck traffic was from relatively nearby industrial and commercial uses. The vehicles compared were trucks and other heavy vehicles, such as buses, and the current counts were adjusted to 2035 conditions to be consistent with the NHID assumptions. There are several streets in the North Portland area and elsewhere with similar characteristics regarding truck volumes near residential uses, but some aspects of NHID are unique, as discussed following the data summary of other streets.

N Lombard Street on the north edge of the St Johns town center has notably higher truck volumes (about 2x) than NHID. NE Marine Drive in the vicinity of the Bridgeton neighborhood also has notably higher volumes (about 2.5x) than NHID. N Lombard in the Portsmouth/University Park neighborhood area has higher but similar amount of truck traffic as NHID. There are many other streets in the City with higher truck volumes than NHID that have adjacent residential uses. But many of these streets have multiple (more than three) lanes and higher speeds and were not considered comparable.

Other smaller scale examples include N Interstate Avenue in the vicinity of N Greeley Avenue which has somewhat higher but similar truck volumes as NHID. NE Killingsworth Street in the Concordia/Cully has somewhat less but a similar amount of truck traffic as NHID. SE Division in the Hosford-Abernathy neighborhood also has somewhat less but a similar amount of truck traffic as NHID. N Denver Avenue and N Argyle Way in the Kenton neighborhood each have somewhat less truck volumes than NHID but these two streets affecting the neighborhood together total higher volumes than NHID. The same is found for SE 26th Ave. and SE Holgate in the area of Brooklyn/Creston-Kenilworth.

It is the opinion of staff that the increase in truck volumes on NHID resulting from WHI development will be a noticeable difference over current street conditions. But also as discussed above, even with this increase there are other streets serving residential areas with similar levels of truck volumes.

It should be noted that in some neighborhoods, like Kenton and Brooklyn, there are multiple streets with high truck activity on several edges of residential areas. The truck traffic affects on the manufactured homes neighborhood is limited to one street and most notably along the roadway edge and less so some distance inward toward center the neighborhood.

There are other characteristics about NHID that should be taken into consideration. Although the question from the PSC implies that NHID is a residential street the fronting land uses are about 75% industrial, 25% commercial and 25% residential. There is also an existing regional commercial mall that produces substantial truck volumes in the area.

Unlike most of the other streets with truck traffic NHID is a 25 mph street and there is no reason to expect a change in this speed. There are currently not many stops along NHID so engine acceleration noise will be more limited. The streets other than NHID mentioned above are part of a continuous street system which could have higher than expected traffic growth

in the future. NHID terminates at the Port property and the amount of truck traffic will be more predictable and manageable.

73. How will recreation opportunities be accessed?

Answer: Recreation opportunities in West Hayden Island will be accessed via North Hayden Island Drive for all modes of transportation. For automobiles, access will be provided at the proposed trailhead parking lot near the site entrance. For bicycles and pedestrians, access will be provided by the multi-use-path along N. Hayden Island Drive as illustrated by the conceptual street design developed by PBOT. Substitute designs may ultimately be developed for this street but all designs will contain facilities for bicycles and pedestrians. The design of N. Hayden Island Drive is discussed under Question 74, below. Consistent with TSP street classifications and policies, pedestrian and bicycle networks will need to be developed to provide access to these recreational opportunities from the manufactured home communities, the light rail transit station and the future mixed-use development as part of the mall properties as envisioned by the Hayden Island Plan.

74. Is the North Hayden Island Drive design adequate? (cross-section, MUP design, etc.). What level of detail do we need at this stage?

Answer: As part of the evaluation of the West Hayden Island it is important to determine the need, function and basic design requirements of transportation facilities to accompany the proposed land use plan. It is recommended that North Hayden Island Drive (NHID) be the access roadway for the industrial land uses in WHI from the City street and regional highway network. This would require amendments to the City's Transportation System Plan (TSP). The reasoning for the proposed TSP amendments, including the modal street classification designations for NHID, is explained in the Comprehensive Plan amendments documentation for WHI.

It should be noted that TSP amendments would not be necessary if the primary access route to WHI was via a new WHI bridge. A technical analysis would have to be conducted to determine if this circulation plan alternative serving new WHI development would meet TPR requirements, similar as discussed under Question 78.

At this stage of planning a variety of street design options have been considered for the purpose of establishing basic design requirements to meet the need and function of the street and for preparing generalized cost estimates. A project development process to refine the street design will occur with the appropriate public involvement when the project moves forward. The draft IGA, Section 3.1.1, says that the NHID improvement project will be designed to accommodate tractor-trailers, passenger vehicles, bicycles and pedestrians. It also speaks of the need to consider additional buffering treatments adjacent to residential uses and recommendations regarding access to these uses.

Information prepared to date has confirmed that a roadway with a single travel lane in each direction, plus turns lanes, will provide sufficient capacity to meet the needs of existing and planned land uses along with the development of West Hayden Island.

75. Is there a gap between WHI-driven NHID improvements and CRC-driven improvements, including intersection at NHID and Main/Pavilion? (likely to be the primary pedestrian access point between manufactured home community and mall.)

Answer: The North Hayden Island Drive project associated with development of West Hayden Island is planned to complete required street improvements between the Port property and the Main/Pavilion intersection. The City has a reasonable expectation that improvements beyond that point (and eastward) would be borne by the CRC project, in order to establish functional traffic flow to the I-5 ramps. It is likely that turning lanes will be needed in the block abutting Target, in connection with the CRC improvements.

The draft IGA, section 3.1.1, states that the NHID project will extend to the CRC interchange improvements. So any gap, although not expected, will be part of the NHID project if not included as part of the CRC project. The CRC planning process will evaluate the traffic access and pedestrian crossing needs at this intersection. This need will be evaluated once again as part of the City's project development process for NHID. The cost estimates for NHID prepared by PBOT includes cost contingencies for pedestrian crossing improvements at this intersection and other locations along the street as it connects to WHI.

76. Adequacy of funding for NHID improvements – who holds the financial risk to ensure the completion of the improvements?

Answer: The draft IGA, section 3.1.1.2, clarifies that the NHID project must be completed prior to occupancy or operation of industrial development on WHI. If this street improvement is not completed through any other means then the Port will be responsible for completion of the project and associated financial risks. Section 3.1.1.1 of the draft IGA speaks to the development of a City-Port cooperative funding strategy for NHID improvements and caps the City's cost at one quarter of the project cost or $5.25 million, whichever is less. The City will likely seek external funding for this share. Section 7.1.5 says that the parties agree to seek funding in a manner that will not divert from or compete with the City's general transportation revenues including state gas tax revenue.

77. What happens if the truck traffic exceeds 205 trips? Then, would/should a WHI bridge be considered?

Answer: Both the plan district zoning code and the IGA contain provisions limiting the total number of heavy truck trips to 205 (i.e. 102.5 round trips) per day. In the case of the zoning code, there is no provision to ask for an adjustment or variance to this number. If the number of heavy truck trips are exceeded, it would trigger the city's code compliance process. This process involves the Bureau of Development Services, and would begin with their investigation of the complaint. They would correspond with the Port and request that the non-complying situation be brought into compliance. This would require the Port to reduce the number of trips to be within the code. Further violations would result in additional letters requesting compliance, the assigning of fines, and would ultimately force the Port to go through a legislative amendment process to consider amending the truck trip number. That process is detailed below.

If the Port anticipates that the heavy truck traffic will surpass this number with new terminal development, the Port would have to ask the City to propose a legislative amendment to the zoning code, to avoid being out of compliance with the code and subject to violation. This amendment would need to go through a full public review process, with a hearing and recommendation in front of the Planning and Sustainability Commission and a hearing and ultimate decision in front of City Council. Additional traffic studies would be needed to justify any increase in traffic to/from WHI. The heavy truck limit identified in the IGA is cross-referenced to the proposed plan district in the Zoning Code (currently identified as proposed section 33.595.220).

The community has asked for some clarification on the time period associated with calculating the 205 heavy trucks per day maximum. The community has suggested that if this number is exceeded on any one day than the Port is in violation. The Community has also raised concerns about the remedies in the event of a truck cap violation and the need for third party monitoring or audit of truck trips.

Would/should a WHI bridge be considered?
In the event that North Hayden Island Drive can not be improved as envisioned consistent with the street designations, or if that updated information finds that the costs and impacts of a new West Hayden island bridge are less than currently determined through the West Hayden Island Plan, BPS recommends that TSP amendments be considered that include a new district objective identifying the West Hayden Island bridge as a potential replacement industrial access facility to North Hayden Island Drive.

Recommendations:

- BPS recommends calculating the 205 heavy trucks per day as an average over any one-month period. BPS feels this is a reasonable approach to calculating the truck cap based on information received from the Port monitoring operations of daily truck traffic at terminals 4 and 5.
- The draft IGA should be updated to clarify that truck data must be collected in a way that can be independently verifiable through an external third party audit.

Other

78. Has a Transportation Planning Rule analysis of the terminal development been conducted?

Answer: A transportation analysis that complies with the State Transportation Planning Rule (TPR) requirements was completed and submitted to ODOT for review and acceptance. On October 23, 2012, ODOT submitted a letter to the City concurring with the traffic analysis methodology and findings and determined that development of West Hayden Island, using North Hayden Island Drive and the Hayden Island interchange with I-5 as the access route, will have "no significant affect" on the State highway system for the purposes of OAR 660-012-0060 of the TPR (Attachment E).

79. The revised IGA references joint City/Port support of a project to improve the Columbia River rail bridges, but does not appear to accurately identify the RTP project involved. I'm not clear that there is such a project currently in the RTP.

Since this bridge corridor is important to future plans for both High Speed Rail and potential commuter rail service, I'd like to be sure what we're committing to support is consistent with those future opportunities.

Answer: The draft IGA needs to be revised to correct technical errors. The two freight rail projects identified in the draft IGA, section 3.1.6, should be more clearly identified by the following titles and revised Regional Transportation Plan (RTP) project numbers: West Hayden Island Rail access – project 11353, and West Hayden Island Rail Yard – project 11354. These two projects are vital to WHI terminal development.

The assertion is correct in that the RTP project list does not include the Columbia River rail bridge. This project is contained within the Regional Freight Plan as a potential project but was not added to the RTP Financially Constrained project list. Rail capacity modeling conducted for the Port's rail plan does not show a capacity problem on the bridge through 2030 based on freight rail and passenger rail forecasts, even given projections for new high speed passenger rail service. If this project were to advance to the RTP it would be an action that is separate from the WHI planning process. The reference to the Columbia River rail bridge and project number (10866) should be deleted from the draft IGA, section 3.1.7. This RTP project number is for the CRC.

Section 3.1.7 of the IGA the reference to the North Portland Junction should also be clarified to state it is part of the Kenton Line Upgrade, RTP project 11356. The BNSF part of the North Portland Junction is completed. The UPRR part is yet to be completed but is scheduled for funding through the ODOT Statewide Transportation improvement Program (STIP – project 18070).

80. Will the terminal be regularly serviced by the same trucks? Do we have any data for comparable terminals or estimation on this point?

Answer: The regularity of the same trucks depends in part by the type of terminal facility. Two types of terminals that have a potential for truck trips are an auto facility and a grain terminal. A third type of terminal, dry bulk, has very little truck traffic.

Auto Facility
The comparables for the auto facility are Toyota at Terminal 4 and Honda and Hyundai at Terminal 6. At T4 some of the auto carrier trucks are owned by a subsidiary of Toyota and would be repeat visitors to the terminal but some are contract auto carriers such as Selland. Toyota is unique in having a fleet of its own trucks. For Honda and Hyundai the auto carriers are contracted. The contracted trucks would not be the same trucks servicing the terminal.

The other feature of auto terminals associated with trucks is the post processing facility. The trucks associated with auto processing aren't typically semi-trucks and are more often delivery vans and single unit box trucks. Those would not be the same trucks time after time but would be coming from different parts vendors. It is also possible that an auto terminal at WHI would not have a post processing facility. For example Honda does not have a post processing facility.

Grain Facility
A comparable for a grain facility is the grain terminal at Terminal 5. The trucks at the T5 grain terminal are associated primarily with grain deliveries from a variety of Willamette

Valley farms as well as trucks taking away the grain cleanings. Combined this can be as much as 50 trucks a day during the busy season. The trucks would not be the same trucks each day. Another consideration is that a new grain terminal may not have a truck facility, limiting delivery to unit trains.

Dry Bulk

A third terminal type would be a facility such as a dry bulk (potash, soda ash). The Port has comparable terminal types at T4 and T5. There is very little truck traffic associated with these facilities. All throughput arrives by unit train and goes straight to ocean vessel.

Attachment B

Community Health and Transportation Technical Comments

Planning and Sustainability Commission
February 12, 2013 Work Session
Technical Comments

Planning and Sustainability Commission
Health Questions

General Health Analysis Report Follow-up

37. What are the health risks of this facility? Are they as severe as some describe? How does this compare to risks that other Portlanders already experience?

Answer: The WHI Health Analysis is based on a concept plan developed by BPS and WHI Advisory Committee with our project consultant Worley Parsons. Currently, there is not a development proposal or permit for development. The concept plan considers 3 facilities on WHI including 2 bulk and 1 auto facility. If annexation occurs, while we do not know what could develop here in the future, this scenario was used in our research to reflect a potential full build out scenario. Based on other like facilities around the world and through literature review and discussions with the local community, the following seven factors were addressed in this health assessment: Air quality, Noise and vibration, Light, Physical activity, Traffic safety, Community design and housing, Employment, and Cumulative and synergistic impacts.

The Health Analysis found that the development scenario would likely impact all seven factors to some degree—some in negative ways and some in positive ways. The most likely negative health impacts are related to **air quality, noise and vibration, and community design and housing**. These factors show potential for negatively impacting health by increasing respiratory illness, cardiovascular disease, cancer, sleep disruption, and economic instability.

In general, the local population on Hayden Island, particularly those living in manufactured or floating homes, is likely to experience the negative health impacts of the development scenario.

Air Quality

It is difficult to compare potential WHI risks on the local community with those already experienced by Portlanders around the City. There is no development on WHI now, but we assume that a construction and port operations in the future would increase air toxins on the island and in adjacent communities. DEQ's 2017 modeled projections for the island, plus the addition of marine facility emissions from a potential development could increase air toxins 2-3 times from what we see right now.

Diesel particulate matter (PM) from trucks, trains, and boats are one of the biggest health concerns related to future development; however, it should be noted that increasingly strict air quality standards already adopted will lead to reduced emissions by new engines. The challenge is predicting turnover rates for vehicle fleet engines or locomotive train car replacement. For example, the Environmental Protection Agency (EPA) has estimated that with the implementation of the North American Emission Control Area that diesel PM emissions from oceangoing vessels will be reduced by 74% by 2020. Beginning in 2007, truck engine manufacturers have been required to meet the EPA standards that reduce particulate matter by 90 percent.

Noise and Vibration

The Health Analysis indicated that noise and vibration levels could increase for individuals residing or wokring along freight routes. Noise from activities at the actual Port facility may be buffered to some extent by distance, buildings, and vegetation. Baseline noise data collected in July 2012 indicate that people living closer to Hayden Island Drive or along the Columbia River experience more roadway-related noise. Aircraft noise also is a contributor to

Comment [S1]: Not sure if they want to know about impacts related directly to the facility or to the broader development scenario. It looks like your response is generally concerned with the facility since you don't address physical activity or traffic safety. However, since you reference all seven determinants and mention the development scenario, the response seems a little confusing.

Comment [S2]: See comment above

Comment [S3]: See comment above

Comment [MMM4]: 90% over what? Tier 0 engines?

noise on the island. However, when aircraft noise is not present, the noise in the community is generally at the same level found in most urban settings. The City's Noise Control Office reviewed the Health Analysis and noted that the main noise-related premise of the findings is that future noise may be a potential concern and should be addressed. The Noise Office believes that when a specific development proposal to review, the noise issue can be more vigorously assessed.

Comment [MMM5]: rigorously?

Community Design and Housing

The Health Analysis notes that a marine terminal development on WHI could have two major effects on the housing on the island including, a decrease in housing values and disruption to the community's social relationships especially for the HI Manufactured Home Community and floating homes in close proximity to the development. The report notes that the prevalence or severity of housing-related changes is difficult to predict given the uncertainty of the future development scenario; however, vacancies in the manufactured home community spurred by concerns over declining property values or increased air pollution, noise and vibration, and light could be harmful to the a close-knit community. Older units could also be decommissioned more rapidly than normal if their desirability decreases as a result of those concerns.

38. Can we properly assess/plan mitigation for health impacts without baseline health data for the immediate community? What is the basis of the City/county position that a full impacted population baseline is not needed as part of this decision?

Answer:

Through the Health Analysis we analyzed 2010 demographics for the island. We know from the census and other recent local surveys that Hayden Island residents have a higher percentage of seniors, persons on fixed incomes and persons with pre-existing medical conditions. As a result, this existing community is especially vulnerable to future impacts described in the report.

However, the timing of a future development is estimated to begin no earlier than 2023 (construction) with operations beginning no earlier than 2026. The population will change during that ten year period. A baseline health survey in 2012 will not tell us much about who will be impacted in 2023 or 2026. BPS would recommend that a baseline health study of the population be conducted as part of the 2nd stage HIA (described in more detail below). At the time of the HIA we would also know the type of terminal that is being planned and be able to look more closely at baseline health conditions as they may relate to the development being proposed.

39. Do we have any way to estimate the effect of the health report mitigation measures in reducing impact? Are there additional measures that City staff would recommend from the those considered?

Answer: It was beyond the scope of the Health Analysis to estimate the effect of the menu of mitigation measures. These strategies, categorized by potential impact area, . were identified in the Health Analysis team's review of scientific literature, established best management practices, recommendations of Health Impact Assessments of other port projects, comments gathered through the West Hayden Island planning process, and

the professional experience of the Health Analysis team. They were intended for use by stakeholders to prioritize mitigations measures based on local needs, preferences, and resources for the purposes of maximizing benefits, minimizing harms, and assuring their equitable distribution among population groups.

However, a prioritization of these measures was not part of the scope of work. BPS began a discussion and prioritization of the menu of mitigation measures with the WHI Advisory Committee in November 2012. While the AC was not able to get through all of the measures, they did reach agreement on adding 51 of the 82 measures to the IGA's BMP document. An addition eight measures are outside of the Port's purview. The AC could not reach consensus on the remaining 23 measures and were therefore excluded from consideration.

At this time the City does not have recommendations for additional mitigation measures. We recommend that the list of mitigation measures not already adopted by the Advisory Committee be revisited at the time of the 1st terminal permit (and each subsequent terminal permit) to assess the relevance of the BMP or mitigation measure to the type of development being proposed. It will also be important at the time of terminal development to determine if additional mitigation measures need to be included that the 1st Health Analysis did not anticipate.

Best Management Practices (BMPs)

40. Where do we stand with regard to onsite BMP's?

Answer: As noted above, the Port has updated a Best Management Practices document which currently contains 51 of the 82 mitigation measures from the Health Analysis. The Port is also in the process of drafting a vision and strategy for a Green Port facility on WHI. Then based on that vision and strategy develop broad performance standards to address multiple issue areas rather than list out a number of specific strategies that may or may not apply when marine terminals are built in the future. Included with this would be some penalty for non-compliance with the performance standards.

41. Can the City or Port impose additional emissions, noise, or safety requirements on trucks or trains that call on the site, beyond those already required by State or federal law?

Answer: ***Port response:***

Portland and the Port of Portland do not have the legal authority to impose additional requirements on trains that call on the future WHI terminal site. No port authority or jurisdiction has this authority.

The railroads operate two types of locomotives on their system, line haul and switchers. Line haul locomotives power cargo trains around the system from origin to destination. Switchers work at rail yards, port facilities and harbor terminals. Many switchers are owned by terminals, yards or class two or three railroads, not by the mainlines. Both types of locomotives number in the tens of thousands across the system. The UP Railroad, for example, has about 8000 locomotives in their fleet, roughly 6000 line haul and 2000 switchers.

Line haul locomotives are high speed and high power. They are not tethered to any single site or region and transfer from railroad to railroad. A Canadian Pacific or Norfolk and Southern locomotive may be operating in Portland's Lake Yard or Albina Yard depending on origin or destination of the haul.

Class I railroads commonly dedicate switchers temporarily to a region until they are pulled off for service and then sent to either the same or new location. At non-railroad terminal locations switchers may be owned by the terminal, tenant or a third-party operator. Switcher fleets include the Genset locomotives being used in areas of poor air quality at facilities in Illinois, Texas and California. These locomotives are usually located in areas that do not meet Federal air quality standards. Their purchase is funded through private/public partnerships. These locomotives are maintained at specialized facilities that service multiple units with a dedicated maintenance crew. This precludes the distribution of a single Genset locomotive in areas where air quality is not poor.

2025 Future Fleet Type and Mix

Manufactured As		Percent of Fleet	Re-Manufactured As (usually every 12 years)
Tier 0	1973-2001	25-50%	Tier 0+ (=1)
Tier 1	2002-2004		Tier 1+ (=2)
Tier 2	2005-2010	20-30%	Tier 2+ (=3)
Tier 3	2011-2014		Tier 3
Tier 4	2015+	20-30%	Tier 4

EPA emission reduction standards for locomotives first went into effect in 2000 and apply to all newly manufactured locomotives and retrofits occurring as fleets are maintained. EPA locomotive engine rules will reduce NOx, HC and PM emissions by about 90%. Exhaust emission standards classified by tier type with a corresponding date of implementation are shown above. Based on current maintenance and replacement patterns the estimated fleet mix for 2025 is 25-50% Tier 1 and 2, 20-30% Tier 3 and 20-30% Tier 4.

Stage Two HIA

42. What is the specific trigger for the future second stage HIA?

Answer:
Currently the IGA states: "The HIA will be completed before the Port submits the first federal permit or federal funding application for development on WHI. The term "development" includes rail or marine terminal development on WHI, or related docks and causeways below ordinary high water in the Columbia River. The term "permits" includes federal permit or funding applications submitted by entities acting as agents of the Port, or by any lessee of Port property on WHI. The Port will notify and secure the cooperation of it agents and lessees in complying with this requirement." With the Mayor's Amendments on November 21 staff added the establishment of an endowment that the Port would manage in consultation with the Advisory Committee in the amount of $1 million. The earnings from this fund will be used to implement further mitigation measures that may be recommended in the second stage HIA.

The HIA should occur through a NEPA Environmental Impact Statement (EIS) or Environmental Assessment (EA) process that would be triggered by a development permit which includes rail,

marine terminals and/or docks and infrastructure. NEPA requires an EIS to include consideration and analysis of health effects of specific actions; however, the EA does not. BPS recommends that the trigger for an HIA would also apply to an EA in the event that an EIS is not necessary. In the current IGA the WHI Advisory Committee will be engaged in the review process of the HIA. BPS recommends adding language to the IGA to ensure that the Port consults with the City and the WHI AC during the review process and implementation of any additional recommendations that come out of the second stage HIA.

It is unclear at this time how many and what kinds of NEPA processes may be triggered and the timing of each. For example, if wetland filling occurs prior to a development permit, NEPA will be triggered but there would be insufficient information to analyze health impacts because a terminal user would not be identified. BPS recommends modifying the existing IGA language to specify that the second HIA should begin when a NEPA process is triggered for a development permit that includes the rail, marine terminal and/or docks and infrastructure. If subsequent development plans are submitted at the local level for the rail or terminals and no NEPA process is triggered, the Port will work with the WHI AC, through their good neighbor agreement, to ensure that any necessary mitigation measures are added if not already captured as part of either phase one or phase two HIA.

43. How do we implement second-stage HIA and ensure recommendations are followed?

Answer: See above response for implementation and follow up on recommendations in a 2nd stage HIA.

Comment [MMM6]: I think this should include something like assuring that an experienced HIA practitioner is leading the process (could say that it needs to be someone who is in the Society of Practitioners of HIA), and/or naming a health organization as a coordinating agency.

Mayor's Housing Fund Proposal

44. The Mayor's proposal suggests new park development and a housing fund as measures to offset impacts on human health. Do we have any way to quantify the offsetting benefit?

The Health Analysis did not quantify the potential offsetting benefits of upgrades to housing or opportunities for new park development. However, through the literature review conducted by the health analysis team, staff have identified a few resources that may be of interest to the PSC that directly discuss benefits of such measures.

Physical Activity

According to the Health Analysis, physical inactivity is among the top preventable causes of premature death and disability locally and nationally, and increasing opportunities for physical activity can positively impact the following health outcomes: heart disease, high blood pressure, stroke, obesity, type 2 diabetes, mental health, temporary illness/injuries and even life expectancy.

The Health Analysis discusses improved opportunities for physical activity by expanding infrastructure for biking and walking along Hayden Island Drive and a trail system on West Hayden Island.

For new park development, the IGA currently discusses the contribution of funds from the City and the Port to be used for park land acquisition on Hayden Island, and recreational facilities including trails, parking lot, restrooms and overlook development on West Hayden Island. These improvements could make the planned open space on WHI more accessible to both island residents and visitors. Connectivity to these new facilities and between

communities would also be improved with the proposed improvements for North Hayden Island Drive.

Resources:

1) McNeill, L.H., Kreuter, M.W., and Subramanian, S.V. (2006). Social environment and physical activity: a review of concepts and evidence. Social Science and medicine (1982), 63(4), 1011-1022.

2) Nieman, D.C. (1998). The exercise-health connection. Champaign, Ill: Human Kinetics.

3) Tilahun, N., Levinson, D., and Krizek, K. (2007). Trails, lanes, or traffic: Valuing bicycle facilities with an adaptive stated preference survey. Transportation Research Part A, 41(4), 287-301.

Housing Fund

The Health Analysis indicated that people living in manufactured homes may be especially susceptible to housing-related health problems. There is a long history of health problems associated with manufactured homes, though these problems have become less common as successive building and installation codes have been established by federal and state entities. While the Health Analysis did not quantify the offsetting benefits of a future housing rehabilitation fund, the report cites a number of studies that point to the benefits for improved health outcomes by improving our home environments.

Residents of older manufactured homes may be exposed to more outdoor allergens and air toxins from building materials. The Portland Housing Bureau found that more than half of the manufactured homes on Hayden Island were built before 1980. This suggests there is a need for weatherization and window replacement assistance at the park.

Resources:

1) Braubach, Matthias, Jacobs, David E., & Ormandy, David. (2011). Environmental burden of disease associated with inadequate housing. Copenhagen, Denmark: WHO Regional Office for Europe. Retrieved from http://www.euro.who.int/en/what-we-do/health-topics/environment-and-health/Housing-and-health/publications/2011/environmental-burden-of-disease-associated-with-inadequate-housing.-full-version

2) Sterling, D. A., & Lewis, R. D. (1998). Pollen and Fungal Spores Indoor and Outdoor of Mobile Homes. Annals of Allergy, Asthma & Immunology, 80(3), 279–285. doi:10.1016/S1081-1206(10)62971-7

45. How was the $3.6M derived? I would like to see a formal agreement that delineates monitoring of the local community air quality, health, etc. to use the funds that are being set aside to directly mitigate the issues as they arise.

Answer:

At former Mayor Adam's request, the Portland Housing Bureau (PHB) researched what services would most benefit the residents of the HI Manufactured Home Community and how a future program could be administered. PHB looked at the size of the park, the age of the units and variety of needs and life circumstances of the residents in their research. They found that some of the most beneficial services provided by a fund should include:

- Full Home Weatherization (Approx. $7,000/unit)
- Window Replacement (Approx. $2-3,000/unit)
- Down Payment Grants for Newer Homes On-Site or Relocation (up to $5,000- Assumes average credit score requiring 10% down payment on $50,000 home).

PHB found that providing options for low-income residents to choose from would ensure that the City is meeting the needs of the greatest number of residents within the park. Residents would be able to increase the comfort of their homes, and those who may choose to move from the park would be partially compensated for the inconvenience. They also stated that all three options would allow relief from any potential light or noise pollution resulting from increased industrial activity due to the Port's development on the island.

Comment [MMM7]: Is the program income-restricted?

The City came up with $3.6 million as a base sum for the housing fund with the assumption that the amount can be matched 1:1 with State and Federal dollars potentially tripling the value of this fund and increasing the potential for retrofits and other improvements to the manufactured homes in the park. This amount, with matching funds, would allow for substantial upgrades to existing homes in the park and also allow for funds to assist with new purchases or relocation.

Currently the IGA indicates that PHB will deliver a plan for the distribution and use of the funds to City Council within 9 months of receiving the initial disbursement of planning funds to set up the program. Air quality monitoring is not one of the uses that has been idenified for the use of these funds. However, depending on the type of terminal(s) this could be reevaluated at the time of the second stage HIA.

Other

46. How are construction impacts [on the community] assessed/mitigated?

Answer: Specific construction impacts were not assessed in the Health Analysis. We need to have more specifics on the types of terminals and the timing for development before we can assess potential mitigation for construction. The proposed IGA includes a requirement for an ongoing WHI advisory committee, which will be charged with developing a good neighbor agreement with the Port to be implemented during planning and design, construction, and subsequent terminal operations.

47. How strong is the argument/evidence that port facility would cause residential displacement? How likely is it that the project will destabilize home ownership in the nearby community. If so, how can this be mitigated?

Answer: The Health Analysis notes that it is hard to predict how the prevalence and/or severity of housing related health conditions would change under a development scenario on WHI. If the proximity to port operations and the attendant noise, vibration, light decrease the desirability of the manufactured home community, older homes might be decommissioned more rapidly than is currently the case. The report goes on to say that people who do not

want to live near construction or port operations may move away and remaining residents may have new people or vacant housing units as neighbors. The report notes that development induced displacement is connected to a number of individual and community health problems. Concerns about future development may depress housing prices regardless of the characteristics the development (or even if development never occurs).

The Health Analysis notes that owners of manufactured homes or floating homes face the challenge of owning their homes but not owning the land or slip. Manufactured home owners are vulnerable to park closures regardless of the prevailing state of the real estate market. Though manufactured homes are built off-site, it is generally difficult to move them to a new site once they have been installed. The main point made by the report is that manufactured home owners are inherently less able to cope with such destabilization, if it occurs, due to the structure of financing for those homes.

In terms of mitigation, one of the three options PHB does propose for the housing fund is to use it for down payment grants for newer homes on-site or relocation.

Hayden Island Plan and Current zoning

The manufactured home community is split into two parts; the Northshore and the Southshore development. The current base zoning of the Northshore community is currently R2 (Residential 2,000) which is a residential zone that typically allows 1 unit per 2,000 square feet of site area, although the majority of the RV park is currently zoned CG (General Commercial). The Southshore community is currently zone R3 (Residential 3,000) which typically allows 1 unit per 3,000 square feet of site area.

Comment [MMM8]: It's not Westshore?

The Hayden Island Plan (2009) recently amended the Comprehensive Plan and Zoning Designations on the the eastern portion of the Northshore development from CG to R2. Part of the intent of this change was to provide a zoning in keeping with the current use, since the manufactured home park was a non-conforming use in the CG zone (See Section 33.251.030). This amended zoning also removes any future pressure to convert part of the park into commercial uses. Since the current zoning was recently reviewed through the Hayden Island process, it is not likely to change in the near future.

It should be noted that the manufactured housing community is also located within the Portland International Airport Noise Impact Zone (the 'x' overlay). This zone has limitations on overall density within certain residential zones that could apply to the park if it were ever slated for redevelopment.

The combination of the existing zoning and the overlay zone limit the types of redevelopment opportunities that could occur in the future which could potentially discourage closure of the park in the future.

48. Understand what a full-blown economic justice point of view would say about impacts on mfg homes community.

Answer: The Health Analysis indicated that the populations that would be most impacted by a future Port development would be those living in the manufactured or floating homes. The closer people live to the proposed WHI development site, the more likely they will be affected. While a full economic justice analysis was not conducted as part of the Health Analysis, the health analysis team did identify some important characteristics of the manufactured home community that would be relevant to a full blown analysis:

Housing type, ownership and financial characteristics of the community:

- The manufactured home community is a valuable affordable housing resource and it is the only source of affordable housing for lower-income individuals currently available on Hayden Island. This is particularly concerning because of the recent loss of many affordable housing units across the state because of other manufactured home community closures.
- Financing of floating and manufactured homes are done differently than single family homes resulting in housing costs that are high and volatile.These home owners face the challenge of divided asset ownership where one party owns the home and then rents the plot of land or moorage. The Health Analysis indicates that without the companion land (or slip) manufactured homes or floating homes are less likely to appreciate in value than traditional homes.
- Manufactured homes have historically been ineligible for traditional mortgages, relaying more on personal property loans with higher interest rates. Consequently, these housing types put households at a disadvantage for accumulating wealth.
- Census Bureau statistics between 2006 and 2010 showed that 51.8% of Hayden Island households were paying more than 30% of their household income on housing costs. Amoung renters that statistic was 84.1%

Additional comments from Andrée Tremoulet (community development and manufactured housing expert)- *Dr. Tremoulet participated in the technical review of the WHI Health Analysis and provided some additional comments that are relevant to this question.*

In the case of a Manufactured Park Closure
The residents would likely to lose:

- All or part of their equity in the investment that they own, as older manufactured homes are not easily relocated and vacant parcels for those that can be moved are hard to find.
- Shelter
- Community—more than most traditional neighborhoods, manufactured housing communities support dense social networks among neighbors.
- The loss of one's home, one's primary financial asset, and one's community is profoundly destabilizing. There is some evidence (although not conclusive) that premature deaths among older adults occurred as a result of manufactured home park closures in Oregon during the housing boom.
- Manufactured housing has been called the state's primary source of unsubsidized affordable owner-occupied housing. The cost to build 500 units of affordable rental housing in Portland could easily exceed $80 million. If the households who live in manufactured housing are displaced, some may well seek affordable/subsidized rental housing, which is in short supply.

Potential Impacts on Manufactured Home Communities without actual displacement

- All the relevant issues applicable to residents in general (e.g., noise, vibration, air quality, physical activity, traffic safety) are applicable to these residents as well.
- If the impacts are so negative that they result in some residents simply deserting their homes or selling them to the park owner for a fraction of what they paid for them initially, this will have impacts both on those leaving and those remaining in the community.
- Impacts on those leaving include loss of equity in their homes and all of the impacts of displacement. Displacement is particularly hard on the young (school age children) and the elderly.
- Impacts on those remaining include the disruption of social networks, potential decrease of property value due to nearby vacancies and increased difficulty with selling one's home. Also, when a park owner purchases homes from residents who leave but is not able to sell them to new homebuyers, he/she may rent the homes. There have been cases in central Oregon where park owners have rented homes to "all comers" (without adequate background checks, etc.) because they needed the rent, with terrible impacts on the existing homeowners, who are "stuck" in a rapidly deteriorating environment because they can neither move nor sell their homes.

Key citations from by health analysis team:

1) Tremoulet, A. (2010). Policy responses to the closure of manufactured home parks in Oregon [doctoral dissertation]. Retrieved August 24, 2012, from http://archives.pdx.edu/i/etd/502

2) Fullilove, M. T. (2004). *Root shock: How tearing up city neighborhoods hurts America, and what we can do about it*. New York: One World/Ballantine Books.

3) Fullilove, M. T., & Wallace, R. (2011). Serial forced displacement in American cities, 1916-2010. *Journal of Urban Health*, 88(3), 381–389. doi:10.1007/s11524-011-9585-2

From Chelsea Catto: Manufactured Home Park Program Director, CASA of Oregon

Hi Rachael,

Sorry for taking so long to get back to you. I've been out sick for the past few days.

My initial thought when reviewing the answers is similar to what we discussed over the phone - whether or not sealing in the older homes with new windows or insulation would be the best option both cost-wise and health-wise. I'm concerned that the paragraphs under question 44 Housing Fund detailing the poor quality of building materials and potential toxicity of older MHs (all of which is true) and then the discussion about putting in new windows or weatherization might lead some folks to question the safety of doing that, as it might result in sealing in the toxins and creating an unhealthier environment.

As we discussed, in a perfect world, the best use of funds would be to facilitate a resident purchase of the park, or at the very least, some sort of long-term leases so that residents could benefit from older home replacements with down payment assistance. It sounds like that probably isn't an option for now though.

Other ideas would be health and safety improvements such as new roofs, new wiring, accessibility retrofitting (if needed), new stairs (if needed). Individual Development Accounts can be used for certain home improvements such as building/fixing stairs and accessibility (I'd have to put you in touch with our IDA folks for the specifics on what qualifies).

I think, when the time comes, having a detailed survey of all the residents would be very helpful. You could gather information on income levels, age and quality of homes, as well as energy costs to help determine the best services to offer.

I'm also attaching a study that was commissioned by ROC USA that analyzes some of the pros and cons of weatherization/rehab versus replacement that might be useful to you. I haven't read through the whole thing (and it's quite long), but hopefully there's something that you can use.

Let me know if you have additional questions or need more information. I'm not sure how helpful my feedback on the questions will be, so let me know if you need more.

Thanks,
Chelsea

Port Comments on Health related questions:

Friday, January 11, 2013: (Greg Theisen)

Some thoughts on the conclusions and recommendations articulated in the HIA as they relate to the PSC questions under the health heading. I'm including here a link to a recent article in the Seattle Times about ship repowering. This article explains how emission control standards are affecting new and rebuilt ship powering. The article has helped catylize some of my thinking on the WHI HIA and proposed mitigation.
http://seattletimes.com/html/businesstechnology/2019874610_briercolumn10xml.html
The conclusions and suggested links to recommendations and possible outcomes in the WHI HIA are leading us toward funding millions of dollars in housing improvements and community grants in the floating home and manufactured home communities. A commitment to funding residential health improvement measures should be based on definitive health impacts and placed in the context of future similar expenditures in other Portland neighborhoods where impacts from air quality and air toxics may pose similar risks. A NEPA triggered EIS for WHI will define health impacts based on a specific and measurable development proposal. Any community mitigation funding package based on the current WHI HIA should be contingent upon actual impacts as detailed in the future EIS. The Port remains supportive and committed to mitigation measures for health/community impacts from terminal development.
A couple of contentious points in the WHI HIA that suggest support of a NEPA EIS dependent community grant and housing improvement fund are addressed here.

RAIL
On the rail side, the WHI HIA (p.24) quotes from the 2005 CARB *Air Quality and Land Use Handbook: A Community Health Perspective.* The WHI HIA states that the findings are "relevant to West Hayden Island development in that the development scenario currently shows" that some floating homes are about .4 miles from the proposed rail loop and some homes are within one mile of the proposed rail loop or mainline. Putting aside the case we made to County Health that rail engine technology changing over time will lower emissions by 90% and positively effect the modeling outcome beyond 2017, the relevence of the residential adjacency claim is based on overstating the impact from a future WHI marine facility. The 2005 CARB handbook (and the WHI HIA) based its recommendations on a study of the Roseville Rail Yard in Northern California. The Roseville Yard is 950 acres, with over 30,000 locomotives visiting annually. It is the largest service and maintenance rail yard in the West.
Based on the Roseville study, the WHI HIA suggests, by way of semblance, that homes adjacent to future WHI development do not meet the CARB land use guidelines:

- *"Avoid siting new sensitive land uses within 1000 feet of a major service and maintenance rail yard.*
- *Within one mile of a rail yard, consider possible siting limitation and mitigation approaches."*

Neither of these recommendations are applicable to future WHI terminal development where no rail yard is envisioned (The WHI HIA misquotes the CARB 2005 handbook by leaving out the word "major" on p 24, first paragraph).

MARINE
On the marine side, and in relation to the Seattle Times article, the WHI HIA estimates future marine terminal impacts based on existing activity at Portland Terminals 4 and 5 and calls it conservative. The estimated "potential range would then be between 32 and 55 times above benchmark at West Hayden Island." The study then goes on to qualify this, stating that actual results, based on actual conditions, should be assessed and could be "higher or lower." The WHI HIA then summarizes that air toxics are "expected to increase markedly under the development scenario." The likelihood of this occurring does not take into account the regulated emission

changes that are scheduled to take place in marine shipping. The accompanying link describes those changes and puts them in the context of existing US port facilities.
The Port communicated the known emission reductions by sector to the Multnomah County Health Department during draft review, briefly, based on information from EPA. Though mentioned, I don't believe these assumptions were incorporated into the final HIA report (p 34).

- In 2020, emissions from ships operating in the North American Emission Control Area (ECA) are expected to be reduced by 74 percent below predicted levels in 2020 absent the ECA (EPA Regulatory Announcement, March 2010).
- Beginning in 2007 truck engine manufacturers have to meet the US Environmental Protection Agency's more stringent diesel emission standards which reduce particulate matter by 90 percent.
- The U.S. Environmental Protection Agency (EPA) adopted standards that dramatically reduce emissions of diesel particulate matter (PM) from locomotives and marine diesel engines. EPA estimates 90 percent PM reductions from Tier 4 engines meeting these standards, compared to engines meeting the current Tier 2 standards (EPA Regulatory Announcement, March 2008).

These are just a few examples of how drawing substantive conclusions from the WHI HIA is premature and may lead to ill-timed, poorly focused and mistaken mitigation measures. It is entirely possible that with the reduction in emissions over the region from these sources, even with a new terminal, the net effect could be a decrease in emissions from existing conditions.

Specific PSC questions:
41). **Can the City or Port impose additional emissions, noise or safety requirements on trains that call on the site?**

Portland and the Port of Portland do not have the legal authority to impose additional requirements on trains that call on the future WHI terminal site. No port authority or jurisdiction has this authority.

The railroads operate two types of locomotives on their system, line haul and switchers. Line haul locomotives power cargo trains around the system from origin to destination. Switchers work at rail yards, port facilities and harbor terminals. Many switchers are owned by terminals, yards or class two or three railroads, not by the mainlines. Both types of locomotives number in the tens of thousands across the system. The UP Railroad, for example, has about 8000 locomotives in their fleet, roughly 6000 line haul and 2000 switchers.

Line haul locomotives are high speed and high power. They are not tethered to any single site or region and transfer from railroad to railroad. A Canadian Pacific or Norfolk and Southern locomotive may be operating in Portland's Lake Yard or Albina Yard depending on origin or destination of the haul.

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42) What is the specific trigger for the future second stage HIA?
43) How do we implement second-stage HIA and ensure recommendations are followed?

Arguably NEPA and an EIS is the trigger. NEPA requires Environmental Impact Statements to include consideration and analysis of health effects of specific actions. An HIA would fulfill this consideration and analysis requirement. Outcomes/recommendations/mitigation from the NEPA process would ensure follow through.

PORT OF PORTLAND

Memo

To: Rachael Hoy

From: Greg Theisen, Scott King and Phil Healy

Date: 1/17/2013

Re: Port response to WHI-PSC Questions # 70, 72, 76, 77, 78 - Transportation

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Listed below are the Port's responses to additional PSC questions. Thank you for the opportunity to provide input into this matter.

Q70 The WHI Bridge costs relative to costs of NHID?

Two bridge cost memorandums have been done recently. Both memos were updates to the 1998 bridge study conducted by Dave Moyano. One memo dated 7-18-2012 was done by David Evans and Associates (DEA) for the City of Portland and one dated 7-13-2012 was done by Moyano Leadership Group (MLG) for the Port of Portland. The MLG memo was preceded by a cost estimate update completed April 19, 2010.

The DEA memo places the costs for a two lane bridge at $50 million and a four lane bridge at $66 million. The MLG estimate for a two lane bridge is $81 million and for a four lane bridge is $85 million.

The Port believes the MLG estimate is more accurate because it accounts for seismic design code changes and environmental regulatory changes that affect the cost of construction. Additionally, the MLG memo does not assume a linear relationship between the reduction of lane width and the sub structure cost, which the Port believes to be a more accurate assessment method.

The most recent cost estimates for reconstruction of North Hayden Island Drive is from the November 21, 2012 "Mayors Proposal for West Hayden Island IGA". The cost is estimated at $9.6 million.

Based on the above information the cost to reconstruct North Hayden Island Drive is 12% of the cost of a two lane bridge and 11% of the cost of a four lane bridge. Stated another way, the cost to construct a two lane bridge is 8.4 times the cost of reconstructing NHID and the cost of a four lane bridge is 8.9 times the cost of reconstructing NHID.

Q72 What other residential streets have similar number of trucks today?

North Hayden Island Drive is classified by the City of Portland TSP as a District Collector, not a residential street. The TSP defines a district collector as follows:

District Collectors

District Collectors are intended to serve as distributors of traffic from Major City Traffic Streets to streets of the same or lower classification. District Collectors serve trips that both start and end within a district.

• Land Use/Development. District Collectors generally connect town centers, corridors, main streets, and neighborhoods to nearby regional centers and other major destinations. Land uses that attract trips from the surrounding neighborhoods or from throughout the district should be encouraged to locate on District Collectors. Regional attractors of traffic should be discouraged from locating on District Collectors.

Other District Collectors in Portland with abutting or nearby residential lands include:

North Portland – Lombard Street, Interstate Avenue
Northeast Portland – Killingsworth Street, E. Burnside
Far Northeast Portland – 102nd Avenue (Gateway), Glisan (east of 122nd), 148th Avenue
Southeast Portland – Tacoma Street, Hawthorne Blvd.
Far Southeast Portland – Division Street
Northwest Portland – Front Avenue, Dosch Road
Southwest Portland – Multnomah Blvd., Capitol Highway, Boones Ferry Road

The City of Portland does not have a traffic count program that routinely measures roadway volumes including truck counts, so it is not possible to compare traffic data for other district collectors in Portland. Based on observation one would expect overall volumes on many of the roads listed above to be equal to or higher than Hayden Island Drive. One would also expect truck volumes to be relatively high on roads such as Lombard, Interstate Avenue, 102nd Avenue, Division St, Front Avenue, and Multnomah Blvd.

One comparison the Port was able to find from city data was for SE 112th Avenue at Lincoln Street (between Stark and Division). SE 112th is classified by the city as a Neighborhood Collector and a Local Service Truck Street, both lower classifications than Hayden Island Drive. Abutting land uses for SE 112th are predominantly single-family residential. Traffic volumes at this location are actually greater than 10,000 vehicles per day with approximately 1,000 of those vehicles being trucks. This is compares to traffic counts on Hayden Island Drive taken in 2011 and 2012 by the Port of Portland near the east side of the ”S” curve that have a range of 6,000 to 8,000 vehicles per day with trucks being in a range of 675 to 700 per day.

Q76 Adequacy of funding for NHID improvements – who holds the financial risk to ensure completion of the improvements?

The financial risk is shared between the City and the Port, with other property owners on Hayden Island that use NHID being potential partners. As proposed in the most current Intergovernmental Agreement the City is responsible for one quarter of the project costs up to a maximum of $5.25 million. The IGA states that the City and the Port will cooperate to develop a funding strategy for improvements to NHID. Funding may include state and federal grants. The IGA also represents that the City and Port will consider formation of a Local Improvement District (LID) to construct the improvements. The City agrees to require frontage improvements of properties adjacent to NHID at the time of redevelopment of the uses on those properties, or alternatively to require LID waivers from the developing properties. Under the IGA as currently proposed the Port is ultimately responsible for completing NHID improvements prior to occupancy of a new development on West Hayden Island.

Q77 What happens if the truck traffic exceeds 205 trips? Then would/should a WHI bridge be considered?

Under the Mayor Adams proposal, heavy truck volumes may not exceed 205 trips per day. If they do, while not specifically stated in the draft IGA, the Port would likely be subject to some kind of penalty (fine?). The draft code and IGA does not allow for adjustment to the truck volume number, other than a legislative change to the plan district by City Council.

The 205 heavy truck threshold is based on the West Hayden Island Supplemental Assessment which went beyond the City's TPR worst case transportation analysis to look at the impacts of the Worley Parson's concept scenario. For comparison, the City's TPR analysis assumed 275 heavy trucks per day.

If in the future City Council were to consider a legislative change to the 205 heavy truck trip cap they are free to consider a WHI bridge, however from a traffic impact analysis perspective the City's own TPR analysis demonstrates that the higher traffic associated with the "worst case" TPR is easily handled by NHID without a bridge. In addition, there have been no studies to date that demonstrate if there will be any significant increase in noise or emissions associated with either the Worley Parson's scenario or the "worst case" scenario. Therefore, currently there is no objective evidence in the record to indicate that consideration of a WHI bridge should be considered if truck traffic exceeds 205 heavy trucks per day.

Q78 Has a Transportation Planning Rule analysis of the terminal development been conducted?

Yes. A TPR analysis consistent with OAR 660-012-0060 was completed by the Portland Bureau of Transportation and has been reviewed an accepted by ODOT and Metro, as well as the Port. The required "reasonable worst case" analysis under the TPR has subsequently caused much misunderstanding with the public regarding the expected amount of traffic (total and truck) that is likely to occur from marine terminal development on WHI.

Port Comments on Transportation Questions

January 11, 2013 (Greg Theisen)

41) Can the City or Port impose additional emissions, noise or safety requirements on trains that call on the site?

Portland and the Port of Portland do not have the legal authority to impose additional requirements on trains that call on the future WHI terminal site. No port authority or jurisdiction has this authority.

The railroads operate two types of locomotives on their system, line haul and switchers. Line haul locomotives power cargo trains around the system from origin to destination. Switchers work at rail yards, port facilities and harbor terminals. Many switchers are owned by terminals, yards or class two or three railroads, not by the mainlines. Both types of locomotives number in the tens of thousands across the system. The UP Railroad, for example, has about 8000 locomotives in their fleet, roughly 6000 line haul and 2000 switchers.

Line haul locomotives are high speed and high power. They are not tethered to any single site or region and transfer from railroad to railroad. A Canadian Pacific or Norfolk and Southern locomotive may be operating in Portland's Lake Yard or Albina Yard depending on origin or destination of the haul.

Class I railroads commonly dedicate switchers temporarily to a region until they are pulled off for service and then sent to either the same or new location. At non-railroad terminal locations switchers may be owned by the terminal, tenant or a third-party operator. Switcher fleets include the Genset locomotives being used in areas of poor air quality at facilities in Illinois, Texas and California. These locomotives are usually located in areas that do not meet Federal air quality standards. Their purchase is funded through private/public partnerships. These locomotives are maintained at specialized facilities that service multiple units with a dedicated maintenance crew. This precludes the distribution of a single Genset locomotive in areas where air quality is not poor.

2025 Future Fleet Type and Mix

Manufactured As		Percent of Fleet	Re-Manufactured As (usually every 12 years)
Tier 0	1973-2001	25-50%	Tier 0+ (=1)
Tier 1	2002-2004		Tier 1+ (=2)
Tier 2	2005-2010	20-30%	Tier 2+ (=3)
Tier 3	2011-2014		Tier 3
Tier 4	2015+	20-30%	Tier 4

EPA emission reduction standards for locomotives first went into effect in 2000 and apply to all newly manufactured locomotives and retrofits occurring as fleets are maintained. EPA locomotive engine rules will reduce NOx, HC and PM emissions by about 90%. Exhaust emission standards classified by tier type with a corresponding date of implementation are shown above. Based on current maintenance and

replacement patterns the estimated fleet mix for 2025 is 25-50% Tier 1 and 2, 20-30% Tier 3 and 20-30% Tier 4.

79). There is no project in the Regional Transportation Plan (RTP) for the Columbia River rail bridge. The project referenced in the revised IGA, is included in the KENTON RAIL LINE UPGRADE project, identified as project 11356 in the RTP. This project includes upgrades to existing tracks with new double track from Peninsula Junction to I-205 and increases track speeds between North Portland, Peninsula Junction to Reynolds on the UP's Kenton Line, all part of the Triangle Project with ODOT that includes the Union Pacific Connection at North Portland Junction and Peninsula Junctions.

This planned investment was identified in the 2003 *I-5 Rail Capacity Study* to relieve freight and passenger congestion in the Cascades corridor. The North Portland Junction part of the project is currently in the preliminary engineering phase with the Federal Railroad Administration as the lead agency while ODOT is the grantee and lead state agency. Cooperation and coordination with the railroads and regulatory agencies are components of the project. The BNSF component of the improvement at North Portland Junction has already been completed with Federal Stimulus funds.

WHI Rail projects are in the RTP as projects 11353 and 11354 (see RTP list) .

- The numbers in the IGA are referring to the attached freight project spreadsheet that was developed by Metro's Freight TAC. This list of projects isn't adopted as far as I know.

- The referenced Metro ID for the rail bridge (10866) is incorrect, as that refers to the CRC project, not the rail bridge. There is nothing in the adopted RTP for the rail bridge. The Columbia River rail bridge is double tracked. Rail capacity modeling done for the Port's rail plan does not show a capacity problem on the bridge through 2030, based on passenger and freight rail forecasts.

- The North Portland Junction is included in project 11356 (Kenton Line) of the adopted RTP. The BNSF part of NPJ is done. It is the UPRR project that remains and is included in the Kenton project.

- UPRR portion of NPJ is included in the latest ODOT STIP as KEY 18070.

80) It is unlikely the terminal would be serviced by the same trucks in the way the PSC and City are contemplating. The committed fleet type of operation is common at intermodal and container facilities (no news there to you guys). What do we know about the trucks that visit Toyota at T4?

At T4 some of the auto carriers are owned by Toyota but some are contract, which I believe is the case with Honda and Hyundai- so really no way of controlling the trucks. At T5 Columbia Grain they can get about 50 trucks a day during the busy season. They are trucks that haul away the cleanings and also grain deliveries from Willamette Valley farmers- again- no way of controlling the trucks. As Scott has pointed out, even

though something may be done a certain way now there is no assurance it will be done that way in ten to twenty years.

Additional comments on Question 80:

The two types of terminals that have a potential for truck trips are an auto facility and a grain terminal. A third type of terminal, dry bulk, has very little truck traffic.

Auto Facility

The comparables for the auto facility are Toyota at Terminal 4 and Honda and Hyundai at Terminal 6. At T4 some of the auto carrier trucks are owned by a subsidiary of Toyota and would be repeat visitors to the terminal but some are contract auto carriers such as Selland. Toyota is unique in having a fleet of its own trucks. For Honda and Hyundai the auto carriers are contracted. The contracted trucks would not be the same trucks servicing the terminal.

The other feature of auto terminals associated with trucks is the post processing facility. The trucks associated with auto processing aren't typically semi-trucks and are more often delivery vans and single unit box trucks. Those would not be the same trucks time after time but would be coming from different parts vendors. It is also possible that an auto terminal at WHI would not have a post processing facility. For example Honda does not have a post processing facility.

Grain Facility

A comparable for a grain facility is the grain terminal at Terminal 5. The trucks at the T5 grain terminal are associated primarily with grain deliveries from a variety of Willamette Valley farms as well as trucks taking away the grain cleanings. Combined this can be as much as 50 trucks a day during the busy season. The trucks would not be the same trucks each day. Another consideration is that a new grain terminal may not have a truck facility, limiting delivery to unit trains.

Dry Bulk

A third terminal type would be a facility such as a dry bulk (potash, soda ash). The Port has comparable terminal types at T4 and T5. There is very little truck traffic associated with these facilities. All throughput arrives by unit train and goes straight to ocean vessel.

CITY OF
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November 9, 2012

To: Mayor Sam Adams

From: Traci Manning, Director

Re: Hayden Island Manufactured Home Park

At your request, I directed my staff to perform due diligence on the Hayden Island Manufactured Home Park and determine what services would most benefit the residents and how the program could be administered. Our initial recommendation is outlined below. Please let me know where we can be of further assistance.

Service Options
Based on the size of the park, the age of the units and variety of needs and life circumstances of the residents, I would recommend the City work with the Port of Portland to provide a menu of services to low-income park residents that would include:

- Full Home Weatherization
- Window Replacement
- Down Payment Grants for Newer Homes On-Site or Relocation

Providing options for low-income residents to choose from would ensure that the City is meeting the needs of the greatest number of residents within the park. Residents would be able to increase the comfort of their homes, and those who may choose to move from the park would be partially compensated for the inconvenience.

A number of older mobile homes in the park have already received weatherization through Multnomah County. However, public weatherization funds typically do not cover window replacement, so homes that have already been weatherized would still benefit from adding double-pane windows.

All three options would provide relief from any potential light or noise pollution resulting from increased industrial activity due to the Port's development on the island.

Program Type	Cost/unit	Policy Considerations
Full Unit Weatherization	$5,000 - $7,000[1]	• Multnomah County and area non-profits have experience in mobile home weatherization • Multnomah County has already weatherized a number of homes in the park • Weatherization significantly reduces home energy costs for residents and noise pollution • Weatherization work should employ local MWESB contractors, as identified through the Green Opportunity Grant program
Window Replacement	$2,000 - $3,000[2]	• Double-pane windows would provide significant increase in noise insulation compared to standard mobile home windows • Homes that have already been weatherized are still in need of window replacement because weatherization funds often run out before they get to windows • Window replacement work should employ local MWESB contractors, as identified through the Green Opportunity Grant program
Down Payment Grant	$5,000[3]	• With down payment assistance, owners of older units would be able to purchase used or new manufactured homes • Replacement homes would provide increased insulation from noise and better energy efficiency • Finance costs would vary depending on the lender, but owners would pay an average of $200 - $400/month to finance the new home.

Program Administration

PHB does not have the staff capacity to administer a new program of this size, or to manage the contract with the agency selected to administer it. Serving over 300 households will represent a significant increase in work of our non-profit partners who perform this type of work. The organization contracted to lead the program will likely require an increase in staff and organizational capacity to take on this new work and continue its existing work.

[1] OHCS Weatherization Program Average
[2] Average $200/window – Total cost would depend on number of windows within each home
[3] Assuming average credit score requiring 10% down payment on $50,000 home.

Discussions with the Port on funding for the program should include consideration for hiring program staff. Staff of programs similar to the one being proposed perform a variety of important roles which include:

- Direct outreach to homeowners
- Individual case management
- Subcontracting with weatherization and repair companies
- Supervising weatherization and repair work
- Follow-up and inspection

Staffing costs for the home repair contracts PHB manages typically average 30-45% of total program costs.

Park Information

Finally, we have been able to gather some data on the age of the units within the park from PortlandMaps. As you can see, more than half of the units were built before 1980. This suggests there is a need for weatherization and window replacement assistance at the park. However, Multnomah County has already weatherized a number of units at the park. They have agreed to provide the city a report on the number of units they have served by next week.

Total # of Units Currently on Property Tax Rolls: 358

Number of Units by Decade Built:

- 1960s: 93
- 1970s: 195
- 1980s: 26
- 1990s: 34
- 2000s: 60

West Hayden Island Development : CRC Full Build -- LPA Design

Attachment D

February 4, 2013

The information on this map was derived from City of Portland GIS databases. Care was taken in the creation of this map but it is provided "as is". The City of Portland cannot accept any responsibility for error, omissions or positional accuracy.

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NORTH

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Charlie Hales, Mayor • Susan Anderson, Director

West Hayden Island Development : CRC Stage 1 -- ICP Design

Attachment D

February 4, 2013

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NORTH

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October 23rd, 2012

Bob Hillier, Freight Planning Coordinator
Portland Bureau of Transportation
City of Portland
1120 SW 5th Avenue, Suite 800
Portland, Oregon 97204

Subject: West Hayden Island Concept Plan Amendments
Columbia River Crossing Project

Dear Mr. Hillier,

We have reviewed the City's proposed West Hayden Island Concept plan amendments. ODOT has an interest in ensuring that the proposed land uses are consistent with the Columbia River Crossing (CRC) project improvements for the I-5/Hayden Island interchange. ODOT has determined that the proposed plan amendments would not have a significant effect on the State highway system for purposes of Transportation Planning Rule OAR 660-012-0060 based on the following findings:

1. The Columbia River Crossing is on the Regional Transportation Plan Federal Financially Constrained project list.

2. The Columbia River Crossing project assumed Build-out Option 2 for West Hayden Island as identified in the West Hayden Island Transportation Analysis completed in 1999 by Parametrix. Build-out Option 2 used in the CRC analysis results in 4 more trucks (41 vs. 37) but 34 less auto vehicles (115 vs. 149) during the PM peak hour compared to the PBOT "high impact" scenario (2 auto terminals and one bulk terminal) for the 300-acre Port development site.

3. The overall intersection volume differences for the PBOT and CRC traffic models are not significant for the critical I-5/Hayden Island interchange ramp terminal intersections.

ODOT and CRC project staff look forward to continuing to work with the City of Portland as development occurs on Hayden Island and the CRC project moves forward. If you have any questions, I can be reached at (503)731-8258.

Sincerely,

Marah Danielson
ODOT R1 Senior Planner

C: John Gillam, PBOT
Phil Healy, Port of Portland
Tim Collins, Metro
Aaron Myton, CRC
Rian Windscheimer, Kirsten Pennington, Avi Tayar, ODOT