

To: Washington Department of Ecology and Cowlitz County EIS team

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Environmental Justice Comments on the Millennium Bulk Terminal Draft Environmental Impact Statement

Thank you for this opportunity to comment on the Draft SEPA EIS for Millennium Bulk Terminal (MBT) proposed for Longview, Washington. The human impacts of this project, in combination with existing industrial pollution already disproportionately encountered by minority and low-income communities, must be studied in greater depth in the final EIS than the draft EIS currently offers.

Please accept the comments below as suggestions of how better to address Environmental Justice concerns under both NEPA and SEPA requirements.

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Definition of Environmental Justice

The Environmental Protection Agency (EPA) defines environmental justice (EJ) as the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income in the development, implementation, and enforcement of environmental laws, regulations, and policies. As the largest remaining coal export terminal proposed in North America, it is essential that the Environmental Impact Statement (EIS) for the proposed Millennium Bulk Terminal (MBT hereafter) coal export facility includes a thorough analysis of potentially impacted environmental justice communities, and actively solicits participation in the permitting process from those communities.

The analytical lenses of race and poverty expose new dimensions to environmental and economic issues. The transportation of coal and oil by rail presents a particularly serious threat to Washington's low-income communities of color living along rail lines because they are more likely to be linguistically isolated, have fewer economic resources, and be impacted by structural racism and other discrimination. Existing socioeconomic disparities such as these exacerbate the effects of any negative impacts to their local environment, including increased traffic of coal on railroads dividing or near EJ communities. The impacts of the MBT proposal must be thoroughly evaluated in the context of other health impacts on vulnerable communities.

With federal permits under consideration, the National Environmental Policy Act (NEPA) requires a consideration of environmental justice. In addition, under Washington's State Environmental Policy Act (SEPA), an election to conduct a Health Impact Assessment as part of the EIS would compel the EIS to include analysis of division or disruption to communities, impacts on disadvantaged populations, and environmental justice. The scoping decisions for the Gateway Pacific Terminal EIS, an even larger but now defunct coal export proposal, provide an example of a SEPA decision to evaluate environmental justice as part of a rail project permitting analysis.¹

It is unclear if the draft EIS adequately addresses EJ requirements of both NEPA and SEPA. The EJ components of the final EIS should take into consideration both the as-yet-incomplete Health Impacts Assessment planned for the MBT analysis, and extend all EJ analyses for communities along the rail line, at the project site, in likely shipping lanes, and those impacted by the climate impacts of the project.

Public Involvement Plan

While 40 commenters requested that the draft EIS address environmental justice impacts of MBT² in areas along the full rail line and impacted by vessel traffic from the project, the Public Involvement Plan (PIP) failed to include environmental justice communities with immitigable impacts **away** from the project site. As stated in the scoping report summary:

Also contained in the PIP is a discussion of the targeted environmental justice outreach provided to neighborhoods nearest to the MBTL facility in Cowlitz County and the City of Longview with nonEnglish speaking and low-income populations.³

¹ "FAQ on Scope of EIS Studies for Gateway Pacific Terminal/Custer Spur (GPT)," Washington State Department of Ecology. Updated 2/13/2014. Available at <http://www.ecy.wa.gov/geographic/gatewaypacific/gpt-faq.pdf>.

² http://www.millenniumbulkeiswa.gov/assets/mbtl_sepa_deis_appendix-j_scopingsummaryreport.pdf at p.64

³ http://www.millenniumbulkeiswa.gov/assets/mbtl_sepa_deis_appendix-j_scopingsummaryreport.pdf at p.2-2

Likewise, Chapter 3 Section 2 of the DEIS identifies the following study area related to Minority and Low-Income Populations:

Minority and Low-Income Populations. For direct impacts, the study area is the project area and the area within approximately 1 mile of the project area (Figure 3.2-2). This study area only relates to construction and operation of the Proposed Action. For indirect impacts, the study area is the area within 0.5 mile of the affected rail lines in Cowlitz County.⁴

This same study area informed the primary EJ analysis provided in the DEIS, the SEPA SOCIAL AND COMMUNITY RESOURCES TECHNICAL REPORT⁵ (“Technical Report”). By contrast, the study area was defined much more broadly for the portion of the DEIS that examines economic impacts of the additional rail traffic. For economic purposes, they assessed indirect rail impacts thusly:

The study area for indirect impacts on rail transportation includes the rail routes expected to be used by Proposed Action-related trains between the project area and the Powder River Basin and Uinta Basin.⁶

In combination, the failure to appropriately scope EJ-related issues, failure to involve the public outside of the project site, and the startlingly narrow definition of the project plan mean that the project’s primary EJ analysis, the Technical Report, is inadequate and must be improved in the final EIS. **It is inappropriate for the DEIS to acknowledge much broader levels of rail impacts on economic considerations, while ignoring EJ impacts in precisely those same places.**

Incorporating input from language isolated communities

English is often not the first language in EJ communities. In assessing impacts on communities along the rail route and shipping lanes, Ecology should take into account the high concentrations of non-native speakers of English in many communities, with special attention to indigenous peoples, Spanish speakers, Russian and Ukrainian speakers, and members of Asian Pacific Islander communities.

The Environmental Protection Agency provides guidance for engaging with these communities in their home languages, per the Title VI prohibition against national origin discrimination. This guidance suggests that the responsible agency provide “written translations of vital documents for each eligible LEP language group that constitutes five percent or includes 1,000 members, whichever is less, of the population of persons eligible to be served or likely to be affected or encountered. Translation of other documents, if needed, can be provided orally; or (b) If there are fewer than 50 persons in a language group that reaches the five percent trigger in (a), the recipient does not translate vital written materials but provides written notice in the primary language of the LEP language group of the right to receive competent oral interpretation of those written materials, free of cost.”

⁴ http://www.millenniumbulkeiswa.gov/assets/mbti_sepa_deis_ch03-2_socialcomm.pdf at 3.2.2

⁵ http://www.millenniumbulkeiswa.gov/assets/mbti_technicalreport_socialcommunity.pdf

⁶ http://www.millenniumbulkeiswa.gov/assets/mbti_sepa_deis_ch05-1_railtransportation.pdf

Ecology should review these language population thresholds within each community along the affected rail line and shipping lanes, and within any impacted areas proximate to the proposed terminal, and conduct requisite in-language outreach in each of the communities that qualify.⁷

DEIS scope insufficient to capture all impacted communities

If built, this project would have impacts on communities from the point of extraction to the offloading site itself. If the project is built, coal trains will travel in higher numbers through communities which otherwise would not experience the impacts of the trains destined for MBT or the empty containers returning from the terminal. Refusal to allow the project (the no project alternative) would protect vulnerable communities along the rail route from all of the impacts of this project.

The Proposed Action description contained within the SEPA SOCIAL AND COMMUNITY RESOURCES TECHNICAL REPORT at 1-4⁸ is wholly inadequate to capture known, clear impacts on uprail communities that would otherwise not be experienced without the construction and operation of MBT:

Under the Proposed Action, BNSF or Union Pacific Railroad (UP) trains would transport coal in rail cars from the BNSF main line at Longview Junction, Washington, to the project area via the BNSF Spur and Reynolds Lead. Coal would be unloaded from rail cars, stockpiled and blended, and loaded by conveyor onto ocean-going ships at two new docks (Docks 2 and 3) on the Columbia River for export.

The “Proposed Action” as written appears to plan for the magical appearance of unit trains of coal at the BNSF main line at Longview Junction, Washington. Failing to account for impacts on EJ communities both uprail and downstream (in the shipping routes) of the project will dramatically underestimate the known impacts of the project.

The brief list of census tract block groupss analyzed within the Technical Report affirms the limited geographic scope of the analysis:

The direct impacts study area for social/community cohesion and public services is represented by Census Tract 3 Block Group 1, Census Tract 7.03 Block Group 1, and Census Tract 19 Block Group 1. For minority and low-income populations, the census block groups that represent the direct impacts (1-mile) study area around the project areas and the indirect impacts (0.5-mile) study area around the affected rail line are shown in Figure 6.

The FEIS should perform actual analysis of each EJ community by municipality and aggregate impacts thereupon should the MBT project be built. A limited subset of candidate communities are described in the attached maps showing probable rail routes and the communities they intersect. These sample

⁷ “Environmental Protection Agency Guidance to Environmental Protection Agency Financial Assistance Recipients Regarding Title VI Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons.” 6/25/2004. Available at <https://www.gpo.gov/fdsys/pkg/FR-2004-06-25/pdf/04-14464.pdf>.

⁸ http://www.millenniumbulkeiswa.gov/assets/mbtl_technicalreport_socialcommunity.pdf

towns—Spokane, Yakima, Prosser, and Wenatchee—include towns likely to see full coal trains en route to MBT, and empty trains returning over Stampede Pass. The final EIS’s EJ analysis should include all candidate towns on all possible routes from the point of extraction to Longview.

Essential factors of necessary additional EJ analysis include but are not limited to: existing ambient air quality; proximity to other environmental and public health hazards; and a thorough analysis of how the MBT project would impact each indicator. As a key example, the DEIS fails to examine places like Spokane County, where the Riverside neighborhood—quite close to proposed coal train traffic increases, and the attendant risk of PM 2.5 and coal dust—has an 18 year lower life expectancy, compared to the Southgate neighborhood, which is well outside the zone of immediate air quality impacts.⁹ FEIS should provide a dedicated EJ analysis that begins with screening for EJ concerns, then compares those communities to known impacts determined by other analyses within the EIS.

In section 2.2.1 Social/Community Cohesion and Public Services, various industrial users of the project site that may have detrimental impacts on EJ communities are identified. The geographic scope of the EJ analysis in the FEIS should be increased to name all similar industrial projects along the full transportation routes in a similar fashion, with cumulative impacts included in the baseline analysis.

To understand aggregate and potentially disparate impacts on EJ communities, the FEIS should contain a discrete, separate analysis that looks at all MBT’s impacts in combination. These cumulative impacts should be examined in the context of extant risk and health issues already imposed on EJ communities, with an eye toward understanding where MBT’s operational impacts may push areas to exceed thresholds for criteria pollution, noise pollution, and otherwise negatively impact quality of life.

Rail Traffic Impacts on Property Values

The Social and Community Resources Analysis optimistically fails to include the impacts that could clearly drive down property values, in particular in neighborhoods near the tracks. As indicated on page 3-2:

Operations: Indirect Impacts

Operation of the Proposed Action would not result in indirect impacts on social and community cohesion as a result of changes to property values or by generating substantial new development. As noted above, the Proposed Action is located on an existing industrial site within a larger industrial area. Furthermore, the Proposed Action would use an existing freight rail line. Therefore, operation of the Proposed Action would not constitute a new land use with the potential to change property values substantially or induce new development in the surrounding area.

This conclusion is flawed based on the geographic limitations of the study. Dozens of communities from the Powder River Basin to Longview, Washington are bifurcated by the BNSF main line that would see a

⁹ “Odds Against Tomorrow: Health Inequities in Spokane County.” Spokane Regional Health District. <http://www.srhd.org/documents/PublicHealthData/HealthInequities-2012.pdf>, May 2012. Accessed January 2016.

massive increase in rail traffic. Each of these communities, many of which see higher concentrations of EJ populations near the tracks, should be assessed based on property value impacts due massive increases in industrial rail use.

Further, increased gate downtime in these bifurcated communities could have disproportionate effects on environmental justice populations. One way these disproportionate effects could play out: wealthier communities with greater tax bases will have the capacity to pay for grade separations, while EJ communities with a smaller tax base will have less capacity. The disparate impacts suffered by EJ communities will include all those associated with increased rail traffic, including delayed vehicular traffic and emergency response, and increased idling.

Dirty and dangerous fossil fuel projects such as the MBT project also become a deterrent for other businesses that would not wish to locate next to a volatile operation such as this. It can become a major obstacle to attracting other more sustainable, safer, employment opportunities for the area, impacting and possibly limiting the economic opportunity for EJ communities.

Case study in Vancouver, WA provides an example of local, disparate EJ impacts

As a case study, OneAmerica, the state's largest immigrant advocacy organization, has begun interviewing members of the Latino community in Vancouver, Washington about the threats of the proposed Tesoro-Savage Vancouver Energy Terminal to their health and livelihoods. The majority of their concerns focus on the potential impacts of increased rail traffic to their health, as many of them live in close proximity to the railroad. Because we can anticipate increased rail traffic with the construction of the MBT project, these community concerns are relevant here as well.

Erika is a resident of Fruit Valley, a neighborhood that encompasses the Port of Vancouver and would therefore be home to the proposed terminal. Residents of this neighborhood are twice as likely to be foreign-born and more than three times as likely to have limited English proficiency as residents of Vancouver as a whole. Nearly half of Fruit Valley's population lives below the poverty level, compared to 18.7% of Vancouver residents in general, suggesting that these communities face economic and cultural barriers to health care and other resources that would be necessary to protect themselves from chronic negative impacts to air quality.¹⁰

In a conversation about her concerns with OneAmerica Organizer Glicerio Zurita-Pinacho, Erika points out that in her neighborhood, noise pollution from existing rail traffic is already a major problem and is worried about how increased traffic would worsen the stress associated with frequent noise. She conveys her fears that increased rail traffic will especially threaten people with existing health conditions, saying, "I have a kid with lung problems, [and] it will bring more pollution and health concerns." Nationally, hospitalization for asthma is nearly twice as common among Hispanic children as

¹⁰ "Fruit Valley Neighborhood in Vancouver, WA." City-Data. <http://www.city-data.com/neighborhood/Fruit-Valley-Vancouver-WA.html>. Accessed 10/01/2015.

white children.¹¹ Hospitalization for asthma is often caused by elevated levels of particulate matter, including the diesel PM2.5 emitted by locomotive engines.¹²

Javier, another resident of Fruit Valley, shares Erika’s concerns about the impacts to air and water quality, and fears a disaster; “we can’t count on evacuation routes.” Javier is also worried that, “the companies [won’t] give evacuation training to the general population in case of disasters,” placing the burden on ill-equipped local governments. Indeed, the limitations of existing infrastructure, capacity, equipment, and expertise throughout the rail corridor were noted in the DEIS (p. ES-51) but not adequately analyzed in the context of the other issues affecting EJ communities, including the Fruit Valley neighborhood.

Erika and Javier’s stories speaks to the need for a robust and thorough investigation of potential adverse impacts to public health vis-à-vis the vastly increased transportation of coal by rail through Washington State. The unique profile of the Fruit Valley community in particular exposes the dangers of an assessment that uses the blunt instrument of averaging health impacts over time or across broad geographic regions, as averages can obscure the disproportionate – and potentially discriminatory – impacts to specific communities. And these impacts are not unique to Fruit Valley--they may, in fact, be replicated in each of the communities in the attached maps.

Disproportionate health impacts on EJ communities

Even without the threat of derailments and disruption to emergency services, coal trains create hazardous air pollution from diesel exhaust and coal dust. This air pollution is especially hazardous in environmental justice communities that already suffer a significantly higher burden of airborne toxics and accompanying respiratory disease.

In 2012, The Whatcom Docs, a group of more than 180 physicians from Whatcom County, WA, [outlined](#) their conclusions on the potential health impacts from increased train traffic based on research published in major medical journals. Their findings on the chronic health threat from coal trains are directly relevant to anyone living along oil train routes and vice versa, and in particular environmental justice communities where air emissions from industrial facilities, road traffic, and other sources are higher than average.

[Research](#) compiled by the Whatcom Docs and Physicians for Social Responsibility establishes:

Diesel particulate matter from passing and idling trains, and increased road traffic due to delays at road crossings, is associated with:

- Impaired pulmonary development in adolescents;
- Increased cardiopulmonary mortality and all-cause mortality;
- Measurable pulmonary inflammation;

¹¹ “Children’s Environmental Health Disparities: Hispanic and Latino American Children and Asthma.” Environmental Protection Agency. http://www2.epa.gov/sites/production/files/2014-05/documents/hd_hispanic_asthma.pdf. Accessed 10/01/2015.

¹² Adar, S. D., Filigrana, P. A., Clements, N., & Peel, J. L. (2014). Ambient Coarse Particulate Matter and Human Health: A Systematic Review and Meta-Analysis. *Current Environmental Health Reports*, 1(3), 258–274. <http://doi.org/10.1007/s40572-014-0022-z>

- Increased severity and frequency of asthma attacks, ER visits, and hospital admissions in children;
- Increased rates of myocardial infarction (heart attack) in adults; and
- Increased risk of cancer.

Noise pollution exposure from train traffic causes:

- Cardiovascular disease, including increased blood pressure, arrhythmia, stroke, and ischemic heart disease;
- Cognitive impairment in children;
- Sleep disturbance and resultant fatigue, hypertension, arrhythmia, and increased rate of accidents and injuries; and
- Exacerbation of mental health disorders such as depression, stress and anxiety, and psychosis.

Frequent long trains at rail crossings will mean:

- Delayed emergency medical service response times; and
- Increased accidents, traumatic injury and death.

The cumulative impacts of increased rail traffic for coal and oil transport must also be considered. Many of the same communities along the rail route for MBT are facing current oil and coal train traffic, and proposals for enormous oil export terminals like the Tesoro Savage facility in Vancouver, WA. Each train being over a mile long, this would not only increase the traffic and noise, but also the diesel particulate matter and fugitive dust blowing off uncovered coal cars. This accumulation of dust on train tracks can also contribute to derailments, posing a dangerous combination of coal trains and highly combustible oil trains on the same routes.

Addressing acute impacts vs. averaging is essential for environmental justice analysis

Acute and averaged impacts are different, in particular when dealing with sleep disruption issues and child development. With EJ communities typically closer to the source of the sound—train whistles, braking and rolling noise—disparate impacts are guaranteed without MBT’s commitment to pay all costs associated with installing quiet zones for every community along the rail route. In Section 3.1.1.1, the EJ report correctly identifies sound impacts from trains on park users, but fails to address the issue of accumulated health impacts, both at the project site and uprail.

When investigating potential impacts of increased oil train traffic in environmental justice communities, or wherever sensitive populations are found who may be impacted by the project, it is important to focus on both acute and average impacts. Averaging of impacts over time and space reduces the apparent effects of the detrimental effects on specific populations. For example, acute PM 2.5 exposure over a 1 to 4 hour period has been shown to contribute to cardiac ischemia during later exercise.¹³ Averaging the amount of PM 2.5 emitted by diesel engines over the course of a year or even a day means that the effects of the spikes experienced by nearby residents during a single train passage are

¹³ “Particulate Matter Air Pollution and Cardiovascular Disease: An Update to the Scientific Statement from the American Heart Association,” American Heart Association. May 10 2010, accessed at <https://drive.google.com/file/d/0B8YDhXs8GFwJRnEwQ1hKRXBVSxZeDZfRnFTMFRRWVJuelU4/view?usp=sharing>

diminished in importance. Analysis of diesel particulates must include the impacts of engine emissions shortly after the passage of a train on residents and school children in close proximity to railways. Sensitive populations living, working, and studying in proximity to the rail lines, e.g. asthma sufferers and the elderly, should be evaluated for direct impacts.

Likewise, health impacts from noise are known to include cognitive development in children, cardiovascular disease, sleep disturbance, and mental health issues.¹⁴ In Washington, children under five years of age often comprise a high percentage of communities near railroad tracks. The maximum decibel rating of each horn blast, the frequency thereof, and the duration thereof cannot be averaged, but should be examined in terms of cumulative impacts of high-impact events on sensitive populations.

Critical impacts from the proposal that should be better addressed in the FEIS with respect to impacts on EJ communities include:

- Noise disturbance: The DEISs fail to quantify probable noise impacts from increased train traffic, and fail to examine the impacts on children’s cognitive development, and overall sleep patterns, in communities already impacted by noise
- Particulate matter emissions from train engines: PM2.5 concentrations within a half mile of the tracks should be examined for existing baseline levels, and EJ communities compared with non EJ communities.
- Cumulative impacts of proposed oil and coal transport: The potential for a dramatic increase in fossil fuel transport by rail if all the proposed oil and coal facilities are built must be examined, as each type of train presents unique and cumulative harm. A recent study from the University of Washington monitoring coal trains has shown that the air pollution from coal trains is more egregious than previously understood. The abstract can be found here:

<http://www.sciencedirect.com/science/article/pii/S1309104215000057>

The full article and supplemental video files can be found at:

<http://www.atmos.washington.edu/jaffegroup/modules/APOLLO/>

Key findings from the report include that:

1. Coal trains emit nearly double the amount of air pollution compared to freight trains. The pollution is in the form of respirable (able to be breathed in) particles less than 2.5 microns in size, called PM2.5. (PM2.5 emissions are correlated with tonnage of cargo, meaning that oil trains—which are as heavy or heavier than coal trains—will have the same impact.)
2. Every coal train polluted the atmosphere with coal dust.
3. One out of twenty coal trains emit visible plumes of coal dust, but this number increases with combined wind speed. One out of ten trains emits large visible plumes of coal pollution at combined wind speeds greater than 90 km/h

¹⁴ Whatcom Docs appendix to the Gateway Pacific Terminal EIS scoping process, accessed at <http://www.coaltrainfacts.org/docs/appendix-D.pdf>.

For communities facing a combined increase of oil and coal trains, the cardiovascular and respiratory health impacts could be significant.

The cumulative impacts of emergency response should also be addressed. It is insufficient to analyze the impact of rail traffic on levels of emergency services provided to environmental justice communities without acknowledging the much lower baseline in EJ communities; environmental justice communities already typically suffer from impaired emergency response. In addition to level of service impacts, the FEIS should analyze the total impact on an annual basis of degraded emergency response on human health. Acute conditions such as stroke and heart attack, and asthma attacks in children – which are higher among certain EJ populations than the population as a whole – demand rapid emergency response. To the extent that the proposals will degrade emergency response, each affected community should be made aware of those impacts through translated, accessible, culturally appropriate communication.

The Emergency Response section of the EJ analysis must be extended to include every community hosting the BNSF mainline.

Incorporating Tribal Input

Along the length of the rail routes from the Powder River Basin to this proposal, dozens of indigenous tribes' hunting and fishing rights could be impacted obstruction of access to rivers and hunting grounds. With millennia of traditional access to fish and wildlife for subsistence harvest, any further degradation of fishing and hunting rights by new industrial projects must be taken into account.

The economic interests of sovereign tribal entities can be directly impacted by increased train traffic, and by obstructing traditional access to the Columbia River.

Similarly to the train traffic, the combined and cumulative harm that could come to fisheries from both oil and coal transport along Northwest waterways such as the Columbia River should be considered. BNSF has stated that coal accumulation on train tracks can contribute to derailments, posing even greater harm to important fisheries such as the Columbia River.

Thresholds of pollution and its impacts

The FEIS should consider whether or not specific geographic areas are in nonattainment for criteria pollutants, or would become so with the addition of the MBT proposal. In particular, this analysis should investigate the impacts of increased rail traffic on PM 2.5 on proximate communities, with special attention given to environmental justice communities, or areas where rates of poverty and linguistic isolation are high and where a higher portion of the population are people of color.

The Washington State Department of Health designates trains as a “major source” of diesel PM 2.5, regardless of its cargo.¹⁵ High levels of diesel PM 2.5 can increase risk of cancer, cardiovascular disease, reproductive and developmental disorders, and pulmonary diseases, among other health impacts for surrounding communities.¹⁶

The impacts to threshold levels for PM 2.5 and other particulates associated with the transportation of oil by rail in these communities should be investigated in the FEIS. If the increase in rail traffic is shown to increase PM 2.5 enough to exceed existing thresholds, the affected communities must be notified and consulted. For communities along rail routes that could also include coal transport, the combined effects of coal and oil trains should be considered in calculation of this number and notification of these communities. EJ analysis should compare EJ communities to national standard to determine disparate impacts

New methodologies released by the US EPA in June 2015 point to the most recent implementation of appropriate screening tools for potential disparate impacts. Access to the EPA’s EJSCREEN tool is available here: www.ejscreen.epa.gov/mapper. While the EJSCREEN tool is not mandated as a stand-alone tool, as seen below it clearly delineates areas within close proximity to coal trains where the potential for at-risk populations needs to be examined in much greater detail than offered in the DEIS.

Rather than depending on more relative measures based on local-area or project-area definitions, the EJSCREEN tool allows communities to be understood in comparison to broader conditions throughout the United States. The 80% threshold for combined EJ criteria—where race, low income, and language isolation are in the top quintile—are areas of particular concern using EJSCREEN, as noted below.

Maps used to assess disparate risks of MBT’s coal trains to some potential environmental justice communities using EPA’s EJSCREEN

The U.S. EPA (EPA) uses an Environmental Justice screening tool (EJSCREEN) that combines demographic variables identifying potential susceptible or vulnerable populations with separate environmental indicators to derive separate EJ Indices that reflect whether those populations are facing excess environmental risk for an environmental indicator. **The results for coal train routes through Washington en route to MBT clearly show the likelihood of multiple municipalities where disparate risk should be further evaluated as part of the final EIS.**

For this mapping project, a one mile buffer was used on each side of the tracks. Within this buffer, higher levels of noise impacts, particulate emissions, and emergency response interference can be expected. Noise impacts and traffic both have the potential for causing impacts well beyond the one mile threshold.

¹⁵ “Outdoor (Ambient) Air Quality,” Health of Washington State. Washington State Department of Health. 1/24/2014. Available at <http://www.doh.wa.gov/Portals/1/Documents/5500/EH-AQ2014.pdf>

¹⁶ “Position Statement on Crude Oil Transport and Storage To Governors of Washington & Oregon From Concerned Washington & Oregon Health Care Professionals,” Physicians for Social Responsibility. February 2015. Available at <http://www.psr.org/chapters/oregon/assets/pdfs/or-and-wa-psr-position.pdf>.

Maps: The attached maps are of, respectively, the EJ Index for proximity to Risk Management Plan Facilities (RMPs) and percent Minority. Additional criteria likely to need geographic assessment through mapping analysis include, but are not limited to, Particulate Matter (PM) and Traffic/Emergency Response. Each map has one of those words in the title to indicate the focus of the map graphic. The following index elements, visualized by the maps, highlight aspects of the problem of coal trains for environmental justice communities that would be exacerbated disproportionately by the construction of the MBT project:

Identifying Racial Composition of Communities

To identify the racial composition of communities, the 2012-ACS 5-Yr Avg. B03002 Table for Hispanic or Latino Origin by Race was used. Within the US Census and the ACS, Hispanic and Latino origin information is not taken as a separate racial category, so a person can have Hispanic or Latino origin and be of multiple races, according to the Census. For our purpose of estimating population composition by race, anyone of Hispanic or Latino Origin from the ACS data was included in the Hispanic Latino community. The other racial communities were taken from the ACS data for the Non-Hispanic and Latino Origin population.

Identifying Potentially Vulnerable Populations

In our maps **potentially vulnerable populations** are defined using the US EPA EJSCREEN Tool Demographic Index for US Census Block Groups. The Demographic Index is a combined average of a block group's percent low income and percent minority. Higher Demographic Index values reflect a calculation that incorporates higher percent minority and/or a higher percent of low income residents for a population, used in combination as a proxy for potential vulnerability to environmental risk for a population.

Calculation:

Demographic Index = (% minority + %low-income)/2

USEPA EJ Screen Definitions for minority and low income:

- Low-Income: The number or percent of a block group's population in households where the household income is less than or equal to twice the federal "poverty level."
- Minority: The number or percent of individuals in a block group who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. That is, all people other than non-Hispanic white-alone individuals. The word "alone" in this case indicates that the person is of a single race, since multiracial individuals are tabulated in another category – a non-Hispanic individual who is half white and half American Indian would be counted as a minority by this definition.

Risk Management Plan facilities

For this map, which should be replicated in any community with EPA Risk Management Plan Facilities, we use a count of RMP (potential chemical accident management plan) facilities within 5 km (or nearest one beyond 5 km), each divided by distance in kilometers. This count is part of the EPA's Environmental

Index for RMP facilities, definition available here: <https://www.epa.gov/ejscreen/overview-environmental-indicators-ejscreen>

USEPA EJ Screen Definition for National Percentile

The EJ Screen Tool data provides a national percentile for Demographic Index values for each block group in the dataset. A percentile in EJSCREEN tells us roughly what percent of the US population lives in a block group that has a lower value (or in some cases, a tied value). This means that 100 minus the percentile tells us roughly what percent of the US population has a higher value. This is generally a reasonable interpretation because for most indicators there are not many exact ties between places and not many places with missing data. More precisely, the exact percentile for a given raw indicator value is calculated as the number of US residents of block groups with that value or lower, divided by the total population with known indicator values.

The percentile value for the Demographic Index allows us to compare the “vulnerability” of block groups in cities impacted by MBT with block groups across the nation. In this study we define high vulnerability at \geq 80th percentile. Meaning the Demographic Index value for a block group is equal to or greater than 80% of block groups across the nation.

Using the 80th Percentile Screen

The EPA has provided some guidance to using the EJSCREEN tool to identify geographic areas that may require further consideration as an EJ community based on EJSCREEN tool results. Please find the EPA's screening and review recommendation below:

In past screening experience, EPA has found it helpful to establish a suggested Agency starting point for the purpose of identifying geographic areas that may warrant further consideration, analysis, or outreach. The use of an initial filter promotes consistency and provides a pragmatic first step for EPA programs and regions when interpreting screening results. For early applications of EJSCREEN, EPA identified the 80th percentile filter as that initial starting point. In other words, an area with any of the 12 EJ indexes at or above the 80th percentile nationally should be considered as a potential candidate for further review.¹⁷

Map Data Sources

U.S. EPA EJSCREEN Geodatabase Version 2.3
2010 U.S. Census Block Points
U.S. Census Place Boundary file for City boundaries.

Summary Tables

¹⁷ EJ Screen Technical Documentation, Appendix H. United States Environmental Protection Agency. 5/5/2015. Available at http://www.epa.gov/sites/production/files/2015-05/documents/ejscreen_technical_document_20150505.pdf.

Sample Washington communities where the average percentile exceeds the 80th percentile within the routes to and from MBT for the chosen environmental indicators:

Table 1. Environmental Indicator for Proximity to RMP Facilities Within One Mile of Proposed Coal Train Routes	
City Name	Average Percentile
Wapato, WA	97th-Percentile
Toppenish, WA	94th-Percentile
Pacific, WA	89th-Percentile
Quincy, WA	87th-Percentile
Parker, WA	85th-Percentile
Yakima, WA	83rd-Percentile

Table 2. Environmental Indicator for Traffic Volume and Proximity Within One Mile of Proposed Coal Train Routes	
City Name	Average Percentile
Wapato, WA	82nd-Percentile

Table 3. Environmental Indicator for Particulate Matter (PM2.5) Within One Mile of Proposed Coal Train Routes	
City Name	Average Percentile
Wapato, WA	92nd-Percentile
Toppenish, WA	85th-Percentile
Poplar, MT	82nd-Percentile
South Browning, MT	81st-Percentile
Crow Agency, MT	80th-Percentile
Mabton, WA	80th-Percentile

Maps number as attachments 2 – 6 submitted as part of this comment.

Thank you for the opportunity to comment.