Appendix I

Draft Environmental Impact Statement
Comments and Responses
APPENDIX I: Draft Environmental Impact Statement Comments and Responses (Index)

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AGENCY Comment 1:

Michelle Fishbourne, PE
Environmental Protection Specialist
Office of Railroad Policy and Development
USDOT Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Subject: Draft Environmental Impact Statement (DEIS) & Section 4(f) Evaluation Baltimore & Potomac Tunnel Project, Maryland 2016 CEQ #20150353

Dear Ms. Fishbourne:

In accordance with Section 102(2) (c) of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4332(2) (c), Section 309 of the Clean Air Act, 42 U.S.C. § 7609, and the Council on Environmental Quality (CEQ) regulations, 40 CFR Parts 1500-1508, the U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) and the Section 4(f) evaluation for the Baltimore & Potomac Tunnel Project prepared by the Federal Railroad Administration (FRA).

As you are aware, the purpose of the proposed action is to address the structural and operational deficiencies of the existing Baltimore & Potomac Tunnel, improve passenger rail services, and support existing and future demands along the Northeast Corridor. The alternatives considered in the DEIS include four alternatives, one No-Build and three Build Alternatives – 3A, 3B, 3C, respectively. The No-Build Alternative would include the continued use of the existing tunnel with no significant improvements other than routine maintenance. The existing 143 year old tunnel is actually a series of three tunnels (Gilmor St. Tunnel, Wilson St. Tunnel and the John St Tunnel) with two day lighting sections. It travels north and south on the western side Baltimore City. The two-track tunnel system is one of the oldest structure along Amtrak’s Northeast Corridor. The Build Alternatives, 3A, 3B and 3C would provide for a 4-tube tunnel system each ranging in length from 1.91 miles to 2.23 miles and traveling in a wide arch north of the existing tunnel. Each tunnel bore would be 20ft tall and 30ft wide.

The DEIS does not identify the selection of a Preferred Alternative; the Preferred Alternative will be identified in the Final EIS and/or Record of Decision (ROD) and will be based on how the Preferred Alternative meets Purpose and Need, an assessment of the rail

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Final Environmental Impact Statement and Section 4(f) Evaluation

operations, engineering transportation, cost, construction, an assessment of all the environmental impacts, and on public and agency comments received. Since a Preferred Alternative was not selected in the DEIS, EPA has reviewed and rated each of the build alternatives. EPA has rated each of the alternatives using EC-2 (Environmental Concerns/Insufficient Information), according to the EPA rating system described on the website: www.epa.gov/compliance/nepa/comments/ratings.html. These ratings are based on some deficiencies and area of concerns including Climate Change, Environmental Justice, noise and vibration, cultural resources, air quality, hazardous material management, and Children’s Environmental Health. EPA requests additional information in the Final EIS on alternative locations for ventilation plants, construction staging areas, sediment and erosion control during construction, potential added diesel emissions from the MARC and freight trains, and disclosure of emergency planning. EPA recognizes efforts made to evaluate and address community concerns and impacts and to coordinate this project with the community. The DEIS includes several environmental commitments, for example limiting hours of construction and implementing a rodent control program. These should be memorialized in the Final EIS and Record of Decision (ROD). While the DEIS includes several environmental commitments, there still remains a great deal of information that should be shared with the public, including final information regarding noise, vibration, utility disruptions, providing pre-construction building inspections, and emergency planning. EPA suggests that FRA consider the best way to share information, some of which may not yet be available, with the public after the completion of the ROD. EPA recommends alternatives to minimize loss of community cohesion, quality of life and historic locations, including in the siting of ventilation plants. The basis of EPA’s ratings are detailed in the enclosed Technical Comments document.

Thank you for the opportunity to review this project. If you have questions regarding these comments, the staff contact for this project is Mr. Kevin Magerr; he can be reached at 215-814-5724 or Magerr.kevin@epa.gov.

Sincerely,

Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

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Response to Comment 1:
The total amount of soil and rock to be excavated for the Project is about 47 million cubic feet (1.8 million cubic yards) of material. About 78% of that volume is from the four running tunnels excavated by the Tunnel Boring Machine. The balance comes from shafts, cross passages, cut sections, and ventilation plenums and evacuation tunnels. However, that volume is considered in “bank,” or in place. Once excavated from its natural state, the volume increases and is considered “loose” volume. The project will need to dispose of some 70 million cubic feet (2.7 million cubic yards) of material.

The contractor is expected to provide limited on-site storage for the excavated material. Good practice for the construction industry is to provide on-site storage for about one to three days of excavation production. It is most efficient to not double handle the material, but to load it directly into trucks and haul it out. However, sometimes traffic conditions (e.g., an accident) or truck breakdowns as well as limited hours of the day for truck hauling operations means that some on-site storage for excavated material is warranted.

At this early stage of the project, it is too early to identify a selected disposal site(s). On similar projects, disposal of the excavated material is often left up to bidding contractors and market forces. The contractor with a good plan to deal with this issue (e.g., “sell” the material to fill another project) will have the lower bid. Similarly, haul routes will be developed by the construction contractor working with the City of Baltimore DOT to identify the exact route to support the contractor’s means and methods. Amtrak would work with FRA to investigate whether any of the tunnel waste material can be transported away from the site by rail, with the goal of minimizing total truck traffic caused by the project.

Chapter VI, Environmental Consequences, provides additional information regarding construction of the Preferred Alternative, including information about disposal needs.

Response to Comment 2:
Chapter VI Section L provides additional information regarding construction of the Build Alternatives, including information about the location and impacts of the staging areas. It is not yet known how large of a staging area is needed, but several acres or more could be required.

Construction staging areas for the Build Alternatives would be located adjacent to the north portal, south portal, and ventilation facilities. Construction staging areas would include facilities such as materials storage and lay down areas, water treatment, parking, power generation, and offices. Construction staging for the south portal and south vent facility would be primarily to the east and west of the proposed trench and cut-and-cover areas, within the limits-of-disturbance and existing Amtrak right-of-way. At the Intermediate Ventilation Facility, construction staging would be confined to the site limits.
6. Because infrastructure and equipment is always subject to disuse and misuse, and operations can achieve or undermine efficiency, the FRA should execute binding agreements with the railroads and system operators that:

- Require use of idle reduction infrastructure where provided.
- Establish engine shutdown policy/protocol (based on duration of wait, season, onboard and trackside equipment, etc.).
- Designate waiting locations.

7. Greater details should be included in the Final EIS on the erosion and sediment controls during construction and the stormwater and groundwater control measures during tunnel operations.

**Specific Comments**

**Climate Change**

1. Page 129, the DEIS summarizes the December 2014 CEQ draft guidance (Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts). Although still a draft, it provides helpful general guidelines that, unfortunately, were not applied in the DEIS. It would be beneficial for the Final EIS to provide an analysis with details on how the agency considered the GHG emissions of each alternative. If warranted, the Final EIS would also benefit from including a qualitative description of relevant climate change impacts, an analysis of emissions from reasonable alternatives and/or practicable mitigation measures to reduce project-related GHG emissions. It is recommended that the “Affected Environment” section of the EIS include a summary discussion of climate change and ongoing and reasonably foreseeable climate change impacts relevant to the project and project area, based on U.S. Global Change Research Program (http://www.globalchange.gov) assessments. This will assist in identifying potential project impacts or other factors that may be exacerbated by climate change and inform consideration of measures to adapt to climate change impacts. (Among other things, this will assist in identifying resilience-related changes to the proposal and provide background for the reader and decision-maker on data that might be used in resilience design).

2. Page 156, the DEIS lists as one of several bullets that the project design would result in a “cost avoided” based on Climate Change resiliency. Nothing further is said, including no detail on design considerations to accommodate climate change resiliency. The Final EIS would benefit from the inclusion of details on how the project design incorporates concepts of resiliency from the effects of climate change, data that was used to assist in design, and considerations that were made in design alternatives.

3. Page 157, the DEIS discusses the benefits of three action alternatives in removing a chokepoint from the NEC and moving commuters from reliance on automobiles to more energy-efficient train use. However, the DEIS makes no connection between these benefits and GHG

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**Response to Comment 3:**

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Placing the Intermediate Ventilation Facility on Druid Hill Avenue was explored during the creation of the DEIS. Specifically, the Team considered Druid Hill Avenue between Cloverdale Road and Retreat Street, as well as between Whitelock Street and Clendenin Street. These sites were not considered further due to their distance from the optimal location for a ventilation facility near the tunnel alignment. For more information, please see Chapter III.

**Response to Comment 4:**

As stated in the comment, the total number of daily commuter train service using the tunnel would be 164 trains. Chapter IV, Section H contains an operational emissions analysis that takes into consideration future diesel emissions (including from projected increase in diesel-powered MARC trains). The table below displays this information:
Diesel Locomotive Emissions (2040)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>CO</th>
<th>VOC</th>
<th>NOx</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2040 No Build</td>
<td>8.6</td>
<td>0.3</td>
<td>6.7</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Alternative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2040 Build</td>
<td>19.4</td>
<td>0.6</td>
<td>15.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Alternatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Increase</td>
<td>10.9</td>
<td>0.3</td>
<td>8.5</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>De Minimis</td>
<td>--</td>
<td>50</td>
<td>100</td>
<td>--</td>
<td>100</td>
</tr>
<tr>
<td>Threshold</td>
<td>--</td>
<td>Yes</td>
<td>Yes</td>
<td>--</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Notes: De Minimis thresholds do not apply within an area in attainment for that specific pollutant. The Project is in an attainment area for CO and PM10.

Values of “Net Increase” subject to rounding. All values in table rounded to the nearest 0.1 tons.

USEPA does not provide any SO2 or SOx emissions factors (see Emission Factors for Locomotives, EPA-420-F-09-025, April 2009); furthermore, the project is in an attainment area for SOx.

As shown in the table above, the build alternatives would have no net increase in operational emissions exceeding applicable de minimis thresholds. The build alternatives would result in no projected increase in diesel freight train operations, and no significant air emissions would be generated by electric locomotive trains (e.g., Amtrak). Net increases in emissions would be due to diesel MARC trains. The No-Build and build alternatives’ diesel emissions were estimated based upon emissions factors provided by the EPA (EPA, 2009). As shown in the table, the MARC equipment and operational changes would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between the 2040 No-Build and the 2040 build alternatives scenarios would be below the de minimis levels.

The increase in diesel emissions was evaluated for impacts on the local community, which is comprised of environmental justice populations. The Ventilation System Analysis contained in Chapter VI, Section H is a hot spot analysis of diesel emissions. Please see this chapter and associated tables for more information.

Response to Comment 5:
Long idling times at stations due to construction-related delays are not anticipated to occur, but mitigation measures will be considered during final design if applicable.

Response to Comment 6:
This is beyond the purview of this FEIS.

Response to Comment 7:
Information regarding erosion and sediment controls as well as stormwater and groundwater control measures are included in Chapter VI and Chapter VII. The Preferred Alternative will include the development and implementation of a Stormwater Management Plan in accordance with MDE guidelines. The plan will focus on stormwater...
runoff associated with construction activities and surface impacts, both temporary and permanent, throughout the study area. As the Project advances beyond 10% design and toward 30% design, the management of stormwater will be developed in greater detail. Planned mitigation efforts to reduce stormwater impacts include potentially greening vacant lots, adding landscaping and street trees within a half mile of the alignment, and adding vegetative buffers along the northeast corridor of the Study Area. The Preferred Alternative will also include development and implementation of an Erosion and Sediment Control Plan for construction activities.

Groundwater will be managed during both construction and operation of the tunnels. During construction a closed face machine will install segmented concrete waterproof linings. There is low likelihood of experiencing significant groundwater during construction. During operation, there will be an internal drainage system which will pump out water.

Response to Comment 8: Climate Change
The guidance provided by the CEQ addressing the ways that Federal agencies can improve their consideration of the effects of GHG emissions and climate change in their evaluation of proposals for Federal actions under NEPA was finalized on 8/1/16. Please see Chapter VI for a discussion of GHG emissions of the Build alternatives compared to Alternative 1: No-Build. Please see Chapter V, Section E for a summary discussion of climate change impacts relevant to the Study Area. The Project Team did consider impacts related to resiliency, specifically the impacts of rainfall and flooding on the Project. The Jones Falls might experience flooding, and the North Portal is located within the floodplain. Modelling indicates that the portal would be inundated in a major storm event. The tunnels are being designed to have storm doors. Sub-stations are also being considered for potential flooding impacts.

Chapter VI describes removing a chokepoint from the NEC. The section acknowledges that, as operations become more efficient, environmental benefits are generated through the avoidance of emissions and through energy savings, and includes a brief discussion of GHG emissions of the Build condition compared to Alternative 1: No-Build. However, the data for this Project was insufficient to quantify the specific emission reductions from moving commuters from reliance on automobiles to more energy-efficient train use.

Response to Comment 9: Environmental Justice
Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.
The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the EO on environmental justice is public outreach. The Project Team has engaged extensively with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three public open houses and ten community meetings were held where the public was given the opportunity to learn about the Project development in-person, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter Claver Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School. Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and fliers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations. The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS. Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations. For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A

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would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project sponsor will be underground which would reduce the overall impact to the communities. The Project will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project sponsor will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.

The value provided in the FEIS is the weighted average poverty threshold in 2013 for a family of four as per the September 2014 “Income and Poverty in the United States: 2013” report (P60-249). Regarding methodology, we have used guidance from the CEQ 1997 and from US DOT orders. The resulting analysis indicates that 74 of 77 Block Groups within the Study Area meet criteria for EJ populations. We believe we have adequately captured where environmental justice populations reside within the Study Area. For more information, please refer to Chapter VI, Section A.

Chapter V, Section A includes information on housing. The Study Area currently contains six publicly-owned housing developments, with a total of 2,467 units, dispersed throughout the Study Area. There are also 22 affordable housing apartment developments with a total of 3,111 units. Seven of these developments provide family housing, 12 serve the elderly, and two provide disabled housing. One development is not classified (HABC, Accessed 2014). According to the Housing Authority of Baltimore City website, “with an inventory of approximately 11,000 units, the Housing Authority of Baltimore City’s (HABC) portfolio includes 28 family developments, 19 mixed population buildings, 2 senior buildings and scattered sites throughout the City” (baltimorehousing.org). The 2,467 units of publicly-owned housing in the Study Area represents roughly 3% of all publicly-owned housing in the city. According to affordable housing information obtained from the HUD Affordable Apartment search, the 22 affordable housing apartment developments in Baltimore City represent roughly 5% of the total 112 affordable housing apartment developments in Baltimore City.

As stated above, the Project Team has engaged extensively with the community throughout the development of the Project. For more details, please see Chapter VIII.
Response to Comment 10: Noise and Vibration

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in reductions in impacts, including to noise and vibration. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Information regarding estimated vibrations and noise impacts during operation is as follows:

From the FEIS Evaluation Matrix: Estimated Noise and Vibration Impacts During Operation

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Measure</th>
<th>Alt 1</th>
<th>Alt 3A</th>
<th>Alt 3B</th>
<th>Alt 3C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Number of Buildings with Potential Noise Impacts</td>
<td># of Buildings, Moderate or Severe</td>
<td>0 Severe</td>
<td>0 Moderate</td>
<td>254 Moderate</td>
<td>141 Severe 297 Moderate</td>
</tr>
<tr>
<td>Estimated Number of Sites with Potential Vibration Impacts</td>
<td># of Sites</td>
<td>0 Vibration</td>
<td>12 Ground-Borne Noise</td>
<td>156 Ground-Borne Noise</td>
<td>449 Ground-Borne Noise</td>
</tr>
</tbody>
</table>

During construction, both noise and vibration will be mitigated, and the public will be notified of construction as per information in Chapter VI.

Alternative 3A is estimated to have 254 Moderate noise impacts, Alternative 3B is estimated to have 141 Severe and 296 Moderate noise impacts, and Alternative 3C is estimated to have 111 Severe and 979 Moderate noise impacts. The severe impacts were predicted at residential areas nearest the railroad between the West Baltimore station and the south portal. The duration of the construction period will be six years; 2020 to 2025. Measures will be implemented to lessen noise during construction, which could potentially include erection of temporary walls or earth berms between the noise source and the sensitive receptor, the identification of haul routes that avoid sensitive receptors to the maximum extent possible, and location of stationary noise generating equipment at a distance from sensitive receptors. In addition, construction activities can be planned to avoid prolonged noise generating activities and to minimize construction activities during the most sensitive time of day or night. Chapter VI of this FEIS further details noise construction mitigation.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA...
**Comments**

*Transit Noise and Vibration Impact Assessment* and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

**Response to Comment 11: Cultural Resources**

Since publication of the DEIS, Alternative 3B was advanced through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies
Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the selection of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Chapter VI, Section D provides detailed information on Section 4(f) Impacts to each of the alternatives, including Alternative 3B, the Preferred Alternative. The table below indicates specific impacts.

### Overview of Section 4(f) Impacts

<table>
<thead>
<tr>
<th>Alternative</th>
<th>Alternative 3A</th>
<th>Alternative 3B - Preferred</th>
<th>Alternative 3C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 4(f) Properties</td>
<td>4 (use) (+3 No Use) (+2 De Minimis)</td>
<td>8 (use) (+1 No Use) (+3 De Minimis)</td>
<td>9 (use) (+1 No Use) (+2 De Minimis)</td>
</tr>
</tbody>
</table>
| Use | • B&O Belt Line Railroad  
• B&O Belt Line Bridge  
• Bridge 2410  
• Midtown-Edmondson Historic District (1 demolition, 1 other) | • B&O Belt Line Railroad  
• B&O Belt Line Bridge  
• B&P Railroad  
• Bridge 2410  
• Midtown-Edmondson Historic District (27 demolitions, 8 other)  
• Greater Rosemont Historic District (5 demolitions, 15 other)  
• Edmonson Avenue Historic District (2 demolitions, 13 other)  
• Atlas Storage Co | • B&O Belt Line Railroad  
• B&O Belt Line Bridge  
• B&P Railroad  
• Bridge 2410  
• Midtown-Edmondson Historic District (5 demolitions, 2 other)  
• Greater Rosemont Historic District (17 demolitions, 35 other)  
• Edmonson Avenue Historic District (12 demolitions, 35 other)  
• Fire Company 36  
• Ward Baking Co |
| De Minimis | • Union Railroad  
• B&P Railroad | • Fire Company 36  
• Ward Baking Co  
• Union Railroad | • Western Maryland Railroad  
• Union Railroad |
| Total Contributing* | 2 Total 1 Demolition | 53 Total 30 Demolitions | 57 Total 18 Demolitions |

Note: does not include intermediate ventilation plant
*Number of historic resources contributing to historic districts. Note that some buildings contribute to multiple historic districts.

Additional information can be found in Chapter VII.
The Architectural Historic Properties Effects Assessment Report will be posted on the B&P Tunnel Project website.

Response to Comment 12: Air Quality
The Preferred Alternative includes development and implementation of a construction emissions reduction plan, which includes measures such as reducing equipment idling times, utilizing on-site storage to reduce truck haul trips, using low-emissions equipment, dust suppression measures, ensuring the contractor has knowledge of appropriate fugitive dust and equipment exhaust controls, and other measures.

Dust control measures will be in conformance with COMAR 26.11.06.03D pertaining to Particulate Matter from Materials Handling and Construction and may include application of water and calcium chloride to haul roads, provision of truck wheel wash stands, minimization of exposed, erosion prone areas to the greatest extent possible; stabilization of exposed earth with grass, geotextile fabric, ground cover, paving, or other finished surface as easily as possible; and covering or shielding stockpiled materials from wind. Additional information regarding air quality consequences and mitigation can be found in Chapter VI and Chapter VII.

The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. The combination of these variables makes it virtually impossible to accurately forecast freight usage. Variability of freight traffic is further described in Chapter V.

While it is not possible to accurately forecast future freight rail traffic, it is possible to roughly estimate the order of magnitude of growth in freight traffic that would result in exceeding the applicable de minimis thresholds for NOx and PM2.5. This rough estimate assumes that regional freight trains would use six locomotives, local freight trains would use two locomotives, each locomotive would have the same emissions profile as a diesel passenger train locomotive, and that freight locomotives would move at approximately 30 mph through the tunnels. Based on these assumptions, every ten additional freight trains would emit approximately the equivalent diesel emissions of 104 additional diesel passenger trains. Ultimately, to exceed the de-minimis thresholds for NOx and PM2.5 in the
vicinity of the Intermediate Ventilation Facility one would need to assume a market for, and the track and signal capacity sufficient to accommodate, approximately thirty-four times more freight traffic than currently operates through the existing tunnel. This would be about 68 freight trains daily, in addition to the two that occur now. The NEC cannot accommodate that many additional freight trains under any signal-control scenario, and it is unlikely that there is market for, or available equipment sufficient to operate, that much additional service in the greater Baltimore area.

**Response to Comment 13: Hazardous Materials Management**

The Project sponsor will develop and implement a Hazardous Spill Prevention Plan and a Hazardous Materials Remediation Plan, as well as an Emergency Management Plan, to be implemented in the event of a tunnel emergency.

Norfolk Southern (NS) has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at [https://www.fra.dot.gov/Page/P0444](https://www.fra.dot.gov/Page/P0444). From that text:

> Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

Additional information on hazardous material management can be found in Chapter VI.

**Response to Comment 14: Children’s Health**

Children’s Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no
significant effects on air quality, as the net change in emissions of NO\textsubscript{x}, VOC, and PM\textsubscript{2.5} between 2040 No-Build and the 2040 Build scenario would be below *de minimis* levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA. No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water. Under the Preferred Alternative, 112 sites of concern were identified within 1 mile of the alignment; once type and extent of contamination and details of construction are known, potential risk and exposure can be assessed and appropriate documentation in place.
United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance

February 2, 2016

Michelle Fishburne:
Office of Railroad Policy and Development
US DOT Federal Railroad Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Subject: Northeast Corridor Baltimore and Potomac Tunnel Project Draft EIS/Section 4(f)

Dear Ms. Fishburne:

The Department of the Interior (Department) has reviewed the Draft EIS and Section 4(f) Evaluation prepared by the Federal Railroad Administration (FRA) for the Baltimore and Potomac Tunnel Project in Baltimore, MD. We understand from the DEIS that the FRA is considering the no action alternative and three action alternatives; the preferred alternative will be identified in the Final EIS.

The purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, including: to reduce travel time through the B&P Tunnel and along the NEC; to accommodate existing and projected travel demand for intercity and commuter passenger services, to eliminate impediments to existing and projected operations along the NEC; and to provide operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure. We offer the following comments on this project for your consideration.

Section 4(f) Evaluation Comments

The Department appreciates that you have coordinated with various agencies regarding this project and the development of the Section 4(f) Evaluation. We encourage continued coordination with these agencies and tribes throughout the life of this project.

Currently, there is no preferred alternative identified and while the Section 4(f) Evaluation does contain specific analysis about impacts to Section 4(f) resources, the Department of the Interior
Response to Comment 1:
The Memorandum of Agreement (MOA) has been replaced with the Programmatic Agreement. Please reference FEIS Appendix H.

Lindy Nelson
Regional Environmental Officer

cc: Cheryl Sarns, NPS
I am opposed to the construction of tunnels under the proposed route in Reservoir Hill for the following reasons:

1. There has been a lack of information provided to give the assurance that all appropriate mitigation efforts will be made so as not to compromise the current infrastructures, especially homes.

2. There is a strong prospect that such tunnels and related structures will degrade the community’s environment thereby making it unhealthy for residents and become a disincentive to future homeowners to purchase homes which will in turn undermine efforts to develop Reservoir Hill as a viable homeowner community and add to the city’s tax base.

3. Constructing tunnels under a community with a majority of African American residents will ignite suspicions that this route has been proposed because it is assumed that black lives do not matter adding to existing racial and socio-economic tensions in Baltimore City.

Respectfully submitted,
Robert Adams

Response to Comment 1:
The Project Team has engaged in extensive public outreach throughout the development of the Project, including three public open houses and ten community meetings where the public was given the opportunity to learn about the Project and engage in discussion with the Project Team. In addition to these meetings, the Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS. Additional details of this outreach are described in Chapter VI, as well as Chapter VIII.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

Response to Comment 2:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.
<table>
<thead>
<tr>
<th>COMMENTS</th>
<th>RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.</td>
<td></td>
</tr>
<tr>
<td>The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.</td>
<td></td>
</tr>
<tr>
<td><strong>Response to Comment 3:</strong> The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.</td>
<td></td>
</tr>
</tbody>
</table>
DEIS Comment 2:

From: Laura Amile
To: B&P Tunnel Information
Cc: Kenneth Flood; George Foster; Bill Lee; Russ Moss; "Rebecca Wilson"; "Kris Weisberg"
Subject: DEIS COMMENT
Date: Monday, February 15, 2016 5:16:24 PM

As a 37 year resident of Baltimore, I respectfully submit the following comment:

Something doesn’t add up, and there is an effort to hide it.

I attended a B&P Tunnel information meeting in December. At the time, I specifically asked about the use of the tunnels for freight trains. The host, Gessa Phillips, avoided answering and charged the Amtrak representative present to answer. His response, “These tunnels are under the auspices of Amtrak. Amtrak is dedicated to passenger service.” That is not an answer to the question. It is an intentional evasion seemingly crafted to lead the questioner to make the logic leap of “therefore these tunnels are not for freight.” So while the actual words may be true, the evasive “answer” is dishonest. It indicates a purposeful intent to mislead. It is also projects an insultingly patronizing “don’t you worry about it” attitude, while waving a flag of transparency. Therefore these meetings have lost credibility, and made us even more suspicious of the projects’ true backers and nature.

There seems to be a decision that Passenger Service is sellable, while freight lines under housing is not – so do your best to deny it without actually lying.

Some supporters of the tunnel project cite it as necessary for the competitive edge of Baltimore’s Port. That is clearly not about passengers, but about freight. At the B&P public meetings, elaborate charts are presented showing time savings for passengers of a maximum of 3 minutes, with a silly “total value of time for passengers” of about $40 million/year. It is ridiculous to expect us to believe that it is in Amtrak’s, the public’s or anyone’s interest to spend $4 billion to save passengers mere seconds of time, and that the 13% annual return of $40 million – which cannot be captured, and would take 100 years to realize – is a compelling reason for this action.

When you follow the money, it does not lead to the answers we are being sold. So wish an investigative reporter would uncover and explain exactly what is going on, since B&P is not forthcoming. There is conjecture that because there are Federal $2 to fix the Baltimore bottleneck for the NEC, that the state and Port Authority, CSX & other freight interests are trying to piggyback and usurp those $2 to serve their own purposes – “Since we are tunneling anyway,” I’d really like to know the machinations at work.

Thank you for considering this comment in reviewers.
Laura Amile

Response to Comment 1:
The primary purpose of the Project is to address structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the Northeast Corridor (NEC). However, the build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project.

While no increase in freight traffic is planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel would change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, and market forces on rail transported materials such as coal (which represents 20-25 percent of total railroad car loads), crude oil/crude industrials sands, and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Response to Comment 2:
While reducing travel time through the B&P Tunnel is one of several goals of the Project, it is not the reason that the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.
Please see responses to the testimony of Field Blauvelt on the next page.
Final Environmental Impact Statement and Section 4(f) Evaluation

**DEIS Comment 3:**
I am Field Blauvelt, a current resident of Reservoir Hill. I lived here in the 1980s, and since then have lived in New York City, Dallas, Los Angeles, Washington, D.C., London and Berlin. I have returned to live within the gracious architecture and diverse population of this Historic Baltimore Neighborhood. I have the perspective to say that even with its challenges, this is a very special - and fragile - place. I object to the proposed plan as I sincerely believe it will do serious, irreparable damage to the community.

Looking at the recommendations, I see a huge gap between what “policy” considers acceptable, and what I, as a resident, or any caring human being would consider acceptable. In that chasm lie my objections.

The study claims that the chosen alternatives minimize disruption, because it affects the fewest people and buildings. The problem is, those people are US and those buildings are OURS. Policy might say this is acceptable. But I object. I object to our community and our homes being considered acceptable collateral damage because, it’s just us. It’s not the first time we’ve been told we don’t count, and I object.

The current study states that 1200 homes could suffer extreme noise during construction, and that 140 historic homes will continue to be vibrated as trains pass under. This construction noise is not that annoying jack-hammer for a couple of days, this is months or years of daily noise, industrial traffic and monster machinery. Noise pollution prevents people from using a residential home or neighborhood. Noise pollution decreases property values, increases stress, fatigue and hypertension. It's not just sound and hearing, it's “airborne and structure-borne”.

And even after construction, for those fragile homes that are condemned to the eternal shaking? We are told it is “minor” — as in “acceptable.” One of the engineering representatives in the information area said it would be “gentle, hardly noticeable like a washing machine in the basement.” If I were to give you ONE gentle shake, you might not notice. But you’d notice the second, and get annoyed at the third and after.

The Vent stack is proposed at 100’x200’ - right smack to the sidewalk, and SO tall. That is roughly the size of 10 neighboring homes and A-frame about 15’ taller. The recommendations say that putting such an industrial behemoth in the middle of a residential neighborhood is acceptable. I object. We are told that it will be decorated to blend with the surroundings. I have never seen decorations make something smaller. I object.

The engineers state: “The primary function of the ventilation system is to provide emergency ventilation should there be a fire.” So, there is enough concern about fire to build this multi-million dollar monster system, yet we who live here, are told that the fire risk is negligible and acceptable. I object.

**Response to Comment 1:**
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

**Response to Comment 2:**
The Preferred Alternative would displace 22 residential buildings in the Midtown-Edmondson neighborhood, Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings. Executive Order 12898 requires federal agencies to ensure effective, meaningful involvement of low-income and minority populations in project planning and development, and potentially affected EJ populations have fair and equal access to information. The Project Team has engaged in extensive public outreach throughout the development of the Project, including three public open houses and ten community meetings. In addition to these meetings, Mitigation Working Groups comprised of community organization representatives and members of the Project Team were established to determine the most effective mitigation for the Project. Details of this outreach are described in Chapter VI and Chapter VII.

**Response to Comment 3:**
Alternative 3A is estimated to have 254 Moderate noise impacts, Alternative 3B is estimated to have 141 Severe and 296 Moderate noise impacts, and Alternative 3C is estimated to have 111 Severe and 979 Moderate noise impacts. The severe impacts were predicted at residential areas nearest the railroad between the West Baltimore station and the south portal. The duration of the construction period will be six years; 2020 to 2025. Measures will be implemented to lessen noise during construction, which could potentially include erection of temporary walls or earth berms between the noise source and the sensitive receptor, the identification of haul routes that avoid sensitive receptors to the maximum extent possible, and location of stationary noise generating equipment at a distance from sensitive receptors. In addition, construction activities can be planned to avoid prolonged noise generating activities and to minimize construction activities during the most sensitive time of day or night. Chapter VI of this FEIS further details noise construction mitigation.
Regarding concerns for the impact of vibration on historic homes, the Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area, which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, and would include sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest.

Response to Comment 4:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation...
Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

**Response to Comment 5:**
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

**Response to Comment 6:**
The tunnel must be constructed to meet current standards for fire The Project sponsor will develop an Emergency Management Plan to be implemented in the event of a tunnel emergency.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality; emissions would fall within all acceptable federal air quality standards. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, which have been set to safeguard public health. Because the concentrations of NO₂ were modeled to be within acceptable levels, all other criteria pollutant concentrations would be within NAAQS, as NOₓ is the most strictly regulated air pollutant generated from diesel locomotive operation. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Regarding concerns for siting the ventilation facility near the elementary school, Chapter VI of this FEIS specifically reviewed air quality, water, soil and hazardous material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOₓ, VOC, and PM₂.₅ between 2040 No-
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<td>Build and the 2040 Build scenario would be below <em>de minimis</em> levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation facilities would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.</td>
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Thank you for holding these hearings.

My name is Peter Havelock. I have lived in Baltimore City for over 30 years — including on beautiful Mount Royal Terrace.

I am looking at this proposal, and at this process, and at the smattering of media coverage and what I see is terrifying. This is insane. Spreading double-stacked freight trains with no limitations on their cargo save for some little signs, do NOT belong racing under residential areas in the center of a city! Do YOU want Amonkron industrial waist shafts exhausting diesel fumes do NOT belch smoke in the middle of housing and next to an elementary school. Normal living would never allow this.

I’ve seen enough proposals for so-called progress, and enough community hearings to have a bad feeling about how this will go. I call it experience; you may call it optimism.

What I see are the citizens who live here and are building this neighborhood — many pouring blood, sweat, tears and every cent they have into these homes, many who spend hours doing good for the community, who pay taxes, who have made sacrifices to live in this city and supposedly make this city work, literally being reeked by the big, moneyed corporate interests of the Port, CSX, Norfolk Freight and the Governor — all of them plying money on federal & state money being spent for the NEC passenger service... the piddling of this project are designed for double stack FREIGHT trains which expand the demand and therefore shrink the options... I would really like for our government to prove they represent the citizens in this, but I fear it’s not the case.

As to the Environmental Impact Study, I can accept that the engineers sincerely believe their calculations and their assumptions when they say there will be minimal vibration, no damage to the stacked stone foundations; the soft brick walls and the brittle mortar plaster of our homes... However, their sincere belief doesn’t do us a squat, and at good when the foundation shifts, the bricks crack and the plaster falls. And it all will. Their case study even says there will be damage. But are those engineers going to come fix my foundation when it shifts? Are the study engineers going to pay for the plaster repairs — a very specialized, expensive and hard to find skill that some of us have spent thousands of dollars and hours on.

There has been talk of mitigation, of repair for damages. But what does that mean? — I see a nightmare — I see the burden of proof being dumped on the owners of the damaged homes... “Prove that the damage to your house was caused by our process, not its age” regardless of the fact that it was standing just fine for 120 years — until someone drilled a 30’ hole under it and shook the heck out of it... I see our homes and investments literally crumbling, while we try to debate whether to go broke trying to fix them, go broke trying to sue for damages against million dollar lawyers who all point at each others and claim no-fault, or go broke taking the loss on the tremendously reduced asset and moving out.

Please reference DEIS Comment #46.
One alternative has huge trucks and entry tunnels right outside this very school. Don't railroad right over us — or under us, I should say. And don't shaft us.

I understand the problem of the existing tunnel and the future of Amtrak's North East Corridor.

On the one hand, Maryland's victory in keeping the freight train.

Something doesn't add up, and there is an effort to hide it.

I attended a B&P tunnel information meeting in December. At the time, I specifically asked about the use of the tunnels for freight trains. The host, Gilita Phillips, avoided answering and changed the Amtrak representative present to address the question. These tunnels are under the control of Amtrak. Amtrak is dedicated to passenger service. THAT IS NOT an answer to the question. It is an intentional evasion seemingly crafted to lead the questioner to make the logical leap: Therefore these tunnels are not for freight. So while the actual words may be true, the evasion-answer is dishonest. Amtrak projects an innately patronizing idea—if you worry about it, it's obvious, while waving a flag of transparency. Therefore these meetings have lost credibility, and made me more suspicious of the project's true intentions and nature. There seems to be a decision that Passenger Service is secondary, while freight goes under housing is not—so do your best to deny it without actually lying.

Some supporters of the tunnel project cite it as necessary for the competitive edge of Baltimore's Port. That is clearly not about passengers, but about freight. At the B&P public meeting, elaborate charts are presented showing time savings for passengers of a maximum of 1 minute, with a silly 'total value of time for passengers' of about $100 million per year. It is ridiculous to expect us to believe that it is an Amtrak; the public's or anyone's interest to spend $1 billion to save passengers mere seconds of time; and that the 1% annual return of $40 million—which cannot be captured, and would take 100 years to realize—is a compelling reason for this action.
When you follow the money, it does not lead to the answers we are looking for. So, with an investigative reporter, we would uncover and explain exactly what is going on since B&L is not forthcoming. There is a conjecture that because there are Federal $ to fix the Baltimore bottleneck for the N.Y.C. area, that the state and Port Authority C.E. & other freight interests are trying to piggyback and use these $ to serve their own purposes. — “Since we are tunneling anyway,” I'd really like to know the machinations at work.
DEIS Comment 4:

Thank you for your comment.

Ms. Barney Anderson

A few of the public meetings will be held at the Enouch Pratt Free Library branch. Please correct Halbrook branch to Wallbrook branch. The address is 3023 W. North Avenue, 21216. This library branch is located in the Waukegan community.

Thank you very much.
DEIS Comment 5:

Response to Comment 1:
Thank you for your comment. The FEIS identifies Alternative 3B as the Preferred Alternative.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 6:

As the project team considers environmental safety and operational transportation efficiency in rebuilding the tunnel, please also consider integrating wireless infrastructure. A significant proportion of the revenue generated by the rail service is from business commuters along the northeast corridor. The current tunnels that service both the MARC and AMTRAK trains do not support wireless communications/Wi-Fi networks. As a result, the Baltimore tunnels are major impediment to uninterrupted commerce during an otherwise convenient train ride. Please consider integrating wireless infrastructure into the rebuilding of the tunnels to facilitate increased consumer satisfaction.

Response to Comment 1:

We appreciate your concern. However, wireless services on trains are features offered by the train operators and are not considered in this Project.
DEIS Remark 7:

Please consider integrating wireless infrastructure within the B&P tunnels to support wireless communications during the AMTRAK and MARC train services. For those of us who routinely conduct business on the train, at the point the train enters the Baltimore tunnels, we lose all connectivity via wireless telephone and internet connection. It is a considerable inconvenience to uninterrupted commerce and an improvement that would increase rider satisfaction considerably.

Response to Comment 1:

We appreciate your concern. However, wireless services on trains are features offered by the train operators and are not considered in this Project.
DEIS Comment 8:

From: mscherb@btunnel.com
To: BPTunnel Information
Subject: Comment Form
Date: Wednesday, February 27, 2016 3:49:28 PM

Mrs Courtney Belle

I strongly oppose the B&P Tunnel Project. Erecting a massive ventilation building in the middle of a residential neighborhood that is just beginning to recover is completely unacceptable. Furthermore, the engineers have failed to offer acceptable assurances of the safety of running high speed trains carrying hazardous materials underneath our homes and near a major water supply for the city. THERE MUST BE AN ALTERNATIVE! Otherwise, you need to commit to providing every single resident the opportunity to receive fair market value for their homes or relocation costs. The damage that this project will cause to Reservoir Hill will be environmentally and economically disastrous for merely marginal benefits.

Response to Comment 1:

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:

Amtrak and Norfolk Southern (NS) are anticipated to use existing fleets and newly acquired equipment in the tunnel. This equipment must meet federal standards for safe operations. In addition, the tunnel will be equipped with Automatic Train Control (ATC) and Positive Train Control (PTC) systems, which use computer systems to control the speed of both passenger and freight trains within the tunnel.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at [https://www.fra.dot.gov/Page/P0444](https://www.fra.dot.gov/Page/P0444). From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.
No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water.

Response to Comment 3:
A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

Response to Comment 4:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.
For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

The economic market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
DEIS Comment 9:

Response to Comment 1:
The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.
DEIS Comment 10:

Brittany Rolf

From: Field Blauvelt
Sent: Thursday, February 25, 2016 9:56 AM
To: BPTunnel Information
Subject: DEIS COMMENT
Attachments: RRs in baltimore.pdf; Untangling Baltimore's rail lines.pdf

There is NO question that the B&P tunnel project as currently proposed will do irreparable damage and some destruction to the Reservoir Hill area. There is NO question that the residents strongly object. The ONLY question is whether anyone with any power cares. We insist that these alternate plans be considered.

Field Blauvelt

Response to Comment 1:

For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII. More information about potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI, Section A of the FEIS.

The Project Team has engaged in extensive public outreach throughout the development of the Project including three Public Open Houses, as well as ten community meetings where the public was given the opportunity to learn about project development and engage in discussion with the Project Team. In addition to these meetings, Mitigation Working Groups comprised of community organization representatives and members of the Project Team were established to determine the most effective mitigation for the Project. Details of this outreach are described in Chapter VI, as well as Chapter VIII.

A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. **Chapter III** in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in **Chapter IV** of this FEIS.
A Proposal to Unravel Baltimore’s Tangled Rail Lines
Joint Open Infrastructure Subcommittee of the
MTA Citizens Advisory Committee;
MTA Citizens Advisory Committee for Accessible Transportation;
MARC Riders Advisory Committee
10 September 2015
Final Draft

In April of 2002 the I-95 Corridor Coalition released its “Mid-Atlantic Rail Operations Study” which identified many choke points and decaying infrastructure throughout New Jersey, Pennsylvania, Delaware, Maryland, and Virginia that prevent expansion of rail capacity that the rest of the system could otherwise accommodate. These include the Howard Street Tunnel, the B&P Tunnels, and the Union Tunnels in Baltimore as well as several bridges in Maryland.

The study divided the projects into near, medium, and long-term time frames. The near term projects (5 years or done by 2007) included:
- Design for reconstruction of the Howard Street Tunnel and approaches
- Design for reconstruction of Amtrak’s Union Tunnels and the B&P Tunnels.

The Medium Term projects (5 to 10 years or 2007 to 2012) included:
- Reconstruct the Howard Street Tunnel and approaches
- Reconstruct Amtrak’s Union Tunnels and the B&P Tunnels.

The long term projects listed in the I-95 Corridor Coalition study are not part of this report and so are not listed here.

In November 2005, the U.S. Department of Transportation Federal Railroad Administration issued “Report to Congress: Baltimore’s Railroad Network: Challenges and Alternatives” (The FRA 2005 report) that says

“...In the end, each of the competing carriers built its own, inferior right-of-way, compromising even the then-prevailing standards for gradient, curvature, and operating efficiency. Despite subsequent improvements, today’s network — still reliant on the Baltimore & Potomac (B&P), Union, and Howard Street Tunnels for connectivity — is essentially the same as the geometrically compromised and operationally handicapped system cobbled together during the post-Civil War decades.

Although convoluted and antiquated, Baltimore’s railroads have strategic importance far beyond the confines of their immediate region. Originating and terminating rail freight traffic in the Baltimore region remains significant, largely due to the Port, which ranks fourth among Atlantic Coast ports, and is the closest Atlantic port to..."
major Midwestern markets — and the region’s remaining industrial base. Through freight traffic is important on the CSXT’s traffic lanes traversing Baltimore between the Northeast on the one hand, and the Midwest and South on the other, despite restrictions due to clearance limitations. Indeed, CSXT owns no alternate north-south route east of the Appalachian Mountains. With respect to intercity passenger service, one-fifth of Amtrak’s passenger-trips, one-quarter of its passenger-miles, and one-third of its ticket revenues depend on travel over Baltimore’s railways. For all these reasons, the condition, capacity, efficiency, and effectiveness of the Baltimore region’s rail network affect the performance of the national transportation grid — as became graphically evident in the massive traffic dislocations caused by the 2001 fire in the Howard Street Tunnel. (Page ES-2)

Both of these reports state that congestion of Baltimore’s Rail infrastructure has national significance; therefore, it would seem reasonable that significant Federal assistance should be available for these projects.

A problem with past and current transportation planning methods is that they are project focused. The projects that get done first are the ones with the greatest political muscle, and not necessary the projects that make the most engineering, operational, fiscal, or financial sense. Generally, construction of new service requires the political support while maintenance is underfunded and the existing systems slowly decay.

As indicated by the FRA report, Baltimore’s rail problems are a tangled mess built project by project, each compromising performance to fit the then achievable project constraints. Perhaps the tangle is best demonstrated by the east end of the B&P Tunnels, which has been described as one of the densest transportation points in the region with the CSX tracks passing right above the B&P tunnels, and the Central Light Rail squeezed between the CSX tracks, Howard Street, North Ave, and I-83. Both the freight and Central Light Rail were built with grades that exceeded the recommended maximum. It is necessary to take a full system approach to this problem and “unpack” the conflicts. By doing things in the correct order, the total construction costs will be reduced by several billion dollars and the final system performance significantly enhanced, with reduced operating costs, over what can be achieved using a project by project approach.

The most important projects (the tunnels) have been too large to attempt within a reasonable “project” budget. Therefore, there have been minor efforts to “modernize” the system, such as single tracking the CSX line to accommodate taller trains, which actually reduced capacity, while not addressing the fundamental problems. There have also been minor repairs and maintenance such as to the B&P Tunnels, which prevent them from falling down but don’t solve the underlying problems. Meanwhile, the years go by and the structures deteriorate. When they become unusable, there will not be sufficient time to replace them and the service will be disrupted for an extended time.

However, a comprehensive examination of the infrastructure needs, with a commitment
to implementing it, is three quarters of a century overdue.

The proposal here is primarily one for preservation of current rail capacity (intercity passenger and freight service through Baltimore) designed and phased in such a way as to set the stage for future expansion. It is our view that the shape of the intercity rail system (tracks, tunnel, and station locations) should be established before significant investment is made in local service because the available and appropriate local routes and destinations may change depending on major rail system structure. In many cases, work on intercity lines will disrupt existing local service. Therefore, some local projects are phased ahead of the intercity projects either to clear space for future construction or to provide alternate travel options during disruptions so as to avoid any Title 6 issues.

While we are only recommending an order of construction, and not a construction schedule, the condition of the existing rail tunnels and their critical importance to the local and national economies should impel us to build these as soon as we can finance them.

This report focuses only on heavier rail systems (mainline freight, Maglev, high-speed rail, Amtrak international service, and automated heavy metro). No lighter system (light metro, aerial tramway, people mover, light rail, streetcar, trackless trolley or exclusive busway) should be planned or funded until all heavier system are completed first. This means that all Crosstown, cross-county, feeder, supplemental, short lines, and local service lines involving fixed guideway infrastructure should be delayed indefinitely. All lighter systems require space and funds. Implantation of these types of lines will certainly delay and may prevent construction of heavier systems. The serious accidents, congestion and delay during the testing of the H Street streetcar in Washington DC illustrates the danger of trying to do the job of heavier systems with lighter infrastructure in highly congested areas.

In the 21st century, there will be a renewed interest in rail travel. The proposal described here sets the stage for the eventual reestablishment of rail service from Baltimore west through Westminster to western Maryland and the Midwest, north to York and central Pennsylvania, New York, and Ontario, and southeast to Annapolis and the Eastern Shore. (These routes are described in more detail at the end of this proposal.)

To untangle the rail transportation mess and set the stage for the intercity lines described above, the following projects should be done in this precise order:

0) Extending MARC service to Wilmington.

1) Automation and extension of the existing Baltimore Metro Subway from Johns Hopkins Hospital (JHH) along the south side of the Amtrak right-of-way (North East Corridor or NEC) to Orangeville, and on to the Travel Plaza with a yard, bus depot, and MARC connection at Orangeville. A junction at I-695, near Bayview yard, will permit a
branch to North Point Blvd during Phase 3. Eventual extensions could go as far as Fort Howard to the southeast and Oliver Beach to the east. By using the exiting cross-town subway tunnel, and extending the line east then west, cross-town rail service can be built in three or more phases, each of which is a cost effective, affordable, minimally operable segment.

2) Construction of a freight tunnel from Marley Neck to Sparrows Point. As part of this project, MDOT would acquire title to some CSX tracks no longer needed for national freight movement.

Planning and commitment of funds for these two projects only could be completed in the short term.

3) Addition of a new branch to the current subway from a junction between Lexington Market and State Center west to FredHilton (Frederick Avenue and Hilton Street) and an east side extension to North Point Blvd. Later, the west side extension would go on to Edmondson Village, Westview, and, eventually, Columbia Mall and the Maryland School for the Deaf. The east side extension would travel parallel to NEC to Martin Airport Rail Station and Oliver Beach.

4) Tunnel for high speed, intercity rail under Fayette Street with a station at Charles Center Plaza.

5) In order to clear track space for Item 6 below, automated subway bypassing Howard Street, the Central Light Rail must be split at Camden Station and rerouted along the Camden Line and Curtis Bay rights-of-way between Camden and Westport Stations, and should be converted to MARC service south of Camden Station. Eventually MARC and Amtrak could go to Annapolis and, perhaps eventually, Ocean City.

6) Construction of an automated subway from Westport Station, under Howard, Pratt, Light, and St. Paul Streets through Charles Center, to Penn Station. Future southern extensions would go to UMBC and Lake Shore Plaza (east of Marley Station Mall). Eventual northern extensions would go through Towson and Hunt Valley to Sparks and through White Marsh to Martin Airport MARC Station.

7) Once there is an alternative intercity passenger route through Baltimore, rebuild the B&P and Union Tunnels for MARC access to Penn Station with several new stations along the line.

8) Once freight traffic no longer runs through it, the southern end of the Howard Street Tunnel can be rebuilt with a lower tunnel for Maglev (station at Baltimore Street) and an upper tunnel for Amtrak and MARC Camden line service to a Market Center Station. Eventual Maglev and Amtrak extensions could go west to Cumberland, Pittsburgh, Chicago, Detroit, or St. Louis, and north to Harrisburg, and points north to Ontario. An
eventual MARC extension would branch to go to Penn Station or north to York or Hanover and Gettysburg, or west to Westminster, Hagerstown, and Cumberland. MARC and Amtrak train sections from the west would use the Western Maryland, Greenspring Valley branch right of way with MARC stations serving Stevenson University and Greenspring Station.

Note: it is necessary to increase the Howard Street east side setback for the new “super block” to 25 plus feet from the tunnel to permit expansion and reconstruction of the tunnel. The foundations of the Read's Drug Store at Lexington and Howard would need to be stabilized as part of tunnel construction.

Items 3 through 8 should be added to the Consolidated Transportation Plan (CTP) during Governor Hogan's term in office.

**Explanation of construction order:**

<table>
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<th>Item</th>
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<td>1</td>
<td>conversion of the existing subway to an automated line with an east side extension of the Metro from JHH to the Travel Plaza with a proposed Metro rail yard on the Armco Specially Steel brownfield site at Orangeville must be done in phase 1 as later work will cut the Subway line (between Lexington and State Center stations) for a west side branch. The Orangeville yard will permit service east from Lexington Market during the later west side branch construction, and the length of the line will justify continued eastside operation. This line, with the west side extension, will provide a rail bridge around Penn Station for MARC passengers to/ from Harford and Cecil Counties while the B&amp;P and Union Tunnels are rebuilt during phase 7.</td>
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<td>This alignment would be far less costly and provide much better service than the proposed Red Line east side. The direct connection from I-95 and I-895 to the Travel Plaza with its ample free parking and short rail travel time (about 10 to 12 minutes) to downtown will attract a significant amount of traffic from I-95 and I-895. Unlike the Red Line, there will be no temptation for commuters to park on the streets of Canton to avoid downtown parking fees. This subway extension will reduce congestion in the Fort McHenry Tunnel because some fraction of the cars from the north that use the tunnel to access downtown by way of I-95 will switch to the automated metro. Eastside subway service will permit restructuring of the east side bus lines. This will increase bus reliability, reduce bus operating costs, increase the number of buses available for use on over crowded bus lines, and reduce rider travel times. By being farther from the harbor, and higher than Boston Street, this alignment will be immune to the coastal surge flooding that makes a Red Line Boston Street portal risky with sea levels rising. This line would likely increase MARC ridership from northeast of Baltimore by providing a quick connection at Orangeville to JHH and the development around it, downtown, and University Center (from Lexington Market Station).</td>
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An automated line may be economically operated on much shorter headways than if motormen need to be paid. For example, 2 car trains every 2 minutes yields the same hourly line capacity as 6 car trains every 6 minutes but with one-third the waiting time. Shorter waiting times attract more riders, improve connections with feeder bus lines, increase the transit impact and lower the operating cost per passenger mile.

This project requires about 1.15 miles of new tunnel and cost less than half of what the Red Line would cost.

Item 2, the freight tunnel, is necessary to remove freight traffic from the Howard and B&P and Union Tunnels before any other work can be done on them. (Before this tunnel is done, any work on or near the Howard Street tunnel risks a complete shut down of East Coast freight traffic, with huge port access, national freight movement, and liability issues for the state.) Unlike the current freight alignment and the other alignments proposed in the FRA report, the alignment proposed here keeps hazardous material (Hazmat) freight out of downtown and densely residential West Baltimore and provides the most direct east coast route. Without this improved rail access, especially given the cancelation of the Morrell Park intermodal transfer terminal, the Port of Baltimore will continue to suffer and lose business to other east coast ports, because of the slow continuing loss of competitive rail access and increased transportation costs required to serve the Port of Baltimore. A Norfolk Southern vice president has already said that the railroad would be willing to negotiate a per car toll to use this tunnel, which would permit the construction to be funded by bonds. Tolls rates charged to CSX could depend on how quickly it signs onto the deal. The state owned Patapsco and Back River Railroad could guarantee both CSX and Norfolk Southern access to Bayview yard and Sparrows Point. The tunnel should be owned by MDOT. As part of the deal, MDOT would obtain title to the Howard Street Tunnel and the belt line from Russell Street to Bayview yard, the CSX Sparrows Point branch, the Hanover Sub, the Old Western Maryland and Maryland and Midland rights of ways including the Bear Creek trestle. Some of these rights of way will eventually be used for the Baltimore Metro Subway, and others for MARC and/or intercity passenger service.

Item 3 is construction of a branch from the current subway west to near the West Baltimore MARC station and on to the intersection of Frederick Avenue and Hilton Street (Fred-Hilton), which provides a location with sufficient auto catchment (Frederick, Wilkens and I-695 access) to make the line cost effective. The line would eventually be extended northwest under Loudon Park cemetery to Edmondson Village, Westview, Normandy, Columbia Mall, and the Maryland School for the Deaf. (See Item 4 for notes about the portal for this.)

During construction, subway service can be provided from Owings Mills to State Center and from Lexington Market to the Travel Plaza. The Central Light Rail, augmented by
bus service, will provide bridge service between the two stations. As part of this project, the Metro Subway on the east side is branched to a station at North Point Boulevard on the Northeast Corridor to provide a layover spot for east-west trains. Subway service between Orangeville and West Baltimore Stations is required to provide a MARC rail service bridge during reconstruction of the B&P and Union tunnels in phase 7.

There is infrastructure built into the Lexington Market Station which would permit a west side rail transit line to terminate underground there, which some have recently suggested for a west side light rail instead of the Red Line. That proposal is inferior to branching the current line as proposed here for several reasons. Trains operating north of Lexington Market Station must be run at a higher frequency so as to be well below capacity in order to accommodate passengers transferring at Lexington Market for travel to other downtown stations with higher ridership. The excessive frequency drives up operating costs. The east side is proposed to branch and if the west side doesn't branch, its service frequency would be twice that of the east side (half the headways). While some trains could be short turned at Rogers Station, 5.5 miles beyond Lexington Market Station, there would still be significant overcapacity and increased operating expense. Branching the west side balances the load on each end of the line, and provides operating flexibility.

Without a through connection between Orangeville and West Baltimore MARC Stations, there is no MARC rail bridge during reconstruction of the B&P and Union tunnels during phase 7 below.

A Light Rail in West Baltimore will reduce street capacity, which will increase congestion and reduce air quality. It will have insufficient rider capacity because the trains must be short to fit on city blocks and will have limited operating speeds, which increase operating costs and reduces rider attractiveness. A West Baltimore Light Rail will almost certainly have safety issues involving frequent collisions with crossing vehicle traffic. (A quick search on Washington H Street Trolley accidents indicates that it hit several cars during its test phase. The Central Light Rail is involved in a vehicle collision about every ten days.) In addition to the liability, injury, and property loss these cause, the resulting delays reduce operational reliability and reduce rider attractiveness. The relatively low speed of the Red Line (18.6 MPH average speed) compared to the Metro Subway (30.2 MPH average) greatly narrows the angular width of the effective service sector because it limits the number of transfers that can provide rider benefit vs. a through bus trip. For these reasons, a West Baltimore Light Rail would provide inferior service compared to the west side branch proposed here.

By using the existing subway tunnel, this east/west alignment can be financed over multiple funding and construction cycles for an initial cost significantly less than the proposed Red Line while providing better service to more people along a similar corridor.
This west side project requires about 0.75 miles of new tunnel.

Items 1 and 3 should be proposed as two phases of a minimum operable segment for a project that eventually could provide service from Oliver Beach to the Maryland School for the Deaf and Fort Howard to Glyndon. Together, they initially require less than 2 miles of new tunnel to provide significantly superior service and service growth to most of the corridor of the proposed Red Line. By using the existing downtown subway tunnel we can avoid the need to construct a new tunnel parallel to an existing one. Total costs would be much less than the Red Line for the same amount of track. This single transit project can be divided into two segments each meeting Federal funding cost effectiveness requirements and can be spread over two Federal funding cycles, which should make project financing much easier.

Item 4 is construction of a tunnel under downtown for high speed Amtrak rail travel across the city under Fayette Street with a station at Charles Center Plaza. In order to build this alignment, the line would need to be deep bored under the Howard Street and future Maglev tunnels; making it the "bottom layer" there. Unlike other proposed high speed alignments, placement of the station at Charles Center Plaza provides rail system connectivity to all subway lines at Charles Center, the MARC Camden Line at Howard and Baltimore, the Maglev and future Amtrak service towards the Midwest and Canada. This high speed alignment eliminates the need for the great circle tunnel into Penn Station because the B&P tunnels would be rebuilt for MARC service in the phase 6. The high speed tunnel is for Amtrak only. No freight or MARC trains would use it. At Charles Center Station, eastbound and westbound trains would be on different levels, one above the other. Each track would be split into 3 station tracks. The south-side platform would service all trains with baggage cars. High speed trains stopping in Baltimore would be served by the north-side platform. The north-side and south-side tracks would be separated by walls from the center track, which would carry only high speed through trains. All platforms would be side platforms. There will be no island platform at either Charles Center Station or Market Center Station. Norfolk Southern trains will be restricted to the Northern Central Line, the Hanover Sub, the Freight Tunnel, the Curtis Bay Branch, and lines owned by MDOT. No freight will be permitted in the B&P, Howard Street, or Amtrak-owned high speed tunnels. This means no freight trains will pass through underground stations. Non-hazmat freight will still be permitted to pass through Penn Station and the Union Tunnels.

The west end high speed tunnel should start from the center two tracks on the Northeast Corridor near Stafford Street, and it go deep enough to pass under the Gwynns Falls. The high speed south portal is located very close to the east portal for the subway extension west from FredHilton Station under Loudon Park Cemetery to the next station at Irvington. These two portals are so close together, they need to be planned, and likely built, as a single engineering project. Boring of the subway tunnel westward toward Westview and extension of the automated metro line from Oliver.
Beach to Columbia would occur in a later phase. The east side tunnel portal is in Bayview Yard and directs Amtrak service onto the northern pair of tracks (tracks 2 and 3) so that MARC can operate on the southern pair (tracks A and 1).

After this project, MDOT would obtain title to the current Penn Line between the two portals of the high speed tunnel, including the B&P and Union Tunnels, Penn Station, and all current and future MARC stations between the portals. In addition, MDOT would obtain title, northeast of Bayview Yard at least as far as Oliver Beach, to the east (south) pair of tracks (tracks A and 1) for MARC service with space for parallel Metro service beside or above those tracks. Amtrak would own the high speed line, Charles Center Station, and tracks 2 and 3 east of Bayview.

Item 5, is reconfiguration of the Central Light Rail south of Camden Station to make room for an automated subway line in phase 6. Light Rail service would terminate at Camden Station, with MARC operated commuter service consisting of electric multiple unit (EMU) trains operating from Camden Station along the Curtis Bay Freights lines to Westport, Cherry Hill, and points south. Crossover tracks would allow the trains to switch over to the existing central light rail track serving Cherry Hill and points south to Cromwell Station. The trains would use battery packs, as is currently being tested by British Rail (see links below or search on "Prototype-battery-powered-train-carries-passengers") for operation on the Curtis Bay Branch, where overhead wires would interfere with double-stacked freight operations. (Search for "Battery powered passenger trains or see the following web sites.)

http://networkrailmodconcentro.co.uk/News-Resources/Batteries-included-Prototype-battery-powered-train-carries-passengers-for-first-time-2332.aspx
http://www.greenoptimistic.com/battery-powered-trains-uk/
http://www.reuters.com/video/2015/02/02/space-age-sweedish-shower-cuts-water-cons?videoId=363072111&videoChannel=74&channelName=Environment

Item 6, construction of an automated subway line from Westport to Penn Station, is required to provide a rail bridge for the Central Light Rail between Camden and Penn Stations while the Howard Street Tunnel is rebuilt as Item 8. Operating on the current light rail tracks north from Westport, the line enters a portal south of Camden Station imbedded in a raised berm and elevated to protect the tunnel from storm surge flooding. This requires a new Ostend Street Station to replace the one at Hamburg Street. The subway tunnel would run under Howard, Pratt, Light, and St. Paul Streets, through Charles Center and north under St. Paul. The north end of the tunnel is at Chasise Street and Fallsway (east of the Jones Falls). The subway will be elevated over the Penn Line to the north side of Penn Station. From Penn Station, the line would continue west with a service track crossing the Jones Falls to use the current Light Rail yard, and an eventual
route north under Maryland Avenue. The Guilford Avenue Bridge would need to be replaced by a pedestrian passageway with elevators at each end. Once construction is finished, traffic impacts should be minimal.

Item 7: Once all traffic has been removed from the B&P and Union Tunnels, they can be rebuilt for MARC Penn Line access to Penn Station. All current Amtrak trains would permanently switch over to the high-speed tunnel. The project would move the current West Baltimore MARC station south to between Mulberry Street and Calvert Road (because the track is sufficiently straight to allow loading full-length trains) and aligns well with the subway station. In addition to Penn Station, new MARC stations would be at Relay, Pineheights (Wilkins Avenue), Sandtown/Winchester between Monroe and Gilmore Streets (the west end of the B&P Tunnels), at Pennsylvania Avenue (over and connecting with the subway underground at Upton Station), Orangeville (with a subway transfer and possible MARC maintenance facility), Chesaco Park, Perryman, Havre De Grace, Charlestown, Northeast, and Elkton.

Note that there is no station at Bayview or Washington Street. Bayview is too remote from roadways, has no ramp access for wheelchairs in the event of a power outage, has no access for emergency vehicles, and the catenary wires prevent any helicopter evacuations. The proposed Washington Street MARC Station on the North East Corridor is too curvy and too close to Penn Station (less than 1.5 miles), Orangeville (less than 1.3 miles), and the Bond Street portal. The area will be served by the Patterson Park Metro Subway Station.

Item 8: Once all of the train traffic has been removed from the Howard Street Tunnel and there is an automated Metro rail bridge in place for the Central Light Rail between Penn and Camden Stations, the Howard Street Tunnel can be rebuilt for MARC and Amtrak service between Washington DC, the new Market Center Station, York, Cumberland, the midwest, and, eventually, Penn Station. A deep tunnel for Maglev service, between Washington DC, and the Jones Falls Valley, would be concurrently built below a tunnel for conventional MARC and future Amtrak service on the Camden Line, with a station (temporarily a terminal station) at the site of the Royal Farms Arena at Howard and Baltimore Streets. [There is currently a proposal to build a new arena at Conway and Charles Streets.] This MARC/Amtrak station would connect underground to a local and regional bus station built at the current arena location above the Maglev station, as well as to the high-speed station at Charles Center Plaza and to all subway lines at Charles Center and Lexington Market Stations.

Because Maglev stations must be off line, there must be four guideways on two levels. Levels under Howard Street are from bottom to top:
1) Crossing Amtrak NEC with high speed (one direction),
2) Crossing Amtrak NEC high speed (opposite direction),
3) Maglev bypass tracks,
4) Maglev station platform level,
5) Crossing Metro level and pedestrian crossing,
6) Amtrak and MARC Market Station platform level and Charles Center Station ticket and service level,
7) Street level station entrances, and other station ticketing and service levels (Market Center Station ticket service level is at Fayette and Howard Streets),
8) Central Maryland bus station, ticketing, and service level,
9) Bus station boarding level, and
10) Bus storage level.

Later, the Maglev and MARC service in the Howard Street Tunnel can be extended northward up the Jones Falls Valley to Pennsylvania. When I-83 needs to be rebuilt or replaced, MARC tracks can be constructed to permit access from the Howard Street Tunnel into Penn Station.

In the end, there will be a freight tunnel under the harbor south of Baltimore. There is a rebuilt Howard Street tunnel that will eventually be able to connect Penn Station to the Camden Line. The rebuilt B&P and Union Tunnels provide MARC service into/from Penn Station. Trains from Penn Station will be able to serve all MARC stations. There is a downtown integrated Maryland Transportation Center with underground connections between a high speed intercity station at Charles Center, a MARC and Amtrak station at Market Center, Metro Stations at Lexington Market and Charles Center containing all four automated metro routes, and a Maglev Station at the current Royal Farms Arena site with an MTA and intercity bus station above it.

Initially, there are three Metro Subway lines: the current Red Line operating from Owings Mills to the Travel Plaza, the Green Line operating from FredHilton to North Point Blvd and sharing the tunnel with the Red Line, and the Blue Line operating from Penn Station to Westport. There is an in system vertical transfer between the two sets of lines at Charles Center.

By proper timing of the trains, there are two “virtual” subway lines. One line is between Owings Mills and FredHilton. The second line is between Northpoint Blvd and the Travel Plaza. This is achieved by scheduling the trains on the Red and Green lines traveling in opposite directions to arrive at Lexington Market and Orangecity Stations at the same time for cross platform, no wait transfers. In the same way, two more virtual lines would eventually be created by the Orange and Blue lines with cross platform transfers at Camden and 23rd Street Stations. By constructing three new lines worth of track, Baltimore ends up with 8 functional service routes. The four virtual lines are constructed and operated for free.

Eventually each line can be extended as described below. Each endpoint, except for UM9C, is about 15 miles, as the crow flies, from Penn Station, creating a balanced
system. Each Metro Subway line has a connection outside downtown to a parallel MARC passenger line. All extensions but two can be built with no additional tunneling. Construction of each Metro Subway line should be done before restoration of InterCity and commuter passenger rail in each of the rail corridors to prevent service losses and reduce disruptions during the construction of the heavier rail systems.

The Blue and Orange Lines can be extended north under Maryland Avenue to a junction at 266th Street where the Orange Line branches to follow the belt line to Clifton Park and then goes northeast to Martin Airport Rail Station while the Blue Line goes north to Towson and, eventually, Sparks. Proper timing of train arrivals at the 25th Street Station creates a virtual line between Northeast Baltimore and North central Baltimore. At the south end, the Blue and Orange lines split south of Camden Stadium with the Blue Line going to Lake Shore Plaza and the Orange line going to UMBG.

The Red and Green lines can eventually be extended. The Red Line could be extended northwest from Owings Mills to Glyndon with a transfer to four MARC and two Amtrak lines. It could be extended southeast to Sparrows Point and Fort Howard. The Green Line can be extended west to Columbia Mall and the Maryland School for the Deaf. From Savage Station a Camden line spur would connect to the Green Line at Columbia Gateway. It could be extended east to Martins Airport Rail Station and on to Olver Beach with a connection to the NEC at Martins Airport.

This proposal eliminates the need for the Red Line Light Rail downtown tunnel and the Great Circle Tunnel into Penn Station. Cost savings to the state would be in the billions of dollars. The extended map should be incorporated into the long-term state rail plan, but be constructed beyond the CPT's time frame. By mapping it now, we ensure economical, integrated future expansion rather than haphazard, costly, inefficient, and ineffective, project focused expansion.

**Future InterCity (Amtrak) passenger routes.**

This is a list of future possible passenger routes through Maryland. The order is roughly in the temporal order of implementation. Intrastate service would be provided by MARC.

A) North from Baltimore along the Northern Central Railroad right of way to Timonium, New Freedom, York, and Harrisburg. Long distance trains could travel to Williamsport, Buffalo, and Toronto, or to Williamsport, Elmira and Rochester, or to Scranton, Syracuse, and Ottawa. This route would permit direct passenger service from Toronto to Miami. MARC commuter service along this route from York to Baltimore would likely reduce traffic on I-83 as 21% percent of the labor force of York and Adams Counties commutes to work in the Washington-Baltimore CSA (BMC data). Pennsylvania has long expressed interest in restoring this service.

B) Future MARC service branching off the Penn Line west of Sandtown/Winchester
Station at Fulton Junction would run along the Western Maryland right of way serving Coppin State University, Northern Parkway, Owings Mills, Glyndon, Hampstead, Manchester, Hanover, and Gettysburg. Implementation of this MARC service north of Glyndon would be concurrent with the state of Pennsylvania rebuilding a railroad trestle across the Susquehanna River at Columbia to establish Amtrak service from Washington through Baltimore, York, Lancaster, Reading, Allentown, Morristown, to Newark, and either Hoboken or Pennsylvania Station New York. This route will expand Amtrak service to new cities and provide an alternative route to the crowded NEC for trains coming from south of Washington. MARC service south of Glyndon can be initiated when the Western Maryland Greenspring Valley branch opens to Owings Mills.

Amtrak service would operate to the west along the Western Maryland right of way to Westminster, Hagerstown and Cumberland extending west to Pittsburgh, Cleveland, Detroit and Chicago; or Columbus, Indianapolis, St. Louis, and on to Denver and points west. MARC service would connect Cumberland, Hagerstown, Thurmont, Westminster, Glyndon (with a connection to the Baltimore Subway), Owings Mills, Stevenson, Northern Parkway (in the Jones Falls Valley), and intermediate stations to Market Center Station and on to Annapolis.

A new track through Pann's Ridge from Finsburg to New Windsor, bypassing Westminster, under Catoctin Mountain (avoiding Camp David) and South Mountain between Thurmont and Smithburg could carry mainline freight between Chicago and the Port of Baltimore. Baltimore does not get freight from the mid-west anymore because steep grades and sharp curves make the routing unsuitable. This bypass track would change that. Our port is closer to Chicago than any other Atlantic port, and it is the most efficient port in the nation. By eliminating these grades and curves, we could expect a large increase in port traffic. This, in turn, could attract new factories in our region, as manufacturing has been increasing again in the United States. MARC and Amtrak would serve Westminster along the existing Maryland and Midland track, and would not use the Pann's Ridge cut.

If a bridge is built across the Chesapeake Bay at Hart-Miller Island, it should be provided with space for a rail component that would service Chester and Dover.

C) When I-83 needs to be rebuilt or replaced, it will be possible to connect Penn Station to the Howard Street Tunnel. This would permit MARC trains to run from Penn Station through the Howard Street tunnel to the Old Main Line and west with service to Lansdowne, Ellicott City, Sykesville, Mt Airy, Monocacy, Frederick, and intermediate points. Intercity passenger traffic could go farther west to Cumberland, Cincinnati, St. Louis, Springfield, Missouri; and westward to Tulsa, Oklahoma City; and El Paso.

D) Intercity passenger service can be extended from the Northeast Corridor at Perryville northward along the Susquehanna River (Port Road) to Columbia, Pennsylvania, and with a rebuilt junction, on to Lancaster, Reading, and Allentown.
E) When the Bay Bridges are rebuilt/replaced, space for a rail line on them must be included that would permit future train service from Baltimore to Kent Island, and points on the lower Eastern Shore such as Easton, Cambridge, Salisbury, and Ocean City. The railroad right of way still exists here. A future MARC line connecting Annapolis and Bowie junction on the Penn Line would allow for Amtrak and MARC service between Annapolis and Washington DC.

F) Washington to Brunswick along a line through Keedysville to Hagerstown then along the Western Maryland to Cumberland and west, including St. Louis, Springfield, Missouri, and on to Tulsa, Oklahoma City, and El Paso. MARC service from Washington to Waynesboro and Chambersburg could be accommodated if it were built by Pennsylvania north of the Mason-Dixon Line.
Maps

Current Baltimore Metro Subway Line

Downtown part of the current Baltimore Metro Subway Line

Draft N 15
Proposed Phase 1, eastside extension of current line to the Travel Plaza. The hexagon at Orangeville denotes a subway/MARC connection. Orangeville would also be the location of a subway rail yard. These maps are to the same scale until noted.

Metro Subway after Phase 3 with Green Line between North Point Blvd and FredHilton. There is a second Metro Subway/MARC connection at West Baltimore Station. The Green Line will provide a rail bridge for MARC passengers around Penn Station while the B&P and Union Tunnels are rebuilt. There is a virtual line between Owings Mills and FredHilton connecting MARC service to northwest Baltimore.
Metro Subway after Phase 6, construction of the Blue Line between Penn Station and Westport. There are two new Metro Subway/MARC connections at Camden and Penn Stations. The Blue Line will provide a rail bridge for Light Rail passengers while the Howard Street Tunnel is rebuilt.
Map of the proposed, complete Metro Subway system. On average, each line extends about 15 miles from Penn Station; about the same geographic extent as the Washington DC Metrorail system.
Regional view of the proposed, expanded intercity (Amtrak) and commuter (MARC) passenger routes in the Baltimore Region. Current lines are in wide, bright green. Proposed lines are in light green (Amtrak and MARC) and purple (MARC only). Shown in black is a new freight tunnel under Baltimore Harbor (connecting freight routes are currently in service but are not shown) and new freight lines Park’s Ridge and South Mountain. See text for a description of routes and destinations. The new, high-speed trackage through Charles Center is shown in dark green with cross hatches. See text for a description of routes and destinations.
Figure 2: Proposed alternate freight railway route utilizing existing State owned rights-of-ways.

New rail intersection where CSX and Amtrak cross and new freight line for rail traffic. Existing freight into Baltimore City.

New railway tunnel system, connecting Metro bay rail line to existing rail right-of-ways.
DEIS Comment 12:

Subject: Comment from
Date: Monday, February 08, 2016 9:55:25 AM

Mr Cameron Bolling

I am against the construction of four tunnels under Reservoir Hill.

Response to Comment 1:
Thank you for your comment.
DEIS Comment 13:

Baltimore & Potomac Tunnel Project
Draft Environmental Impact Statement (DEIS)
Comment Form

Only comments received by 5:00 p.m. on February 24, 2016 will be included in the Public Hearings Record for the Baltimore & Potomac Tunnel Project.

PLEASE PRINT

Name: Sabila Caldwell
Organization:

Address: Baltimore, MD
City: Baltimore
State: MD
Zip Code: 21216

If we wish to submit the following comments on this project:

Having trains running 24 hours a day will add to the air pollution we already have in this city and I do not trust the train system to do anything about it.

Response to Comment 1:
Regarding diesel emissions, when NO\(_2\) levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO\(_2\).

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO\(_2\) emissions from the Project. AERMOD is the US Environmental Protection Agency's preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO\(_2\) concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI.

Response to Comment 2:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
DEIS Comment 14:

Response to Comment 1:
Alternative 1: No-Build does not meet the Project Need or goals of the Project; therefore, it is not identified as the Preferred Alternative in this FEIS. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

The existing B&P Tunnel is not suited for modern high-speed usage due to the horizontal and vertical track alignments. The build alternatives would allow trains to travel at higher speeds, and due to its updated design and modern construction, it would improve travel times, capacity, reliability, and safety. The tunnel would be equipped with Automatic Train Control (ATC) and Positive Train Control (PTC) systems, which use computer systems to control the speed of both passenger and freight trains within the tunnel.
DEIS Comment 15:

Baltimore & Potomac Tunnel Project
Draft Environmental Impact Statement (DEIS)
Comment Form

Only comments received by 5:00 p.m. on February 5, 2016 will be included in the Public Hearings Record for the Baltimore & Potomac Tunnel Project.

Please print

Name: Harold A. Carey
Organization:

City: Baltimore State: MD Zip Code: 20703

We wish to submit the following comments on this project:

Response to Comment 1:

The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

A Maglev train would not utilize existing or planned Amtrak infrastructure. The design of such a system requires significantly different rights-of-way and infrastructure. The design criteria for Maglev are extremely restrictive and would only be achievable on new alignments.

Response to Comment 2:

Ventilation facilities are required in order to meet current safety industry standards (NFPA 130) for projected NEC FUTURE train demand headway, and to ensure proper ventilation of the proposed tunnels. The purpose of the ventilation facilities is to pull fresh air into the tunnel and ventilate the tunnel air to the outside.

Response to Comment 3:

The type of locomotive traveling through the B&P Tunnel is determined by the train service operator. As per the 2040 projections, of the 388 daily vehicles running through the tunnel, 222 would be electric (Acela, NE Regional, and Metropolitan) and 166 would be diesel (2 freight and 164 MARC). Please refer to Chapter VI for additional information. Installing a third electrified rail in the new tunnels would add a third energy delivery system to the tunnel design and require MARC to procure a fleet of custom dual-powered locomotives. Addition of the third rail system would add another layer of complexity (and expense) to ongoing maintenance to the tunnels and custom locomotives. Freight locomotives, to the extent they are used, would also need to be dual powered.
Alternatives 3A, 3B, and 3C are still under consideration and are continuing to be evaluated and discussed with agencies and the public. A Preferred Alternative will be identified based on comments received during the Public Hearing and the DEIS Comment Period.
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The three ventilation facilities would be subject to the operational noise level standards included in the Noise Regulation of the Health Code of Baltimore City § 9-206 Noise Regulation, 2015. This regulation provides the noise limits for manufacturing, commercial, and residential zones in Baltimore City—depending on the source of noise and the types of adjacent land uses. For noise generated within residential zones, there is a limit of 55 dBA at any point on the property line of the use. The design standard for the ventilation facilities would limit the outdoor noise level, when the fans are in operation, to $L_{max} 50$ dBA at the facility property lines. 50 dBA is approximately the noise produced by an indoor air conditioner at a distance of three feet.

Response to Comment 2:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM
would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.
DEIS Comment 17:

Please refer to response from Odessa Phillip below.
Good afternoon Dr. Cheatham

Thank you very much for your active participation in this process as our team moves forward with the evaluation of various alternatives in the study of the Baltimore and Potomac Tunnel. We have been working closely with you and other community leaders to ensure that we clearly understand the concerns of the various stakeholders, especially as they relate to the quality of life and other environmental concerns you identified in your correspondence.

As you are aware, our work on this project gathers data on the impacts that each alternative could have on the natural and human environment. We then compile this information in a matrix that allows us to compare the impacts of various alternatives. All of this information is then relayed to the public in our Draft Environmental Impact Statement - which has recently been released on our website and at several sites around the City - for review and formal comment by the public. You requested that our team perform a study of the environmental impacts of this project and the DEIS is our method of doing so. Your letter and participation in this public process has highlighted additional studies that have been prepared by ancillary agencies regarding the healthcare concerns that have been identified in this area of Baltimore City. This information can become an important element for our team as we move forward into the Final Environmental Impact Statement phase of the project. During the development of the FEIS, our team begins the process of identifying mitigation strategies to address impacts of the project that have not been avoided or minimized.

Our team will continue the coordination with you and other stakeholders to ensure that concerns such as this are incorporated into this process to help lead to a better overall solution for the B&P tunnel project. Again, thank you very much for your participation in this process.

Regards
Odessa

Odessa L. Phillips, PE
Environmental Project Manager
for the Baltimore and Potomac (B&P) Tunnel Project
Baltimore City Department of Transportation
417 East Fayette Street, 7th Floor, Room 747
Baltimore, Maryland 21202
I requested at your last meeting at Perkins Square Baptist Church a full review and report on the 2008 and 2011 Health Disparity Profiles of Sandtown-Winchester - Harlem Park done by the Baltimore City Health Department and Johns Hopkins University and what impact this project will additionally have on us.

Our communities are already suffering far too many disparities to have yet another health and environmental bolder dropped on us. Haven't Matthew A. Henson Neighborhood Association and other adjoining communities suffered enough?

This project has just as much as admitted that there will be an environmental impact on us.

We demand that a full and immediate study be made on the continued environmental negative impacts that are being suffered by us and the additional negative environmental impact that we will suffer with this project.

Dr. Marvin L. 'Doc' Cheatham, Sr.
Civil Rights & Election Law Consultant
Pres. - Matthew A. Henson Neighborhood Association
CEO - Matthew Henson Community Development Corporation
www.mahna.co - 901(e)59

Please see previous page for response from Odessa Phillip.
DEIS Comment 18:

Brittany Rolf

From:     Dr. Marvin L. 'Doc' Cheatham, Sr.
Sent:     Wednesday, February 03, 2016 2:51 PM
To:       BPTunnel Information
Cc:       
Subject:  Train Horns - Environmental
Follow Up Flag:  Follow up
Flag Status:  Completed

Today, Wednesday, February 3, 2016, from 4:20 a.m. until 5:35 a.m. we heard continuous train horns in our community. Of course this is a period of time in the day when many are still asleep.

Yes, I know this has nothing to do with the B&P Tunnel Project presently, but we and I are hoping you can direct us to the proper place and people.

We hear horns all the time such as right now while I am typing this email at 3:43 p.m. The sounds appear to be coming from the Monroe Street & Winchester Street bridge area. Continuous sleep interruption cannot be positive.

What is the purpose and why so long?

Please, when considering where to send trains that certain communities are already experiencing hearing affects all hours of the morning, noon and night.

Thanks for reading and see you Saturday.

Dr. Marvin L. 'Doc' Cheatham, Sr.
Civil Rights & Election Law Consultant
Pres. - Matthew A. Henson Neighborhood Association
CEO - Matthew Henson Community Development Corporation

Response to Comment 1:
The Project has performed an impact analysis for noise following the Federal Transit Administration's guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. As a result, the Project will design and implement noise barriers to mitigate these anticipated operational noise impacts. Ventilation facilities will be designed with noise attenuation measures.
This comment has been repeated as part of an email chain. Please refer to response from Odessa Phillip in DEIS Comment #17.

Dr. Marvin L. ‘Doc’ Cheatham, Sr.
Civil Rights & Election Law Consultant
Pres. - Matthew A. Henson Neighborhood Association
CEO - Matthew Henson Community Development Corporation

On 12/19/15, B&P Tunnel Project Team@info@bptunnel.com wrote
Response to Comment 2:
Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the EO on environmental justice is public outreach. The Project Team has engaged extensively with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three public open houses and ten community meetings were held where the public was given the opportunity to learn about the project development, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter Claver Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School.

Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and fliers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations.

The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.
Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations. For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.
Response to Comment 1:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic is planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.
DEIS Comment 20:

DEIS COMMENT submitted by Art Cohen
for b'more mobile
on the B&P Tunnel Project

February 26, 2016

[as a component of the Public Hearing Process held in February 2016]
Response to DEIS Comment 20:
This comment includes a summary of the B&P Tunnel Project purpose and need, as well as some of its principal elements and impacts. However, the comment is primarily focused on the future of freight traffic in the City of Baltimore, which includes speculation regarding how freight could make use of the B&P Tunnel and concerns associated with that use. The comment also briefly focused on Alternatives development, and summarized recent local policy and public outreach efforts associated with freight movement in Baltimore.

In regards to Project Purpose and Need, the comment is accurate. The Purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, including:

- To reduce travel time through the B&P Tunnel and along the NEC,
- To accommodate existing and projected travel demand for intercity and commuter passenger services,
- To eliminate impediments to existing and projected operations along the NEC, and
- To provide operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.

In addition, the existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Regarding section IV of this comment, who and what will be impacted by the new tunnels, potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated...
The only reasonable reading of the board above is that the B&P Tunnel Project is intended to serve passenger trains exclusively. This is a deception, and hardly could have happened due to a mistake in preparation of this board by the FRA/USDOT, MDOT, Amtrak, and B&O. It would be fair to conclude that this deliberate omission of any reference to freight in this Public Hearing display board above was intended to downplay and steer attention away from the very real and significant implications of the B&P Tunnel Project for increasing freight traffic along the NEC through Baltimore. Why? Probably because freight cargo has become a cause for alarm in recent years with the widespread tanker car transport of Bakken crude oil, accompanied by some recent derailments and destructive fires (see pages 72-23 below). The very definite intention of the B&P Tunnel Project to increase freight train traffic along the Northeast Corridor line through Baltimore will become clear upon reading the comment to follow directly below.

WHY ARE RAILROADS NECESSARY?: Introduction

Railroads have played a central role in building and sustaining the American economy over the past 200 years. The American economy today depends upon an extensive and well-functioning railroad system.

The purposes of railways are to transport either people or cargo. The passenger lines transport people. Amtrak and MARC represent such passenger lines.

The freight lines transport cargo, usually of three general types: solid materials and manufactured items; animals, livestock or plant material; and liquid or gaseous materials. Different types of rail cars are used for transporting these different cargoes. For instance, there are flat cars for containers, other flat cars for vehicles, box cars, uncovered and covered hopper cars, stock cars, tank cars and others. As stated in detail in the 2009 Study of Mid-Atlantic Rail Operations:

[F]or rail services fall into three distinct categories:

- BULK RAIL SERVICE. Bulk services are dedicated unit trains hauling a single bulk commodity such as coal moving from mines to power plants or grain moving from farms to ports. Commodity flows tend to be one way with cars (usually hopper cars) moving loaded from shipper to receiver and returning empty from the receiver to the shipper...

- GENERAL MERCHANDISE/CARLOAD RAIL SERVICE. General merchandise or mixed carload trains move a diverse set of commodities, including chemicals, food products, forest products, metals, auto parts, waste and scrap using boxcars, gondolas, tank cars, and other specialized rail equipment ...

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

In Section VII of this comment, regarding better choices for tunnel locations, there was disagreement with the decision to use the condition of existing infrastructure (specifically Penn Station) as a basis to exclude Alternatives from further study. The constraints and requirements used in the evaluation of Alternatives were created to ensure that the Alternatives that advanced to further study would be both feasible and reasonable to implement. The continued use of assets such as Baltimore Penn Station and the Gwynns Falls Bridge ensure that additional funds are not spent rebuilding functional infrastructure.

Displacement and community facility impacts have been minimized with the selection and refinement of the Preferred Alternative. Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state, and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
and that communities and the local economy are not disrupted with unnecessary construction.

Regarding freight, the build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

As correctly stated in Section II of this comment, Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two freight trains through the existing B&P Tunnel daily. The statutory and contractual obligations referred to above include a Common Carrier Obligation, which prohibits the railroads using the B&P Tunnel from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.
FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak does not anticipate increases in freight traffic in the foreseeable future.

Section VII of this comment addresses local policy and advocates for legal changes. This is beyond the purview of the B&P Tunnel Project.

This comment also references the MTA Citizen Advisory Committee’s report A Proposal to Unravel Baltimore’s Tangled Rail Lines. The report argues for a comprehensive system approach to rail planning in Baltimore and the mid-Atlantic region. It describes a list of projects and the order in which they should be completed. The report takes into consideration local, state, and regional transportation routes, and recommends new construction at a number of locations in order to relieve congestion and create opportunities for expanding rail service in the future.

While recommendations in the report focus on resolving issues at a regional level, they would not address or resolve the specific needs of the B&P Tunnel. As stated above, the existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life. It is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. For additional information regarding The Purpose and Need for the Project, please see Chapter II of this FEIS. To review the September 2015 report in its entirety, please refer to DEIS Comment #11.
population growth is returning to many of these urban areas.

More than two-thirds of Northeast counties with rail service experienced population grown between 2000 and 2008. According to a recent study prepared by the Coalition of Northeastern Governors, “The Northeast’s population settlement patterns have been influenced by the transportation corridors shaped by geography and history,” with 80 percent of the region’s residents living within 25 miles of an existing or proposed multi-state rail service. America 2050 forecasts that the Northeast mega-region population will reach 58 million by 2025 and that employment will increase from 29 million in 2000 to 36 million in 2025.


The NEC passes directly through the center of Baltimore City in the Baltimore and Potomac (B&P) Tunnel as the railroad line moves between Washington DC and Philadelphia. As stated in 2010:

South of the [Baltimore Penn] station, the two-track Baltimore and Potomac B&P Tunnels are beyond their useful life and cannot adequately serve the mix of trains currently operating in the tunnel. A new community and intercity rail tunnel will replace the B&P tunnels. Freight traffic will benefit from a new freight tunnel connection through Baltimore with connections north and south.

[Source: Northeast Corridor Infrastructure Master Plan - 2010, Part II, page 40.]

Parenthetically, it should be noted here that the above-quoted Northeast Corridor Infrastructure Master Plan contains not a single reference to "hazard", “hazardous”, “fire” or even “accident.” This comment will address those issues below.

So, the B&P Tunnel occupies a crucial position along the Northeast Corridor infrastructure.

Following a July 18, 2001 fire from a CSX train derailment that occurred in the nearby Howard Street Tunnel, Congress mandated that FRA provide a comprehensive assessment of the region’s complex rail system. In response to the Congressional mandate, FRA completed two studies, Baltimore’s Railroad Network: Challenges and Alternatives (FRA, 2005) and Baltimore’s Railway Network: Analysis and Recommendations (FRA and MDOT, 2011). The 2005 report characterized the state of the rail network and the demands placed on it. The study evaluated the existing B&P Tunnel, as well as other components of Baltimore’s rail network, and underscored the importance of the B&P Tunnel to the NEC. The study also recommended potential actions that could improve passenger and freight railway capabilities in the Baltimore region, which included replacement of the existing B&P Tunnel. The 2011 report supplemented the findings of the 2005 report and evaluated passenger and freight alternative routes through Baltimore. The 2011 report states that "the physical condition of the existing B&P
Tunnel requires that it be rebuilt or replaced within the next 10-20 years." In addition, "the conditions in the [existing] B&P Tunnel—as well as its criticality to the protection of a reliable passenger service—preclude its expanded use for most freight and constrict the flow of commerce to and through the Baltimore region" (FRA and MDDOT, 2011). [Source: B&P DEIS, Chapter II — Purpose and Need, page 3.] [Underscoring added for emphasis.]

Based on all of the above, there can be little dispute about the need to replace the current B&P Tunnel in Baltimore, which is 143 years old.

II. FOR FREIGHT OR NOT FOR FREIGHT, THAT IS THE QUESTION: Existing Use of the B&P Tunnel for freight trains:

Despite the need to replace the B&P Tunnel for passenger rail traffic, serious questions remain about use of its replacement for freight rail purposes.

This comment will address concerns with the proposed new B&P Tunnel's implications for the increase of freight traffic through Baltimore City along the Penn Line. It will not address the increase in passenger train traffic.

Here is a Baltimore City map inset from the map published by the Maryland Department of Transportation (MDOT), with the red oval added to show the area for the B&P Tunnel Project:


It is very clear, looking at the above map, that the Baltimore City area is laced by a number of rail lines, all of which are used for freight (three of these lines are also used for passengers - AMTRAK and the two MARC lines). The two major freight lines in Baltimore City are nationally prominent - they are the Norfolk Southern Railway line (NSC on the map - the purple lines) and the CSX Transportation line (CSXT on the map - the green lines). Norfolk Southern has its own track, and also currently shares the track with AMTRAK through the study area of the B&P Tunnel. CSXT also can share the same track, but does not use it as frequently as NSC.
Norfolk Southern Corporation and CSX Corporation have rights to operate on the Northeast Corridor per "trackage rights agreements" that date back to Amtrak's acquisition of the Northeast Corridor on April 1, 1976 as part of the Railroad Revitalization and Regulatory Reform Act of 1976 (see end note for more discussion regarding dates). Per these agreements, Amtrak must make reasonable efforts to accommodate freight rail operations on the Northeast Corridor, and freight rail companies must be equally accommodating in accepting off-hour track assignments for the movement of goods (nights, weekends), when passenger trains operate less frequently and the insertion of freight trains will not delay them. While these agreements guarantee private rail freight companies access to the Northeast Corridor, these rail freight companies have other route options around Baltimore that make it unlikely that the B&P Tunnel route would be more attractive as a major through route across or around the city. [Source: B&P DEIS, Chapter V—Affected Environment, pages 82-83.]

According to Reuters (U.S. Edition), NYSE stock exchange for NSC and NASDAQ stock exchange for CSX (all accessed February 13, 2016):

1) Norfolk Southern (NYSE) operated in 2014 approximately 20,000 miles of road in 22 states and the District of Columbia. In terms of cargoes, NSC includes, among many others, "...chemicals, which includes sulfur and related chemicals, petroleum products (including crude oil), chlorine and bleaching compounds, plastics, rubber, industrial chemicals and chemical wastes..." [Italics added for emphasis.]

2) CSXT (NASDAQ) provides links to the transportation supply chain through its approximately 21,000 route mile rail network, which serves 23 states east of the Mississippi, the District of Columbia, and the Canadian provinces of Ontario and Quebec. CSXT includes cargoes, among several others, of "phosphate, fertilizer ... and chemical products." [Italics added for emphasis.]

Each railway lists the other as its main competitor.

It is clear that any of the cargoes listed above could, if involved in an accident, subject the surrounding area to extremely hazardous risks.

The alignments for the existing B&P Tunnel and the three proposed alternatives (3A, 3B, and 3C) are each just under four miles long. The tunnels themselves are each less than 2½ miles long [see B&P DEIS, Section IV, Table 9, page 66].

The following table shows the frequency of freight rail traffic through the existing B&P Tunnel.

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As stated in the planning process for the Northeast Corridor:

**Freight Benefits** - The Northeast Corridor is ... a critical transportation corridor for rail freight.... Freight plays a significant role in promoting the economic development of the NEC states. Freight rail provides goods necessary for many industries and communities in the region to thrive. Because the use of rail lowers transportation costs, the region's industries are in a better position to effectively compete with international rivals in a global marketplace. Railroad freight rates measured in constant dollars are lower than they were in 1980. These savings go directly to the region's shippers and consumers.

For these reasons, it is in the public interest to not only preserve freight rail capacity on this corridor, but to enhance its presence even as Amtrak and transit agencies increase their own service. The infrastructure improvements recommended by the Master Plan are intended to do just that. [Source: Northeast Corridor Infrastructure Master Plan - 2010, Part I, page 42.] [Underlining added for emphasis.]

The importance of freight rail to Baltimore is eloquently stated as follows:

Approximately 56 Class I and regional freight trains use the NEC each day to serve industries, power plants and ports in the Northeast and Midwest. This heavy volume of freight traffic reinforces the NEC's role as a vital link in the national freight network. However, due to capacity, speed, and loading
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COMMENTS

constraints, all rail freight movements between the northeast and southwest parts of the Port of Baltimore are difficult and costly to accomplish. Due to clearance limitations in the B&P Tunnel, NS cannot route many types of shipments to the southwest part of the Port and CSX cannot route many shipments to the northeast part of the Port. This lack of connectivity and routing flexibility diminishes the Port’s efficiency and attractiveness. The Port is a major economic player in the Baltimore region and generates $1.5 billion in business revenue annually. [Kemtrak, 2015a]. [Source: B&P DEIS - Chapter II - Purpose and Need, page 15.] (Bold, italics, underscoring and redlining added for emphasis.)

III - THE TUNNEL MENU - AS IT IS NOW BEING SERVED: What are the principal elements of the B&P Tunnel Project proposal?

1) Alternative 1: No-Build - Keep the current 143-year old two-track tunnel and repair it again with routine maintenance.

2) Alternatives 3A, 3B, or 3C - Replace the current 143-year old two-track tunnel with four single-track tunnels, each of them able to accommodate double-stack freight trains. Three “great-circle” routes are proposed for these alternatives, to be sited north of the location of the current B&P Tunnel. Each of these three alternative would include a north portal, a south portal, and an intermediate ventilation plant. [Source: B&P DEIS, Chapter IV, “Alternatives Still Under Consideration”, pages 35-71]

One of the clearest map graphics showing the retained alternatives is the following:

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One can see how these three alternatives to the current no-build “Existing B&P Tunnel” above were in the mind of officials reviewing the problems of moving freight in and around Baltimore City as early as the first part of the last decade.

In the wake of the Howard Street Tunnel derailment and fire, the US Congress ordered “a comprehensive assessment of the region’s complex rail system” (see the first reference to that here above at page 6). The resulting reports were as follows:

1) In Report to Congress: Baltimore’s Railroad Network: Challenges and Alternatives - U. S. Department of Transportation, Federal Railroad Administration - November 2005 at pages 7-8 to 7-9, where there is the first reference to a “Great Circle Passenger Tunnel (GCPT),” and then at pages 8-1 to 8-2 where there is a first reference to “a Great Circle Freight Tunnel (GCFT),” similar in concept to the Great

- k'more mobile Comment on DEIS for the B&P Tunnel Project: Page 11 of 31 -
Circle Passenger Tunnel (GCPT) broached earlier.

2) In BALTIMORE’S RAILROAD NETWORK: ANALYSIS AND RECOMMENDATIONS - U.S. Department of Transportation, Federal Railroad Administration and the Maryland Department of Transportation - January 2011. There is reference there to the Great Circle Passenger Tunnel (GCFT) and the Great Circle Freight Tunnel (GCFT). The first reference to the GCPT is on page ES-4 of the Executive Summary, and the first reference to the GCFT is on the next page at ES-5, where it is written: “The study team developed two land-based tunnel alternatives, both of which would employ a Great Circle Freight Tunnel (GCFT) similar in concept to the GCPT.”

Both the GCPT and GCFT greatly resemble Alternatives 3A, 3B, and 3C proposed by the DEIS for the B&P Tunnel Project - nine years after the 2005 Report and three years after the Railroad Network Report. So, it is clear these three tunnel Alternatives have been intended to carry both passenger and freight trains from the beginning!

IV - WHO AND WHAT WILL BE IMPACTED BY THE NEW TUNNELS?: A detailed look at the B&P Tunnel Project Study Area

The Study Area is located within the black dashed lines on the two maps directly below.

The Study Area is home to 65,762 people [see B&P DEIS, Chapter V, Table 10, page 75].

Other human institutions which are located within the study area include:

- **Neighborhoods** - 30
- **Schools** - 11 Elementary, 4 Elementary-Middle, 1 Middle, 1 Middle-High, 3 High, 2 Public Charter schools, 2 Academy schools.
- **Educational and Cultural Institutions** - University of Baltimore, MICA, Lyric Opera House, Meyerhoff Symphony Hall, Station North Arts & Entertainment District.
- **Religious Institutions** - 37, of all faiths
- **Business Establishments** - 4,185
- **Fire and Rescue Facilities** - 3
- **Public Recreation Centers** - 6
- **Public Pools** - 3
- **City Park and Reservoir** - 1
- **Major Passenger Railroad Station** - 1
The following map shows many of these institutions along with some other ones:


The Study Area is located directly contiguous to a major shopping center (Mondawmin Mall) and also to Coppin State University.

It should be abundantly clear that the Study Area includes many people and human institutions which could be seriously impacted by a hazardous rail accident within any of the three tunnel alternatives proposed.
V - MORE TUNNELS MEAN MORE FREIGHT: How is freight rail traffic likely to increase with the construction of any one of the three new alternatives (3A, 3B, or 3C) of the B&P Tunnel Project?

Some 50 Class I and regional freight trains use the NEC each day to service industries, power plants, and ports in the Northeast and Midwest. This heavy volume of freight traffic reinforces the NEC's role as a vital link in the national freight network and an important component of future regional and national economic growth. [Source: Northeast Corridor Infrastructure Master Plan - 2010, Part I, page 26.]

NS has no plans to increase or change its B&P Tunnel freight operation in the near future. NS has, however, restated its contractual right to increase freight operations in the future should it see value in doing so. In addition, the agreements provide that Amtrak cannot take any action that may restrict future growth in freight traffic through the B&P Tunnel.

Amtrak’s first priority is to its passenger services. Therefore, although Amtrak must accommodate requests from NS or other freight operators with trackage rights agreements for additional train moves on the Northeast Corridor, Amtrak need only schedule such moves as space between passenger trains can be made available. Where the freight operator and Amtrak have a dispute about scheduling of freight moves, the Surface Transportation Board (STB) adjudicates trackage rights agreements. [Source: B&P DEIS, Chapter V – Affected Environment, page 83.]

The B&P Tunnel Project DEIS is a bit duplicitous in its reference to potential increase in freight rail traffic in the event of a new tunnel being constructed along the NEC. For instance, it is stated in the Executive Summary that:

As shown, the proposed Project would not have any effects on operational emissions due to no projected increase in diesel freight train operations and no significant air emissions generated by trains propelled by electric locomotives. [Source: B&P DEIS, Executive Summary, under “Air Quality”, page ES-36.]

Similarly, in the body of the DEIS itself, in the detailed discussion of Environmental Consequences under “H. Air Quality” and “I. Noise”, there is no increase in freight traffic projected by the year 2040 shown in Tables 58, 59, and 63 from today’s current level of two (2) freight trains per day. Tables 58 and 59 (for the 2040 No-Build and Build Years) are shown directly below [red lining added for emphasis]:

--- b more mobile Comment on DEIS for the B&P Tunnel Project: Page 15 of 31 ---
In the DEIS itself, in Chapter VI - “Environmental Consequences,” under Section A. Socioeconomics, Subsection 3 - Transportation, it is repeatedly stated in reviewing Alternatives 3A, 3B, and 3C that:

“Additionally, this alternative would add rail capacity to the NEC, which, subsequently, could allow for additional rail freight service; however, specific changes to freight operations cannot be determined and therefore are assumed to remain the same as existing conditions [i.e. a mere two freight trains per day along the NEC in Baltimore] based on current track agreements. Further discussion of potential impacts to freight rail is included in Section V.I.M [i.e. “Indirect and Cumulative Impacts”]. [Source: “B&P DEIS”, Chapter VI - Environmental Consequences, pages 142 and 143.] [Italics added for emphasis.]

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In fact, the discussion states explicitly that: “…the Build Alternatives (3A, 3B, and 3C) would have no effects on operational emissions, due to no projected increase in diesel freight train operations…” [Source: B&P DEIS, Chapter VI - Environmental Consequences, page 223.]

Similarly, in Chapter VI under Section K. Energy, it is stated that:

The number of forecasted daily freight trains traveling through the B&P Tunnel is not expected to increase under any of the Build Alternatives; therefore, no change in energy consumption by freight in the Study Area would occur. [Source: B&P DEIS, Chapter VI - Environmental Consequences, page 238.]

However, construction of the new tunnels to replace the existing B&P Tunnel will provide new opportunities for freight rail to travel through and under the residential areas of Penn-North, Reservoir Hill, Sandtown-Winchester, Easternwood, Bridgeview-Greenlawn, and other center-city communities. As stated in 2010:

A new commuter and intercity rail tunnel will replace the B&P Tunnels. Freight traffic will benefit from a new freight tunnel connection through Baltimore with connections north and south. [Source: Northeast Corridor Infrastructure Master Plan - 2010, Part II, page 40. And see also Part III, page 18.]

The future freight picture for the NEC looks substantially different from today. A national increase of 44% to 888 million tons is projected by 2030, with a commensurate increase expected on the NEC. According to the Mid-Atlantic Rail Operations Study (MAROps) performed for the I-95 Corridor Coalition, the traffic volume on the freight rail network in New Jersey, Pennsylvania, Delaware, Maryland and Virginia is anticipated to grow by 79%, equivalent to more than 60,000 trucks per day.

On the NEC, the most critical freight need is to provide improved freight capacity to the Port of Baltimore and between Newark, DE and Perryville, MD. [Source: Northeast Corridor Infrastructure Master Plan - 2010, Part I, page 27.] [Underscoring added for emphasis.]

There is clear implication in Section VI.M that increased freight is in the future of the NEC improvements along Baltimore’s B&P Tunnel Project Study Area. Here are the quotes to prove it [NOTE: all underscoring below has been added for emphasis whenever freight rail has been mentioned]:

While there are no specific plans in place to establish a double-stack (Plate H) freight corridor through Baltimore City, either by CSX, NS, or others, it is reasonably foreseeable that future efforts could be made to establish one. A stated objective of Baltimore’s Railroad Network study (FRA and MDOT;  

- b'more mobile Comment on DEIS for the B&P Tunnel Project. Page 17 of 31 -
2011) is “Provide tri-level auto carrier clearance (Plate H) routes through Baltimore for both NS and CSX freight trains.” It is considered highly desirable by freight rail carriers to connect the Port of Baltimore with inland markets via a double-stacked Baltimore freight line. Both NS and CSX have expressed interest in the B&P Tunnel Project; correspondence from both railroads is provided in Appendix B.

... Therefore, while the proposed B&P Tunnels themselves will be tall enough to accommodate double-stack trains, virtually none of the trackage north or south of the tunnel in the vicinity of Baltimore can accommodate the extra height, and, without additional investment in the hundreds of millions of dollars, it is unlikely that double-stack trains will operate through Baltimore on the Northeast Corridor in the near future. Any potential freight corridor improvements, if they were to move forward, would be completed wholly independently of the B&P Tunnel Project.

... If greater volumes of freight traffic are allowed through the Northeast Corridor in the Study Area in the future, due to increased throughput capacity and operational flexibility, increased air quality impacts from diesel freight trains would need to be assessed in accordance with Clean Air Act requirements. Any increase in future air emissions would be in compliance with applicable air quality regulations. Similarly, greater volumes of freight traffic could result in increased severity of noise and vibration impacts relative to those described in Section VI.I. and Section VI.J. due to diesel freight trains traveling through the corridor more frequently. Although not determined and not currently planned as part of the B&P Tunnel Project, increased capacity for freight traffic through the Study Area could result in additional indirect noise and vibration impacts. Any potential noise and vibration impacts would likely occur near portals and at open sections.

... Each of the Build Alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the proposed tunnels, or the existing B&P Tunnel, without construction of additional connections as part of a separate project from the B&P Tunnel Project. While no specific increases in freight traffic are planned or proposed with the B&P Tunnel Project, increased capacity and operational flexibility on the NEC could allow an option for Amtrak to route more freight trains through the Study Area without impacting their passenger operations. Each of the Build Alternatives could also include repurposing of the existing B&P Tunnel into a single-track, double-stack dedicated freight tunnel. The demand for, and feasibility of, freight traffic along Amtrak's NEC through the Study Area will ultimately be determined by market conditions. Any increases would need to be determined via agreement with Amtrak. The new tunnels will feature relatively steep grades that may not be desirable for freight carriers. Impacts from any future increases in freight volume resulting solely from B&P Tunnel Project improvements are considered potential indirect impacts and are qualitatively assessed in this section. [Building, italics, and underscoring added for emphasis.]

...A review of master plans, transportation plans, and planned development projects in the analysis area does not indicate any reasonably foreseeable projects or plans that would result in increased noise or vibration near the Build Alternative impacts. Therefore no cumulative noise and vibration impacts are currently anticipated. However, increased noise and vibration impacts could potentially occur if additional projects, some of which are currently planned, establish additional freight rail connections to allow CSX to route double-stack freight trains through the proposed tunnels or a repurposed B&P Tunnel. Any noise impacts from other projects would be subject to local noise regulations, as well as federal noise requirements if completed as part of a USDOT action.

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VI - FREIGHT ACCIDENTS ARE TOO OFTEN "GREAT" ACCIDENTS: Hazards to the public's health and safety resulting from freight train accidents

A derailment or crash of a freight train is always a serious matter, but it becomes highly dangerous when the cargo includes flammable liquids or gases, toxic or caustic chemicals, or explosive and other hazardous materials. [definition of "hazardous"]

The hazardous cargo can include materials from the following broad categories (taken from the US DOT's Hazardous Materials Table):

- Hazard Class 1 - Explosives
- Hazard Class 2 - Compressed Gases
- Hazard Class 3 - Flammable Liquids
- Hazard Class 4 - Flammable Solids
- Hazard Class 5 - Oxidizers and Organic Peroxides
- Hazard Class 6 - Toxic Materials
- Hazard Class 7 - Radioactive Material
- Hazard Class 8 - Corrosive Material
- Hazard Class 9 - Miscellaneous

[Source: Northeastern University - Office of Environmental Health and Safety - "Hazardous Materials Definition" - accessed February 23, 2016 from the Internet: http://www.ehs.neu.edu/hazardous_material/hazardous_material/]

The construction of a new set of tunnels and the use of them for freight will expose...
the people and human institutions located within the B&P Tunnel Project Study Area to much greater risks as a result of any increases in freight rail traffic. What would be the specific nature of these risks? Fire, explosion, corrosive or toxic liquids or solids, toxic fumes, temporary or permanent displacement of persons from homes or businesses.

Some significant risks result from inherently dangerous materials (hazardous, toxic, caustic, explosive, etc.).

Others risks include fire, which can consume all sort of other, normally non-hazardous cargo and people and property in the area adjacent to a train derailment or collision.

It is of the greatest importance and relevance that Baltimore City has itself had very recent experience with a freight train derailment, which resulted in the release of hazardous cargo. This was the Howard Street Tunnel Derailment and Fire involving a CSX train on July 18, 2001 - less than fifteen years ago. The official National Transportation Safety Board (NTSB) Railroad Accident Brief stated, in pertinent part as follows:

**The 2001 Howard Street Tunnel Derailment and Fire**

**Synopsis**

On Wednesday, July 18, 2001, at 3:08 p.m., eastbound CSX freight train L-412-16 derailed 11 of its 60 cars while passing through the Howard Street Tunnel in Baltimore, Maryland. Four of the 11 derailed cars were tank cars: 1 contained tripropylene, a flammable liquid; 2 contained hydrochloric acid; and 1 contained di(2-ethylhexyl) phthalate, which is a plasticizer and an environmentally hazardous substance. The derailed tank car containing tripropylene was punctured, and the escaping tripropylene ignited. The fire spread to the contents of several adjacent cars, creating heat, smoke, and fumes that restricted access to the tunnel for several days. A 40-inch diameter water main directly above the tunnel broke in the hours following the accident and flooded the tunnel with millions of gallons of water. Five emergency responders sustained minor injuries while involved with the on-site emergency. Total costs associated with the accident, including response and clean-up costs, were estimated at about $12 million. [At page 1]

**Transportation of Hazardous Materials Through the Tunnel**

During the derailment, a tank car released more than 28,600 gallons of tripropylene. The flammable tripropylene was ignited, and the subsequent fire led to the ignition of paper and wood products in adjacent freight cars. The burning wood and paper products sustained the fire over the next several days. The release of the tripropylene initiated the fire and increased the severity of the accident.

Immediately behind the ruptured tripropylene car were two tank cars containing hydrochloric
acid and one tank car loaded with di(2-ethylhexyl) phthalate, which is an environmentally hazardous substance. Exposure of the hydrochloric acid tank cars to high temperatures for the duration of the fire resulted in thermal degradation of the cars’ rubber linings and corrosive penetration of one of the cars by the acid.

The CSX route through Baltimore and the Howard Street Tunnel is a major rail artery and is a designated hazardous materials key route for all types and classes of hazardous materials. Congress recognized the significance of this rail route when it mandated that the DOT conduct a rail infrastructure study for passenger and freight routes in the Baltimore corridor. Although the FRA had not completed the final report for the study as of August 2004, it has indicated that three options for improving the freight infrastructure through Baltimore have been considered. All three options involve the construction of new, modern tunnels with estimated costs ranging from $1 billion to $3 billion. Because of the scope and expense of these options, replacement of the Howard Street Tunnel is not assured, and at best, several years will be required to complete such a project.

Given these factors, improving the safety of the transportation of hazardous materials through the Howard Street Tunnel and minimizing the potential for more serious hazardous materials incidents in the tunnel will, in the Safety Board’s view, depend upon shared communication and coordination between CSX and the city of Baltimore about the volumes and types of hazardous materials that are transported through the tunnel, anticipation of the types of incidents that might occur, and the capabilities and/or limitations of the city to access the tunnel and respond to any hazardous materials incident in it. The desired level of communication and coordination can be achieved through comprehensive emergency preparedness planning, including joint drills and exercises. [At page 16.]

As can be seen in the NTSB Accident Brief above, there is reference made to plans which are underway for “improving the freight infrastructure through Baltimore.” These plans are mentioned above at page 6.

What about the accident records for the two principal freight carriers which pass through Baltimore City: CSX and Norfolk Southern? Here are the details from the official numbers about their freight accidents from the website of the Federal Railway Administration of the US Department of Transportation. The period covered is the last fifteen years - 2001 to 2015 - the period of time since the Howard Street Tunnel derailment took place here in Baltimore City.
## Final Environmental Impact Statement and Section 4(f) Evaluation

### Comments

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**Norfolk Southern**

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<td>6: Train Accidents</td>
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- 8 more available Comments on DEIS for the B&P Tunnel Project: Page 22 of 31 -
The data provided in this spreadsheet for these two freight rail companies, CSX and Norfolk Southern, are national and not local. However, even as such, they are useful for drawing some general conclusions about the dangers and hazards which attend the hourly and daily movement of freight trains around Baltimore City. As with all transportation, freight rail transportation can be expected to have its accidents, with their respective consequences in terms of death, injury, and destruction of property. CSX and Norfolk Southern are the two principal rail freight lines serving the Baltimore region.

**VII - BETTER CHOICES: AN OUNCE OF PREVENTION IS WORTH IT:** Where can hazardous freight cargo be routed or re-routed in and around Baltimore City so as to avoid densely-populated urban areas such as the B&P Tunnel Project Study Area?

With recent derailments of Bakken formation crude oil tanker cars in Lac Mégantic, near Lynchburg, Virginia, and in other locations, the public concern about freight rail safety has greatly increased. Here in Baltimore, recent developments have included the following:

1) Baltimore Circuit Court Judge Lawrence P. Fletcher Hill’s ruled in August 2015 that Norfolk Southern Railway Company cannot legally block the Maryland Department of the Environment (MDE) from releasing to the public information about the volume and frequency of its crude oil shipments. [Source: Norfolk Southern Railway Company vs. Maryland Department of the Environment and Maryland Emergency Management Agency - in the Circuit Court of Baltimore City, Case No. 24-C-14-004367]

2) In January 2016, Baltimore City Council President Bernard “Jack” Young introduced an ordinance (Council Bill 16-0621) “Transport of Crude Oil by Rail” which would require that both a health impact assessment and a risk assessment be conducted “of the transportation of crude oil by rail in or through Baltimore City or within 10 miles of the City’s boundaries.” Council President Young was joined by thirteen of the fourteen other Council members in sponsoring the bill, which was introduced at the request of the Chesapeake Climate Action Network (CCAN).

3) Finally, on February 11, 2016, just two weeks ago, a large public meeting was held by CCAN to introduce the Baltimore City public to Marline Savard, a young mother from Lac Mégantic in Quebec Province, Canada, who was a witness to the devastating crude oil fire there on July 6, 2013 when a 74-car freight train carrying Bakken Formation light crude oil derailed, crashed, exploded and burned for nearly two days. Forty-two people were confirmed dead, with five more missing and presumed dead. More than 30 buildings in the town’s centre, roughly half of the downtown area, were destroyed and all but three of the thirty-nine remaining downtown buildings are to be demolished due to petroleum contamination of the
townsite. Initial newspaper reports described a 1-kilometre (0.6 mi) blast radius. 115 businesses were destroyed, displaced, or rendered inaccessible. [Source: Lac-Mégantic rail disaster - WIKIPEDIA - accessed on February 24, 2016 from the internet at: https://en.wikipedia.org/wiki/Lac-M%C3%A9gantic_rail_disaster ]

So, here in Baltimore City, Maryland, there is growing public concern and sensitivity about the hazard and risks attendant from freight rail transportation of crude oil and other hazardous cargoes.

One way to reduce the risk and hazard is to route such dangerous cargo around dense urban settlements such as Baltimore City.

As stated in the Freight Railroad Realignment Feasibility Study completed in 2007 by the National Capital Planning Commission (NCPC):

In 2009, a major article was written in the Journal of Transportation Safety and Security entitled “Routing Hazardous Materials around the District of Columbia Area.” This article based its research on, among other things, the NCPCs Freight Railroad Feasibility Study quoted above.

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The 2009 article evaluated alternate rail routes around the Washington, DC area. A map of such routes is shown below (from page 300 of the Journal).

If this can be suggested for the District of Columbia, surely it can be considered as well for the equally population-dense areas of Baltimore City, just a few miles to the northeast of DC.

The principal danger to the people of the B&P Tunnel Project Study Area is from the transportation of hazardous freight through any one or more of the proposed four
tunnels projected to pass under and through the Study Area (Alternatives 3A, 3B, or 3C) [or, in the re-purposed old existing B&P Tunnel, which will not be discussed here]. The danger lies in the nature of the transported hazard itself, as well as in its capacity to ignite other cargo on the same train to increase the risk of a fire and heat hazard to people and property in the area of derailment or collision.

Because of the great risk to people and human institutions which exist within such areas, hazardous freight cargo and any other freight cargo subject to ignition by burning hazardous cargo should not be permitted to go by rail through densely-populated urban areas.

As demonstrated under Section IV above, almost 66,000 people live in the Study Area for the B&P Tunnel Project, and many human institutions exist and flourish within the boundaries of the Study Area. Any and all of these could be seriously impacted by a derailment of a freight train carrying hazardous cargoes through any of the four proposed tunnels - leading to injury or death of persons living and working within the Study Area's boundaries.

While it makes sense for Amtrak's and MARC's passenger rail services to pass through densely-populated urban areas such as Baltimore City where they can discharge and pick up passengers, it makes much less sense for freight rail service.

It may eventually be decided, in light of the B&P Tunnel Project plans, that many more passenger trains should move through the four projected tunnels than currently are able to pass through the old existing B&P Tunnel.

However, that same possibility should be clearly and permanently eliminated for freight trains carrying any kind of cargo. Even if freight trains were permitted only to carry non-hazardous cargo through the new B&P tunnels, under competitive market conditions, the temptation would be too great to also carry hazardous cargoes over the same freight route.

The Federal Railroad Administration's regulations explicitly require all environmental impact statements (EIIs) to consider both public health and public safety (see 49 Federal Register pages 28550 and 28555 - May 26, 1999). From policy and planning points of view, to preserve public health and public safety, it makes much more sense to insist that any freight trains, with or without hazardous cargoes, be required to travel along a Baltimore City route that would completely bypass any densely-populated areas within the City.

If such a bypass requirement were adopted, this might also reduce the need for four tunnels as part of the three alternatives proposed for the B&P Tunnel Project. It might also reduce the need to make any or all of these tunnels of the double-stack...
variety to accommodate Plate H freight. If this need reduction were to happen, the price tag for the new passenger tunnels might become significantly lower and more affordable for the local, state, and federal governments responsible for implementing rail transportation plans.

In any case, the B&P Tunnel Project DEIS has already done some analysis of “Avoidance Alternatives” pursuant to the requirements of Title 23 US Code PART 774—PARKS, RECREATION AREAS, WILDLIFE AND WATERFOWL REFUGES, AND HISTORIC SITES (Section 4(f)); and the Federal Railroad Administration’s own procedures for considering environmental impacts (64 Federal Register pages 28545-28556). to assess the possibility of bypassing the Study Area altogether. [Source: B&P DEIS, Chapter VI - Environmental Consequences, pages 195-198.]
December 2014 PASR states that the alternative “would have to be coordinated with a potential Red Line Corridor transit alignment” (at page 28). With the demise of the Red Line last June, this is no longer a requirement with which to have to reckon.

However, a closer examination of this PASR reveals a different picture. We are told that for both alternatives, “[a] detailed description including alignment segments, evaluation, advantages and disadvantages ... is provided in the 2011 Baltimore’s Railroad Network: Analysis and Recommendations report.” [Source: Draft PASR, pages 20 and 21; and PASR, page 28.]

That thorough 2011 report contains detailed discussion of both alternative 6 and 7 as its Chapter 7 “Passenger Alternatives”, following each discussion with a table (Table 7-5 at page 7-19) which applies screening criteria to the respective alternatives, and includes a “Pass/Fail” rating. Whereas the Locust Point Alternative (#6) received a “Fail” grade both for Functional Design and External Impact Screening Criteria, the Sports Complex Alternative (#7) received a “Pass” grade for both sets of Screening Criteria. This difference between the two alternatives may be significant, even though it is passenger service rather than freight which is being discussed. [Source: BALTIMORE’S RAILROAD NETWORK: ANALYSIS AND RECOMMENDATIONS - US DOT, FRA and MDOT - January 2011, pages 7-14 to 7-19.]

Even more significant, however, is that the consideration of these two alternatives, as with the remaining thirteen (13) alternatives, was based primarily on the rationale of using the tunnel for passenger rail, with freight not being overtly considered in the analysis, other than as a remote future possibility. As a consequence, the present location of Penn Station, which serves passengers exclusively (and no freight rail), became a pivotal basis for excluding many alternatives, including specifically Alternatives 6 and 7 (Locust Point and the Sports Complex, respectively).

Accordingly, it is important to now take a second look at these two bypass alternatives (#6 and #7) exclusively in terms of their potential as the best-located lines for any increased freight cargoes, with passenger service remaining on the NEC line to the north which goes through Penn Station using the three other alternatives which include that station (3A, 3B, or 3C).

In Chapter 8 “Freight Alternatives” of the “BALTIMORE RAILROAD NETWORK: ANALYSIS AND RECOMMENDATIONS” of 2011, the analysis also includes two other freight tunnel possibilities: Locust Point-Canton and Sparrows Point. Both of these options received “Pass” grade in Table 8-3 at page 8-28. [Source: BALTIMORE’S RAILROAD NETWORK: ANALYSIS AND RECOMMENDATIONS - US DOT, FRA and MDOT - January 2011, pages 8-21 to 8-28.]

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Another possibility for an exclusively freight rail line would be the suggestion from Edward Cohen and the MTA’s Citizen Advisory Committee (CAC) and the MTA’s Citizens Advisory Committee for Accessible Transportation (CACAT) contained in “A Proposal To Unravel Baltimore’s Tangled Rail Lines.” This was presented as comment at the Monday, February 1, 2016 public hearing at on the B&P Tunnel Project held at Douglass High School. The freight line tunnel suggested by CAC and CACAT would have to be constructed, and would be located further south than Alternatives #6 and #7, proceeding from Marley Neck to Sparrows Point. This suggestion resembles the Sparrows Point option discussed by the “BALTIMORE RAILROAD NETWORK: ANALYSIS AND RECOMMENDATIONS” of 2011, which is mentioned directly above.

In any case, it is clear that there are freight rail alternatives for the Baltimore City area which can bypass entirely the more densely-populated areas of the City and thus pose much less risk of fire and explosion to the people, businesses, and property of Baltimore. Some effort is justified immediately in exploring as many of these alternatives as possible, in order to prevent the kind of disaster which happened less than three years ago at Lac Mégantic and over fourteen years ago in Baltimore’s Howard Street Tunnel. There have been too many deaths and injuries from these causes in recent years. As improvements are planned for the NEC, we should all now learn from those recent local disasters, and do what is necessary to prevent recurrences of them. Planning of improvements now offers us an unique opportunity to do so. This is the time to face up to the risks resulting to dense urban populations from hazardous freight cargoes. THE TIME FOR PREVENTIVE ACTION AND PROMOTING FREIGHT BYPASSES IS NOW!

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Northeast Corridor Infrastructure Master Plan - 2010, Parts I, II, and III


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Title 23 US Code PART 774 – PARKS, RECREATION AREAS, WILDLIFE AND WATERFOWL REFUGES, AND HISTORIC SITES (Section 4(f))
DEIS Comment 21:

Brittany Rolf

From: Liz Cornish
Sent: Thursday, February 25, 2016 3:48 PM
To: B&Tunnel Information
Subject: DEIS Comment

While generally supportive of the tunnel project, and any of the proposed alternatives (3A, 3B, or 3C), I am concerned that all three alternatives plan to place the venting facility on the city parcel that currently is home to the neighborhood's community garden.

You also don't list this loss as a loss of community asset, in the same category as churches or schools. Which I would argue is an incorrect assessment of its impact on public health in the neighborhood.

I feel this misrepresents the project, rather than making it clear that no other "alternative" locations of the venting facility was considered. Meanwhile, rerouting vacant buildings to house it and designing it in a way that blends with the neighborhood is certainly an option. Given the economic imperative this tunnel presents to the Eastern Railway Corridor, it would seem foolish to not explore options that retain or even improve the neighborhood that stands to be disrupted the most.

A project of such significance shouldn't limit itself by not presenting the community with creative solutions that improve a neighborhood. This comes across as flippant, and will undoubtedly face community opposition.

Liz Cornish
Executive Director

Response to Comment 1:

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
DEIS Comment 22:

Brittany Rolf

From: noreply@bptunnel.com
Sent: Friday, February 26, 2016 2:28 PM
To: BPTunnel Information
Subject: Comment Form

Ms Amelia Cox

---

1

I strongly oppose the construction of the tunnel as it pertains to its impacts both on my own neighborhood (Reservoir Hill) and those of my friends (Staethorn-Winchester).

2

The five-story venting tower proposed for Reservoir Hill is an industrial application in the heart of a residential community. Through its shadow and its fumes it will immediately kill the vibrant community farm (Whitlock Farm) and neighborhood garden that have flourished on Whitlock and symbolize the revitalization of the neighborhood. The venting tower means we will have fumes instead of fresh food, an industrial tower instead of historic architecture, and shade where there was sunshine and a community gathering space.

3

And that's if everything goes well. In the event of an accident in the tunnel, however, what would the impact be on the neighbors who live by the venting tower? Where do smoke and toxic fumes go except around our beautiful neighborhood, including just two blocks down to the John Eager Howard Elementary School the reservoir at Druid Hill Park, and the nearby Maryland Zoo?

It's inconceivable to me that the residents will accept a plan by which random strangers get a faster commute and industrial shippers get a more direct route, at the cost of a city's beautiful neighborhood, elementary school children, and zoo.

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Response to Comment 1:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Response to Comment 2:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO2 concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO2 were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitlock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitlock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitlock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 3:
To minimize risk to the public, FRA requires a range of measures, including emergency response information and safety and security plans. Local first responders receive training
in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA). Emergency access/egress for pedestrians would be accomplished via emergency exits no farther than 2,500 feet apart or cross-passages between tunnels every 800 feet or less, or in some situations, a combination of both. For the Preferred Alternative, three locations would be provided for emergency egress to the surface, working with cross-passages in the tunnels. The emergency egress to ground level would be provided at the south portal Ventilation Facility, via the Intermediate Ventilation Facility, and at the north portal Ventilation Facility.

The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the tunnel would be projected up and away from the community. In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Regarding concerns for siting the ventilation facility near the elementary school, Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation facilities would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water.
While reducing travel time through the B&P Tunnel is one of several goals of the Project, it is not the reason that the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Regarding your comments on industrial shipping, while it is not a primary goal associated with the Project Purpose and Need, the build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes.
DEIS Comment 23:

Baltimore & Potomac Tunnel Project
Draft Environmental Impact Statement (DEIS)
Comment Form

Only comments received by 5:00 p.m. on February 5, 2016 will be included in the Public Hearings Record for the Baltimore & Potomac Tunnel Project.

PLEASE PRINT

Name: Sean Cromwell
Organization:

Address: Baltimore, MD, Zip Code: 21217

We wish to submit the following comments on this project: IT will be a great project for everyone commuting back and forth to work and improving job seeking for everyone else who wants for this project will benefit everyone else in the future so let's put the politics aside and let's come together and get this project moving for our future generation their to come. It will help out everyone who see that this project can be move forward for our here and next generation among everyone traveling too and traveling from back and forth in everyday community on this project. So let's get started for our here and now for our future kids and adults at work. Everyday life is a commitment for all others so let's get started and won't pointing finger at each others and move forward not going backwards.

Thank you for your comment.
DEIS Comment 24:

Brittany Roll

From: John Cutenlli
Sent: Friday, February 26, 2016 2:07 PM
To: BPTunnelInformation
Subject: DEIS COMMENT

The Environmental Impact Statement (EIS) has not looked at all reasonable alternatives. It has used an improper methodology to restrict and predetermine the outcome of the process. This is evidenced by the NEC Futures Title I EIS, which studied an alternative (Alternative 5) that was rejected by this EIS. It also does not address the disposition of the existing tunnel, which is listed as a need of the project.

This methodology restricts the study area based on two artificial means, which were not identified in the purpose and need of the project. These means are the West Baltimore MARC station and Penn Station. Neither of these stations in their present locations are required to fulfill the purpose and need of the project, yet were the primary reasons for rejecting most of the alternatives.

Both of these locations have potentially very negative consequences to the project. Penn Station does not have the Plate H clearances (according to previous FRA studies) and may need to be torn down/moved to accommodate these clearances. The EIS appears to ignore the impacts that the station itself may cause to the future use of the project. The West Baltimore MARC station presents negative environmental impacts due to the surrounding community and is not served by Amtrak. The Title I EIS and the elimination of alternative 11 demonstrate this. MARC could make operational changes to negate the need to require the West Baltimore MARC to be an end point of the tunnel.

Additionally the EIS also fails to properly understand the needs for the number of tracks. It derives the need from the Title I EIS. This need is based on the projected rail capacity and the need for MARC to make intermediate stops (interfering with) that Amtrak does not. In the case of the existing B&P Tunnel, only two tracks are needed because there are no intermediate stops. The EIS alternatives do not address the fact that the purpose and need of the project may be met with less than 4 new tracks based on this fact. The EIS should properly evaluate the minimum need based on each alternative.

There are numerous reasonable alternatives that have not been evaluated. The following alternatives are a non-exhaustive list. Many of the rejected alternatives are actually reasonable alternatives when the station location requirements are eliminated. Additionally, the Howard St tunnel should also be evaluated as an alternative with CNX using a rehabbed B&P tunnel with plate H clearances.

The EIS demonstrates that the rehabilitation of the existing tunnel is significantly cheaper than building two tunnels. While this is not a reasonable alternative on its own, it can be combined with other alternatives. This alternative should include a double wide tunnel as well as a single track tunnel with plate H clearance. Building one or two plate H clearance tunnels may eliminate the need to create two additional tunnels with plate H clearances since Amtrak does not need such large tunnels saving money.

Alternative 1 may be viable if the West Baltimore tunnel entrance and tunnel is extended further down the track towards DC. The West Baltimore station can be accommodated either by an underground station or operationally (e.g. through reverse train moves or serving as an end of line station). It may be possible to make underground sidings at the West Baltimore MARC to eliminate the interference with Amtrak. Another possible location for a ventilation plant for option 11 is over the existing B&P tunnel opening around Pennsylvania and

Response to Comment 1:

As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

The Project is proposed in order to address the deficiencies of the existing tunnel. Alternative 5 does not address deficiencies of the tunnel, and is therefore not a feasible alternative. For more information regarding the Project Purpose and Need, as well as the Alternatives Development process, please refer to Chapters II and III of this FEIS.

The disposition of the existing tunnel is explored in Chapter II. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Response to Comment 2:

The purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, which include eliminating impediments to existing and projected operations along the NEC. The alternatives considered were developed to complement existing operations at the existing Penn Station.
Using existing infrastructure was a necessary condition for an Alternative to be considered feasible and/or reasonable. Utilizing Baltimore Penn Station was one such condition. Utilizing the existing West Baltimore MARC station, however, was not a condition, and the existing station will be replaced.

Amtrak is in the early planning stages of developing a master plan for the future needs at Baltimore Penn Station (Amtrak, 2015). The plan will outline a series of incremental and phased improvements to the station facility and select land assets to guide the station’s future development. The master plan will build off three studies: The Operations and Facilities Study, which will assess long-term operational and facility requirements for Baltimore Penn Station to meet growing capacity demands; the State of Good Repair Study; and the Commercial Development Study. Early coordination between the Project Team and Baltimore Penn Station representatives indicated that neither project would impact the other. Planned high level platforms at Baltimore Penn Station would not have any material effect on the alternatives considered for the Project.

Regarding the minimum appropriate number of tracks, consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

Response to Comment 3:
The constraints and requirements used in the evaluation of Alternatives were created to ensure that the Alternatives that advanced to further study would be both feasible and reasonable to implement. The continued use of assets such as Baltimore Penn Station and the Gwynns Falls Bridge ensure that additional funds are not spent rebuilding functional infrastructure and that communities and the local economy are not disrupted with unnecessary construction.

As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 25:

To Whom It May Concern—

As a resident of Reservoir Hill, I oppose Alternatives 3A, 3B, and 3C. The site of the proposed ventilation plant is in an area of Reservoir Hill that is finally seeing revitalization. The residents in the area immediately surrounding the site are mostly minority and either live at or below the poverty line. The addition of the ventilation plant would be an eyesore and further disenfranchise a community that has been working hard to make Reservoir Hill a viable place to live. Our first cafe recently opened and there is more potential development at the corner of Park Ave and Whitelock St. The ventilation plant would discourage potential business owners from coming into Reservoir Hill because no one wants to open a business by something that could potentially be unsafe during an accident in the tunnel. Also, in the event of a disaster, the area is not easily accessible. Crews would have to travel down narrow residential streets which are cumbersome to navigate.

The location of the current proposed ventilation plant serves as an area for community gathering. In the past, Reservoir Hill has utilized that space during at least four community festivals. When that space is lost, will FRA, MDOT, and Amtrak build a community park for Reservoir Hill to replace what was taken away from us? Unfortunately given the current funding situation, I find this highly unlikely.

The executive summary states that there would be minimal environmental impact from the ventilation plant. While the current train traffic might not significantly increase the particulate matter, Alternatives 3A, B, and C were chosen because of the decreased travel time. The decreased travel time only encourages more train traffic, thus increasing emissions of particulate matter and fuel emissions. How much money does it cost to maintain these ventilation plants? When the plant malfunctions, the concentration of particulate matter and emitted into the atmosphere could increase exponentially. What plans are in place for preventative maintenance and disaster recovery?

It would be better for the residents of Reservoir Hill and the rest of West Baltimore if the old tunnel was repaired and a new tunnel was not built.

Sincerely,

Katherine Ziemba MSc.

Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.

Response to Comment 2:
The economic market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

To minimize risk to the public, FRA requires a range of measures, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

Response to Comment 3:
Regarding environmental impacts from the ventilation facilities, the emissions associated with the proposed facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because concentrations of NO\textsubscript{2} were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.
The cost of maintaining the systems are factored into the overall life cycle costs of the Project.

The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA). The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the tunnel would be projected up and away from the community. In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

Response to Comment 4:
As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.
Response to Comment 1:

As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
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- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 27:

From: noreply@feedback.com
To: DEIS Public Information.
Subject: Comment Form.
Date: Monday, February 15, 2016, 10:44:57 PM

Ms Sarah Edelsburg,

Dear BP Tunnel company,

The neighborhood residents of Reservoir Hill strongly oppose the building of a gigantic tunnel in our community. We will do everything we can to prevent this from happening. Some of our neighbors have done a great job so far at attending your “community meetings” and learning about the project. They are spreading the word through the neighborhood about how horrible this project is for our community, and mobilizing lots of community members. We have learned several things so far: 1) That there is a way to build your tunnel *without* a gigantic 5-story ventilation shaft in the middle of Reservoir Hill - but your company is just not willing to spend the money to do that. 2) Boston Hill was considered as a spot for the ventilation tunnel, but was eventually NOT chosen as an option because of the influence in that neighborhood. 3) Money will be offered to people in the community to avoid any liability - which shows very questionable intentions on your part. 4) The project will cost millions of dollars, only for the purpose of “improving” the speed of commuters by 2 minutes. 5) The tunnel is being marketed for commuter trains, but freight train tracks are being added as well.

This project will have a horrible environmental impact on the entire area, but more so, it will destroy decades of effort that were put into to rebuild the Reservoir Hill community. We, the residents of Reservoir Hill, will do everything we can to prevent this project from happening. We will get every elected official involved, because this project will have a ripple effect on the entire development of the West Side of the city. Please consider another more commercial, non-residential area for your tunnel building plans, as we will make it very difficult for this project to move forward. Thank you.

Response to Comment 1:
As described in Chapter III of the FEIS, the build alternatives would require three ventilation facilities in order to meet current safety industry standards (NFPA 130) for projected NEC FUTURE train demand headway, and to ensure proper ventilation of the proposed tunnels. The purpose of the ventilation facility is to pull fresh air into the tunnel and ventilate the tunnel air to the outside. One ventilation facility will be located at the south portal, and another will be located 300-600 feet from the north portal. A third ventilation facility would be located at street level, connected to the bored portion of the tunnels by a vertical shaft and connecting tunnel (plenum), splitting the proposed tunnel into two unequal lengths. The Intermediate Ventilation Facility would consist of a building, approximately 100 feet by 200 feet in plan with a maximum height of 60 feet.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
An Area of Consideration for the Intermediate Ventilation Facility of each build alternative was identified as part of the preliminary engineering, based on considerations previously described. As described in Chapter III, the three overlapping Areas of Consideration (corresponding with Alternatives 3A, 3B, and 3C) were all located in the Reservoir Hill neighborhood.

Response to Comment 3:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.

The Project would provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. Payment to those not relocated would be offered in the event that structural damage to houses or other buildings is determined to have been
caused by the Project construction activities. The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

Response to Comment 4:
While reducing travel time through the B&P Tunnel is one of several goals of the Project, it is not the reason that the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Response to Comment 5:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.
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<td>Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&amp;P Tunnel daily for freight purposes.</td>
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| **Response to Comment 6:**

Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

**Response to Comment 7:**
The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
DEIS Comment 28:

Brittany Rolf

From: Edwards, John V [Planning] -
Sent: Thursday, February 25, 2016 2:53 PM
To: BPTunnel Information
Subject: Comments on the B&P Tunnel DEIS
Attachments: February 25 2016 comments on the DEIS.pdf

Please see the attached letter.

John V. Edwards
General Director Passenger Policy
Norfolk Southern Corporation
Response to Comment 1:
Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the build alternatives propose a total of four tracks which will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040.

The build alternative tunnels would have clearances to accommodate double stack container freight cars, known as AAR Plate H. The operating envelope for Plate H clearance is generally, 10 feet 8 inches wide by 20 feet 3 inches tall.

The internal diameter of the tunnel is nominally 30 ft with an internal configuration to accommodate AAR Plate H and Plate K equipment. The existing B&P Tunnel is not on the current Strategic Rail Corridor Network (STRACNET). Neither the Federal Railroad Administration nor the Department of Defense (DOD) have identified the need to place the B&P Tunnel or its replacement on the STRACNET; therefore, the replacement tunnel(s) have not been designed to accommodate the DOD Clearance Profile for STRACNET. Also, please note that there are many other restrictions north and south of the proposed tunnel preventing achieving STRACNET clearances along the length of the NEC. For some of these restrictions, no feasible solution has yet been identified.
Response to Comment 1:
The report provided, *A Proposal to Unravel Baltimore’s Tangled Rail Lines*, argues for a comprehensive system approach to rail planning in Baltimore and the mid-Atlantic region. It describes a list of projects and the order in which they should be completed. The report takes into consideration local, state, and regional transportation routes, and recommends new construction at a number of locations in order to relieve congestion and create opportunities for expanding rail service in the future.

While recommendations in the report focus on resolving issues at a regional level, they would not address or resolve the specific needs of the B&P Tunnel; therefore, the improvements suggested in the report would be beyond the purview of the Project. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life. It is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. For additional information regarding the purpose and need of the Project, please see Chapter II of this FEIS.

To review the September 2015 report in its entirety, please refer to DEIS Comment #11.
DEIS Comment 30:

Brittany Rolf

From: Clare Gorman - BPTunnel Information
Sent: Friday, February 26, 2016 3:09 PM
To: Brittany Rolf
Subject: Comments on the B&P Tunnel

Attached are Healthy Neighborhoods’ comments on the B&P Tunnel. A hard copy will be sent in the mail.

Thank you.

Clare Gorman
Chief Administrative Officer

www.healthyneighborhoods.org
Response to Comment 1:
The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

Response to Comment 2:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes.

Amtrak design practices require new NEC infrastructure meet current standards, including Plate H (double stack) clearances. However, the new tunnel could not be used by double stack freight trains unless certain factors are met. These factors include:

- Substantial improvements, such as extensive additional vertical clearance improvements north and south of the B&P Tunnel to other NEC infrastructure; these improvements are not being designed as part of the B&P Project;
- Federal, state, local and regional support for aforementioned improvements including funding and policy;
Emergency Note Systems:

- Increasing the bridge and catenary clearance on the NEC where double stack/high dimension trains are to travel;
- Construction of new or modified Union tunnel to Plate H/K (double stack) clearances; without a high dimension Union tunnel, double stack freight service using the B&P Tunnel is not possible;
- NS currently favors the Harrisburg-Perryville route for intermodal service;
- Freight schedules limited to off peak/night time periods which affects the scheduling flexibility and transit time for high priority (Intermodal) shipments for which time is absolutely critical; and
- Construction of track connection/s between the CSX and the NEC if CSX chooses to use the NEC.

In the short-term, there is no indication of any significant increase in freight movements through the B&P Tunnel.

Response to Comment 3:
The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM...
would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Response to Comment 4:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 5:
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper
Final Environmental Impact Statement and Section 4(f) Evaluation

COMMENTS

Howard Eager Elementary School, a new revitalized playground that received significant investment from the Baltimore Ravens, and Linden House, a historic renovation into apartments for formerly homeless women and their children. Residents are concerned about dangerous diesel fumes and other emissions that could significantly impact air quality in the neighborhood. As you know full well, there is a history of fire in Baltimore’s old railroad tunnels.

Safety and danger from explosion and fires
Residents want to feel safe in their homes and neighborhoods and are concerned about the potential dangers if freight trains transport hazardous materials or chemicals under their homes. There is a well-documented history of accidents and fires in tunnels in Baltimore City. The Lake Megantic, Quebec crude oil explosion is cited as a worst case scenario. Residents have been informed that the B&P Tunnel Project could include hazardous materials such as petroleum (crude oil), chemical (propane, chlorine, etc.) and nuclear products. Residents are rightly concerned about the potential hazards from fire, explosion, and poison. They also worry that the tunnel could be a target for terrorism. Baltimore City and the federal government are making plans to protect Lake Montebello and Druid Hill Park from terrorists.

Thank you for the opportunity to share these concerns. We know that there are better alternatives that can be explored and that the B&P Tunnel will not proceed as currently proposed with its potential to harm Reservoir Hill or other West Baltimore communities.

Very truly yours,
Mark Sissman
President

RESPONSES

labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 6:
The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.
## Response to Comment 7:

For information regarding the impacts to homes in the historic district, please refer back to the response to Comment 1.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

## Response to Comment 8:

Construction of the build alternatives would cause major utility relocations that would extend significant distances outside of the tunnel portal areas. Utility locations would be identified as the Project advances and relocations would take place to permit the reconstruction to advance as quickly as possible with minimal inconvenience to those living adjacent to the work areas.

The Project sponsor will develop and implement a Hazardous Spill Prevention Plan, a Hazardous Materials Remediation Plan, and an Emergency Management Plan to be implemented in the event of a tunnel emergency.

## Response to Comment 9:

As stated in Comment 3, the impacts of construction noise and vibration will be mitigated.

The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
Response to Comment 10:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 11:
The St. Francis Neighborhood Center, German Park, and the Linden House (also known as the David Bachrach House) would not be impacted by the Project. The John Eager Howard Elementary School would be closer to the site of the Intermediate Ventilation Facility located at 900-940 W North Ave. than it was to the Whitelock Street site; however, other than a visual change, would not be impacted.

Regarding diesel emissions, when NO₂ levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO₂.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO₂ emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards.
Final Environmental Impact Statement and Section 4(f) Evaluation

(NAAQS) threshold, set to safeguard public health. Because the concentrations of NO₂ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Response to Comment 12:
To minimize risk to the public, FRA requires a range of measures, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA). Emergency access/egress for pedestrians would be accomplished via emergency exits no farther than 2,500 feet apart or cross-passages between tunnels every 800 feet or less, or in some situations, a combination of both. For the Preferred Alternative, three locations would be provided for emergency egress to the surface, working with cross-passages in the tunnels. The emergency egress to ground level would be provided at the south portal Ventilation Facility, via the Intermediate Ventilation Facility, and at the north portal Ventilation Facility.

The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the tunnel would be projected up and away from the community. In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using the FTA Transit Noise and Vibration Impact Assessment, and construction vibration levels were also evaluated using both FTA guidelines and standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.
The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VI of this FEIS.

Response to Comment 3:
The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Response to Comment 4:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
COMMENTS

DEIS Comment 32:

Brittany Rolf

From: Kathryn Epple <kathryn.epple@bptunnel.com>
Sent: Thursday, February 25, 2016 11:08 PM
To: BPTunnel Information
Cc: George Epple; Bill Lee; Kathryn Epple; Kyle Winborne; Laura Arnie; Mark F. West; Remington Stone; Russ Moss; Saled El Salem; Stephen & Rebecca Arthur
Subject: DEIS COMMENT
Attachments: 20160224 DEIS Comments Epple.docx

B&P Tunnel project,

Here are my further comments on the DEIS.

Kathryn Epple
President, Residents Against the Tunnels
Response to Comment 1:

Project design is not yet complete; once preliminary design is complete and the NEPA EIS process is finalized, the people who would be displaced by the alternative selected for implementation in the Record of Decision would be notified. The Project Team would provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. During the process, direct mailings were sent to residents in the Study Area, which included property owners within one-quarter mile of the Preferred Alternative, as well as additional property owners within the south portal area that could potentially be impacted by the Project.

The Preferred Alternative would displace 22 residential buildings in the Midtown-Edmondson neighborhood, Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

Executive Order 12898 requires federal agencies ensure effective, meaningful involvement of low-income and minority populations in project planning and development and potentially affected EJ populations have fair and equal access to information. The Project Team has engaged in extensive public outreach throughout the development of the Project, including public meetings where the public was given the opportunity to learn about the project development and engage in discussion with the Project Team. In addition to these meetings, Mitigation Working Groups comprising community organization representatives and members of the Project Team were established to determine the most effective mitigation for the Project. Details of this outreach are described in Chapter VI, as well as Chapter VIII.

Response to Comment 2:

The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

Response to Comment 3:

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which
include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.
All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Coordination with local, state, and national officials will be ongoing throughout the final design and implementation of the Project. Safety and security of the tunnel will be carefully considered as the Project advances.

Response to Comment 4:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes.

Amtrak design practices require new NEC infrastructure meet current standards, including Plate H (double stack) clearances. However, the new tunnel could not be used by double stack freight trains unless certain factors are met. These factors include:

- Substantial improvements, such as extensive additional vertical clearance improvements north and south of the B&P Tunnel to other NEC infrastructure; these improvements are not being designed as part of the B&P Project;
- Federal, state, local and regional support for aforementioned improvements including funding and policy;
- Increasing the bridge and catenary clearance on the NEC where double stack/high dimension trains are to travel;
- Construction of new or modified Union tunnel to Plate H/K (double stack) clearances; without a high dimension Union tunnel, double stack freight service using the B&P Tunnel is not possible;
● NS currently favors the Harrisburg-Perryville route for intermodal service;
● Freight schedules limited to off peak/night time periods which affects the scheduling flexibility and transit time for high priority (intermodal) shipments for which time is absolutely critical; and
● Construction of track connection/s between the CSX and the NEC if CSX chooses to use the NEC.

In the short-term, there is no indication of any significant increase in freight movements through the B&P Tunnel. As Amtrak is responsible for operating a robust passenger rail service, the two inner tracks of the four-track tunnel system will be reserved (in all but emergency conditions) for high-speed passenger train operations, freight services will be restricted to share the two slower, outer tracks with MARC commuter rail trains. It is therefore not possible for the tunnel system to be converted to majority—or even significantly increased—freight operations.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at [https://www.fra.dot.gov/Page/P0444](https://www.fra.dot.gov/Page/P0444). From that text:

> Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.
### Comments

The Project sponsor will develop and implement a Hazardous Spill Prevention Plan and a Hazardous Materials Remediation Plan, as well as an Emergency Management Plan, to be implemented in the event of a tunnel emergency. Tunnel drainage concepts are being developed to meet MDE and BD standards for discharge into sanitary or stormwater utility systems. In addition, concepts are being designed to provide protection from diesel fuel and other hydrocarbon leaks into the tunnel drainage system.

### Response to Comment 5:

The Maryland Department of Transportation oversees comprehensive transportation planning for the State. Prior studies have been performed that evaluate the full network of rail corridors, especially those in and around the City of Baltimore. The study of the B&P Tunnel partly resulted from the identification of this Project as a critical component to the greater rail access plan.

A Maglev train would not utilize existing or planned Amtrak infrastructure. The design of such a system requires significantly different rights-of-way and infrastructure. The design criteria for Maglev are extremely restrictive and would only be achievable on new alignments.

### Response to Comment 6:

Regarding the comment that Amtrak trains should be routed through improved track and tunnels along the existing B&P Tunnel right-of-way, this option was explored with Alternative 2. As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.
Amtrak is in the early planning stages of developing a master plan for the future needs at Baltimore Penn Station (Amtrak, 2015). The plan will outline a series of incremental and phased improvements to the station facility and select land assets to guide the station’s future development. The master plan will build off three studies: The Operations and Facilities Study, which will assess long-term operational and facility requirements for Baltimore Penn Station to meet growing capacity demands; the State of Good Repair Study; and the Commercial Development Study. Early coordination between the Project Team and Baltimore Penn Station representatives indicated that neither project would impact the other. Planned high level platforms at Baltimore Penn Station would not have any material effect on the alternatives considered for the Project.

Response to Comment 7:
Regarding diesel emissions, when NO₂ levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO₂.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO₂ emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am and 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am, and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exist through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO2 concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are in Chapter VI.

The type of locomotive traveling through the tunnel is determined by the train service operator. As per the 2040 projections, of the 388 daily vehicles running through the tunnel, 222 will be electric (Acela, NE Regional, and Metropolitan), and 166 will be diesel (2 freight and 164 MARC). Please refer to Chapter VI, Section H for additional information.

Response to Comment 8:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that area.
corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Ventilation plants are necessary for public safety and would still be needed regardless of the type of energy used by vehicles in the tunnel. As described in Chapter III of the FEIS, the build alternatives would require three ventilation plants in order to meet current safety industry standards (NFPA 130), for projected NEC FUTURE train demand headway, and to ensure proper ventilation of the proposed tunnels. The purpose of the ventilation plant is to pull fresh air into the tunnel and ventilate the tunnel air to the outside.

The economic market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 9:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore.
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Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.
DEIS Comment 33:

B&P Tunnel Project,

As feedback on the B&P Tunnel Draft Environmental Impact Study, I respectfully submit the Residents Against the Tunnels (RATT) position paper (attached) opposing the B&P Tunnel project as currently conceived.

Thanks for the opportunity to comment.

Kathy Eppe
President, RATT
Final Environmental Impact Statement and Section 4(f) Evaluation

COMMENTS

RESPONSES

Subject: B&P Tunnel Position Paper

To: B&P Tunnel Project
81 West Mosher Street
Baltimore, MD 21217
Attn: Ms. Odessa Phillips, PE
Environmental Project Manager
Baltimore City Department of Transportation

Cc: Governor Larry Hogan
Senator Benjamin Cardin
Senator Barbara Mikulski
Congressman Elijah Cummings
Mayor Stephanie Rawlings-Blake
City Council President Bernard "Jack" Young
Councilman Nick Mosby
State Senator Catherine Pugh
State Senator Shirley Nathan-Pulliam
Delegate Antonio Hayes, 40th District
Delegate Barbara Robinson, 40th District
Delegate Frank M. Conaway, Jr., 40th District
Environmental Protection Agency, Region 3
DHS, Transportation Security Agency (TSA)
Baltimore City Department of Planning, Attn: Chad Hayes, Kyle Leggs
National Resources Defense Council
National Trust for Historic Preservation
Maryland Historical Trust
Preservation Maryland, Attn: Margaret De Arcangelis
Baltimore City Committee for Historic & Architectural Preservation (CHAP)
Baltimore Heritage, Attn: Johns Hopkins
Baltimore National Heritage Area, Attn: Jason Vaughan
Chesapeake Climate Action Network, Attn: Jon Kemney
Maryland Department of the Environment
MD Attorney General, Department of the Environment, Attn: Asst. Attorney General Ellen W. Cohill
NAACP, Attn: Jacqui Patterson
NAACP Legal Defense and Educational Fund, Inc. (LDF), Attn: Sherrilyn Ifill
NAACP MD
National Action Network, Baltimore Chapter, Attn: State Senator Larry Young
ACLU of Maryland, Attn: Susan Goering
Baltimore City Public Schools
John Eager Howard Elementary School
Historic Mount Royal Terrace, Attn: Greg Grenner
Reservoir Hill Improvement Council, Attn: Rick Gwynn, Eli Lapatin
Greater Mondawmin Coordinating Council, Attn: Jacqueline Caldwell
Coppin Heights CDC, Attn: Gary Rodwell, Gretchen Spell
Edmondson Avenue Historic District
Greater Reservoir-Historic District
Baltimoreans United In Leadership Development (BUILD)
Friends of Druid Hill Park
The Maryland Zoo in Baltimore
St. Francis Neighborhood Center, Attn: Christi Green
Healthy Neighborhoods, Inc., Attn: Mark Sisman, Barbara Aylesworth
Community Law Center, Attn: Shane Roth-Gormley

FEIS November 2016 143
Response to Comment 1:
The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

Amtrak design practices require new NEC infrastructure meet current standards, including Plate H (double stack) clearances. However, the new tunnel could not be used by double stack freight trains unless certain factors are met. These factors include:

- Substantial improvements, such as extensive additional vertical clearance improvements north and south of the B&P Tunnel to other NEC infrastructure; these improvements are not being designed as part of the B&P Project;
- Federal, state, local and regional support for aforementioned improvements including funding and policy;
- Increasing the bridge and catenary clearance on the NEC where double stack/high dimension trains are to travel;
- Construction of new or modified Union tunnel to Plate H/K (double stack) clearances; without a high dimension Union tunnel, double stack freight service using the B&P Tunnel is not possible;
- NS currently favors the Harrisburg-Perryville route for intermodal service;
- Freight schedules limited to off peak/night time periods which affects the scheduling flexibility and transit time for high priority (Intermodal) shipments for which time is absolutely critical; and
- Construction of track connection/s between the CSX and the NEC if CSX chooses to use the NEC.

In the short-term, there is no indication of any significant increase in freight movements through the B&P Tunnel.

The build alternatives will have an average tunnel depth of 115 feet.
As described in Chapter III, Section III of the FEIS, the build alternatives would require three ventilation facilities in order to meet current safety industry standards (NFPA 130) for projected NEC FUTURE train demand headway, and to ensure proper ventilation of the proposed tunnels. The purpose of the ventilation facility is to pull fresh air into the tunnel and ventilate the tunnel air to the outside. One ventilation facility will be located at the south portal, and another will be located 300-600 feet from the north portal. A third ventilation facility would be located at street level, connected to the bored portion of the tunnels by a vertical shaft and connecting tunnel (plenum), splitting the proposed tunnel into two unequal lengths. The Intermediate Ventilation Facility would consist of a building, approximately 100 feet by 200 feet in plan with a maximum height of 60 feet.

Response to Comment 2:
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

To minimize risk to the public, FRA requires a range of measures, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA). Emergency access/egress for pedestrians would be accomplished via emergency exits no farther than 2,500 feet apart or cross-passages between tunnels every 800 feet or less, or in some situations, a combination of both. For the Preferred Alternative, three locations would be provided for emergency egress to the surface, working with cross-passages in the tunnels. The emergency egress to ground level would be provided at the south portal Ventilation Facility, via the Intermediate Ventilation Facility, and at the north portal Ventilation Facility.
The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the tunnel would be projected up and away from the community. In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.

Response to Comment 3:
Regarding diesel emissions, when NO₂ levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO₂.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO₂ emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am and 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am, and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exist through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Because the concentrations of NO₂ were modeled to be within acceptable levels, all other criteria pollutant concentrations would be within NAAQS, as NOx is the most strictly regulated air pollutant generated from diesel...
We are concerned about the possible condemnation and destruction of historic buildings. 1) to construct one or more large vent buildings (100' x 200' x 50', 5 stories) to exhaust the tunnels, and 2) to permit the tunnels to surface under Mount Royal Terrace. Furthermore, we believe that a large 5-story vent building would not visually harmonize with the residential appearance of this historic neighborhood.

The Whitelock Street business district, which had become a drug marketplace, was demolished in the 1990s with the promise from Baltimore City of future redevelopment. Placement of the vent tunnel in the heart of the community on Whitelock Street would seriously inhibit prospects for redevelopment of this critical area.

We build byways to keep traffic out of our cities. While we understand the importance of improving Northeast Corridor passenger rail transportation, we question doing so to the detriment of our long established and historic residential area.

Throughout Reservoir Hill, gas lines, water mains, storm drains, and power grid systems are very outdated. We believe that construction of 4 tunnels under the neighborhood could jeopardize the integrity of city roads and the aging infrastructure.

Reservoir Hill is part of the larger community that was recently stressed by the Freddie Gray tragedy and resulting riots. Reservoir Hill is in immediate proximity to Penn North and Sandtown-Winchester, and our neighborhood feeds Douglass HS School, where the riots started. The B&P Tunnel Project proposes to run the 4 tunnels under all of these neighborhoods. There is a sense in the community that the B&P Tunnel Project would take advantage of a less politically empowered area to benefit the railroads, oil, and chemical companies at the expense (and risk) of the residents of our area, and at a time when the area is recovering from recent events.

Institutional racism in the United States has profound impacts on who lives where, near what, and with how much exposure to risk. This week my organization, ForestEthics, partnered with our city, Communities for a Better Environment, to release a report in which we analyzed who was at the greatest risk from oil train explosions in California. The risk in this case is both explosions (there have been five major derailment explosions in 2015 alone) as well as the long-term health impacts of diesel fumes and oil gas from these oil trains (they lose 1-3% of volume during transit via toxic gaseous emissions).

The results are stunning: dark-skinned and poorer communities received not just disproportionate risk, in some cities 100% of the risk from oil trains was borne by lower income people of color.

Transporting millions of gallons of oil on mile-long trains through our cities, towns, alongside our water supplies, and through our forests is a kind of insanity. Doing all of this while saddling dark-skinned and poor communities with most, or in some cases, all of the risk, is morally repugnant. It is time to ban all trains.

Over the past few years Reservoir Hill has become an increasingly viable neighborhood. We have seen many creative young people and families, who have great enthusiasm for living in Baltimore, move into the neighborhood. Some of this due is to the proximity not only to Druid Hill Park, but also to universities (UMBC, JHU, U of MD, U of Baltimore), cultural institutions (AMA, concert halls, theatres), and restaurants and entertainment (Station North, Hampden, and Remington).

The Project has assessed the existing air quality conditions for the Project Study Area. Any changes to air quality would be in accordance with the Clean Air Act and other applicable air quality regulations. The Project Team has compared emissions from diesel train traffic through the Study Area with and without a new tunnel. With additional trains made possible by the new tunnel, the net change in the emissions of VOC, NOx, and PM2.5 will occur, but would be below the de minimis levels that were set to safeguard public health. The proposed Project would not result in adverse impacts to air quality due to operational emissions.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 4: All of the proposed Project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards. The Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal safety.

Response to Comment 5: Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated...
We believe that construction of these tunnels could reverse the growth of Reservoir Hill and result in financial loss to both home owners and the city. Safety and quality of life issues could result in the permanent departure of home owners and residents from the neighborhood, threatening this hard-won stability and eroding the city’s tax base.

In fairness, the tunnels did not exist when we purchased our homes. Construction of train tunnels under our houses is likely to result in a substantial loss in real estate value for a large number of homes. We have been told by B&P Tunnel Project representatives to anticipate a forced loss of mineral rights, with limited compensation. No compensation for the loss of real estate value has been mentioned. It has been suggested that the real estate values of our homes may have already been impacted as a result of the B&P Tunnel study itself.

Ownership, Control, and Responsible Party

It has been stated that, due to the expense, which is estimated at $1B - $3B, it is not currently known who would ultimately own, control, and be accountable for the tunnel, and consequently be responsible and liable for property damage or disaster recovery. It has also not been stated what level of federal, state, and local funding will be applied to the project. These are issues of transparency that should be made clear.

Goals, Cost, and Benefit

The stated primary goal of this project is to increase train speed and improve the schedule for passenger trains. Current estimates cite an improvement of less than 30 seconds per train. We question the relationship of this project to any future plans to construct a Washington to Baltimore to New York maglev passenger line. Also, there has been little discussion by the B&P Tunnel Project of plans to increase the number of freight trains moving through Baltimore. Given that since the start of the project, the plan for 2 tunnels has increased to 4 with the newer goal of accommodating double-stack trains, we believe the real purpose (or at least a major secondary goal) of this project is to increase rail freight capacity through Baltimore. It is questionable whether this would be the optimal route for freight since freight trains do not need to go to Penn Station. The B&P Tunnel would be an expensive project, the justification of which strains common sense, especially given that the goals of the project seem murky and the funding source and ownership are unclear. To the extent that government funds are used, the benefit to citizens and Baltimore City (as opposed to private corporations) should outweigh the cost.

Hazards of Freight

In particular, we strongly object to having unknown and unlimited quantities of potentially dangerous freight travel under this densely populated area. It would be wrong to expose our community to nuclear material, potential explosions, hazardous chemical spills, diesel pollution, and to create potential opportunities for terrorists. Based on experience from the 2001 Baltimore train derailment, Meganto Lake, and other disasters, as well as expert predictions, we believe this represents a very serious and statistically significant long-term risk. Since there is no need to route freight to Penn Station, we request that, particularly for freight, other alternatives be considered with less potential to endanger human life.

Conclusion

The Reservoir Hill community is strongly opposed to this project as currently proposed for the reasons stated above. We question whether the current plan represents the best technical solution to carry passenger and freight transport forward well into the current century. We appeal to our representatives to stop this proposed construction of train tunnels under the current Hill.

Citations:

1. 2010 Census

Response to Comment 6:

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.
The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

Response to Comment 7:
The build alternatives will have an average tunnel depth of 115 feet.

The three ventilation plant facilities would be subject to the operational noise level standards included in the Noise Regulation of the Health Code of Baltimore City § 9-206 Noise Regulation, 2015. This regulation provides the noise limits for manufacturing, commercial, and residential zones in Baltimore City– depending on the source of noise and the types of adjacent land uses. For noise generated within residential zones, there is a limit of 55 dBA at any point on the property line of the use.

Noise levels in the immediate vicinity of the ventilation plant buildings would be caused by the continual operation of the ventilation fans within each facility. The horizontal fans would operate periodically and would generate sound that would propagate through the louvers at the top of the ventilation facilities. Fans would operate periodically when NO2 levels in the tunnel exceed a set threshold or in emergencies when smoke is present in the tunnel. NO2 levels are likely to be highest when the level of diesel locomotive operations is highest, or when congestion causes trains to operate slowly or to idle in the tunnel.

However, there is not enough information currently available to determine how many hours per day, on average, the fans would run and whether or not they would run during the night.

The Project sponsor will develop and implement a construction noise mitigation plan. The plan will include to the extent practicable:

- Location of construction equipment and material staging areas away from sensitive receptors where possible
- Temporary noise barriers and advanced construction of permanent barriers to serve during construction where possible
- Routing of construction traffic and haul routes along roads in non-noise sensitive areas.

Response to Comment 8:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be fully compensated for the cost of repairs.

Response to Comment 9:
As noted in Comment 3 above, the preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 10:
Construction of the build alternatives would cause major utility relocations such as that would extend significant distances outside of the tunnel portal areas. Utility locations would be identified as the Project advances and relocations would take place to permit the reconstruction to advance as quickly as possible with minimal inconvenience to those living adjacent to the work areas.

Response to Comment 11:
Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.
The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the EO on environmental justice is public outreach. The Project Team has engaged extensively with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three Public Open Houses, as well as ten community meetings, have been held where the public was given the opportunity to learn about the project development in-person, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter’s Clavier Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School.

Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and fliers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations.

The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.

Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations. For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A
would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within \( \frac{3}{4} \) mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.

Response to Comment 12:
The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

When the Project enters the right-of-way phase, an evaluation would be done on each property to determine if compensation for mineral rights is appropriate. Appropriateness of compensation would likely be based on location of the property in relation to the tunnel.

Response to Comment 13:
Amtrak will be the owner and operator of the new Tunnel. Amtrak will coordinate with local responders, who receive training for a variety of incidents related to specific facilities, including the B&P Tunnel. The tunnel would be constructed to meet current standards for fire protection. Additionally, the Project sponsor will develop and implement a Hazardous Spill Prevention Plan and a Hazardous Materials Remediation Plan, as well as an Emergency Management Plan to be implemented in the event of a tunnel emergency.

Local, state, and federal officials would be involved in any disaster recovery efforts. Responsibility for damages would be established at that time.

The Baltimore Metropolitan Council and MDOT amended the Fiscal Year 2011 State Transportation Improvement Program (TIP) list to add federal funds to the 2011-2014 Baltimore Regional Transportation Board’s (BRTB) TIP for the existing B&P Tunnel Improvement Project (TIP # 92-1101-99). The current state of the Project is funded through a High-Speed Intercity Passenger Rail (HSIPR) grant for preliminary engineering and NEPA analysis. The BRTB approved funding for the study on May 24, 2011 (Resolution #11-26).
No funding for Project Construction has been identified to date; federal funding sources will be made public at the time of award.

Response to Comment 14:
While reducing travel time through the B&P Tunnel is one of several goals of the Project, it is not the reason that the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Please refer to Comment 1 regarding the change from 2 tracks to 4 tracks and the double-stack trains.

Response to Comment 15:
Per Chapter V of the FEIS, it is projected that in 2040, 388 trains are expected to use the tunnel—386 passenger trains with no hazmat cargo, and two freight trains with limited hazmat cargo (based on current freight volumes projected into the future). Notwithstanding this likely very low volume of hazardous materials in the tunnel, the new tunnels would be designed to optimize safety and modern standards. Amtrak and Norfolk Southern (NS) are anticipated to use existing fleets and newly acquired equipment in the tunnel. This equipment must meet federal standards for safe operations. In addition, the tunnel will be equipped with Automatic Train Control (ATC) and Positive Train Control (PTC) systems, which use computer systems to control the speed of both passenger and
freight trains within the tunnel. The Project sponsor will develop and implement a Hazardous Spill Prevention Plan and a Hazardous Materials Remediation Plan, as well as an Emergency Management Plan, to be implemented in the event of a tunnel emergency. Tunnel drainage concepts are being developed to meet MDE and BD standards for discharge into sanitary or stormwater utility systems. In addition, concepts are being designed to provide protection from diesel fuel and other hydrocarbon leaks into the tunnel drainage system.

Finally, as Amtrak is responsible for operating a robust passenger rail service, the two inner tracks of the four-track tunnel system will be reserved (in all but emergency conditions) for high-speed passenger train operations, and freight services will be restricted to share the two slower, outer tracks with MARC commuter rail trains. It is therefore not possible for the tunnel system to accommodate significantly increased freight operations.
DEIS Comment 34:

Brittany Rolf

From: Kathryn Epple < 
Sent: Thursday, February 25, 2016 11:26 PM
To: BFTunnelInform 
Cc: George Epple; Bill Lee; Kathryn Epple; Kyle Winborne; Leara Annile; Mark F. West; Remington Stone; Russ Moss; Soledad Salame; Stephen & Rebecca Arthur
Subject: DEIS COMMENT
Attachments: Further RATT On-line Petition Comments.pdf

B&P Tunnel project;

Here are additional comments from the on-line petition opposing the B&P Tunnel project.

Kathryn Epple
President, Residents Against the Tunnels
Response to Comment 1:
A “do nothing” alternative, known in this FEIS as Alternative 1: No-Build, does not meet the stated Project Purpose and Need. The Project was initiated because the existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

The MTA Citizen Advisory Committee report (DEIS Comment #11) recommends a comprehensive planning approach for local, state, and regional rail that is beyond the purview of the B&P Tunnel Project.
The tunnel and the ventilation plant will have dire consequences on the health of our neighborhood. I have a 4-month-old baby whose every breath would be contaminated by this project. We invested in this neighborhood because we love the community and see the long-term potential for this area. We wish the project leaders could share that vision.

Carlos Payes, Baltimore, MD

Response to Comment 2:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
During the study a total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 5:
Rail service improvements are detailed within the FEIS; furthermore, while improving rail service is a goal of the Project, it is not the sole reason the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically
disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.

Response to Comment 6:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

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Thank you for your comment. We have reviewed the petition and the signatories.

B&P Tunnel Project.

Please find attached copies of petitions opposing the B&P Tunnel project, which are being submitted as feedback on the B&P Tunnel Draft Environmental Impact Statement.

The first 6 attachments are softcopy versions of hardcopy petitions. The originals can be made available on request.

There is also an on-line version of the petition at https://www.change.org/p/dessa-yehliu-oppose-construction-of-the-b-p-tunnel-project-please-exclude-it. As of today, 123 people have signed it. Comments from people who have signed the on-line petition are included in the last attachment.

Kathy Epple,
President, Residents Against the Tunnels
Petition

As residents of Reservoir Hill, we oppose construction of the B & P Tunnel Project (Great Circle Line) in our neighborhood.

Name  Address

Kathy E. Gelpi
Sonn Killion
Harry M. Morgan
Bill E. Fee
Daniel Patterson
Ernest Jones
Hugh W. Hines
Lindell Smith
Sobadad Sejame
Myra Coburn
Michael Galloway
Kathy Lemon
Judy C. Etter
Sean M. Cates
Paul Talmage
Kevin Apperson
Lori Embanks
Kathleen Stone
Sandra Hackett

COMMENTS

RESPONSES
As residents of Reservoir Hill, we oppose construction of the B & P Tunnel Project (Great Circle Line) in our neighborhoods.

- Paul Chalmers
- Jay Fisher
- Kevin Apperson
- Khory Lemon
- Russ Moss
- Pamela Forsyth
TUNNEL PETITION

As many of you know, the city of Baltimore has proposed placing train tunnels under our houses to carry dangerous chemicals, therefore endangering our lives, including the lives of people from babies to adults. The city is also proposing placing a large ventilation plant in the center of our gorgeous neighborhood. We believe that it is not right. If you agree, please take a stand and sign this petition.

Thank You!!!
Eliyah (age 10) and Shamir (age 8)

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Feasibility Analysis:

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TUNNEL PETITION

As many of you know, the city of Baltimore has proposed placing train tunnels under our houses to carry dangerous chemicals, therefore endangering our lives, including the lives of people from babies to adults. The city is also proposing placing a large ventilation plant in the center of our gorgeous neighborhood. We believe that it is not right. If you agree, please take a stand and sign this petition.

Thank You!!
Eliyah (age 10) and Shamir (age 8)

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FEIS November 2016
DEIS Comment 36:
Residents Against the Tunnels (RATT)
On-Line Petition

Odessa Phillips: Oppose construction of the B & P Tunnel Project (Great Circle Line) by Residents Against the Tunnels - 123 supporters

Comments:
1. As a homeowner in Reservoir Hill, this will be the beginning of the end of these 100+ year old homes and the neighborhood as a whole.
   Denise Doldron Oliver, Winter Park, FL
2. I'm signing this petition because this tunnel will ruin the future of Reservoir Hill and destroy the future of our children, who are the future for this city and the country. Please don't do it.
   Robyn Williams, Baltimore, MD
3. I'm against it
   Robert Pruden, Baltimore, MD
4. I believe the tunnels will have a negative impact on the structure of the homes and streets and the city will not take responsibility for it.
   Atiya Iman, Baltimore, MD
5. I oppose construction of the B & P Tunnel Project in the community at large and the devastation in the long run health wise it will have on its people and properties.
   Pamela Patterson, Baltimore, MD
6. There are many reasons why this is bad, but one which many people are not talking about is race and class. Here are the neighborhoods directly affected by the construction of the tunnels, and the corresponding percentage of the population who are black: Sandtown-Winchester/Harlem Park (97%), Upton/Druol Heights (92%), Reservoir Hill (91%), and Bolton Hill (32%). Note: the spatial layout of Bolton Hill has the train going through the northern portion of the neighborhood, near North Avenue where minority residence is higher. Minority neighborhoods in Inner-city Baltimore have been victimized over and over again by “urban renewal” projects and transportation construction which disadvantage residents and pose significant health risks. These communities have comparatively small population numbers (due to histories of white flight, deindustrialization, etc.) which results in limited political influence. By routing new trains through these neighborhoods, the quality of life for residents will be further diminished and the pollution from these trains will contaminate the air. And who is the B&P Tunnel asking to bear the brunt of these changes? Largely, low-income black residents. We need to stop another flint before it happens, and end the systemic degradation of minority populations for the benefit of wealthy, white populations and corporations. This is something that can be changed.
   There is a public hearing Wednesday, February 17 from 5 to 8pm at Carver Vocational-Technical High School. Please go and speak out on this and encourage others to do so as well.

Response to Comment 1:
The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

Response to Comment 2:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Response to Comment 3:
Thank you for your comment.

Response to Comment 4:
For information about potential Project impacts on the community, please see Response to Comment 2.

Response to Comment 5:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.
Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the EO on environmental justice is public outreach. The Project Team has engaged extensively with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three Public Open Houses, as well as ten community meetings, have been held where the public was given the opportunity to learn about the project development in-person, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter’s Clavier Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School.

Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and fliers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations.

The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.
Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations. For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.

Response to Comment 7
Thank you for your comment.

Response to Comment 8
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.
almost happened to Fell's Point decades ago. Many people have invested their lives in this neighborhood and it is now on a healthy upswing. The future will surely condemn the planners and politicians who might force this folly through. It must be stopped, if not to save their reputations in history, in order to save our homes and beautiful neighborhood.
Larry Schaeff, Baltimore, MD

The proposed tunnels would run directly under my house. Residents of 21117 area live in a section of the city that is plagued by the worst deterrents of health and social disparities. Placing these tunnels here would increase health disparities tremendously. Additionally,
Sandra Haskett, Baltimore, MD

I'm against the tunnel project running through my neighborhood. Run it through "Bolton Hill". That was a proposed site. What ever reasons those residents didn't want it in their community are the same reasons that I don't want it in mine. Those 4 proposed tunnels run DIRECTLY...DIRECTLY...under my house. My well is well over 100 YEARS OLD!! I don't know what damages can occur to MY HOME during construction. I don't need the noise nor the vibration of the construction or the vibrations from the additional trains that are proposed to use those tunnels. .....and that monstrosity of an air-vent that is also proposed I'm also opposed! Who needs that eye-sore in their neighborhood with all that additional noise..........what about the pollution from that exhaust and/or the hazardous vapors from some of the hazardous materials that the additional freight trains WILL BE CARRYING. How come those projects aren't being constructed in GULFORD, ROLAND PARK, MT. WASHINGTON, DULANEY VALLEY? It's awfully funny that the area for these proposed tunnels are predominately BLACK! What about that tunnel accident that occurred a few years back? Who wants the possibility of that in occurring in their neighborhood. Take your tunnel project out in the county somewhere!
Paul Culpitas, Baltimore, MD

I'm signing because I am a home owner in this neighborhood and I value the community.
Lynell Sanderson, Baltimore, MD

I am very concerned with the impact on this residential neighborhood.
Martin Cadogan, Baltimore, MD

I am against running tunnels under Reservoir Hill. There are better options that won't disrupt neighborhoods.
Helen Bedstrom, Baltimore, MD

I'm signing because, I don't want the tunnels running through my neighborhood as I believe it will be a health hazard a noise hazard among various other things.
Richard Pazomil, Baltimore, MD

I am directly affected as I live in the neighborhood that will feel the most impact. This project along with the changes the Department of Water and Power are doing to the Reservoir negatively impact a neighborhood that is getting back on its feet. With the proposed treatment facility on Druid Hill Dr. between Brookfield and Lakeview and the Vent Plant across the street from Whiteholck farms - it will cause additional residents and potential residents to rethink their choice to live in the neighborhood.
The Vent plant will negatively impact Whiteholck farms just when they have acquired access to that parcel to farm on it. This amenity serves more than just the immediate neighborhood. I hope that Big Bro. listens to the people this time.

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FEIS November 2016
construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

For information on environmental impact, please see Response to Comment 2.

The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

Response to Comment 10:
Thank you for your comment.

Response to Comment 11:
Utility relocations requires effort to remove, handle, and dispose of materials. Since construction of the build alternatives would cause major utility relocations that would extend significant distances outside of the tunnel portal areas, utility locations would be identified as the Project advances and relocations would take place to permit the reconstruction to advance as quickly as possible with minimal inconvenience to those living adjacent to the work areas.

Response to Comment 12:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock

FINAL ENVIRONMENTAL IMPACT STATEMENT AND SECTION 4(f) EVALUATION

COMMENTS

Ryan Jordan, Baltimore, MD

I do not want a wasted opportunity for actual grow and recovery in my community to be taken by a MASSIVE building that will just continue to be an eye sore. This city can never seem to catch a break.

Ash Smith, Baltimore, MD

This is another offense against a community that has been continually overlooked by the city administration, which should be protecting its citizens, not getting a source of further struggle.

Katherine Merrill, Brooklyn, NY

I am against the tunnels under Reservoir Hill.

Erin Scott, Joppa, MD

This proposed tunnel runs RIGHT UNDER MY HOUSE! I do not want damage to the integrity and structure of my historic home. STOP THE TUNNEL.

Lauren Haney Provost, Baltimore, MD

I am against the tunnels under Reservoir Hill.

Christina Green, Baltimore, MD

I love my historic neighborhood. As a realtor when I was looking to buy a home this was the Best option. The construction and preservation of the community is unpassed. I believe the tunnels would ruin our community.

Vandessa Day, Baltimore, MD

This will ruin our neighborhood and impacts a population that has been disadvantaged for decades.

Kathleen Zimber, Baltimore, MD

I own and reside at 2406 Madison Ave, 21217. I do not support this project as a result of structural concerns this may present to my home as well as the impact the project will likely have to this historic neighborhood.

Graham Provost, Baltimore, MD

The houses in this area were built when horse and carriage transportation was the norm. I am a contractor working in this area the footings were not engineered for this type of constant activity. I have seen many homes damaged or destroyed with less intrusion than tunneling.

George Waldrhuser, Fallston, MD

My friends are being affected.

Lina Vincent, India

I'm signing this petition as a resident of this great neighborhood and as a structural engineer. The construction of the tunnels will have a negative effect on the property values in a neighborhood that is constantly struggling to improve the quality and value of the housing stock. As an engineer, I understand the potential damage that can come from commencing projects such as this one. Most, if not all of the homes in Reservoir Hill are over 100 years old and constructed of brick. The vibrations from construction could cause potential damage to the structural stability of the homes. Also the unknown nature of the
Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Response to Comment 13:
Thank you for your comment.

Response to Comment 14:
Thank you for your comment.

Response to Comment 15:
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for
already at risk. The number of trains estimated to use the tunnel(s) will cause almost constant low frequency vibration which will be very destructive to the fragile homes.
Mark Reinhart, Charles Town, WV

This project endangers our safety, structural stability, air quality, and kills the heart of our neighborhood. It is also a dishonest presentation focusing on passenger service and minimizing or denying the freight aspect.
Laura Amrie, Baltimore, MD

FIRST, we see the proposed project as a clear example of an abuse of social justice.
- The routing of these trains clearly targets poor and minority neighborhoods and avoids more affluent neighborhoods.

SECONDLY, My neighbors and I rely on our homes as a major element of our financial security.
- We believe this project will seriously devalue our properties and take money from all Reservoir Hill residents who have worked long and hard to make our neighborhood a desirable place to live.

THIRLDY, Our homes are directly above the tunnel pathways the average home is 100 years old. They are built of soft, low-fire bricks, limestone, sandstone and marble are quite FRAGILE.
- Every resident will verify that our houses shake every time a truck or bus pass by.
- We fear that we will experience irreversible damage, first from the construction vibration, then from the long term deterioration from the 338 trains that are estimated to pass under our homes every day.

FOURTH, We need a list of exactly what hazardous, toxic, flammable and explosive materials may be passing through the tunnels.
- And, given the history of disasters in Baltimore’s existing tunnels, with only two freight trains a day, how many emergencies are predicted when, by 2040, traffic is increased to 338 trains a day?

FIFTH, If the tunnels are 2 mile long and we multiply those 338 trains running through them daily by two, the equates to generating a toxic cloud from 776 miles worth of diesel exhaust every day.
- A major portion of this dangerous cloud will be discharged through the Whitehead street vent.
- The footprint of the gigantic vent building, located in the very heart of our neighborhood will destroy most of our much loved, neighborhood center, park and farm.
- The vent will be like a gigantic, noisy, exhaust pipe that will overshadow & overcool all Reservoir Hill.
- The emissions will compromise air quality, especially for the nearby John Edgar Howard Elementary School, St. Francis Neighborhood Center and the historic Gertrude Stein Retreat house

SIXTH, What steps are being taken to ensure that the vent meets all relevant air quality and human health and safety standards?
- What constant air quality monitoring signs, and emergency alarm systems will be put in place to inform and protect us?

We have submitted a more complete printed list of questions, NONE of these questions have been answered to our satisfaction.

IN SUMMATION, While we fear that the air quality of this vent may physically erode the structures of our existing homes, we fear even more what the construction of this project will do to our sense of security, to our physical health, and to the community we have worked so hard to create.

specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 16:
Thank you for your comment.

Response to Comment 17:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Response to Comment 18:
Thank you for your comment.

Response to Comment 19:
Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOX, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

Response to Comment 20:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Response to Comment 21:
Thank you for your comment.
Response to Comment 22:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take
place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO$_2$ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO$_2$ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

Response to Comment 23:
For information regarding potential environmental impacts, please see response to Comment 2.

The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.

Please see DEIS Comment #34 for the Residents Against the Tunnel (RATT) official comment and response.
The Project has undergone a detailed Alternatives Analysis as part of the Environmental Impact Statement process. As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 24:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO₂ were within acceptable levels, all other criteria pollutant concentrations would be within...
acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

A total of 16 preliminary alternatives were identified in the B&P Tunnel Project process. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

As described in Chapter III of the FEIS, the build alternatives would require three ventilation facilities in order to meet current safety industry standards (NFPA 130) for projected NEC FUTURE train demand headway, and to ensure proper ventilation of the proposed tunnels. The purpose of the ventilation facility is to pull fresh air into the tunnel and ventilate the tunnel air to the outside. One ventilation facility will be located at the south portal, and another will be located 300-600 feet from the north portal. A third ventilation facility would be located at street level, connected to the bored portion of the tunnels by a vertical shaft and connecting tunnel (plenum), splitting the proposed tunnel into two unequal lengths. The Intermediate Ventilation Facility would consist of a building, approximately 100 feet by 200 feet in plan with a maximum height of 60 feet.

Response to Comment 25:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

For information regarding disparate impact and environmental justice communities, please see Comment 6.

Response to Comment 26:
No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water.
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

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Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take
place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/sec., which is a generally accepted building damage threshold. All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO₂ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

For information regarding freight trains and hazardous material, please see Response to Comment 15.

For information regarding disparate impact and environmental justice communities, please see Comment 6.

Response to Comment 27:
Thank you for your comment.

Response to Comment 28:
Thank you for your comment.
Response to Comment 29:
Thank you for your comment.

Response to Comment 30:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VI of this FEIS.

Response to Comment 31:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 32:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce
environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

**Response to Comment 33:**
For information regarding disparate impact and environmental justice communities, please see Comment 6.

**Response to Comment 34:**
Thank you for your comment.

**Response to Comment 35:**
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

**Response to Comment 36:**
Thank you for your comment.

**Response to Comment 37:**
Thank you for your comment.

**Response to Comment 38:**
For information regarding disparate impact and environmental justice communities, please see Comment 6.

**Response to Comment 39:**
For information on the impact of vibration on foundations of both historic and modern homes, please see Response to Comment 35.
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<th>COMMENTS</th>
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| For information regarding impacts to the Historic District, please see Comment 1. | **Response to Comment 40:**  
For information on the impact of vibration on foundations of both historic and modern homes, please see Response to Comment 35. |
| **Response to Comment 41:**  
Thank you for your comment. | **Response to Comment 42:**  
The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.  
For information on the impact of vibration on foundations of both historic and modern homes, please see Response to Comment 4.  
For information regarding freight trains and hazardous material, please see Response to Comment 15.  
No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water. | **Response to Comment 43:**  
Thank you for your comment. |
| **Response to Comment 44:**  
For information regarding freight trains and hazardous material, please see Response to Comment 15. | **Response to Comment 45:**  
For information regarding freight trains, hazardous material, and safety, please see Response to Comment 15.  
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.  
For information regarding potential Environmental Impacts, please see Comment 2. |
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Response to Comment 46:
For information regarding freight trains and hazardous material, please see Response to Comment 15.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Response to Comment 47:
Rail service improvements are detailed within the FEIS; furthermore, while improving rail service is a goal of the Project, it is not the sole reason the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

For information regarding disparate impact and environmental justice communities, please see Comment 6.

A total of 16 preliminary alternatives were identified in the B&P Tunnel Project process. Chapter III of the FEIS details the basis of elimination or retention for each Alternative.

Response to Comment 48:
The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Response to Comment 49:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

For information regarding potential Environmental Impacts, please see Comment 2.

Response to Comment 50:
For information on the impact of vibration on foundations of both historic and modern homes (as well as planned mitigation for impacts), please see Response to Comment 35.

Response to Comment 51:
To minimize risk to the public, FRA requires a range of measures, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA).

Regarding diesel emissions, when NO_{2} levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project
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<th>COMMENTS</th>
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<td>Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO₂. The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO₂ emissions from the Project. AERMOD is the US Environmental Protection Agency's preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI. For information regarding potential Environmental Impacts, please see Comment 2. The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&amp;P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V. Response to Comment 52: For information regarding disparate impact and environmental justice communities, please see Comment 6. The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.</td>
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For information on the impact of vibration on foundations of both historic and modern homes (as well as planned mitigation for impacts), please see Response to Comment 4.

To minimize risk to the public, FRA requires a range of measures, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA). Emergency access/egress for pedestrians would be accomplished via emergency exits no farther than 2,500 feet apart or cross-passages between tunnels every 800 feet or less, or in some situations, a combination of both. For the Preferred Alternative, three locations would be provided for emergency egress to the surface, working with cross-passages in the tunnels. The emergency egress to ground level would be provided at the south portal Ventilation Facility, via the Intermediate Ventilation Facility, and at the north portal Ventilation Facility.

The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the tunnel would be projected up and away from the community. In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that area.
corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Analysis of ventilation plant emissions included an air dispersion modeling analysis, which followed the latest US Environmental Protection Agency modeling guidelines for predicting air quality effects for regulated pollutants. The results of the analysis were compared to the stringent 1-hour NO$_2$ National Ambient Air Quality Standards (NAAQS) of 100 parts per billion (ppb) as opposed to the annual standard of 53 ppb. Emission studies have demonstrated that if NO$_2$ concentrations are maintained within acceptable levels, then other pollutant concentrations associated with diesel exhaust emissions will also be within acceptable limits. The maximum predicted 1-hour NO$_2$ concentration from the three ventilation facilities as well as north and south portals was 12.8 ppb. When added to the NO$_2$ background concentration of 51 ppb, the total predicted 1-hour concentration amounted to 63.8 ppb, which is below the NAAQS of 100 ppb. The maximum predicted 1-hour NO$_2$ concentration of the intermediate ventilation plant is 2.9 ppb and when combined with NO$_2$ background concentration of 51 ppb the total NO$_2$ concentration would be 53.9 ppb, below the NAAQS threshold limits of 100 ppb.

The three ventilation plant facilities would be subject to the operational noise level standards included in the Noise Regulation of the Health Code of Baltimore City § 9-206 Noise Regulation, 2015. This regulation provides the noise limits for manufacturing, commercial, and residential zones in Baltimore City—depending on the source of noise and the types of adjacent land uses. For noise generated within residential zones, there is a limit of 55 dBA at any point on the property line of the use.

Noise levels in the immediate vicinity of the ventilation plant buildings would be caused by the continual operation of the ventilation fans within each facility. The horizontal fans would operate periodically and would generate sound that would propagate through the louvers at the top of the ventilation facilities. Fans would operate periodically when NO2 levels in the tunnel exceed a set threshold or in emergencies when smoke is present in the tunnel. NO2 levels are likely to be highest when the level of diesel locomotive operations is highest, or when congestion causes trains to operate slowly or to idle in the tunnel. However, there is not enough information currently available to determine how many hours per day, on average, the fans would run and whether or not they would run during the night.

The design standard for the ventilation facilities would limit the outdoor noise level, when the fans are in operation, to Lmax 50 dBA at the facility property lines. 50 dBA is approximately the noise produced by an indoor air conditioner at a distance of three feet.
To achieve the required reduction in noise level, cylindrical or rectangular sound attenuators would be mounted directly to each fan or to the ductwork within the system. In addition, the building itself would partially shield noise from the interior of the ventilation plant, which would further reduce noise levels outside of the building. The Preliminary Engineering Team has stated that the ventilation plant facilities, with attenuators installed, will emit noise at 45 dBA. This would meet the design standard of $L_{\text{max}}$ 50 dBA at the facility property lines (i.e., the noise level generated would be less than the design standard).

Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NO, VOC, and PM$_{2.5}$ between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality and is not anticipated to create conditions that would adversely impact the integrity of the structures in the Study Area. The maximum 1-hour NO$_2$ concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

The Project meets air quality standards; therefore, public alerts regarding emissions will not be required.

Response to Comment 53:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.
For information regarding potential Environmental Impacts, please see Comment 2.

The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

For information regarding disparate impact and environmental justice communities, please see Comment 6.
Response to Comment 1:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/industrial sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

To minimize risk to the public, FRA requires a range of measures, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA). Emergency access/egress for pedestrians would be accomplished via emergency exits no farther than 2,500 feet apart or cross-passages between tunnels every 800 feet or less, or in some situations, a combination of both. For the Preferred Alternative, three locations would be provided for emergency egress to the surface, working with cross-
passages in the tunnels. The emergency egress to ground level would be provided at the south portal Ventilation Facility, via the Intermediate Ventilation Facility, and at the north portal Ventilation Facility.

The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the tunnel would be projected up and away from the community. In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than a fire or other emergency event on an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.

Response to Comment 2:
Ventilation plants are necessary for public safety and would still be needed regardless of the type of energy used by vehicles in the tunnel. As described in Chapter III of the FEIS, the build alternatives would require three ventilation facilities in order to meet current safety industry standards (NFPA 130) for projected NEC FUTURE train demand headway, and to ensure proper ventilation of the proposed tunnels. The purpose of the ventilation facility is to pull fresh air into the tunnel and ventilate the tunnel air to the outside. One ventilation facility will be located at the south portal, and another will be located 300-600 feet from the north portal. A third ventilation facility would be located at street level, connected to the bored portion of the tunnels by a vertical shaft and connecting tunnel (plenum), splitting the proposed tunnel into two unequal lengths. The Intermediate Ventilation Facility would consist of a building, approximately 100 feet by 200 feet in plan with a maximum height of 60 feet.

Please see attached replies from Odessa Phillip for answers to remaining comments found in this email chain.
What type of freight cargo passes through the tunnel?

The two local Norfolk-Southern Corp freight trains that operate through the B&P Tunnel serve customers south of the tunnel. The trains originate at Bayview Yard in Eastern Baltimore, deliver and/or pick-up cars at various sidings, then return to Bayview Yard. The cargo that is carried shipped is at the request of local businesses for their particular operations. Currently, cargos to/from specific railroad customers through the B&P Tunnel include, but are not necessarily limited to: vegetable oil, plastic pellets, paper, lumber, and produce.

Is there any oil or hazardous/flammable materials included on these freight trains?

Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P1444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products; throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

The balance of the information provided gives specific rules regarding labeling and placarding, time-of-day restrictions, specifications for tank cars, general requirements, and packaging specifications, among others. We refer you to this and other FRA and USDOT rules for clarification of specific questions regarding shipment of regulated materials.

Will there be (are there currently) restrictions on the type of cargo that is allowed to be transported through the tunnel?

Please refer to the previous response provided above.

Do future forecasts anticipate an increase in freight trains through the tunnel?

There are no plans to alter the current rights of freight trains on the NEC. The B&P Tunnel study assumes that Amtrak would not be required to provide any additional track rights to Norfolk Southern than what is currently provided.
Freight train usage of the tunnel will be determined by Norfolk Southern and CSX, and will be market-driven to the extent that it does not interfere with passenger train operation, as the priority for the NEC will remain passenger service. Freight train operation along the NEC is permitted by regulations in effect at the time of shipment.

- **What is the approximate decibel level of the exhaust fans for the new NYC vents installed?**
  
  As stated at the community meeting, noise from exhaust fans would vary substantially by location and distance from the vent plant. Based on your comments, the environmental team has conducted follow up conversations with ventilation engineers from the Amtrak preliminary engineering team. The engineers noted that the vent plants in NYC are required to comply with local (NYC) noise ordinances, which dictate an interior noise level of 45 decibels at the nearest receptor (e.g. the closest exterior window of a building). A noise level of 45 dBA is comparable to a quiet nighttime urban setting and is significantly less than the sound of typical household appliances. Although the fans are quite loud at their source, sound attenuating equipment and baffling in the ventilation facility reduce the fan noise that would be heard outside the building to this level.

- **Would it be accurate to assume a similar decibel level for the current system envisioned?**
  
  The project team has not yet identified the predicted noise level of the vent plants since the vent plant design has not yet been developed. The project team would consider applicable Baltimore City noise criteria during vent plant design. It is reasonable to assume that the noise attenuators in the vent plant would be able to reduce the noise to these criteria levels (or below), as was done in NYC. Here are some typical noise levels for comparison purposes:

  - Dial tone = 80 dB
  - Talking at 3 feet = 65 dB
  - Quiet urban daytime = 50 dB
  - Quiet urban nighttime = 40 dB
  - Quiet rural nighttime = 25 dB

- **Are any alternatives to a central vent stack available or may any “workarounds” be engineered, thereby avoiding locating a central vent stack in Reservoir Hill?**

- **A two mile tunnel is not extremely long, and as I mentioned in my question last evening, there are several examples of lengthy tunnels without a central vent stack, including the Channel Tunnel, several in the EU (which have similar safety standards to the US), many examples in the Western portion of the United States and even in the Appalachians.**
Many of the tunnels you referred to were constructed before current ventilation requirements were enacted and so the standards for those tunnels are "grandfathered". This means that these existing projects are not required to be retrofitted to meet current standards. Some tunnels, such as the "Channel" incorporate a parallel horizontal ventilation shaft for the length of the tube with larger ventilation fans at the ends; this avoids the need for a mid-tunnel vent plant. The parallel shaft is approximately the same size as the track tunnels in which the trains operate. This method was feasible and reasonable for a two-track tunnel where a mid-tunnel vent shaft would have had to be constructed in open seas.

In the case of the B&P Tunnel, there are 3-dimensional constraints that preclude the construction of a parallel tunnel, and such a solution is therefore not viable for this project. Additional parallel bore(s) cannot be placed above the tunnels due to the depth of cover and interference with existing city infrastructure (e.g., the subway, I-83, and/or the light rail tracks). Placing ventilation bore(s) next to the track tunnels would drastically increase the width needed to accommodate rock pilar walls between all the tunnels, making the track geometry untenable in the space available. Finally, as part of our design, a "duck under" track and tunnel is required for local and express train movements across tracks. This feature prevents all four tunnels from being truly "parallel"; therefore, three vent bores would be required to serve the four running tunnels, further exacerbating already tightly constricted track geometry. Placing the vent bores below the running tunnels requires the vent bores to snake around the running tunnels which would require splicing the running tunnels to fit the vent bores, resulting in the same track geometry problems noted above.

The other tunnels offered for comparison (Western US and Appalachia) are freight railroad owned tunnels that are not governed by the NFPA 130 fire/life safety codes. More appropriate examples for comparison lie with modern subways, urban light rail, and urban commuter railroad tunnels which frequently have vent shaft spacing ranging from one-quarter to one-half mile apart.

- As a part of your assumptions you noted that you must engineer the tunnels so that one of the four tunnels can accommodate two trains simultaneously. Does this assume that the other three tunnels are closed or otherwise inoperable?

No, there is no relationship between the need to accommodate - and properly ventilate - two trains in each tunnel at the same time, and whether any one of the four tunnels would be closed or out of service. Under normal operation, all four tunnels must be able to carry two trains simultaneously within the ventilated area. Thus, it is possible to have - and the ventilation system must address - a condition where eight trains are in the four tunnels at the same time. Although these ventilation requirements apply independently to each tunnel, the three ventilation plants (north portal, mid-tunnel, and south portal) will be designed to manage the vent requirements of all four tunnel bores as a system. Thus, in keeping with the NFPA 130 codes, the ventilation will be of sufficient power to protect two trains at the same time in any one (but not
more than one) of the tunnels, with the capability to address only a single event at any one time.

The signal system will be designed to permit trains to follow two minutes apart (a two minute “headway” that is, the time separation between the leading end of two trains traveling on the same track in the same direction). Since it will take 2.5 – 3 minutes for trains to clear the tunnel, this will result in two trains following on a 2-minute headway to occupy the tunnel simultaneously.

Since each train must occupy a separate vent zone and be independently ventilated, two vent zones are required. Where two zones meet, a vent plant is required to enable the isolation of a fire in one zone entirely within that zone, such that, through the action of the ventilation system, the passengers and crew in a train occupying the second zone can be protected from smoke or heat and the passengers and crew of the incident train can be safely evacuated. A vent plant must be located at the interface between the two zones, so that smoke and heat can be drawn away from crews, response personnel, and passengers as they evacuate the train and tunnel and the second train be protected. Building the tunnels with only one vent zone – and limiting them to one train at a time -- would unacceptably limit train capacity in relation to future passenger forecasts, resulting in congestion, delays, reduced service, and high- and lower-speed train conflicts in the increasingly congested Baltimore rail network.

- Would a middle vent stack be necessary if only one train were in the tunnel at a time? How would this affect train time tables?

A middle vent stack would not be required if only one train were in the tunnel at a time. With only one vent zone, however, trains could only follow 2.5-3 minutes apart, and it would not be possible to meet future train traffic forecasts for this section of the Northeast Corridor. The increase in headway from 2 to 3 minutes that results from making the tunnel a single vent zone (no middle vent plant) causes a 33% reduction in capacity. Conversely, the capacity demand projected to be required by 2040 is 50% greater than the capacity that can be delivered by a single vent zone tunnel.

- What is the probability of more than two of the four planned tunnels being inoperable at any one time?

We couldn't predict the frequency of this event but, based on typical experiences of other tunnel operations, it is likely to be rare. Because all four tubes will become increasingly important to the delivery of reliable and higher-speed operations, Amtrak intentionally plans its tunnel track and system maintenance to require the removal of only one track at any time, with the work typically done at night when train volumes are lowest, and when the loss of one of four tracks has the least effect on operations and passenger experience.

- In the event of an emergency would the ventilation shaft have fire suppression equipment to prevent burning embers and other hazardous material from escaping into the surrounding historic
neighborhood?
The vent shaft does not have fire suppression equipment. The path from a
tunnel fire to the exhaust louvers is long and circuitous, however, with many
bends that retard the ability of particles to travel through the fans and the
louvers. The system also contains dampers, sound attenuators, fans and a
series of physical screens which collectively tend to screen out burning
material, such that only highly diluted exhaust air is emitted.

- Would the ventilation system contain any environmental remediation
equipment (i.e. scrubbers) that would reduce airborne particulates?
The ventilation system does not contain pollution control equipment. Under
normal operation, the ventilation system will dilute all emissions such that
pollutant concentrations are well below regulatory thresholds. Please see the
attached discussion which helps to answer this question.

- Will the neighborhood impact statement include an analysis of the
effect of the placement of the ventilation shaft on nearby property
values?
A qualitative assessment of community and economic impacts / benefits of the
project will be included in the Environmental Impact Statement. It is not
possible to make a quantitatively meaningful assessment of the impacts of a
vent plant on surrounding property values, since too many other factors – e.g.
market trends, municipal investments in related public spaces, the presence or
absence of mass transit and its perceived quality, the presence or absence of
crime, socio-economic factors, and municipal services – are in play.

- Will the neighborhood impact statement include an estimate on the
cost to residents of the use and enjoyment of the Whitelock corridor
as a park and garden (or future commercial development)?
Similar to the above response, a qualitative assessment of community and
economic impacts / benefits of the project will be included in the
Environmental Impact Statement.

- As this is currently a study, are you considering the cost of
"uncertainty" that this study is creating for potential investors and
homeowners in the neighborhood?
This is a consideration for all project alternatives as well as all similar
infrastructure projects, however, the cost of uncertainty cannot be reasonably
quantified given the unknown variables described in the above responses.
The intent of the study is to identify the preferred alternative so that the
uncertainty may be relieved. Until the project is fully funded, however, some
uncertainty would remain.

- There are over 5,000 people (2010 census) living in the two census
tracts that constitute Reservoir Hill and the proposed location of the
ventilation shaft would displace a park and garden and limit/curtail
potential commercial and residential redevelopment along the
Witchock corridor. The presence of such a ventilation unit in
Reservoir Hill is potentially burdensome, disruptive and damaging the
improving quality of life for its residents and may curtail individuals and investors from investing in this capital starved community. I look forward to the answers to the above questions and further conversations and public meetings.

Thank you for your comments. We agree with the importance of the vent plant relative to the Reservoir Hill community and welcome the opportunity to work with the community and the project team partners to develop the best solution possible.

Regards
Odessa

Odessa L. Phillip, PE
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for the Baltimore and Potomac (B&P) Tunnel Project
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417 East Fayette Street, 7th Floor, Room 747
Baltimore, Maryland 21202
Phone: 410-396-6856

DOT Meeting Cancellation Policy: If Baltimore City Schools have a delayed start or are closed due to inclement weather, the meeting will be rescheduled.

From: Eric Huntz
Sent: Wednesday, September 02, 2015 11:50 AM
To: Phillip, Odessa
Cc: Greene, Candance; Modly, Nick J.; BHIC News
Subject: BP Tunnel Project Study Followup

Odessa,

Thank you very much for your time at the meeting last night in Reservoir Hill (September 1). You and the team from the architectural firm, MDOT and Amtrak gave a very informative presentation that seems to have crystallized several uncertainties surrounding the study. This is a very exciting project that has the potential to benefit the citizens of Baltimore and all those that use Amtrak along the northeast corridor.

That being said, I was wondering if you could find answers to a few questions that remained unanswered (or were answered a bit vaguely) during the presentation and question and answer session:

- How many diesel locomotives use the BP tunnel every day?
  - What is the projected use of diesel in the 2020-2040 time period?
- What type of freight cargo passes through the tunnel?
## COMMENTS

- Is there any oil or hazardous/flammable materials included on these freight trains?
- Will there be (are there currently) restrictions on the type of cargo that is allowed to be transported through the tunnel?
- Do future forecasts anticipate an increase in freight trains through the tunnel?

- What is the approximate decibel level of the exhaust fans for the new NYC vents installed?
  - Would it be accurate to assume a similar decibel level for the current system envisioned?

- Are any alternatives to a central vent stack available or may any “workarounds” be engineered, thereby avoiding locating a central vent stack in Reservoir Hill?
  - A two-mile tunnel is not extremely long, and as I mentioned in my question last evening, there are several examples of lengthy tunnels without a central vent stack, including the Channel Tunnel, several in the EU (which have similar safety standards to the US), many examples in the Western portion of the United States and even in the Appalachians.

- As a part of your assumptions you noted that you must engineer the tunnels so that one of the four tunnels can accommodate two trains simultaneously. Does this assume that the other three tunnels are closed or otherwise inoperable?
  - Would a middle vent stack be necessary if only one train were in the tunnel at a time? How would this affect train time tables?
  - What is the probability of more than two of the four planned tunnels being inoperable at any one time?

- In the event of an emergency would the ventilation shaft have fire suppression equipment to prevent burning embers and other hazardous material from escaping into the surrounding historic neighborhood?
- Would the ventilation system contain any environmental remediation equipment (i.e., scrubbers) that would reduce airborne particulates?
- Will the neighborhood impact statement include an analysis of the effect of the placement of the ventilation shaft on nearby property values?
  - Will the neighborhood impact statement include an estimate on the cost to residents of the use and enjoyment of the Whitlock corridor as a park and garden (or future commercial development)?
  - As this is currently a study, are you considering the cost of “uncertainty” that this study is creating for potential investors and homeowners in the neighborhood?

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There are over 5,000 people (2010 census) living in the two census tracts that constitute Reservoir Hill and the proposed location of the ventilation shaft would displace a park and garden and limit/curtail potential commercial and residential redevelopment along the Whitlock corridor. The presence of such a ventilation unit in Reservoir Hill is potentially burdensome, disruptive and damaging the the improving quality of life for its residents and may curtail individuals and investors from investing in this capital starved community. I look forward to the answers to the above questions and further conversations and public meetings.
Thank you in advance for your time and attention to these questions.

Eric

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Eric K. Hontz
JD/MBA
University of Maryland Francis King Carey School of Law
University of Maryland Robert H. Smith School of Business

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Eric K. Hontz
JD/MBA
University of Maryland Francis King Carey School of Law
University of Maryland Robert H. Smith School of Business
Response to Comment 1:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be fully compensated for the cost of repairs.

Response to Comment 2:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO₂ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.
DEIS Comment 39:

I go on record that the B&P Tunnel Project Draft Environmental Impact Statement presents a seriously flawed analysis and as a result, I oppose any of the build alternatives outlined in the plan. I seek to point out a few of the egregious shortcomings of the DEIS, although I believe its fundamental error is in not considering the problems involved broadly enough.

I am a Registered Professional Engineer in the State of Maryland, currently in retired status. I have written Environmental Impact Statements, and I recognize many of the tricks of the trade in obfuscating the salient issues. Drawing the boundaries and choosing the models always lets the paid, full-time professionals stifle opposition. I expect and fear that power and money will prevail in this case as well; I only hope someone in a position of responsibility will take that responsibility seriously enough to take another look. A good engineering alternative should make good common sense; the build alternatives in this DEIS do not pass the sniff test. Sometimes good alternatives are not available and choices like the ones outlined here are selected. However, in this case, good alternatives are, indeed, available, and I hope my criticism turns out to be constructive.

I want to start with a few conclusions of the DEIS which I believe misrepresent the project and provide an overly optimistic view of the project. I start with project cost. The minimum cost for the build alternatives is $3.8 billion. That is a lot of money. Most people know projects usually cost much more that originally estimated, but I leave that issue out for now. That $3.7 billion, or more for other alternatives, saves approximately 2 minutes per train. That makes no common sense. Even looking further at the figures in the DEIS, that $3.7 billion saves travel costs of $32.5 million per year. At that rate, it would take more than 123 years for the savings to cover the initial capital cost. While some Federal agencies can recommend a project if the benefit cost ratio is greater than one, the economically appropriate test is that the benefit-cost ratio be greater than any alternative project for which the money could be spent. That is not the case with this project. If the proponents of this project cannot find a more beneficial project than these tunnels, I would be glad to walk them around Reservoir Hill and Sandtown-Winchester to see what those resources could reap in benefits.

I would next like to address the Reservoir Hill ventilation plant and, to a lesser extent, the other ventilation plants. The tunnel professional, at one of the public meetings, showed a drawing of a ventilation plant designed for another project. It was about the size of one of the Baltimore row houses, and the perception desired by the engineers was that the Reservoir Hill ventilation plant would fit right in. However, the ventilation plant as described quantitatively could not fit in. It was described as five stories tall and covering a large city block. The DEIS says, “it would permanently prejudice future development at the proposed site.” First of all, this is not an indirect impact. This block is one of the very few commercially zoned blocks in Reservoir Hill, it is where the neighborhood must attract commercial assets if it is to become more than a place to house poor households, and it is a block on which the City has repeatedly promised neighbors that desirable commercial establishment would be placed. Permanently precluding development at this site condemns the neighborhood to a dismal future. Again, I say, not an indirect impact. Now; without an option for desirable development and with an insoley larger than anything near it, there are at least a thousand historic properties with diminished, and perhaps devastated.

Response to Comment 1:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 2:
While reducing travel time through B&P Tunnel and along the NEC is a goal of the Project, it is not the sole reason the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS. Project goals include reducing travel time through the B&P Tunnel and along the NEC, accommodating existing and projected travel demand for intercity and commuter passenger services, eliminating impediments to existing and projected operations along the NEC, and providing operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.

Response to Comment 3:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that
Comments: The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 4: The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO$_2$ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO$_2$ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

Response to Comment 5: Ventilation plants would be necessary regardless of whether the Tunnel served passengers or freight. As described in Chapter III of the FEIS, the build alternatives would require three ventilation facilities in order to meet current safety industry standards (NFPA 130) for projected NEC FUTURE train demand headway, and to ensure proper ventilation of the proposed tunnels. The purpose of the ventilation facility is to pull fresh air into the tunnel and ventilate the tunnel air to the outside. One ventilation facility will be located at the south portal, and another will be located 300-600 feet from the north portal. A third ventilation facility would be located at street level, connected to the bored portion of the tunnels by a vertical shaft and connecting tunnel (plenum), splitting the proposed tunnel into two unequal lengths. The Intermediate Ventilation Facility would consist of a building, approximately 100 feet by 200 feet in plan with a maximum height of 60 feet.

Response to Comment 6: Regarding diesel emissions, when NO$_2$ levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO$_2$.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO$_2$ emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am and 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am, and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit...
through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO2 concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are in Chapter VI.

The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 7:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Response to Comment 8:
Please refer to Comment 1 for information regarding the alternatives analysis. An alternative was considered to have a fatal flaw if it did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge. The viable alternatives are close to the existing Tunnel in order to utilize existing infrastructure.

Response to Comment 9:
The Maryland Department of Transportation oversees comprehensive transportation planning for the State. Prior studies have been performed that evaluate the full network of rail corridors, especially those in and around the City of Baltimore. The study of the B&P Tunnel partly resulted from the identification of this Project as a critical component to the greater rail access plan.
DEIS Comment 40:

I am providing further testimony regarding the B&P Tunnel Project DEIS. I have attached the file, and I also include it in the email text below. I have also attached two files, which you have received prior to this, but which are provided here to give you easy access to the context documents referenced in my further comments.

Please respond to my email to confirm that you have received my further comments and that they will be considered as part of the NEPA process. I look forward to your prompt confirmation.

Thank you,

James L. Floyd, P.E., Ret.

Further Comments on DEIS of the B&P Tunnel Project
James L. Floyd—21 Feb 16

I provided comments on the Draft Environmental Impact Statement of the B&P Tunnel Project at the hearing on 8 Feb 16. I stated my opposition to any of the build alternatives of the DEIS, based on my analysis that the B&P Tunnel Project had erred in scopeing the project too narrowly, among other reasons. I stand by my opposition; only now I believe my analysis requires even more attention from the B&P Tunnel Project because my testimony aligns closely with other testimony presented that day. I refer to the report from the MTA Citizens Advisory Committee, and related groups, entitled “A Proposal to Unravel Baltimore’s Tangled Rail Lines,” dated 10 September 2015.

I have reviewed the Advisory Committee Proposal, and I believe it provides a well thought out and cogent analysis. It approaches the level of an engineering design study, and its attention to the complete picture of rail service in the Maryland region makes it superior to the DEIS concocted by the B&P Tunnel Project. The Advisory Committee Proposal should be seriously considered by the B&P Tunnel Project, AMTRAK, MARC, the State of Maryland, and anyone connected with rail service on the Northeast Corridor. The fact that the information in the Committee’s Proposal did not appear as at least an alternative for consideration seems to be further evidence of engineering and design error by the B&P Tunnel Project. While the date of the Final Draft of the Committee’s Proposal is 10 September 2015, the ideas in earlier drafts would have been available to anyone who was working on railroad issues in plenty of time to be considered by the B&P Tunnel Project for the DEIS. The fact that these ideas did not appear must be considered an error which

The report provided, A Proposal to Unravel Baltimore’s Tangled Rail Lines, argues for a comprehensive system approach to rail planning in Baltimore and the mid-Atlantic region. It describes a list of projects and the order in which they should be completed. The report takes into consideration local, state, and regional transportation routes, and recommends new construction at a number of locations in order to relieve congestion and create opportunities for expanding rail service in the future.

While recommendations in the report focus on resolving issues at a regional level, they would not address or resolve the specific needs of the B&P Tunnel; therefore, the improvements suggested in the report would be beyond the purview of the Project. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life. It is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. For additional information regarding The Purpose and Need for the Project, please see Chapter II of this FEIS.

To review the September 2015 report in its entirety, please refer to DEIS Comment #11.

For the responses to comments provided via the attached email dated February 6, 2016, please see DEIS Comment #39.
Comments on DEIS of the B&P Tunnel Project

James L. Floyd—6 Feb 16

I go on record that the B&P Tunnel Project Draft Environmental Impact Statement presents a seriously flawed analysis and as a result I oppose any of the build alternatives outlined in the plan. I seek to point out a few of the egregious shortcomings of the DEIS, although I believe its fundamental error is in not considering the problems involved broadly enough.

I am a Registered Professional Engineer in the State of Maryland, currently in retired status. I have written Environmental Impact Statements, and I recognize many of the tricks of the trade in obfuscating the salient issues. Drawing the boundaries and choosing the models always lets the paid, full-time professionals stifle opposition. I expect and fear that power and money will prevail in this case as well; I only hope someone in a position of responsibility will take that responsibility seriously enough to take another look. A good engineering alternative should make good common sense; the build alternatives in this DEIS do not pass the sniff test. Sometimes good alternatives are not available and choices like the ones outlined here are selected. However, in this case, good alternatives are, indeed, available, and I hope my criticism turns out to be constructive.

I want to start with a few conclusions of the DEIS which I believe misrepresent the project and provide an overly optimistic view of the project. I start with project cost. The minimum cost for the build alternatives is $3.7 billion. That is a lot of money. Most people know projects usually cost much more than originally estimated, but I leave that issue out for now. That $3.7 billion, or more for other alternatives, saves approximately 2 minutes per train. That makes no common sense. Even looking further at the figures in the DEIS, that $3.7 billion saves travel costs of $32.5 million per year. At that rate, it would take more than 113 years for the savings to cover the initial capital cost. While some Federal agencies can recommend a project if the benefit-cost ratio is greater than one, the economically appropriate test is that the benefit-cost ratio be greater than any alternative project for which the money could be spent. That is not the case with this project. If the proponents of this project cannot find a more beneficial project than these tunnels, I would be glad to walk them around Reservoir Hill and Sandtown-Winchester to see what those resources could reap in benefits.

I would next like to address the Reservoir Hill ventilation plant and, to a lesser extent, the other ventilation plants. The tunnel professionals, at one of the public meetings, showed a drawing of a vent plant designed for another project. It was about the size of one of the Baltimore row houses, and the perception desired by the engineers was that the Reservoir Hill vent plant would fit right in. However, the vent plant as described quantitatively could not fit in. It was described as five stories tall and covering a large city block. The DEIS says, it “would permanently preclude future development at the proposed site.” First of all, this is not an indirect impact. This block is one of the very few commercially zoned blocks in Reservoir Hill, it is where the neighborhood must attract commercial assets if it is to become more than a place to house poor households, and it is a block on which the City has repeatedly promised nears that desirable commercial establishment would be placed. Permanently precluding development at this site condemns the neighborhood to a dismal future. Again, I say, not an indirect impact. Now, without an option for desirable development and with an eyesore larger than anything near it, there are at least a thousand historic properties with diminished, and perhaps devastated,
prospects. The entire Cultural Resources section of the DEIS becomes a laughable figment of the imagination of people who don’t live nearby, who don’t seem to know what is going on in the local area, and don’t seem to care.

Before I leave the subject of the vent plants, I feel compelled to mention the air. Our air in Baltimore is not great. The DEIS notes the problems. However, the DEIS only alludes to sporadic and minimal impacts. If there were only minimal impacts, common sense should tell us that we wouldn’t need a five story ventilation plant. The vent plants have the capability to move large quantities of noxious pollutants into the ambient air surrounding thousands of men, women, and children who live nearby. If the capability is there, it is impossible to conclude other than that the pollutants will be there, too. Perhaps this is the first place on earth that will be different, but an investment in that much ventilation equipment makes it hard to believe that it won’t be regularly used.

And the subject of air leads to what may be the ultimate misrepresentation of the DEIS and the B&P Tunnel Project. Freight trains. The presenters at the public meeting I attended clearly stated that this was an Amtrak tunnel and that all their work was to improve passenger rail service. At least the DEIS was a little more forthcoming and mentioned freight trains, although not until near the end of the Executive Summary. If there were a commitment to using the tunnels for only passenger service, there would probably be much less concern. In my experience, passenger trains in this area are propelled by electricity. There is not much need for extensive ventilation for electric trains. The vent design is clearly driven by freight traffic. The pollution, noise, and vibration from freight trains are larger concerns to affected residents than the passenger trains. Passenger trains have local benefits, freight trains have essentially none. I am appalled that my neighborhood is expected to bear all the costs, of pollution, of decreased property values, of risk of catastrophic accidents, of other serious impacts, while the benefits go to other regions. I am further appalled that the B&P Tunnel Project has systematically misrepresented the degree to which these tunnels have been planned as freight routes. One does not need to look much further than this misrepresentation about freight traffic as a source of local rancor about the proposed project. I am clearly not the only one appalled by this project and the demeanor of the proponents. That dismissive demeanor hardly ever shows up in a process where there is a real search for mutually beneficial outcomes. It is often evident where the proponents are going through the motions, knowing that power is on their side and they will get their way. I expect that, but I hope we could find a better way. It is always the hope in speaking truth to power.

There are several other issues which concern me, but I want to save enough time to return to the fundamental error I referred to above. It is here that I hope my comments provide constructive criticism. It appears that the initial scope of the project location was far too limited. There was the existing tunnel, and all the initial alternatives were close to that. Why? That is not clear. I believe the project planners erred in not looking more widely for alternative routes. As a first look, a route that follows the East Side or the West Side of the Baltimore Beltway would seem to have marked benefits. We have known since the 1950’s that major transportation routes do not belong in the center city; that is why we built the Beltway in the first place. The same thinking should apply to new rail service. A route for the Northeast Corridor around the City of Baltimore, perhaps associated with the Beltway but not ruling out other locations, even distant locations, would seem to make common sense. The existing tunnels could continue to carry passenger trains to stations in Baltimore, and there are now in the order of 100 trains per day carrying passengers. That seems to be enough passenger capacity for the
foreseeable future. There is great demand for passenger service in the city, and that should provide adequate incentive to maintain the existing tunnels, despite higher maintenance costs. A new rail line, around the city, would allow for current design standards, higher speeds, and a mix of passenger and freight service. The new line would be switched to create a parallel to the existing line, whether on the east or west of the city. The fact that it provided a parallel link would clearly improve operational flexibility, which should make it desirable to all users of the Northeast Corridor. Presumably, the new line would include a new passenger station outside of Baltimore City, and that new site could be expected to increase passenger ridership. Such a station would be distant enough from current stations, such as Penn Station, that there would be little diversion of riders from the city. The opportunity to increase passenger totals could be a boon to Amtrak, and there would be even broader benefits from enticing those passengers from their cars. Freight service on such a new line should be planned as part of the project from the beginning. Proper design should optimize the efficiency and effectiveness of freight traffic, with current design parameters for safety and public welfare. While such a project would be expensive, there should be significant cost savings from not having to tunnel 150 feet below ground. Routing freight traffic around the city would be a step toward collocating the costs and benefits of the project, a step usually seen as important in good governance. Such a new line would be protective of human, cultural, historical, environmental justice, and economic resources in Baltimore City.

The fact that such positive alternatives abound makes it clear that the planners erred in proposing the limited choices outlined in the DEIS. As an engineer, I see it as an engineering error, which astute minds would seek to review and correct. As a citizen, I see it as an error in law and an improper application of the National Environmental Policy Act, both among the many bases for legal action. As a neighbor, I will work with my fellow residents to seek to correct this error using all means at our disposal.
Response to Comment 1:
The report provided, A Proposal to Unravel Baltimore’s Tangled Rail Lines, argues for a comprehensive system approach to rail planning in Baltimore and the mid-Atlantic region. It describes a list of projects and the order in which they should be completed. The report takes into consideration local, state, and regional transportation routes, and recommends new construction at a number of locations in order to relieve congestion and create opportunities for expanding rail service in the future.

While recommendations in the report focus on resolving issues at a regional level, they would not address or resolve the specific needs of the B&P Tunnel; therefore, the improvements suggested in the report would be beyond the purview of the Project. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life. It is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. For additional information regarding The Purpose and Need for the Project, please see Chapter II of this FEIS.

To review the September 2015 report in its entirety, please refer to DEIS Comment #11.
south of the project proposed by the B&P Tunnel Project. It does not take a great deal of foresight to see that tunnel proponents, if successful in building these tunnels, will use that fact that the tunnels have been built to justify, and probably force, the addition of tracks. Other neighborhoods will have to work to oppose this short-sighted rail design. If they lose, they will face the degradation the B&P Tunnel Project wants impose on Reservoir Hill and Sandtown-Winchester. If they succeed, the tunnels proposed in the DEIS will become a repeat of the “Road to Nowhere,” where Route 70 has one disconnected segment in the city which destroyed a wide swath of neighborhoods for no social benefit. The failure to adopt a system-wide approach to the need for rail improvements appears to be the fundamental error of the B&P Tunnel Project DEIS. The fact that the Advisory Committee Proposal includes such a holistic analysis proves that it can and should be done. It is likely that the Advisory Committee has done most of the work on that holistic approach and has provided it to the B&P Tunnel Project for their use.

Second, the Advisory Committee Proposal appears to have gotten it right, unlike the B&P Tunnel Project DEIS, in calling for a separate rail line, with tunnels as needed, to serve the needs for high volume and high speed freight traffic, p. 4.  The Advisory Committee Proposal calls for a rail line passing through Marley Neck and Sparrows Point; further details are not included in their Proposal. Certainly the exact alignment would be subject to further engineering scrutiny, but freight rail service clearly needs to be associated with Baltimore’s harbor. I want to make it clear that I believe that the Port of Baltimore and the frequent rail service which connects the Port to the regional, state, and national economies are of the highest importance. However, I also believe that it seems imprudent to route all that freight back through Baltimore city, saving two minutes in new tunnels but otherwise clacking along over outdated infrastructure which cannot handle the freight flow necessary to keep the Port operating at optimum efficiency. The idea of a separate route for rail service, not passing through the residential neighborhoods of Baltimore, was central to my earlier comments on the DEIS; I deemed the idea a constructive criticism. Now the Advisory Committee Proposal has made that idea an even more constructive criticism by providing detail regarding route, order of construction, and coordination with other rail infrastructure needs.

Third, the Advisory Committee Proposal addresses intercity passenger rail service by calling for a “tunnel for high speed, intercity rail under Fayette Street with a station at Charles Center Plaza.” The Proposal provides further details passenger service later in their text. While this goes beyond what I suggested in my earlier comments, this idea has a great deal of merit, especially as part of the holistic analysis in the Proposal. While I think it may be possible to make infrastructure exceptions to allow some AMTRAK trains to access Penn Station, improved service to a Charles Center Plaza station could well be a better alternative for Baltimore. The city would maintain its place of importance in regional intercity rail service. Taking an intracity train from Penn Station to the new Charles Center Plaza station to catch an intercity train would be very feasible. It is exactly analogous to my travels in Florence, Italy last summer, when I had to take a local train to meet the train to Verona. Wouldn’t it be nice to be able to say Baltimore had a train system that worked like a European city? The important point here is that the infrastructure required to support efficient and effective intercity rail service needs to be explicit.
before four billion dollar rail tunnels are designed and built. That is not the case with the B&P Tunnel Project DEIS, and that is further evidence of error in the DEIS.

Fourth, the Advisory Committee Proposal, as a result of its holistic approach and its unpacking of conflicts, looks at the rail lines considered in the B&P Tunnel Project DEIS and calls to “rebuild the B&P and Union Tunnels for MARC access to Penn Station with several new stations along the line.” (p. 4) The Advisory Committee Proposal continues, “This proposal eliminates the need for ... the Great Circle Tunnel into Penn Station. Cost saving to the state would be in the billions of dollars.” (p. 12) While the social, cultural, and environmental justice impacts of the build alternatives in the DEIS probably have greater impact than the economic ones, it still would not be bad to save a few billion dollars from being spent erroneously. Again, the fact that beneficial alternatives, not using the Great Circle Route for the train tunnels, are available provides clear evidence that the B&P Tunnel Project DEIS is fundamentally and seriously flawed. These other alternatives, in the context of a system-wide analysis, need to be considered, and if considered objectively, it seems clear that they would be found superior to the build alternatives in the DEIS. These other alternatives, once studied and evaluated, could be recommended for further analysis and engineering design.

It is hard to fathom why and how the B&P Tunnel Project did not pursue a system-wide analysis that would have addressed many of the issues in the Advisory Committee Proposal, in my earlier comments on the DEIS, and in much of the evidence provided in the Public Hearing process for the DEIS. Almost all of the evidence provided was in opposition to the DEIS, and it appears that the dissenting public has been, in part, responding negatively to the myopic process and short-sighted conclusions of the B&P Tunnel Project, its staff, and presumably, its management. The only alternative in the current DEIS which is worthy of recommendation is the “do nothing” alternative. That would allow a responsible reevaluation, hopefully as part of a holistic analysis, with the potential to arrive at an alternative which could gain the support of local residents while providing for world class rail service on the Northeast Corridor. The Advisory Committee Proposal notes that, with their plan, they “ensure economical, integrated future expansion rather than haphazard, costly, inefficient, and ineffective, project-focused expansion.” (p. 12) That is their objective, that is my objective, and I hope the B&P Tunnel Project will conclude that they have erred in this regard to date and make it their objective.

James L. Floyd
P.E., Ret. Baltimore, MD 21217
Response to Comment 1:
The existing B&P Tunnel tracks are in Bolton Hill. Options as to where the new B&P Tunnel should reside are limited. Due to the geography and the shallowness of the area beneath Bolton Hill, this area was not a feasible option for the proposed Tunnel, whereas the area underneath Reservoir Hill is deeper and more practicable.

As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.

As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering
issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 2:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.
Response to Comment 1:
The Project Team is working with community groups and individual community members
to determine the most effective mitigation measures to address issues concerning
community impact, noise and vibration impacts, and community health (among others) as
described in Chapter VI. The Project Team has met with community members on two
occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter
VII. These efforts are ongoing and are documented in this FEIS.

Response to Comment 2:
As part of the mitigation efforts, the Project sponsor would provide coordination with local
job training organizations to 1) facilitate targeted job training by providing estimates of the
type, number, and timing of jobs expected to be created by project contractors, 2) include
in construction contracts goals for nationally targeted workers of social and economic
disadvantage, and 3) require project contractors to report on a regular basis their progress
in meeting contract goals. The Project sponsor will provide public reporting on job
creation. These efforts are ongoing and are documented in this FEIS as described in
Chapter VI.

Response to Comment 3:
All of the proposed Project infrastructure will be designed, constructed, and maintained
using proven modern design and safety standards. The Project will be designed in
accordance with applicable regulations, oversight agency guidance, and knowledge of
safety standards to ensure optimal safety. The build alternatives will have an average
tunnel depth of 115 feet.

The housing market in Reservoir Hill is subject to many variables and externalities outside
of the Project. This fact makes it virtually impossible to predict or measure the future
economic impact of the Project on the Reservoir Hill community.

Response to Comment 4:
The Project has been planned mostly underground in order to avoid greater impacts to the
community.

Potential environmental impacts to the Study Area communities as a result of the Project
are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the
Project would be constructed underground, and north portal construction (including north
ventilation facilities) would take place within existing transportation land uses. Impacts
would primarily occur due to the construction of the south portal and the Intermediate
Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of
nine businesses. For the Preferred Alternative, community impacts would be due to the
estimated displacement of 22 residential buildings, 13 businesses, and four places of
worship. For Alternative 3C, community impacts would be due to the estimated

DEIS Comment 42:

From:             ccmall@kate.net
To:               B&P Tunnel Information
Subject:          Comment Form
Date:             Thursday, February 11, 2016 3:52:20 PM

Mrs Stephanie Gates
<table>
<thead>
<tr>
<th>COMMENTS</th>
<th>RESPONSES</th>
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<td>displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.</td>
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</tr>
</tbody>
</table>
DEIS Comment 43:

Brittany Rolf

From: Gentner, Paul
Sent: Sunday, January 31, 2016 9:33 PM
To: BP Tunnel Information
Subject: BP Tunnel Project: Alternatives
Attachments: RR_Baltimoreinded.pdf

Response to Comment 1:
The Maryland Department of Transportation oversees comprehensive transportation planning for the State. Prior studies have been performed that evaluate the full network of rail corridors, especially those in and around the City of Baltimore. The study of the B&P Tunnel partly resulted from the identification of this Project as a critical component to the greater rail access plan.

A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.
Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.
Figure 2
Proposed alternate freight railway route utilizing existing State owned right-of-ways.

New rail intersection where CNX and Arcotix cross and new freight line for rail traffic linking freight into Baltimore City.
**Response to Comment 1:**
The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.
DEIS Comment 45:

I think the existing alignment should be kept and no modifications that will effect the community and the air quality. I am very much against anything that will alter Whitelock Street in any way.

Response to Comment 1:

As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 1:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak design practices require new NEC infrastructure meet current standards, including Plate H (double stack) clearances. However, the new tunnel could not be used by double stack freight trains unless certain factors are met. These factors include:

- Substantial improvements, such as extensive additional vertical clearance improvements north and south of the B&P Tunnel to other NEC infrastructure; these improvements are not being designed as part of the B&P Project;
- Federal, state, local and regional support for aforementioned improvements including funding and policy;
- Increasing the bridge and catenary clearance on the NEC where double stack/high dimension trains are to travel;
- Construction of new or modified Union tunnel to Plate H/K (double stack) clearances; without a high dimension Union tunnel, double stack freight service using the B&P Tunnel is not possible;
- NS currently favors the Harrisburg-Perryville route for intermodal service;
- Freight schedules limited to off peak/night time periods which affects the scheduling flexibility and transit time for high priority (Intermodal) shipments for which time is absolutely critical; and
- Construction of track connection/s between the CSX and the NEC if CSX chooses to use the NEC.

In the short-term, there is no indication of any significant increase in freight movements through the B&P Tunnel.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable
materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at [https://www.fra.dot.gov/Page/P0444](https://www.fra.dot.gov/Page/P0444). From that text:

*Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation's rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.*

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

**Response to Comment 2:**

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO₂
concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO₂ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

Response to Comment 3:
The Project Team has engaged in extensive public outreach throughout the development of the Project including three Public Open Houses, as well as ten community meetings where the public was given the opportunity to learn about the project development and engage in discussion with the Project Team. In addition to these meetings, Mitigation Working Groups comprising community organization representatives and members of the Project Team were established to determine the most effective mitigation for the Project. Details of this outreach are described in Chapter VI, as well as Chapter VIII.

Response to Comment 4:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using analysis procedures from the FTA Transit Noise and Vibration Impact Assessment. Construction vibration levels were also evaluated using both FTA guidelines and standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.
Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Response to Comment 5:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be fully compensated for the cost of repairs.

The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.

Response to Comment 6:
The Project Team has performed an impact analysis for noise following the Federal Transit Administration's guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations.
and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

The three ventilation plant facilities would be subject to the operational noise level standards included in the Noise Regulation of the Health Code of Baltimore City § 9-206 Noise Regulation, 2015. This regulation provides the noise limits for manufacturing, commercial, and residential zones in Baltimore City—depending on the source of noise and the types of adjacent land uses. For noise generated within residential zones, there is a limit of 55 dBA at any point on the property line of the use.

Noise levels in the immediate vicinity of the ventilation plant buildings would be caused by the continual operation of the ventilation fans within each facility. The horizontal fans would operate periodically and would generate sound that would propagate through the louvers at the top of the ventilation facilities. Fans would operate periodically when NO\textsubscript{2} levels in the tunnel exceed a set threshold or in emergencies when smoke is present in the tunnel. NO\textsubscript{2} levels are likely to be highest when the level of diesel locomotive operations is highest, or when congestion causes trains to operate slowly or to idle in the tunnel. However, there is not enough information currently available to determine how many hours per day, on average, the fans would run and whether or not they would run during the night.

The design standard for the ventilation facilities would limit the outdoor noise level, when the fans are in operation, to L\textsubscript{max} 50 dBA at the facility property lines. 50 dBA is approximately the noise produced by an indoor air conditioner at a distance of three feet.

To achieve the required reduction in noise level, cylindrical or rectangular sound attenuators would be mounted directly to each fan or to the ductwork within the system. In addition, the building itself would partially shield noise from the interior of the ventilation plant, which would further reduce noise levels outside of the building. The Preliminary Engineering Team has stated that the ventilation plant facilities, with attenuators installed, will emit noise at 45 dBA. This would meet the design standard of L\textsubscript{max} 50 dBA at the facility property lines (i.e., the noise level generated would be less than the design standard).
DEIS Comment 47:

Good Morning Odessa,

I hope this message finds you after a great, long weekend.

Per my voice message, I am reaching out about your upcoming hearings for the B & P Tunnel project. Are you still looking for venues to get the word out to the public? If yes, I am confident that WBAL radio is a great venue to connect with an active, educated, civic minded Baltimore audience. Can we connect for a few minutes by phone to talk about options? Thanks in advance.

Have a great week!

Jenifer

Jenifer Harrington

Thank you for your comment.
DEIS Comment 48:

A neighbor of mine, who is a veteran employee of the US Department of Transportation in Washington, D.C., has told me that it isn’t necessary to replace the tunnel, and that there are cost-effective ways to renovate the existing tunnel. I’ve heard nothing about this option.

Thomas Hasler

Response to Comment 1:

As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.
When I moved my young family to Reservoir Hill in 2009, it was because we could see the incredible potential and unique opportunity to live in such a diverse and historic neighborhood. It has been a joy to watch our community come together in shared projects like the growth of the White Rock Farm and see new development revitalize areas that have long been vacant. Situated in the heart of Baltimore by historic Druid Hill Park, Reservoir Hill has the potential to be an urban gem in the heart of our great city.

But I have real concerns that the wonderful growth our neighborhood has experienced in the last decade will be jeopardized by plans to build 4 train tunnels and its accompanying ventilation building beneath and within the heart of our historic community. All of the proposed routes here directly beneath 100+ year old homes (including my own) and it is impossible to assume that the vibrations produced during the boring process will not impact those structures in ways big and small. Moreover, the fact that these tunnels will be used to transport literally any material, poses a risk to residents in the long-term which have not been seriously addressed in the report.

I am disappointed that this project is being considered in order to save 3 minutes for commuters on Eastern Corridor rail lines and freight lines without greater concern for the residents who will be displaced or permanently impacted by this route. It also seems foolhardy to proceed with these plans when proposals for the oft-discussed high-speed commuter line have yet to roll out.

I hope that the long-term impacts of this historic neighborhood and its residents will be given equal (or greater) consideration than the fleeting few minutes lost to commuters or the financing of multinational corporations eager to transport their dangerous materials through highly populated areas.

Response to Comment 1:
Consistent with Northeast Corridor (NEC) long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

Response to Comment 3:
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel.
subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 4:
While reducing travel time through B&P Tunnel and along the NEC is a goal of the Project, it is not the sole reason the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS. Project goals include reducing travel time through the B&P Tunnel and along the NEC, accommodating existing and projected travel demand for intercity and commuter passenger services, eliminating impediments to existing and projected operations along the NEC, and providing operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.

Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the
Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Response to Comment 5:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
Response to Comment 1:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 51:

Brittany Rolf

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<th>Benjamin Hovey</th>
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I'm having difficulty downloading meeting and deis documents that are linked to medio elk.com. Others work.

RESPONSES

Thank you for your comment.
DEIS Comment 52:

From: gerry.hoy@luc.er.edu
To: B&P Tunnel Information
Subject: Comment Form
Date: Wednesday, February 17, 2016 6:30:16 PM

Mr. Ginny Hoy

Please consider the impact this new tunnel and ventilation buildings above ground will have on the community at the above ground locations. Thank you.

Response to Comment 1:

Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
DEIS Comment 53:

Response to Comment 1:

A Maglev train would not utilize existing or planned Amtrak infrastructure. The design of such a system requires significantly different rights-of-way and infrastructure. The design criteria for Maglev are extremely restrictive and would only be achievable on new alignments.
Response to Comment 1:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be fully compensated for the cost of repairs.
Response to Comment 1:
This comment refers to regional rail planning and is beyond the purview of the B&P Tunnel Project. The Purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, including:

- Reducing travel time through the B&P Tunnel and along the NEC,
- Accommodating existing and projected travel demand for intercity and commuter passenger services,
- Eliminating impediments to existing and projected operations along the NEC, and
- Providing operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.
DEIS Comment 56:

Response to Comment 1:
Alternative 11B would meet the Project’s Purpose and Need; however, overall, the impacts associated with this alternative would not result in commensurate benefits when compared to the other alternatives. Specific reasons for the elimination of this alternative can be found in the Alternatives Report.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Response to Comment 2:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
DEIS Comment 57:

As residents of Bolton Hill, thank you for the opportunity to comment on the DEIS Test Tunnel project. First, we strongly recommend that NO expansion or major rehabilitation work occur on the existing tunnel. Historic homes will be put under major stress, as well as the residents. We currently hear and feel train traffic vibrations under our house throughout the day and night. We can’t even imagine what it would feel and sound like with even more traffic and what damage it will bring to these historic homes. Not to mention the impact on property values. So if the decision is to go with “No Build” any rehabilitation should be minimal with only required maintenance. Out of all the alternatives, we support the option (3b) that would take the tunnel through an industrial park less populated area and is ultimately much deeper and has less impact on people and existing properties and businesses. Tearing down vacant and dilapidated houses in the process would also be a benefit to the community. Minimizing impact on residents should be a top priority. And preserving our historic neighborhoods should also be a top priority. Picking a less expensive option will cost more in the long run on many levels. Should the decision be to proceed with any of the alternatives, we recommend shutting down the existing tunnel. It should have no other use as the alternative would meet the needs and purpose. Please do the right thing for the people, community, and planet.

Sent from my iPhone

Response to Comment 1:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Response to Comment 2:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM
would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 3:
The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include
<table>
<thead>
<tr>
<th>COMMENTS</th>
<th>RESPONSES</th>
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<td>historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.</td>
<td>Response to Comment 4: Amtrak desires to reserve the existing tunnel for a future rail transportation use.</td>
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</tbody>
</table>
DEIS Comment 58:

Please stop this project!
It is a risk to our lives because:

1. Exposure to hazardous material as it happened not too long ago and we had to evacuate downtown Baltimore.
2. Disturbs the ground and makes it vulnerable to other environmental elements like rain which can cause the collapse of neighborhoods as it happened in Charles Village.
3. Vibration and noise can cause neurological health issues that can lead to physical health issues.

Would you go forward with this project if it was your neighborhood?

Faridoon Khoosravi

Response to Comment 1:
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at [https://www.fra.dot.gov/Page/P0444](https://www.fra.dot.gov/Page/P0444). From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

Response to Comment 2:
All of the proposed Project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards. The Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal safety.

Response to Comment 3:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.
Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.
RESPONSES

**Response to Comment 1:**
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at [https://www.fra.dot.gov/Page/P0444](https://www.fra.dot.gov/Page/P0444). From that text:

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**Response to Comment 2:**
All of the proposed Project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards. The Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal safety.

**Response to Comment 3:**
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA *Transit Noise and Vibration Impact Assessment* and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.
Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

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All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.
DEIS Comment 60:

Brittany Rolf

From: Kirby, Chris
Sent: Thursday, February 25, 2016 4:59 PM
To: BPTunnel Information
Subject: DEIS COMMENT
Attachments: DEIS COMMENT - B&P Tunnel.pdf

Attached, please find our correspondence pertaining to the above subject. Thank you.

Chris Kirby for Pierce Flanigan IV
Administrative Assistant

There would be minimal impacts to P. Flanigan and Sons by the Preferred Alternative. These minimal impacts would include potential utility relocation impacts. Alternative 3B would include a south portal located southeast of the P. Flanigan and Sons Asphalt plant. Build alternatives 3A and 3C, though, would have substantial impacts. For more information, please see Chapter III.
February 25, 2016

Ms. Jacqueline Thorne
Project Manager
Maryland Department of Transportation
81 Market Street
Baltimore, MD 21217

RE: B&P Tunnel Project – DEIS COMMENT

Dear Ms. Thorne,

I am writing to share additional comments regarding the conceptual plan for Alternative 3 Options A, B, and C. These options and any other future options that could impact the ability of P. Flanigan and Sons to operate would be devastating for the business and the people it employs.

We annually employ three hundred people. The majority of our employees live in Baltimore City. We are the largest employer of blue collar workers in the Sandtown/Winchester neighborhood.

P. Flanigan and Sons exists to build and maintain transportation infrastructure in the Baltimore Region. The facility in question is critical to our business and mission. We have contracts with numerous state and municipal agencies as well as private land owners. We produce over 300,000 tons of hot mix asphalt and 75,000 tons of recycled aggregates at this location. All of our construction projects are time sensitive. For this reason, the facility is in use day and night during the construction season and daily throughout the winter.

Since 2006, we have been purchasing adjacent property so that we can expand this facility. We fully utilize our property and are actively pursuing more land in this area. In the past 10 years alone, we have invested more than three million dollars into this facility through land acquisition and improvements.

The unique location of this facility and its special attributes make it truly one of a kind. The production of asphalt materials has been going on here for over one hundred years. This location is minutes away from three major highways and the center of the city. It has an active rail spur which is used continuously to deliver aggregates from Vulcan Materials. The site also has an upgraded electric sub-station and natural gas service which are critical for the efficient operation of this type of facility. The combination of these three attributes, along with the permitting necessary to operate this type of facility makes it impossible to recreate. This is why we continue to expand and improve this facility.
The purpose of this letter is to reiterate three main points. Firstly, this facility is essential to a business that supports hundreds of Baltimore City residents. Any disruption to its operations would be damaging to my business, my company and my employees. The location is unique because of its location to highways, the on-site rail service, the utilities, and the history of its use. We have been expanding and investing in this facility because it is fully utilized and essential to our operations.

Sincerely,

P. FLANIGAN & SONS, INC.

Pierce J. Flanigan, IV
President/CEO

cc: Mr. William H. Cole, CEO
Baltimore Development Corp.
DEIS Comment 61:

Brittany Rolf

From: noreply@bptunnel.com
Sent: Friday, February 26, 2016 2:08 PM
To: BPTunnel Information
Subject: Comment Form

Ms Barbara Kozminski

N/A

I strongly support Alternative 3C, as it provides greater travel time savings than Alternative 3A and results in fewer residential and community facility displacements than Alternative 3B.

It is time to rebuild this critical link in the Northeast Corridor's rail infrastructure; doing nothing should not be an option.

Response to Comment 1:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Whitelock Community Farm has been successful in pursuing its mission. In the past year alone, Whitelock Community Farm accomplished the following:

- Grew 3,700 pounds of produce to sell to neighbors at our weekly farm stand.
- Increased membership in our Community Supported Agriculture (CSA) program from 15 members to 25 members.
- Increased sales to residents using food assistance by 57%.
- Diverted over 3,000 gallons of food from the dump through our neighborhood composting program.
- Managed 20 apprentices and college interns.
- Employed four high school students from the neighborhood for the second summer.
- Hosted a Farm Club and healthy cooking classes with students at John Eager Howard Elementary School.
- Partnered with Midtown Academy to install an irrigation system on one of our expansion lots and revamp our neighborhood composting system.
- Hosted a fermentation workshop and a canning workshop with 80 and 15 attendees, respectively.
- Hosted five community potlucks featuring healthy farm fresh dishes.

Additionally, Whitelock Community Farm serves as a place where neighbors of diverse racial and socio-economic backgrounds can gather and build bridges across those barriers. At a recent community meeting regarding the extension of the lease of the lots on Whitelock Street, many neighbors from a variety of backgrounds testified to the positive effect Whitelock Community Farm has had on the community and their own lives.

If the ventilation building were built on the Whitelock Street lots, it would destroy the work of Whitelock Community Farm. Not only would a large portion of our farming land be plowed under, but the remaining land would not receive suitable sunlight and would be poisoned by the emissions from the ventilation building.

Furthermore, building a ventilation building on this land would serve as an act of social and racial injustice. Reservoir Hill is a community with unequal health outcomes, in part due to a lack of access to affordable, healthy food. Whitelock Community Farm is addressing this issue by not only growing fresh produce, but making it available to all neighbors and providing incentives for neighbors using food assistance to purchase produce. Whitelock Community Farm is instilling healthy eating habits in the next generation through our partnerships with John Eager Howard Elementary School, Midtown Academy, and Youth Works. A ventilation building at Whitelock Street would not only erode the progress that is occurring, but would also degrade health in the neighborhood through the release of toxic emissions.

Finally, should the B&P Tunnel Project continue with plans to seize the lots at Whitelock Street and Brookfield Avenue, it would serve as a slap in the face to residents who have risen above broken promises to take the future of their neighborhood into their own hands. The Baltimore City Government made promises to redevelop Whitelock Street, but these promises were not honored.
Response to Comment 2:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO₂ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.
Response to Comment 1:
To minimize risk to the public, FRA requires a range of measures, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA).

The Project has been planned mostly underground in order to avoid greater impacts to the community. In the unlikely event of an emergency, the event in a tunnel is much less damaging to a community than a similar event on an above-ground track running through the neighborhood. Additionally, as stated above, the new B&P Tunnel would be designed to be better equipped and prepared than the current B&P Tunnel.
Response to Comment 1:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

Response to Comment 2:
The Purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, including:

- Reducing travel time through the B&P Tunnel and along the NEC,
- Accommodating existing and projected travel demand for intercity and commuter passenger services,
- Eliminating impediments to existing and projected operations along the NEC, and
- Providing operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.

In addition, the existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Response to Comment 3:
The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 4:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality; emissions would fall within all acceptable federal air quality standards. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold,
which have been set to safeguard public health. Because the concentrations of NO₂ were modeled to be within acceptable levels, all other criteria pollutant concentrations would be within NAAQS, as NOx is the most strictly regulated air pollutant generated from diesel locomotive operation. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

Response to Comment 5:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.

The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

Response to Comment 6:
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.
<table>
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<th>COMMENTS</th>
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<td>FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&amp;P Tunnel. Build alternatives would be constructed to meet current standards for fire protection. The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.</td>
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<th>RESPONSES</th>
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FEIS November 2016
ATTENTION: This e-mail (including any attachment) may contain proprietary, legally privileged and/or confidential information. This e-mail is intended solely for the use of the person(s) to whom it is addressed. If you are not an intended recipient, or the employee or agent responsible for delivery of this e-mail to the intended recipient(s), you are hereby notified that any dissemination, distribution or copying of this e-mail is strictly prohibited. If you have received this message in error, please immediately notify the sender and permanently delete this e-mail and any copies.
Response to Comment 1:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be compensated for the cost of repairs.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO₂ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO₂ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
DEIS Comment 66:

B&P Tunnel Hearings on the Draft Environmental Impact Statement
Testimony of Nancy Cooper Morgan, ; Baltimore MD, 21217
February 17, 2016

It isn't because I have something new to say that I am here today. I am lending my voice and support to my neighbors in opposing the B&P tunnel proposition.

We are a community which cares and supports each other. That's why there are so many people who have eloquently and creatively expressed strong opposition to this proposed tunnel project. I agree with them! I, too, abhor the potential pollution, danger and destruction this project would bring to our lives. It is not beneficial for us! It will hurt us!

That is why we are fervently working, organizing, and respectfully reaching out to individuals and organizations to maintain and preserve our historic homes and buildings—our lives and our endurance! As I examine the plans, I see capitalistic greed that leaves no room for the needs of our humanity.

And so, we implore you. If you must proceed, look for a more suitable area and alternative plan—a far less egregious plan!

It can be done!

Response to Comment 1:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Response to Comment 2:
The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Response to Comment 3:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The 14 new location alternatives included five alternatives based on previous studies.
Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 67:  

Baltimore & Potomac Tunnel Project  
Draft Environmental Impact Statement (DEIS)  
Comment Form  

Only comments received by 5:00 p.m. on February 5, 2016 will be included in the Public Hearing Record for the Baltimore & Potomac Tunnel Project.  

PLEASE PRINT  

Name: Mary Jane K. McGill  
Organization: Historical Mount Royal  
Address:  
City: Baltimore  
State/MD  
Zip Code: 21217  

1  

If we wish to submit the following comments on this project:  

You are putting our entire community of homes at risk and we are not allowed by FEDERAL and STATE INSURANCE for the destruction and noise that this tunnel will create. For all hours of the day and night on our properties, the tunnel do it exists. The tunnel do it exists today and the one you plan to build will still not adhere slow down in the space you create. Gear at break-neck speed will be both dangerous and ill-advised. With the space you project, the NTH would be outraged at our properties' destruction.  

Mary Jane K. McGill  
4 Feb 2016  

Response to Comment 1:  

Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.  

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.  

Response to Comment 2:  

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.  

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.  

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.
Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

**Response to Comment 3:**

New tunnels would be designed to optimize safety and modern standards. Amtrak and Norfolk Southern (NS) are anticipated to use existing fleets and newly acquired equipment in the B&P Tunnel. This equipment must meet federal standards for safe operations. In addition, the tunnel would be equipped with Automatic Train Control (ATC) and Positive Train Control (PTC) systems, which use computer systems to control the speed of both passenger and freight trains within the tunnel.
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO$_2$ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO$_2$ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.
DEIS Comment 69:

Brittany Rolf

From: Russ Moss
Sent: Friday, February 26, 2016 4:57 PM
To: BPFunnel Information; Kathryn Lippie
Subject: Enroling: DEIS COMMENT signitures Residents Against The Tunnels 001
Attachments: DEIS COMMENT signitures Residents Against The Tunnels 001.jpg

Thank you for your comment. We have reviewed the signatories attached.

Attached
Final signatures for Residents Against The Tunnels Thanks!

Russ Moss
Final Environmental Impact Statement and Section 4(f) Evaluation

**COMMENTS**

**Petition**

As residents of Reservoir Hill, we oppose construction of the B & P Tunnel Project (Great Circle Line) in our neighborhoods.

Name: [Handwritten names]

**RESPONSES**
### DEIS Comment 70:

February 1, 2016  
To:  B & P Tunnel Project  
From: Roosevelt "Russ" Moss,  
Baltimore, MD  

I am deeply saddened to be standing here this evening, February 1st, 2016, the first day of African American history month (how ironic) to be making a plea with public servants not to construct four-lanes of train tunnels underneath our community. Four train tunnels that will bring numerous adverse effects to a majority African American community.  

**Pollution**  
**Diminished Community Health**  
**Noise**  
**Destruction of Aesthetic Value**  
**Disruption of Community Cohesion**  
**Destruction of Community Economic Vitality**  
**Devaluing of Property Values**
ALL of the adverse cumulative effects that Non-discrimination clauses of Title VI and Environmental Justice were put in place years ago to prevent.

“This seems like Déjà vu all over again.”

For many in West Baltimore, where working class communities of color are targeted for many projects for the “public good” like landfills, highways, incinerators and other unpleasant, noisy, ugly, stinky, gaseous infrastructure. West Baltimore has been dumped on enough; just take a drive down the highway to nowhere or the interstate width North Avenue to see the wonderful progress these past “public investments” in our infrastructure have made in our communities.

WE’VE HAD ENOUGH !!!!!!!

These laws requires that each Federal agency shall, to the greatest extent allowed by law, administer and implement its programs, policies and activities that affect human health or the environment so as to identify and avoid “disproportionately high and adverse” effect on minority and low-income populations.

A study lead by MIT Professor, Steven Barrett, Baltimore City has more deaths from air pollution than any large city in the United States. The study found 130 were likely to die prematurely each year of causes related to air pollution each

Response to Comment 1:
Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the EO on environmental justice is public outreach. The Project Team has engaged extensively with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three Public Open Houses, as well as ten community meetings, have been held where the public was given the opportunity to learn about the project development in-person, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter’s Clavier Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School.

Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and fliers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations.

The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.

Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations.
year. Small particulate matter in the air contribute to development of heart disease, asthma and other lung diseases.

Baltimore’s asthma rate is 20%, more than twice the national average.

Life expectancy for African Americans along the proposed tunnel route is 63 years, 20 years less than in 83 years Roland Park.

In addition to these four busy train tunnels and the vibrations and noise that will result, a 100 ft. by 200 ft. by 50 ft. (5 story) high ventilation tower is being proposed for the center of Reservoir Hill along Whitelock Street, an area that after decades of blight now serve as a community garden and gathering spot and may potentially serve as a center for retail stores (and jobs) in the community. To add insult to injury, the proposed vent shaft is one block from where the city is investing millions in a new John Eager Howard Elementary School. Even closer, directly across the street, is St. Francis Neighborhood Center that provides after school programs and other services to our children and adults. St. Francis Center is planning a major expansion that would be compromised by this unfiltered ventilation tower.

Response to Comment 2:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Response to Comment 3:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA’s Transit Noise and Vibration Impact Assessment, and construction vibration levels were also evaluated using both FTA guidelines and standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train
Finally, I am asking you to stop this environment injustice from undermining a place we love, our community and homes. Black lives matter! Communities of color lives matter! Working class communities' lives matters! For once give priority to the folks that live in our community over investors and those passing through it.

passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The three ventilation plant facilities would be subject to the operational noise level standards included in the Noise Regulation of the Health Code of Baltimore City § 9-206 Noise Regulation, 2015. This regulation provides the noise limits for manufacturing, commercial, and residential zones in Baltimore City—depending on the source of noise and the types of adjacent land uses. For noise generated within residential zones, there is a limit of 55 dBA at any point on the property line of the use.

Noise levels in the immediate vicinity of the ventilation plant buildings would be caused by the continual operation of the ventilation fans within each facility. The horizontal fans would operate periodically and would generate sound that would propagate through the louvers at the top of the ventilation facilities. Fans would operate periodically when NO₂ levels in the tunnel exceed a set threshold or in emergencies when smoke is present in the tunnel. NO₂ levels are likely to be highest when the level of diesel locomotive operations is
The design standard for the ventilation facilities would limit the outdoor noise level, when the fans are in operation, to $L_{\text{max}}$ 50 dBA at the facility property lines. 50 dBA is approximately the noise produced by an indoor air conditioner at a distance of three feet.

To achieve the required reduction in noise level, cylindrical or rectangular sound attenuators would be mounted directly to each fan or to the ductwork within the system. In addition, the building itself would partially shield noise from the interior of the ventilation plant, which would further reduce noise levels outside of the building. The Preliminary Engineering Team has stated that the ventilation plant facilities, with attenuators installed, will emit noise at 45 dBA. This would meet the design standard of $L_{\text{max}}$ 50 dBA at the facility property lines (i.e., the noise level generated would be less than the design standard).

The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise, and vibration impacts, as described in Chapter VI. These efforts are ongoing and are documented in this FEIS.

Response to Comment 4:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
**DEIS Comment 71:**

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<th>From</th>
<th>Russ Moss</th>
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<tr>
<td>Sent</td>
<td>Friday, February 26, 2016 4:57 PM</td>
</tr>
<tr>
<td>To</td>
<td>BP Tunnel Information, Kathryn Spidle</td>
</tr>
<tr>
<td>Subject</td>
<td>Emailing DEIS COMMENT signatures Residents Against The Tunnels 001</td>
</tr>
<tr>
<td>Attachments</td>
<td>DEIS COMMENT signatures Residents Against The Tunnels 001.jpg</td>
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Attached

Final signatures for residents Against The Tunnels Thanks!

Russ Moss
Response to Comment 1:
Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the EO on environmental justice is public outreach. The Project Team has engaged extensively with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three Public Open Houses, as well as ten community meetings, have been held where the public was given the opportunity to learn about the project development in-person, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter’s Clavier Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School.

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The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.

Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations.
When someday Baltimore becomes the Poster Child of URBAN TRAIN TRAGEDY...as Flint, Michigan is now the Poster Child for LEAD IN DRINKING WATER TRAGEDY....This PLEA will be among the many that tried desperately to SOUND an ALARM to ears of seemingly indifference.

We hope those of you who will make this decision remember....that AFRICAN AMERICAN LIVES MATTER, LOW INCOME FOLKS LIVES MATTER.....ALL OF OUR LIVES MATTER! We hope this Plead MATTERS to YOU!

Sincerely,
Russ Moss
Board Member
Residents Against The Tunnels (RATT)

For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.

Response to Comment 2:
Per Chapter V of the FEIS, it is projected that in 2040, 388 trains are expected to use the tunnel—386 passenger trains with no hazmat cargo, and two freight trains with limited hazmat cargo (based on current freight volumes projected into the future). Notwithstanding this likely very low volume of hazardous materials in the tunnel, the new tunnels would be designed to optimize safety and modern standards. Amtrak and Norfolk Southern (NS) are anticipated to use existing fleets and newly acquired equipment in the tunnel. This equipment must meet federal standards for safe operations. In addition, the tunnel will be equipped with Automatic Train Control (ATC) and Positive Train Control (PTC) systems, which use computer systems to control the speed of both passenger and freight trains within the tunnel. The Project sponsor will develop and implement a Hazardous Spill Prevention Plan and a Hazardous Materials Remediation Plan, as well as an Emergency Management Plan, to be implemented in the event of a tunnel emergency.

Tunnel drainage concepts are being developed to meet MDE and BD standards for discharge into sanitary or stormwater utility systems. In addition, concepts are being designed to provide protection from diesel fuel and other hydrocarbon leaks into the tunnel drainage system.
As a courtesy we are forwarding for your perusal the attached unofficial independent document not approved or endorsed by MTA. The Proposal to Unravel Baltimore’s Tangled Rail Lines document was a collaboration between MTA’s Citizens Advisory Committee for Accessible Transportation (CACAT) and Citizens Advisory Committee (CAC).

If you have any questions, please feel free to contact CACAT Chair, Edward Cohen. He can be reached at 410-837-6582.

Response to Comment #3:

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<tr>
<td>“Project requires only one new underground station and about 1.15 miles of new tunnel. It costs less than half of what the Red Line would cost. The east side portal would be north of Madison and Curley Streets and any current structures.”</td>
<td>“This project requires about 1.15 miles of new tunnel and cost less than half of what the Red Line would cost.”</td>
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<tr>
<td>“Item 2, a two track freight tunnel…”</td>
<td>“Item 2, the freight tunnel…”</td>
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<tr>
<td>List of Maps added. (page 14)</td>
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<tr>
<td>New maps (page 21).</td>
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The report entitled, A Proposal to Unravel Baltimore’s Tangled Rail Lines, from October 2015 provides the updates mentioned above; however, aside from these changes, it is not substantively different from the original report of the same name, dated September 2015. To review the September 2015 report in its entirety, please refer to DEIS Comment #11.
A Proposal to Unravel Baltimore’s Tangled Rail Lines
Joint Open Infrastructure Subcommittee of the
MTA Citizens Advisory Committee;
MTA Citizens Advisory Committee for Accessible Transportation;
MARC Riders Advisory Committee
Final version adopted by CACAT on 16 October 2015
Final version adopted by CAC on 20 October 2015

In April of 2002 the I-95 Corridor Coalition released its "Mid-Atlantic Rail Operations Study" which identified many choke points and decaying infrastructure throughout New Jersey, Pennsylvania, Delaware, Maryland, and Virginia that prevent expansion of rail capacity that the rest of the system could otherwise accommodate. These include the Howard Street Tunnel, the B&P Tunnels, and the Union Tunnels in Baltimore as well as several bridges in Maryland.

The study divided the projects into near, medium, and long-term time frames. The near term projects (5 years or done by 2007) included:
Design for reconstruction of the Howard Street Tunnel and approaches
Design for reconstruction of Amtrak's Union Tunnels and the B&P Tunnels.

The Medium Term projects (5 to 10 years or 2007 to 2012) included:
Reconstruct the Howard Street Tunnel and approaches
Reconstruct Amtrak's Union Tunnels and the B&P Tunnels.

The long term projects listed in the I-95 Corridor Coalition study are not part of this report and so are not listed herein.

In November 2005, the U. S. Department of Transportation Federal Railroad Administration issued “Report to Congress: Baltimore's Railroad Network: Challenges and Alternatives” (The FRA 2005 report) that says

In the end, each of the competing carriers built its own, inferior right-of-way compromising even the then-prevailing standards for gradient, curvature, and operating efficiency. Despite subsequent improvements, today’s network is still reliant on the Baltimore & Potomac (B&P), Union, and Howard Street Tunnels for connectivity — is essentially the same as the geographically compromised and operationally handicapped system cobbled together during the post-Civil War decades.

Although convoluted and antiquated, Baltimore’s railroads have strategic importance far beyond the confines of their immediate region. Originating and terminating rail freight traffic in the Baltimore region remains significant, largely due to the Port — which ranks fourth among Atlantic Coast ports, and is the closest Atlantic port to major Midwestern markets — and the region’s remaining industrial base. Through freight traffic is important on the CSX’s traffic lanes traversing Baltimore between
Note: It is necessary to increase the Howard Street east side setback for the new “super block” to 25 plus feet from the tunnel to permit expansion and reconstruction of the tunnel. The foundations of the Read’s Drug Store at Lexington and Howard would need to be stabilized as part of tunnel construction.

Items 3 through 8 should be added to the Consolidated Transportation Plan (CTP) during Governor Hogan’s term in office.

Explanation of construction order:
Item 1, conversion of the existing subway to an automated line with an east side extension of the Metro from JHH to the Travel Plaza with a proposed Metro rail yard on the Arnprior Specialty Steel brownfield site at Orangeville must be done in phase 1 as later work will cut the Subway line (between Lexington and State Center stations) for a west side branch. The Orangeville yard will permit service east from Lexington Market during the later west side branch construction, and the length (more than 6 miles) of the line will justify continued eastside operation. This line, with the west side extension, will provide a rail bridge around Penn Station for MARC passengers to/from Harford and Cecil Counties while the B&P and Union Tunnels are rebuilt during phase 7.

This alignment would be far less costly and provide much better service than the proposed Red Line east side. The direct connection from I-95 and I-895 to the Travel Plaza with its ample free parking and short rail travel time (about 10 to 12 minutes) to downtown will attract a significant amount of traffic from I-95 and I-895. Unlike the Red Line, there will be no temptation for commuters to park on the streets of Canton to avoid downtown parking fees. This subway extension will reduce congestion in the Fort Meade area because some fraction of the cars from the north that use the tunnel to access downtown by way of I-895 will switch to the automated metro. Eastside subway service will permit restructuring of the east side bus lines. This will increase bus reliability, reduce bus operating costs, increase the number of buses available for use on over crowded bus lines, and reduce rider travel times. By being farther from the harbor, and higher than Boston Street, this alignment will be immune to the coastal surge flooding that made a Red Line Boston Street portal risky with sea levels rising. This line would likely increase MARC ridership from northeast of Baltimore by providing a quick connection at Orangeville to JHH and the development around it, downtown, and University Center (from Lexington Market Station).

An automated line may be economically operated on much shorter headways than if motormen needs to be paid. For example, 2 car trains every 2 minutes yield the same hourly line capacity as 6 car trains every 5 minutes but with one third the waiting time. Shorter waiting times attract more riders, improve connections with feeder bus lines, increase the transit impact and lower the operating cost per passenger mile.

This project requires only one new underground station and about 1.15 miles of new tunnel. It costs less than half of what the Red Line would cost. The east side portal would be north of Madison and Curley Streets and any current structures.
Item 2, a two track freight tunnel, is necessary to remove freight traffic from the Howard and B&P and Union Tunnels before any other work can be done on them. (Before this tunnel is done, any work on or near the Howard Street tunnel risks a complete shut down of East Coast freight traffic, with huge port access, national freight movement, and liability issues for the state.) Unlike the current freight alignment and the other alignments proposed in the FRA report, the alignment proposed here keeps hazardous material (Hazmat) freight out of downtown and densely residential West Baltimore and provides the most direct east coast route. Without this improved rail access, especially given the cancellation of the Monell Park intermodal transfer terminal, the Port of Baltimore will continue to suffer and lose business to other east coast ports, because of the slow continuing loss of competitive rail access and increased transportation costs required to serve the Port of Baltimore. A Norfolk Southern vice president has already said that the railroad would be willing to negotiate a per car toll to use this tunnel, which would permit the construction to be funded by bonds. Toll rates charged to CSX could depend on how quickly it signs onto the deal. The state owned Patapsco and Back River Railroad could guarantee both CSX and Norfolk Southern access to Bayview yard and Sparrows Point. The tunnel should be owned by MDOT. As part of the deal, MDOT would obtain title to the Howard Street Tunnel and the belt line from Russell Street to Bayview yard, the CSX Sparrows Point branch, the Hanover Sub, the Old Western Maryland and Maryland and Midland rights of ways including the Bear Creek trestle. Some of these rights of way will eventually be used for the Baltimore Metro Subway, and others for MARC and/or intercity passenger service.

Item 3 is construction of a branch from the current subway tunnel west to a portal at Fremont Avenue in the median of the Route 40 expressway then continuing above ground to the intersection of Frederick Avenue and Hilton Street (FredHilton) by way of the West Baltimore MARC Station. This would provide a location with sufficient auto catchment (Frederick, Wilkens and I-95 access) to make the line cost effective. The line would eventually be extended northwest under Loudon Park cemetery to Edmondson Village, Westview and on to Normandy, Columbia Mall, and the Maryland School for the Deaf. (See Item 4 for notes about the portal for this.)

During construction, subway service can be provided from Owings Mills to State Center and from Lexington Market to the Travel Plaza. The Central Light Rail, augmented by bus service, will provide bridge service between the two stations. As part of this project, the Metro Subway on the east side is branched to a station at North Point Boulevard on the Northeast Corridor to provide a layover spot for east/west trains. Subway service between Orangefield and West Baltimore Stations is required to provide a MARC rail service bridge during reconstruction of the B&P and Union tunnels in phase 7.

There is infrastructure built into the Lexington Market Station which would permit a west side rail transit line to terminate underground there, which some have recently suggested for a west side light rail instead of the Red Line. That proposal is inferior to branching the current line as proposed here for several reasons. Trains operating north of Lexington Market Station must be run at a higher frequency so as to be well below...
The following pages show maps of the proposal in steps as it grows.

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
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<tbody>
<tr>
<td>14</td>
<td>Current Metro Subway line from Owings Mills to Johns Hopkins Hospital</td>
</tr>
<tr>
<td>15</td>
<td>Downtown route of current Metro Subway to Johns Hopkins Hospital</td>
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<tr>
<td>16</td>
<td>Phase 1, east side extension from Johns Hopkins Hospital to the Travel Plaza</td>
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<tr>
<td>17</td>
<td>Phase 3, west side, green extension from Lexington Market Station to FredHilton</td>
</tr>
<tr>
<td>18</td>
<td>Phase 6, north/south, blue, route between Westport and Penn Station</td>
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<tr>
<td>19</td>
<td>View of center city after Metro full build</td>
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<tr>
<td>20</td>
<td>Full extent of proposed Metro Subway system</td>
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<tr>
<td>21</td>
<td>Center city view of the full build Metro Subway and MARC systems</td>
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<tr>
<td>22</td>
<td>Full extent of the proposed Metro Subway system with MARC and Amtrak lines</td>
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<tr>
<td>23</td>
<td>Greater Baltimore region MARC and Amtrak lines</td>
</tr>
<tr>
<td>24</td>
<td>State wide MARC and Amtrak lines</td>
</tr>
<tr>
<td>25</td>
<td>State wide MARC, Amtrak, and freight lines</td>
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Note that all maps on pages 15 to 17 and 19 have the same scale.
View of the proposed, expanded intercity (Amtrak) and commuter (MARC) passenger routes in the Baltimore Region. Current lines are in wide, bright green. Proposed lines are in a light green (Amtrak and MARC) and purple (MARC only). The high-speed Amtrak tunnel is shown in dark green with cross hatch. See text for a description of routes and destinations.
DEIS Comment 72:

BARKER B. MUNCH

TUESDAY, FEBRUARY 16, 2016

B & P TUNNEL PROJECT
31 MOHAWK ST.
BALTIMORE, MD., 21217

IT IS FELT THAT UNDER PRESENT PLAN FOR B & P TUNNEL PROJECT IS FLAWED.
FIRST IT COULD NOT BEST suit RAIL SERVICE TO WESTMINSTER, FREDERICK, HAGERSTOWN AND POINTS WEST.
ALSO IT PREVENT REOPENING A FREIGHT AND PASSENGER LINE OVER THE OLD NORTH CENTRAL ROUTE TO HARRISBURG, PA. AND WOULD PREVENT FUTURE AMTRAK SERVICE INTO PA AND ON NORTHWEST TO CLEVELAND, OHIO.
IT IS FELT THE BEST ALTERNATIVE IS BRING NEW TUNNEL THROUGH DOWNTOWN UNDER PAWTOWNE ST. AND FOUR TUNES, ONE PAIR FOR AMTRAK, OTHER PAIR FOR HIGH SPEED RAIL.

RATHER THEN ABANDON OLD TUNNEL, IT COULD BE BE GRADED (REPAIRED) TO TAKE MAX TRAINS THEREBY ENABLING MARC TO MAKE MORE STOPS AT FEW MORE LOCATIONS IN THE CITY.

FOR ALL FREIGHT TRAFFIC, IT IS IMPORTANT TO GET THIS TRAFFIC OUT OF POPULATED AREAS.
ONE GOOD ALTERNATIVE WOULD BE A TUNNEL FROM HARRISON POINT TO SPARROWS POINT. THERE IS TRACKAGE ALREADY IN PLACE THAT CAN BE CONNECTED BY MEANS OF A TUNNEL, PARTLY OVER THE RIVER.

ONCE FREIGHTS ARE OUT OF HOWARD ST TUNNEL, THIS TUNNEL COULD BE RECYCLED FOR USE BY MARC AND AMTRAK, THERE BY PAYING THE WAY FOR CONVERTING THE LIGHT RAIL SYSTEM TO MARC GOING INTO PENNSYLVANIA, AND FOR AMTRAK GOING INTO PA VIA CARSON LINE.

RUNNING FREIGHT TRAINS OVER THE PRESENTLY PROPOSED TUNNEL WOULD BE SELF DEFEATING. SINCE THESE FREIGHT TRAINS CARRY BAGGAGE, WITH OPENING UP PROPOSED NEW TUNNEL TO FREIGHTS, IT WOULD ALSO HAVE ADDITIONAL FREIGHTS FROM CSX GOING THROUGH POPULATED AREAS.

THAT WOULD BE A MORE HAZARDOUS SITUATION THAN WE HAVE NOW. PLUS THAT MEANS MORE FREIGHTS GOING THROUGH A BUSY PASSENGER STATION.

IF NOTHING ELSE IS BUILT, WE SIMPLY NEED A NEW FREIGHT TUNNEL FROM HARRISON POINT TO SPARROWS POINT.

IF THE AGING HOWARD ST TUNNEL FALLS APART, IT WOULD HAVE AN ECONOMIC IMPACT ON AREA COMMERCIAL AND OUR PORT FACILITIES.

Sincerely,

BARKER B. MUNCH

Response to Comment 1:
This comment is beyond the purview of the Project. The Maryland Department of Transportation oversees comprehensive transportation planning for the State. Prior studies have been performed that evaluate the full network of rail corridors, especially those in and around the Baltimore City. The study of the B&P Tunnel partly resulted from the identification of this Project as a critical component to the greater rail access plan.

The purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, which include:

- Reducing travel time through the B&P Tunnel and along the NEC,
- Accommodating existing and projected travel demand for intercity and commuter passenger services,
- Eliminating impediments to existing and projected operations along the NEC, and

Providing operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.

Response to Comment 2:
The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Amtrak desires to reserve the existing tunnel for a future rail transportation use.

Response to Comment 3:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw
if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore
Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering
issue that could not be reasonably avoided or solved during the early stages of alternatives
development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all
found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or
retention for each alternative.

Response to Comment 4:
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests
for their service, including transportation of hazardous materials. Hazardous/flammable
materials can be transported along the Northeast Corridor and through the B&P Tunnel
subject to the US Department of Transportation (USDOT) regulations governing the proper
labeling/placarding and transportation of such regulated materials or wastes. The rules
are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the
Hazardous Materials Division administers a safety program that oversees the
movement of hazardous materials (including dangerous goods), such as petroleum,
chemical, and nuclear products, throughout the Nation’s rail transportation system,
including shipments transported to and from international organizations. The
Division also has authority to oversee the movement of a package marked to indicate
compliance with a Federal or international hazardous materials standard, even if
such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container
labeling, container durability standards, emergency response information and safety and
security plans. Local first responders receive training in hazardous materials incidents for
specific facilities, including the B&P Tunnel. Build alternatives would be constructed to
meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast
freight usage through the tunnel. Therefore, due to low probability of new freight
customers and the high cost of interconnecting freight lines with the NEC, Amtrak
anticipates that the number of freight trains using the new tunnel will remain unchanged
for the foreseeable future.

Response to Comment 5:
Building an additional tunnel for freight in a new location is beyond the purview of the B&P
Tunnel Project.
Final Environmental Impact Statement and Section 4(f) Evaluation

COMMENTS

DEIS Comment 73:

Brittany Rolf

From: none@bptunnel.com
Sent: Wednesday, February 24, 2016 6:00 PM
To: BPTunnel Information
Subject: Comment Form

Mr. Charles Myers III

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As a train rider and also a resident of Reservoir Hill, I support the new rail tunnels. However, it would help residents' fears if a memorandum of understanding or other document were put in place prohibiting the transportation of hazardous materials through the tunnels. Residents do not want chemical spills, explosions, etc. (however unlikely) occurring below their homes, and any such incident would cripple passenger traffic on the NE Corridor. Also, the ventilation plant on Whitelock Street is undesirable and would tower over the neighboring buildings. The old Baltimore Transit Company building at 2480 Druid Hill Avenue would be a better choice. The property is larger than the one at Whitelock, providing room for additional setbacks or a stepped building facade, and the ventilation facilities would be a good adaptive reuse of what's left of the existing historic building. The Whitelock property is in a densely populated area which includes both houses and apartment buildings, and is directly across from a city park, community gardens, and the St. Francis Community Center, and two blocks from the elementary school.

RESPONSES

Response to Comment 1:

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 2:

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
DEIS Comment 74:

Brittany Rolf
From: noreply@bptunnel.com
Sent: Friday, February 26, 2016 9:51 AM
To: BPTunnel Information
Subject: Comment Form

Mr Gregg Nesemier

N/A

I support the Draft Environmental Impact Statement (DEIS) as written. It is a thoughtfully and thoroughly prepared document that appears to have carefully considered all relevant environmental factors for this tunnel project.

As a MARC commuter who travels through the existing tunnel daily during the working week, I support adoption of one of the alternatives (3A, 3B, or 3C) over Alternative 1, the No-Build option. The No-Build option is not a viable course of action because, as the DEIS indicates, the existing tunnel is over 140 years old and is approaching the end of its useful life due to its general structural and physical condition; its capacity does not support future demand for passenger and freight rail transportation in the Northeast Corridor; and it adversely impacts travel times with its 30 MPH speed restriction on a rail line otherwise offering speeds well in excess of 100 MPH. Alternatives 3A, 3B, and 3C all appear to effectively address the issues with the existing tunnel. All offer 50 MPH speeds, capacity increases, double-stack freight capability, and fresh infrastructure with associated lower maintenance costs, among other benefits.

Of the three build alternatives, based on the data presented in the DEIS, Alternative 3A appears to be the most cost-effective option. It offers the lowest overall environmental impact (considering air quality, impact on neighborhoods including environmental justice populations, impact on parks and historical structures, number of existing businesses displaced, etc.) as well as the lowest capital cost to build, without requiring significant additional travel time compared to the other options (only about 30 seconds longer compared to alternatives 3B or 3C). It also does not require relocation or modification of the West Baltimore MARC station, as the other two build alternatives do.

Thank you for the opportunity to comment on this significant project.

Thank you for your comment.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
Response to Comment 1:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Response to Comment 2:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. As part of the mitigation efforts, the Project sponsor would provide coordination with local job training organizations to 1) facilitate targeted job training by providing estimates of the type, number, and timing of jobs expected to be created by project contractors, 2) include in construction contracts goals for nationally targeted workers of social and economic disadvantage, and 3) require project contractors to report on a regular basis their progress in meeting contract goals. The Project sponsor will provide public reporting on job creation. These efforts are ongoing and are documented in this FEIS as described in Chapter VI.
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
DEIS Comment 77:

Thank you for your comment.

The project can move along much faster if Governor Hogan would use a more professional approach to the issue at hand. Also you need to have a hospitality table set up. A hospitality table setup consists of finger foods. Finger foods consists of chicken wings, produce, seafood, salad, macaroni salad, potato salad, tacos, cakes, pies, doughnuts, ice cream, sherbert, chocolate, vanilla pudding, sweet potato pie, fruit punch (no soda), lemon aid is good. No pretzels, potatoe chips. Chile is good this time of the year. What do you think of this idea. If you need help getting this idea started, feel free to call me at _________. Leave a reply. Most professional organizations program that i attend have this type of set up. 😊
Mr. Rosamony Petereul

January 23, 2016 BPTunnel Project Comments of Rosamony Petereal, Reserorso Hill

As a resident in Roseroro Hill and in the path of the proposed underground tunnel, I object strongly to the proposed routes under my house and those other affected along the routes chosen. The reasons are outlined below.

1. The strong potential for unrepairable damage to my 123-old-fragile-mortared-stone foundations from a tunnel shaft during and after construction that may be only 25-30' under the basement of my 3-story 50' high townhouse property in order for the tracks to meet at ground level to existing ones leading to Penn Station.

2. Damage to well-preserved historic townhouse housing on Mount Royal Terrace and Park Ave due to the proximity of the tunnel height and basements/foundations that are already weakened by the age of the structures. It is noted that the existing tunnel is old but little attention is emphasized on the 125-150 year old housing stock that lies atop the proposed tunnels. And a large portion of housing stock under the proposed tunnel is fragile or under planned or proposed construction.

3. There is a lack of attention to evidence/documentation that the vibrations studies pertain to fragile housing stock.

4. The lack of a chosen alternative that follows under existing roadways such as North Ave or Druid Park Lake Drive, thereby minimizing the potential impact on fragile historic housing.

5. The lack of sufficient background on repair of the existing tunnel.

6. The proposed gain in a few minutes of travel time that is not cost effective.

7. A federal, state, and locally funded proposed project that has huge impacts on neighborhoods in the chosen tunnel path that appears to be an investment project that also aims to provide greater solvency for passenger rail service that is already underwritten in part by government funding. Where does the buck stop for continued investment?

8. The proposed routes selected appear to also allow for the eventual connection to larger freight transport through the city.

9. The idea of a very high speed train (perhaps cutting half the travel time) that would be located outside Baltimore City would be more beneficial if the aim was to decrease demonstrable travel time between Baltimore and Washington, DC and the eastern seaboard.

10. The report details the extent of destruction of property in order to proceed with the tunnels. There is a question as to whether the extent of the damage outlined justifies the gain in 2-3 minutes in travel time. The gain appears to be more in the increased passenger travel capacity.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passes are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passes are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast tunnel excavation would take
11. Particularly glaring is the impact on the social cohesion of the Reservoir Hill community by placing an imposing ventilation building smack dab in the middle of this neighborhood as a central dominating influence and its air exhausting centrally located in a dense populated area. Not only does it not fit with the development of an organic farm bringing fresh produce to neighbors and a native plant park for restoring nature to a dense urban setting, but commercial development of this block of Whitelock Street is hard to imagine. The efforts to secure tenants for an existing former auto repair building near Whitelock and Park is a good example of the challenges to commercial development within a neighborhood rather than on the periphery such as North Avenue and Druid Park Ave boundaries.

12. The potential damage to existing buildings along the proposed route and the social cohesion of Penn-North and other fragile socio-political areas that need an infusion of factors to build community does not justify the routes proposed.

13. There should have been several consultant organizations competing against each other for the best routes instead of just one organization with an inherent interest in the construction of same.

It is not that as a former MARC Train ride I am against expanding passenger rail service and improving service, but it seems that the addition of locomotives that do not over heat in the summer, that rain does not flood track and slow or prevent service, and that existing repairs of the electrical lines between DC and Baltimore warrant consideration of improvements as well. The limited scope of just looking at tunnels is shortsighted and denies an inclusive look at the entire complex of factors affecting passenger rail service.

That the idea of improving the existing tunnel and expanding the tunnels is not in itself an unworthy objective. It is a question for me of whether it is worth the tremendous dollars of taxpayer money for private enterprise to expand from two tunnels to four with heights to accommodate freight at the expense of existing living dense populations that are sorely discomfited by these proposed changes and the potential and actual damage to existing structures.

place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Response to Comment 2:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 3:
The Purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, including:

- To reduce travel time through the B&P Tunnel and along the NEC,
- To accommodate existing and projected travel demand for intercity and commuter passenger services,
- To eliminate impediments to existing and projected operations along the NEC, and
- To provide operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.
In addition, the existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

**Response to Comment 4:**
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

**Response to Comment 5:**
The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.
While reducing travel time through the B&P Tunnel is one of several goals of the Project, it is not the reason that the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. Please refer to Response to Comment 3 above for more information regarding Project Purpose and Need.

Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Response to Comment 6:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 7:
The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section
4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

Response to Comment 8:
This comment is beyond the purview of the B&P Tunnel Project.
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.
**DEIS Comment 80:**

Brittany Rolf

| From:   | Alan Pressman |
| Sent:   | Thursday, February 25, 2016 11:34 PM |
| To:     | B&PTunnel Information |
| Cc:     | Richard Gysynski; Rev. Karen Brown |
| Subject:| DEIS COMMENT |
| Attachments: | RHIC Train Opposition Letter Signed Final.pdf |

To Whom It May Concern,

Please find attached the RHIC response to the Draft Environmental Impact Statement and the current B&P Tunnel plan.

Thank you,

Alan Pressman

Vice President - RHIC Board

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**RESPONSES**
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
The three ventilation plant facilities would be subject to the operational noise level standards included in the Noise Regulation of the Health Code of Baltimore City § 9-206 Noise Regulation, 2015. This regulation provides the noise limits for manufacturing, commercial, and residential zones in Baltimore City—depending on the source of noise and the types of adjacent land uses. For noise generated within residential zones, there is a limit of 55 dBA at any point on the property line of the use.

Noise levels in the immediate vicinity of the ventilation plant buildings would be caused by the continual operation of the ventilation fans within each facility. The horizontal fans would operate periodically and would generate sound that would propagate through the louvers at the top of the ventilation facilities. Fans would operate periodically when NO\textsubscript{2} levels in the tunnel exceed a set threshold or in emergencies when smoke is present in the tunnel. NO\textsubscript{2} levels are likely to be highest when the level of diesel locomotive operations is highest, or when congestion causes trains to operate slowly or to idle in the tunnel. However, there is not enough information currently available to determine how many hours per day, on average, the fans would run and whether or not they would run during the night.

The design standard for the ventilation facilities would limit the outdoor noise level, when the fans are in operation, to L\textsubscript{max} 50 dBA at the facility property lines. 50 dBA is approximately the noise produced by an indoor air conditioner at a distance of three feet. To achieve the required reduction in noise level, cylindrical or rectangular sound attenuators would be mounted directly to each fan or to the ductwork within the system. In addition, the building itself would partially shield noise from the interior of the ventilation plant, which would further reduce noise levels outside of the building. The Preliminary Engineering Team has stated that the ventilation plant facilities, with attenuators installed, will emit noise at 45 dBA. This would meet the design standard of L\textsubscript{max} 50 dBA at the facility property lines (i.e., the noise level generated would be less than the design standard).
Response to Comment 3:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality; emissions would fall within all acceptable federal air quality standards. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, which have been set to safeguard public health. Because the concentrations of NO\textsubscript{2} were modeled to be within acceptable levels, all other criteria pollutant concentrations would be within NAAQS, as NO\textsubscript{x} is the most strictly regulated air pollutant generated from diesel locomotive operation. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the Tunnel would be projected up and away from the community. In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

Response to Comment 4:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE
Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 5:

Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

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FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 5:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be fully compensated for the cost of repairs.
DEIS Comment 81:

Hello,

As a Baltimore homeowner, I support the B&P tunnel replacement. I liked it better when it was just a 2-track tunnel for Amtrak because the cost was lower, which may have made it easier to fund. The 4-track tunnel that’s proposed now is still a good thing though, if those extra tracks make it easier for freight rail to connect to Baltimore ports. Better connections to ports make Baltimore more competitive and will bring more jobs to our city.

Amber Reed, Greenmount West

Thank you for your comment.
DEIS Comment 82:

Thank you for your comment.

The Baltimore and Potomac Tunnel project is greatly needed. Since, it will provide intercity residents an alternate to commute to other parts of town that would not have been possible.
DEIS Comment 83:

Response to Comment 1:

As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
1 | Dear BP Project Team,

My name is Elizabeth Ryan and I am a resident of 1, a row house in Reservoir Hill, just one block from where you are proposing to build a ventilation plant.

Owning a home was a lifelong dream for my husband and me. After paying rent in American cities for the past 20 years, we finally got the chance to make our dream come true, thanks to the Healthy Neighborhoods Loan program. We have spent the last year, designing and diligently managing a massive renovation to transform this once dilapidated house into a home for our family. One of the design details we included was a new side door on the southern side of the house so that we can walk out our kitchen and harvest vegetables from the raised beds we plan to plant there. In December 2015, we finally moved in with our infant son, Giancarlos. I’ve attached a photo of him at Christmastime.

Despite everything we went through to become homeowners, our arrival in the neighborhood felt like an affirmation, thanks to the reception we received from our neighbors. I’ve lived in more places than I can count, and never before have we had such warm, community-oriented neighbors. We’ve already helped one another shovel, exchanged keys, shared pot luck dinners and borrowed ladders.

It therefore comes as a shock to us that you would even propose putting our family’s health, our community’s well-being and our financial future at risk with the proposed tunnels and ventilation plant. Our home would be one block from the ventilation plant. The proposed tunnels, which would run directly below our house, a mere 60 feet beneath our feet.

2 | We did not purchase a home above a tunnel used to transport hazardous materials; we chose a house in a quiet neighborhood one block from the Central Park of Baltimore. We did not choose a home for our newborn ear a significant source of carcinogenic emissions; we added extra insulation to the walls of his room to ensure that he would never be cold. We did not buy a house in a place that no one loves; we chose a community where residents are committed to one another and to developing a vibrant commercial strip—on Whitelock Street.

When considering the ‘cost’ of a project such as this, there are powerful forces shaping the analysis, vested in an outcome that treats public comments such as this as perfunctory. But the costs to our family, our neighborhood, our health and our financial future are not intangible or irrelevant. They are devastating and irrevocable. I hope you will honestly explore these impacts before reaching your final decision, and ask yourself how you would feel if someone proposed this in your neighborhood?

Elizabeth Ryan, Carlos Payes and Giancarlos Payes
Baltimore, MD 21217

3 | Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

The build alternatives will have an average tunnel depth of 115 feet. All of the proposed project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards. The Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal conditions and safety throughout construction.

Response to Comment 3:
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

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FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

Response to Comment 4:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
DEIS Comment 85:

RESIDENTS AGAINST THE TUNNELS

RATT

Questions: for the hearing, concerning the proposed B & P tunnels impact.

SOLLEDÁ SALME

MARK WEST

MIKHAIL KORYTA

Page one of two

1. Projected estimates are that, by 2040, the B&P Tunnels will have 318 trains passing through them every 24 hours. Since the tunnels are 2 miles long, this equates to generating, and concentrating, 676 miles worth of toxic diesel exhaust in the tunnels every day.

2A. Exactly how much of this 676 miles worth of pollution will be released through the center vent and spread over our community each day?

All Roosevelt Hill is very worried, because the vent is like a giant hose that is located in the very heart of our neighborhood. The building's huge footprint would wipe out almost half of our, much loved, park and farm on Whitlock Street and the farm produce will have to grow directly under this pollution.

The enormity, five story building would loom ominously over the historic architecture and degrade its beauty by juxtaposition. Not only will what little park remains be ruined by the noise & fumes but the residents in that area, John Eger Howard Elementary School, Saint Francis Center and Historic Gertrude Stein Retreat House will be heavily impacted.

2B. Is there any evidence being done to calculate the stress damage to Roosevelt Hill from psychological stress from knowing that trains could potentially explode & toxic fumes will be directly under our homes?

3. Are there specific locations that can be used for the remaining 78 trains each day, which have no connection to the rail line? What will happen when the tunnels are not in their full projected operation?

4. Increases in background pollution: Maryland has 20 Superfund sites. It is one of the most contaminated areas in the United States. Not coincidentally, Maryland also has one of the highest incidences of cancer. One in every five women has breast cancer. Neighbors with respiratory challenges could be driven out of their homes.

5. What is being planned to alert & evacuate residents about the risks from the additional emissions through the tunnels & vents and how will it affect the health of the residents and kids living near all these trains?

6. What conditions would require evacuations and plans to house residents, and schools, and for how long?

7. If there were an explosion, like the so-called “9/11 THUNDER TRAIN” that exploded in Canada, killing citizens & destroying over two square miles of the community, what would happen to residents along the tunnels?

RESPONSES

Response to Comment 1:

Regarding diesel emissions, when NO\textsubscript{2} levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO\textsubscript{2}.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO\textsubscript{2} emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am and 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am, and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold levels that were set to safeguard public health. Air dispersion modeling results are in Chapter VI.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. National Ambient Air Quality Standards have been established for six common air pollutants, referred to as criteria pollutants—carbon monoxide (CO), lead, nitrogen dioxide (NO\textsubscript{2}), ozone, particulate matter (PM) which includes particulate matter with a diameter of 10 microns or less (PM\textsubscript{10}) and PM\textsubscript{2.5}, and sulfur dioxide (SO\textsubscript{2}). Nitrogen oxides (NO\textsubscript{x}) and volatile organic compound (VOC). The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold. NAAQS are set to safeguard public health. Because the concentrations of NO\textsubscript{2} were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

The proposed tunnel ventilation system would be designed such that ventilated air will meet federal air quality standards without the use of a filtration system. The ventilation system would be designed to dilute and disperse pollutant levels, so the air quality standards would be met at any location where people may be exposed.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitlock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitlock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the...
Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
The type of locomotive traveling through the tunnel is determined by the train service operator. As per the 2040 projections, of the 388 daily vehicles running through the Tunnel, 222 will be electric (Acela, NE Regional, and Metropolitan), and 166 will be diesel (2 freight and 164 MARC). Please refer to Chapter VI for additional information.

Response to Comment 3:
Analysis of ventilation plant emissions included an air dispersion modeling analysis, which followed the latest US Environmental Protection Agency modeling guidelines for predicting air quality effects for regulated pollutants. The results of the analysis were compared to the stringent 1-hour NO$_2$ National Ambient Air Quality Standards (NAAQS) of 100 parts per billion (ppb) as opposed to the annual standard of 53 ppb. Emission studies have demonstrated that if NO$_2$ concentrations are maintained within acceptable levels, then other pollutant concentrations associated with diesel exhaust emissions will also be within acceptable limits. The maximum predicted 1-hour NO$_2$ concentration from the three ventilation facilities as well as north and south portals was 12.8 ppb. When added to the NO$_2$ background concentration of 51 ppb, the total predicted 1-hour concentration amounted to 63.8 ppb, which is below the NAAQS of 100 ppb. The maximum predicted 1-hour NO$_2$ concentration of the intermediate ventilation plan is 2.9 ppb and when combined with NO$_2$ background concentration of 51 ppb the total NO$_2$ concentration would be 53.9 ppb, below the NAAQS threshold limits of 100 ppb.

Response to Comment 4:
Children’s Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS. Build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NO, VOC, and PM$_{2.5}$ between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA. No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water. 112 sites of concern were identified within 1 mile of the Preferred Alternative; once type and
extent of contamination and details of construction are known, potential risk and exposure can be assessed and appropriate documentation in place.

The Project meets air quality standards; therefore, public alerts regarding emissions will not be required.

Response to Comment 5:
No impacts to public health are anticipated. For more information, please refer to Chapter VI.

The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.
FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 6:
To minimize risk to the public, FRA requires a range of measures, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA). Emergency access/egress for pedestrians would be accomplished via emergency exits no farther than 2,500 feet apart or cross-passages between tunnels every 800 feet or less, or in some situations, a combination of both. For the Preferred Alternative, three locations would be provided for emergency egress to the surface, working with cross-passages in the tunnels. The emergency egress to ground level would be provided at the south portal Ventilation Facility, via the Intermediate Ventilation Facility, and at the north portal Ventilation Facility.

The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the Tunnel would be projected up and away from the community.

Response to Comment 7:
The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.

In terms of structural integrity, all of the proposed Project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards.
Final Environmental Impact Statement and Section 4(f) Evaluation

<table>
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<tr>
<th>COMMENTS</th>
<th>RESPONSES</th>
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<tr>
<td>Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal safety.</td>
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<td>In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.</td>
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<td>Response to Comment 8: In the event of an emergency, local first responders will alert the community. Evacuation routes, if needed, would be established following an event. Evacuation routes cannot be established prior to knowledge of the location of the event.</td>
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<td>Response to Comment 9: As stated above, the Project meets air quality standards; therefore, public alerts regarding emissions will not be required.</td>
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<td>Response to Comment 10: For the past several years, only one local freight train (Norfolk Southern) has been operating through the B&amp;P Tunnel daily, serving customers south of the B&amp;P Tunnel between Baltimore and Washington, DC. Currently, cargos to/from specific railroad customers of the freight trains that pass through the B&amp;P Tunnel include vegetable oil, plastic pellets, paper, lumber, and produce. However, there are no regulations or restrictions which would preclude other forms of freight cargo on these trains, providing the material is moved in accordance with federal transportation rules.</td>
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<td>As stated above, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.</td>
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<td>The Project was initiated because the B&amp;P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.</td>
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<td>Representatives from Maryland Department of Transportation (MDOT) and the Federal Railroad Administration were present at various meetings on 10/15/2014, 05/20/2015, 06/17/2015, 04/20/2016, and 06/17/2015, respectively. MDOT tracks the movement of freight within the State and works with the local jurisdictions to ensure that plans are in placed in the event of an accident involving freight trains.</td>
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The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates overtakes of slower trains by faster trains.

Response to Comment 11:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 12:
As described above, currently, cargo to/from specific railroad customers of the freight trains that pass through the B&P Tunnel include vegetable oil, plastic pellets, paper, lumber, and produce. However, there are no regulations or restrictions which would preclude other forms of freight cargo on these trains, providing the material is moved in
accordance with federal transportation rules. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Response to Comment 13:
It is not clear what disaster events are being referenced. It is not possible to project the number of incidents in the tunnel. Potential incidents would be less likely due to the updated design and modern construction of the tunnel.

Response to Comment 14:
The requested psychological study is beyond the scope of the National Environmental Policy Act.

The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 15:
Please refer to the comment above.

Response to Comment 16:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing
transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the EO on environmental justice is public outreach. The Project Team has engaged extensively with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three Public Open Houses, as well as ten community meetings, have been held where the public was given the opportunity to learn about the project development in-person, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter’s Clavier Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School.

Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and fliers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations.

The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.

Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations. For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in
the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.

Response to Comment 17:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
DEIS Comment 87:

Brittany Rolf

From: Sharon Snead
Sent: Friday, February 26, 2016 4:14 PM
To: BP Tunnel Information
Cc: 
Subject: DEIS Comment

As co-owners of 1, Baltimore, Maryland 21217, my sister and I vehemently oppose the Draft Environmental Impact Statement (DEIS) for the Baltimore and Potomac (B&P) Tunnel Project which so adversely and negatively impacts our Reservoir Hill historic homes, businesses, schools, and community farm.

As residents of this community for 32+ years, we've invested an inordinate amount of sweat equity to preserve/maintain the safety, integrity and well-being of our homes (as well as our persons) -- many times supplementing our meager income with our own self-employed services for which we have already paid taxes.

In 1983, property values were the lowest ever due to violent crime, vacant housing, rampant drug dealing, and a lack of viable businesses - including a dozen of corner convenience stores. Today our homes have historical preservation status (comparable to Bolton Hill and Mt Royal), property values have skyrocketed, many vacant homes have been renovated/restored and are now occupied; and there are now cafes, coffee shops, restaurants and the Whitelock Street Community Farm. In addition, the annual Reservoir Hill Garden Tour has become very successful/profitable and the John Eager Howard Elementary School is finally scheduled for long overdue renovations.

After attending many B&P Tunnel meetings, it has now become increasingly clear, unfortunately, this project is not focused on the poor and minority residents of Reservoir Hill, and Mt. Royal residents managed to successfully lobby against those alternatives which would have adversely impacted their neighborhoods -- this is an economic injustice to Reservoir Hill.

As a federal employee, I spent half of my 34+ year career commuting between Baltimore (Reservoir Hill) and DC on the MARC and the service was accessible and convenient; however, I can also painfully recall many late/delayed/cancelled passenger trains due to freight train issues. My family and I also enjoy use of AMTRAK to visit family in NJ/Christmas in NY and recognize the need to upgrade an aging system; however, there must be other alternatives and/or options that would be less disruptive to our homes, personal well-being, and public safety.

Therefore, respectfully recommend/request your re-visiting your project alternatives and assessment of environmental considerations to find those which are less damaging to the moral fabric of our livelihood in Reservoir Hill. Thank you for your time and attention to this matter.

Sharon Jones Snead
Saundra V. Jones
Co-owners, 1, Baltimore, Maryland 21217 (Reservoir Hill)

Response to Comment 1:
The existing B&P Tunnel tracks are in Bolton Hill. Options as to where the new B&P Tunnel should reside are limited. Due to the geography and the shallowness of the area beneath Bolton Hill, this area was not a feasible option for the proposed tunnel, whereas the area underneath Reservoir Hill is deeper and more practicable.

Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the EO on environmental justice is public outreach. The Project Team has engaged extensively with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three public open houses and ten community meetings were held where the public was given the opportunity to learn about the project development, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter Claver Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School. Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and flyers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations.

The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity
populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.

Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations. For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.

Response to Comment 2:
Consistent with Northeast Corridor (NEC) long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

Amtrak’s first priority is to its passenger services. Therefore, although Amtrak must accommodate requests from NS or other freight operators with trackage rights agreements for additional train moves on the NEC, Amtrak need only schedule such moves as space
between passenger trains can be made available. Where the freight operator and Amtrak have a dispute about scheduling of freight moves, the Surface Transportation Board (STB) adjudicates trackage rights agreements.

As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.
DEIS Comment 88:

Response to Comment 1:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

Response to Comment 2:
The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM
would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.
Final Environmental Impact Statement and Section 4(f) Evaluation

COMMENTS

DEIS Comment 89:

Brittany Rolf

From: Remington Stone

Sent: Friday, February 26, 2016 6:20 PM

To: B&P Tunnel Information

Subject: DEIS COMMENT

I wish to offer the following comments into the record regarding the Draft Environmental Impact Statement prepared for the B&P Tunnel Project.

Having read almost all the materials offered and the citations of past studies, as well as engaged in conversations with project engineers and planners, I find that this project, an elaborate deception to over-forecast demand and over-build capacity (for an admittedly problematic tunnel), in a way that will serve primarily to benefit freight rail interests at the expense of both taxpayers and the residents of Reservoir Hill and Midtown-Biddlemonth.

Capacity

Despite claims being made in Purpose and Need, no actual projections appear to have been done that result in a need for four single-bore tunnels that can each accommodate two trains. I have read through and listened to presentations mentioning NEC Future reports that state a 2016 demand level, only to investigate these and not find anything that produces a need for these four tunnels. At best there is a citation to a MARC Growth and Investment Plan... which again does not show this need. Certainly it mentions a "desire" for four tracks on many parts of the Penn Line, and it notes past 15-year growth that "has continued for 25 more years (a very dubious assumption)" and a doubling of ridership by 2040. But still this does not lead to the four-track projection. No mention is made of efforts to increase seating and cars on each train, which have already netted the historic growth seen. Additionally the MARC service is almost entirely in a single direction (Baltimore-area residents commuting to DC jobs)... which is reflected in scheduling on both the Penn and Camden lines. And yet the NEC Tier 1 Alternatives Report ludicrously suggests that service needs to be made bidirectional to accommodate growth, with (again) no citations given (pg 41 Sec 4.3.1). I find myself having to hunt for possible ways in which your reports might be justifying the demand increase without actually stating... I found nothing.

I dug further into the NEC Future DEIS to see if I could at least appreciate the extra demand being forecast, even if no true justification for four tunnels was being given. It's clear from Section 4.2.4 that the only inputs into this demand model are population and forecasts FOR THE ENTIRE REGION with base growth assumptions of 13% and 23% respectively between 2013 and 2040. The report then briskly proceeds as if said figures (with high and low bounds) are the inputs for demand. This is frankly ludicrous as the vast majority of growth taking place in our metro area (again, entire region as defined by Metropolitan Statistical Areas in the Census) is occurring on the exurban and rural fringe, not close to main infrastructure, and increasingly far from the downtown. While I wish this was not so (witness myself living less than a mile from Penn Station), it is an obvious reality completely ignored by NEC Future. And worse, because the employment growth in Washington DC is similarly slanted toward suburban and further areas, the point-to-point transit provided from Baltimore Penn Station to DC Union Station is almost entirely irrelevant to the growth that will be seen in these metro areas. Any serious analysis of point-to-point commuter pairs would have shown this, but the NEC Future report does not attempt anything like it.

In addition to flawed demand estimates for additional tracks, the design is taking further steps to increase speed and capacity well beyond what the existing two provide. This is of course natural to do when designing a new segment, but perhaps unnecessary if four tunnels were to be built. Specifically the "design guideline" that requires two trains to be able to occupy a single bore at a given time seems unnecessary. This requirement is single-handedly creating the need for a mid-line vent plant which is creating so many negative impacts above ground in my neighborhood of Reservoir Hill.

Freight

Response to Comment 1:

The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

Response to Comment 2:
The build alternatives could increase throughput capacity for freight traffic through the
Study Area. CSX freight lines do not currently connect with the NEC in a manner that would
allow CSX trains to travel through the tunnel without construction of additional
connections as part of a separate project from the Project. While no specific increase in
freight traffic are planned or proposed with the Project, increased capacity and operational
flexibility on the NEC could allow more freight trains through the Study Area without
impeding their passenger operations. At present, there are no indications from the freight
railroads that existing freight traffic levels through the B&P Tunnel are to change in the
near future. Railroad freight traffic is subject to numerous variables, including government
regulation, as well as market forces of rail transported materials such as coal, which
represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and
ethanol. As an example of this variability, the Department of Energy reported that for the
first five months of 2016, crude oil by rail transportation decreased 45 percent compared
to the same period in 2015. The combination of variables makes it virtually impossible to
accurately forecast freight usage through the tunnel. Variability of freight traffic is further
described in Chapter V.

Amtrak design practices require new NEC infrastructure meet current standards, including
Plate H (double stack) clearances. However, the new tunnel could not be used by double
stack freight trains unless certain factors are met. These factors include:

- Substantial improvements, such as extensive additional vertical clearance
  improvements north and south of the B&P Tunnel to other NEC infrastructure;
  these improvements are not being designed as part of the B&P Project;
- Federal, state, local and regional support for aforementioned improvements
  including funding and policy;
- Increasing the bridge and catenary clearance on the NEC where double stack/high
  dimension trains are to travel;
- Construction of new or modified Union tunnel to Plate H/K (double stack)
  clearances; without a high dimension Union tunnel, double stack freight service
  using the B&P Tunnel is not possible;
- NS currently favors the Harrisburg-Perryville route for intermodal service;
- Freight schedules limited to off peak/night time periods which affects the
  scheduling flexibility and transit time for high priority (Intermodal) shipments for
  which time is absolutely critical; and
- Construction of track connection/s between the CSX and the NEC if CSX chooses to
  use the NEC.

In the short-term, there is no indication of any significant increase in freight movements
through the B&P Tunnel.

Response to Comment 3:
The emissions associated with the proposed ventilation facilities and the air exiting the
portals would not result in adverse impacts to air quality. The maximum 1-hour NO₂
concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\textsubscript{2} were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

In response to your concern regarding air pollution near the school, Children’s Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NO\textsubscript{x}, VOC, and PM\textsubscript{2.5} between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

Response to Comment 4:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 5:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.

The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

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A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. These could include tunnel boring machines (TBM), earth-moving equipment and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips). TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be...
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first five months of 2016, crude oil by rail transportation decreased 45 percent compared
to the same period in 2015. The combination of these variables makes it virtually
impossible to accurately forecast freight usage through the tunnel. Variability of freight
traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of
freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing
B&P Tunnel daily for freight purposes.
Response to Comment 5:
Amtrak design practices require new NEC infrastructure meet current standards, including Plate H (double stack) clearances. However, the new tunnel could not be used by double stack freight trains unless certain factors are met. These factors include:

- Substantial improvements, such as extensive additional vertical clearance improvements north and south of the B&P Tunnel to other NEC infrastructure; these improvements are not being designed as part of the B&P Project;
- Federal, state, local and regional support for aforementioned improvements including funding and policy;
- Increasing the bridge and catenary clearance on the NEC where double stack/high dimension trains are to travel;
- Construction of new or modified Union tunnel to Plate H/K (double stack) clearances; without a high dimension Union tunnel, double stack freight service using the B&P Tunnel is not possible;
- NS currently favors the Harrisburg-Perryville route for intermodal service;
- Freight schedules limited to off peak/night time periods which affects the scheduling flexibility and transit time for high priority (intermodal) shipments for which time is absolutely critical; and
- Construction of track connection/s between the CSX and the NEC if CSX chooses to use the NEC.

In the short-term, there is no indication of any significant increase in freight movements through the B&P Tunnel.

Response to Comment 6:
NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

> Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.
<table>
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<th>COMMENTS</th>
<th>RESPONSES</th>
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<td>FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&amp;P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.</td>
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<td>The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.</td>
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surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The tunnel will be equipped with Automatic Train Control (ATC) and Positive Train Control (PTC) systems, which use computer systems to control the speed of trains within the tunnel.

Response to Comment 2:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be fully compensated for the cost of repairs.
DEIS Comment 92:

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Amtrak design practices require new NEC infrastructure meet current standards, including Plate H (double stack) clearances. However, the new tunnel could not be used by double stack freight trains unless certain factors are met. These factors include:

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- Federal, state, local and regional support for aforementioned improvements including funding and policy;
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Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 1:

Design development and environmental evaluation were based on refined design goals that considered existing and future NEC operations, the Baltimore Penn Station Master Plan, and input from agencies and the public. Design criteria are detailed in Chapter III.
Response to Comment 1:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Response to Comment 2:
As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:

- Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;
- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.
Response to Comment 1:
The build alternatives will have an average tunnel depth of 115 feet.

Response to Comment 2:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be fully compensated for the cost of repairs.

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Response to Comment 4:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

Regarding diesel emissions, when NO2 levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO2. The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO2 emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am and 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am, and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO2 concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are in Chapter VI.
<table>
<thead>
<tr>
<th>COMMENTS</th>
<th>RESPONSES</th>
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<tbody>
<tr>
<td>Response to Comment 3:</td>
<td>Siting the Tunnel in Roland Park would not take advantage of existing infrastructure, including Baltimore Penn Station or the Gwynns Falls Bridge, which was a necessary condition for an alternative to be retained. The existing B&amp;P Tunnel tracks are in Bolton Hill. Options as to where the new B&amp;P Tunnel should reside are limited. Due to the geography and the shallowness of the area beneath Bolton Hill, this area was not a feasible option for the proposed tunnel, whereas the area underneath Reservoir Hill is deeper and more practicable.</td>
</tr>
<tr>
<td>The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.</td>
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DEIS Comment 98:

Baltimore & Potomac Tunnel Project Draft Environmental Impact Statement (DEIS) Comment Form

Only comments received by 5:00 p.m. on February 5, 2016 will be included in the Public Hearings Record for the Baltimore & Potomac Tunnel Project.

PleasPrint
Name: Abhi Mehta Organization: N/A
Address:
City: Baltimore State: MD Zip Code: 21217

I wish to submit the following comments on this project: I understand the need for improving/expanding the current tunnel due to increased Amtrak activity projections. I support a move away from automobile use toward mass transit. I attended the Public Hearing on 2/17/16 and found it helpful and informative. The staff were willing to answer questions and usually had sufficient answers. However, there are still a few concerns I have that were not completely resolved. One is the proposed ventilation tower site on Whiteleek & Brookfield in the park/green space managed by Whiteleek Farm. It seems like using an existing abandoned building for the tower would be better. The residents of Reservoir Hill and immediate neighborhoods would like more input regarding our quality, especially near ventilation sites. To assist with awareness, an info packet could be distributed to each residence. We would like to see comparisons & PPA figures. Finally, if the parkers could also explain how the route(s) were chosen, it would help alleviate fears that black/floor-income neighborhoods were purposely selected. Is there an incentive you could offer to families who have children with autism? Thanks.

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Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\textsubscript{2} were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation plant air dispersion modeling.

Analysis of ventilation plant emissions included an air dispersion modeling analysis, which followed the latest US Environmental Protection Agency modeling guidelines for predicting air quality effects for regulated pollutants. The results of the analysis were compared to the stringent 1-hour NO\textsubscript{2} National Ambient Air Quality Standards (NAAQS) of 100 parts per billion (ppb) as opposed to the annual standard of 53 ppb. Emission studies have demonstrated that if NO\textsubscript{2} concentrations are maintained within acceptable levels, then other pollutant concentrations associated with diesel exhaust emissions will also be within acceptable limits. The maximum predicted 1-hour NO\textsubscript{2} concentration from the three ventilation facilities as well as north and south portals was 12.8 ppb. When added to the NO\textsubscript{2} background concentration of 51 ppb, the total predicted 1-hour concentration amounted to 63.8 ppb, which is below the NAAQS of 100 ppb. The maximum predicted 1-hour NO\textsubscript{2} concentration of the intermediate ventilation plant is 2.9 ppb and when combined with NO\textsubscript{2} background concentration of 51 ppb the total NO\textsubscript{2} concentration would be 53.9 ppb, below the NAAQS threshold limits of 100 ppb.

Response to Comment 3:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The
14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 4: The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.

Response to Comment 5: In regards to your concern for the health of children, Children’s Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss Project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
DEIS Comment 99:

Mrs Denise Wesolowski

My husband and I are for Alternative 3C.

Response to Comment 1:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. **Chapter III** in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in **Chapter IV** of this FEIS.
Response to Comment 1:
The Preferred Alternative, as well as build alternative 3A, would have no impact on Engine Company 36. Under alternative 3C there would be substantial impacts to the firehouse.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 101:

Brittany Rolfe

From: Rebecca Wilson
Sent: Friday, February 26, 2016 1:06 PM
To: B&P Tunnel Information
Subject: DEIS Comment

DEIS Comment

Rebecca Wilson
Baltimore MD 21217
Reservoir Hill Neighborhood
Neighborhood of proposed venting facility; near east end boring site; above proposed route of 4 double-stack train tunnels

Hello,

Engineers, environmental scientists, designers and others involved with this B & P Tunnel Project's Draft Environmental Impact Study appear to have given it their all...looking for a solution to a problem within the parameters set forth for them. They are tasked by the Federal Government, the Federal Railroad Administration, the Maryland Department of Transportation, and Amtrak to design a plan to widen the B & P tunnel bottleneck and make the Northeast Corridor train travel faster. As many of them have indicated at the hearings, their designs and calculations must include flexibility for "increasing market needs" including a higher frequency and speed of passenger trains and a higher frequency of Norfolk Southern and other freight trains carrying

UNLIMITED amounts and types of double-stack FREIGHT, which is allowed by federal regulations to sometimes be kept secret. They must try to plan for HAZMAT freight emergencies, including Fracking Oil, and for increasing diesel train exhaust.

And they are tasked to fulfill all these requirements along the aging tunnel section of track between Penn Station and West Baltimore Marc Station under our densely populated, historically significant, economically blighted, majority black-owned Baltimore City neighborhoods.

But all these problems do not need to be solved along this one section of track. In fact they should not be! There is an alternative.

I would draw your attention to Final Draft of the "Proposal to Unravel Baltimore's Tangled Rail Lines" put forth by the Joint Open Infrastructure Subcommittee of the MTA Citizens Advisory Committee; the MTA Citizens Advisory Committee for Accessible Transportation; & MARC Riders Advisory Committee completed September 2015.

Please consider their proposal, which has been submitted at a DEIS public hearing. It offers an alternative plan for our rail system that makes this Draft Environmental Impact Study unnecessary and based on flawed parameters.

Relevant highlights of the 19 page, carefully proposed, alternative include:

Response to Comment 1:

While Project goals include addressing the bottleneck and improving travel time, the Project Need articulates that the existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Response to Comment 2:

The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/industrial sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum,
Final Environmental Impact Statement and Section 4(f) Evaluation

COMMENTS

1. B & P tunnel would accommodate MARC trains only.
   It could serve as a backup rail for regional trains in emergencies. The MARC would expand.

2. Freight trains would be routed south of the city. (Tighter regulations on hazardous materials would be demanded of Federal Regulators to stop Oil Trains.)

3. Regional and high speed trains (including Acela and later Maglev) would be routed through Charles Metro Center, not through B&P tunnel or Penn Station, and would connect to a more robust local system, closer to points of interest.

   Baltimore City residents demand a full system approach with 21st century technology. We demand the health and safety of our citizens. We demand hazardous materials be banned from passing through our city even as Big Oil is planning to use Baltimore as a gateway for extreme crude oil.

   We demand that our infrastructure be not built for outdated fossil fueled diesel trains and for trains already considered to have mediocre speeds compared to high speed trains in California and around the world.

   We demand huge venting systems not be built to accommodate diesel and HAZMAT emergencies in the hearts of our neighborhoods.

   We demand neighborhoods impacted by civil-rights issues be respected and helped to thrive.

   We demand our historic properties not be threatened with vibrations of an unprecedented amount of underground heavy train traffic and construction.

   We demand the hubs of transportation be designed effectively.

   Most Mayoral candidates for Baltimore City have raised their hands in a public forum when asked if they will oppose this tunnel project when elected.

   And so I would ask that the conclusion of this B & P Tunnel Project's Draft Environmental Impact Study should be Alternative 1 or Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and in accordance with the proposal of the MTA Citizens Advisory Committee...that the tunnel transition and improve to accommodate only MARC passenger trains after freight trains (Norfolk Southern and others), regional (Amtrak) and High-Speed Intercity Passenger rail lines (Acela and Maglev) are shifted to more appropriate pathways.

   Thank you for your consideration,

   Rebecca Wilson

RESPONSES

chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 3:

The report referenced, A Proposal to Unravel Baltimore’s Tangled Rail Lines, argues for a comprehensive system approach to rail planning in Baltimore and the mid-Atlantic region. It describes a list of projects and the order in which they should be completed. The report takes into consideration local, state, and regional transportation routes, and recommends new construction at a number of locations in order to relieve congestion and create opportunities for expanding rail service in the future.

While recommendations in the report focus on resolving issues at a regional level, they would not address or resolve the specific needs of the B&P Tunnel; therefore, the improvements suggested in the report would be beyond the purview of the Project. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life. It is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. For additional information regarding The Purpose and Need for the Project, please see Chapter II of this FEIS. To review the September 2015 report in its entirety, please refer to DEIS Comment #11.

Response to Comment 4:

As described in Chapter III of the FEIS, the build alternatives would require three ventilation facilities in order to meet current safety industry standards (NFPA 130) for projected NEC FUTURE train demand headway, and to ensure proper ventilation of the proposed tunnels. The purpose of the ventilation facility is to pull fresh air into the tunnel and ventilate the tunnel air to the outside. One ventilation facility will be located at the south portal, and another will be located 300-600 feet from the north portal. A third ventilation facility would be located at street level, connected to the bored portion of the tunnels by a vertical shaft and connecting tunnel (plenum), splitting the proposed tunnel
into two unequal lengths. The Intermediate Ventilation Facility would consist of a building, approximately 100 feet by 200 feet in plan with a maximum height of 60 feet.

Response to Comment 5:
The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.

Response to Comment 6:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be fully compensated for the cost of repairs.

Response to Comment 7:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

As described in Chapter III of the FEIS, Alternative 2: Reconstruct/Modernize Existing Tunnel was eliminated from further consideration for specific engineering and operational reasons. Due to the shallow depth of the existing tunnel, the only viable construction approach is open excavation along the entire tunnel length. This excavation would have significant impacts on the community, including:
Full or partial closure of Wilson Street, Winchester Street, and numerous cross streets throughout construction;

- No parking along Wilson Street or Winchester Street during construction;
- Limitations for residential and commercial access along Wilson Street and Winchester Street during construction;
- Minor impacts to four parks—Eutaw Place Median Park, Park Avenue Median Park, Mount Royal Median Park, and Fitzgerald Park;
- Substantial residential property impacts; and
- Severe impacts to North Avenue, central Light Rail line, and CSX Main Line operations due to open cut construction through North Avenue, light rail, and CSX track beds.

Additionally, for construction to advance, at minimum, one track would have to be removed from service. It would be impossible to provide adequate NEC service using a single track, particularly as ridership and train frequency increase over time.
Response to Comment 1:

All of the proposed Project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards. The Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal safety.

Response to Comment 2:

A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 3:

Local responders receive training for a variety of incidents related to specific facilities, including the B&P Tunnel. The tunnel would be constructed to meet current standards for fire protection. Additionally, the Project sponsor will develop an Emergency Management Plan to be implemented in the event of a tunnel emergency.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The
Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be fully compensated for the cost of repairs.

Response to Comment 4:
The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to
service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

Response to Comment 5:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

In response to your concern regarding ventilation system emissions and schools, please see Chapter VI of this FEIS, where Children’s Health was assessed for Project impacts to Air Quality, Water, Soil and Hazardous Material. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NO\textsubscript{x}, VOC, and PM\textsubscript{2.5} between 2040 No-Build and the 2040 Build scenario would be below \textit{de minimis} levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.
Response to Comment 1:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and fourteen new location alternatives. The new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
Response to Comment 1:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. As a result of these changes, Alternative 3B would avoid impacts to the Baltimore City Recreation and Parks Department property at Lafayette and Payson Streets. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 105:

February 26, 2016

B&P Tunnel Project
81 West Mosher Street
Baltimore, MD 21217
Attn: Odeessa Phillips, PE

Re: Opposition for B&P Tunnel Project Construction

Dear Ms. Phillips:

I am writing this letter to oppose the construction of the B&P Tunnel Project as currently proposed.

Recently my office was contacted by Russ Moss and the Residents Against the Tunnels (RATT) group to offer my opposition to the B&P Tunnel Project construction. They have brought to my attention the danger and disturbance this construction will bring to otherwise peaceful neighborhoods.

The proposal to construct four new train tunnels would pass under the Reservoir Hill Community as well as several neighborhoods in West Baltimore. These neighborhoods are very densely populated and house approximately 5600 residents. The residents are deeply concerned about the noise and vibration that will result from the continuous underground train traffic beneath their homes as well as the impact that it will have on the foundation and structure of their houses. There is also a great concern for possible damage to historic homes and buildings that may occur during tunnel construction.

I ask that you take the recommendations of the RATT into consideration.

Respectfully,

Antonio L. Hayes
Delegate
46th Legislative District

Cc: Russ Moss, Residents Against the Tunnels
surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold. All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.
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**Hearing Officer's Hearing**

**February 1, 2016**

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THE HEARING OFFICER: Let the record show
that it is now 5:30 p.m. on Monday February 1st, 2016. Good
evening, ladies and gentlemen. My name is Anthony Brown. I
will serve as today’s Hearing Officer. Also in the audience
tonight is Michelle Fishburne from The Federal Railroad
Administration. I would like to welcome you to this Public
Hearing regarding the Draft Environmental Impact Statement
and Section 4(f) Evaluation (DEIS) for the B&P Tunnel
Project. Thank you for taking the time to attend.

I call to order this Public Hearing conducted by
the Federal Railroad Administration (FRA) in coordination
with the Federal Transit Administration (FTA) and in
coordination with the Maryland Department of Transportation
and the National Railroad Passenger Corporation (Amtrak) as
provided for in accordance to Title 23, Section 771.111(h)
of the Code of the Federal Regulations. The FRA will be
holding two Public Hearings regarding the Draft
Environmental Impact Statement for the B&P Tunnel Project.
You are attending the first of two hearings tonight,
February 1st, Monday, from 5:00 to 8:00 p.m. In addition to
tonight’s hearing, a second hearing is scheduled for this
Saturday, February 6th, from 10:00 a.m. until 1:00 p.m., at this same location, Frederick Douglas High School. The DEIS was released to the public on December 18th, 2015 and will be available for review and comment until 5:00 p.m. on February the 19th, 2016. The DEIS and supporting documents are available on the B&P Tunnel website located at www.bptunnel.com, as well as public libraries and other locations described later in this hearing.

The Baltimore and Potomac or B&P Tunnel is a two-track railroad tunnel underneath central Baltimore City. The tunnel opened in 1873 and is located between the West Baltimore MARC Station and Penn Station or the Pennsylvania Station along Amtrak’s Northeast Corridor, which I will refer to throughout this period as the NEC. Again, along Amtrak’s Northeast Corridor, referred to as NEC. This section of the NEC is used by Amtrak and Maryland’s MARC Commuter Rail passenger trains, as well as Norfolk Southern Railway freight trains. The purpose of the Project is address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for

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the NEC, including: To reduce travel time through the B&P Tunnel and along the NEC to accommodate existing and projected travel demand for intercity and commuter passenger services; to eliminate impediments to existing and projected operations along the NEC; and to provide operational reliability while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.

The purpose of the project is derived from the following needs:

The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the tunnel currently remains safe for rail transportation, it requires substantial maintenance and repairs and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands due to the combination of its vertical and horizontal track alignment, example, its grades and its curves. The low-speed tunnel
creates a bottleneck at a critical point in the Northeast Corridor, affecting operations of the most heavily traveled rail line in the United States. The existing B&P Tunnel does not provide enough capacity to support existing and projected demands for regional and computer passenger service along the Northeast Corridor. Additionally, the existing B&P Tunnel is not suited for modern high speed usage due to the current horizontal and vertical track alignments, which limit passenger train speeds through the tunnel to 30 miles per hour.

The existing B&P Tunnel is a valuable resource. The disposition of the existing tunnel needs to be considered in the project. The DEIS, the Draft Environmental Impact Statement, analyzes impacts of the project on the natural and human environment. The DEIS provides an evaluation of the alternatives that are still under consideration and assesses environmental impacts for these alternatives. I would emphasize for those who are unaware that the DEIS and
supporting technical documents, as well as project displays are available in a display area. If you travel to the lobby’s registration table, they can direct you to that area where you can see those displays. There are four alternatives evaluated in the DEIS: Alternative 1, the No-Build Alternative; and three Build Alternatives, called Alternative 3A, Alternative 3B, and Alternative 3C. These alternatives were retained through a comprehensive screening process which identified those alternatives that best address the project needs in consideration of environmental impacts. I will mention those alternatives again; Alternative 1, the No-Build Alternative; the Build Alternatives are Alternative 3A, 3B, and 3C. I mention again, complete information regarding all of these alternatives is available in the display area located in the cafeteria portion of the building, and they are available for your review tonight.

The purpose of these hearings is to allow the public an opportunity to provide testimony on the DEIS. Comments received at the Public Hearing will be considered in FRA’s identification of a Preferred Alternative.
Following the Public Hearing and comment period for the DEIS, FRA, the Federal Railroad Administration, in cooperation with FTA, the Federal Transit Administration, and in coordination with the Maryland Department of Transportation and Amtrak will identify a Preferred Alternative for the project. FRA, the Federal Railroad Administration may identify the Preferred Alternative as Alternative 1, Alternative 3A, Alternative 3B, or Alternative 3C. In consideration of public and agency comments received regarding the alternatives, as well as the environmental impacts of the alternatives, the FRA may refine one or more alternatives prior identifying its preference. FRA's goal is to identify the best alternative in light of the alternative's benefits and ability to meet project needs, while taking into account potential impacts to the environment and public input. FRA, the Federal Railroad Administration will then prepare a Final Environmental Impact Statement referred to as an FEIS, to address comments received on the DEIS and document the basis for the identification of the preferred alternative. Following the FEIS, FRA will issue a Record of Decision.
(RCD), which will formally select the alternative that could be advanced to design and construction.

The FRA is committed to ensuring that no person is excluded from participation in, or denied the benefit of its transit services on the basis of race, color, or national origin as protected by Title VI of the Civil Rights Act of 1964. I mention again that in the audience with us tonight is Miss Michelle Fishburne, representing the Federal Railroad Administration, and I believe she is joining me on the stage now. You may address any questions to the Project Team who are represented in the display area. Again, I emphasize, we are hearing testimony only in this room, not responding to specific questions; however, again, in the display area is a full staff of project team members who can answer questions, provide details on the specific alternatives, and better possibly position you for your testimony tonight. You may address any question, again, to the Project Team members. We have also provided maps so you may visualize the proposed alternatives.

I will now ask that the American Sign Language (ASL) and Spanish Language translators to stand. These

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translators are available for anyone that needs them. Please speak to the American Sign Language (ASL), or the Spanish Language translator, or any member of the hearing staff if you require translation services today or simply move forward to my left, your right, so they will be made aware of the fact that you need their services.

(Whereupon, there was an announcement by the Spanish Language translator.)

THE HEARING OFFICER: Thank you. Ladies and gentlemen, there is a handout outlining the procedures for conducting this hearing. This format will be followed to permit everyone an opportunity to be heard. These procedures were outlined and made available at the sign-in table; however, I will also share these procedures now:

1. Elected and public officials will be heard first and will receive five minutes to speak.

2. Persons desiring to testify tonight should register at the entrance to the hearing room and will be called in order of registration.

3. Any individual may appear and speak for him or herself, or if duly authorized, for any local civic group,
organization, club, or association subject to the rules
provided herein. Speakers should give their name and
address, and if representing a group, this information
should also be given.

4. Speakers are requested to limit their
statements to three minutes to be courteous to all of those
who wish to speak. Again, elected officials will be allowed
five minutes. Additional prepared statements or literature
pertaining to the B&P Tunnel Project may be submitted at
this hearing or by 5:00 p.m. February 19th, 2016 to the B&P
Tunnel Project, DEIS Comment, 81 West Mosher Street,
Baltimore Maryland 21217. Again, it's by 5:00 p.m.,
February 19th, 2016, and, again, that mailing address, B&P
Tunnel Project DEIS Comment, 81 West Mosher Street,
Baltimore, Maryland, 21217. These statements will be made
part of the official hearing record. That address is
available on printed literature at the registration table.
Also available there is a pre-postage paid comment form that
you can complete, and, again, mail by February 19th to the
project office. I would emphasize we were delayed due to
the weather, that that notice does say February 5th as the
1. deadline. That has been corrected and spoken into our
testimony tonight. The date is February 19th, 2016. All
comments are due by February 19th, 2016.
5. For this hearing, all statements oral or
written, should be directed to myself, the Hearing Officer,
and must be related to the subject matter of this hearing.
All testimony may also be submitted privately to a court
stenographer. That court stenographer -- and you can be
directed from our sign-in staff in the lobby to that court
stenographer for private testimony -- is located in Room
108, which is directly off the hallway outside of our
hearing room. Again, that location is available for those
who desire to provide oral testimony at a private location,
Room 108, and our staff can provide specific direction.
6. Each person speaking before the audience must
do so at a floor microphone, one located here in the front
of the room; another located to your left, my right, again,
in the front of the room. Our court stenographer who is
making transcriptions of the hearing is recording all
proceedings for tonight. If required, I, the Hearing
Officer will announce any additional specific rules
governing this hearing.

Persons who registered to speak, as mentioned earlier, will be called in the order of registration. If there is anyone present who would like to speak, but is not registered, you may register up until 7:55 p.m. today at the registration table at the entrance to the room. Again, I will emphasize that we do have American Sign Language interpreters as well as Spanish interpreters available for anyone who might need those services. I will call registered speakers to the microphone, as well as the person who will follow them. Please be aware and ready when you are called on to speak. With your cooperation, everyone will be heard tonight.

There are six ways to provide comments on this project, and to become a part of the official hearing record:

1. You can leave your written comments in the designated comment drop boxes which are available here tonight. Boxes are available at the sign-in table here and, also, at the sign-in tables or comment tables located in the display area;
2. You can give oral testimony in this hearing room;

3. You can give testimony oral in a separate room. A private stenographer is available and, again, direction is available at our sign-in table;

4. Your written correspondence can be sent to the B&P Tunnel Project DEIS Comment, 81 West Mosher Street, Baltimore, Maryland 21207 on or before the close of business on February 19th, 2016. I emphasize again that address is included in the literature you received when you signed in for tonight’s hearing;

5. You can send an email with your comment to info@bptunnel.com. Again, it’s info@bptunnel.com, with DEIS Comment as the subject line;

6. And, finally, you can complete an on-line comment form conveniently located at the project website www.bptunnel.com. As detailed literature received tonight, we do ask that you include DEIS Comment in the text of your email.

Please note: If you decide to you give your testimony in the main hearing room (option #2), you will not
be able to give your silent testimony and vice-versa.

Again, all correspondence concerning the official hearing testimony must be received by 5:00 p.m. on February 19th, 2016 to be made part of the official hearing record. In the event you have additional comments or prefer to offer your comments in writing, please feel free to do so. Again, if you have additional comments even beyond your testimony tonight, please feel free to submit those comments in writing. For the record, so it can be a part of our hearing record tonight, announcement of these hearings has been made in the following publications:

The Afro-American
The Baltimore Sun
The City Paper
The Grace & Glory Magazine

The DEIS remains available for public review at the Baltimore City Department of Transportation Transit Bureau, the Maryland Department of Transportation, the Maryland Transit Administration, Bon Secours Community Works, the John Eager Howard Recreation Center, the Bentalou Recreation Center, as well as the following Enoch Pratt Free
DEIS Comment 106:

Libraries: The Central Branch, the Walbrook Branch, the Pennsylvania Avenue Branch, and the Edmondson Avenue Branch. The DEIS can also be viewed online at www.bptunnel.com and I mention again the DEIS and its supporting technical documents are also available for review tonight in our display area.

With that, I will move to call our testimony as persons in the order of registration tonight, reminding persons that we ask that you limit your comments to three minutes. I would like to call Mr. Mark Sissman, representing Healthy Neighborhoods, and, again, Mr. Sissman, if you could provide your name and address, and, then, begin your testimony, it would be appreciated. Following Mr. Sissman, Kathryn Epplle, E-p-p-l-e, and, again, we have microphones immediately in front and also to your left.

Thank you. Mr. Sissman?

MR. SISSMAN: My name is Mark Sissman and I am President of Healthy Neighborhoods. We are located in Baltimore. We are a nonprofit that works in 41 Baltimore City neighborhoods to improve neighborhoods. One of the places we work is Reservoir Hill...
and our organization has really grave concerns about the
location and rebuilding of this tunnel in Reservoir Hill.
It is rather remarkable the many choices that you have made
and neighborhoods through which this tunnel could go and you
picked Reservoir Hill. It's a community that has made
remarkable strides to become a destination neighborhood for
those looking for housing in Baltimore. It is truly a mixed
income. About a third of the housing is low income. It has
been that way for many years. It is not gentrifiable
because it has got long term use restrictions required by
either the federal, state, or city government. The
remaining is occupied historic buildings. We have had a
major increase in the number of buildings that have been
renovated. Our organization is a partnership of banks, and
governments, and foundations. We have invested more than
$23 million dollars in Reservoir Hill in the last five wears
to spur revitalization, particularly owner-occupied housing.
Unfortunately for us, it's mostly right above the root of
the tunnel you are talking about. We believe it is going to
have a major impact on the housing there. As recently as
this morning, we are spending money rebuilding eight vacant
Response to Comment 1:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA’s Transit Noise and Vibration Impact Assessment, and construction vibration levels were also evaluated using both FTA guidelines and standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses,
including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be compensated for the cost of repairs.

Response to Comment 2:
A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. **Chapter III** of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 3:
**Chapter VI** of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOX, VOC, and PM$_{2.5}$ between 2040 No-Build and the 2040 Build scenario would be below *de minimis* levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation facilities would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.
Response to Comment 1:
The build alternatives will have an average depth of 115 feet.

The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces on rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.
Response to Comment 2:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Response to Comment 3:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

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air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Response to Comment 4:
The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include Vehicle Skirts, Undercar Absorption, Spring Frogs, Acquisition of a Buffer Zone, among others, which are documented in this FEIS.
DEIS Comment 108:

THE HEARING OFFICER: Thank you, Miss Amlie. Our next speaker is Miss Laura Amlie, A-m-l-i-e. She will be followed by Mark West, W-e-s-t. Let me remind you, as Miss Laura begins to prepare to speak, that persons are able to provide written testimony. They can leave that testimony tonight with us. Again, postage paid forms are available that you can mail to the Project Team, and, again, all comments are due by February 19, at 5:00 p.m. Miss Amlie?

Miss Amlie: I’m Laura Amlie of Reservoir Hill for over 30 years and I, too, understand the importance of passenger travel on MARC trains in the Northeast Corridor; however, I am unclear on something. I think the real purpose of this project is unclear. The stated purpose of the project is to address structural and operational deficiencies of the existing B&P Tunnel and accommodate future high performance intercity passenger rail service for the Northeast Corridor. The project was originally conceived as two tunnels, but morphed into four tunnels to accommodate double-stacked freight trains last summer. Currently, only two freight trains per day use the B&P Tunnel.

Response to Comment 1:
The Purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, which include:

- Reducing travel time through the B&P Tunnel and along the NEC,
- Accommodating existing and projected travel demand for intercity and commuter passenger services,
- Eliminating impediments to existing and projected operations along the NEC, and
- Providing operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.

The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Response to Comment 2:
The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.
Response to Comment 3:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. As stated, Norfolk Southern (NS) currently operates two trains through the existing B&P Tunnel daily for freight purposes.

As described in Chapter VI (Air Quality) of this FEIS, tunnel operating characteristics in the Build Year 2040 would total 388 daily bi-directional frequencies. 164 of them would be MARC commuter trains, 82 of them would be Acela Intercity Express, 48 would be NE Regional, 92 would be Metropolitan and 2 would be Freight. Please refer to Chapter VI for additional information.
Response to Comment 4:
Future concept development of the Maglev train is beyond the purview of the Project. However, the Maryland portion of the NEC serves a large population whose travel needs would not be met with the Maglev train. Amtrak and MARC trains make more local stops between Washington, DC and Baltimore than is being proposed for Maglev.
DEIS Comment 109:

1. version.
2. THE HEARING OFFICER: Mr. West, if you could just move closer to the microphone.
3. MR. WEST: Oh, I am sorry. My name is Mark West. I am a resident of the Reservoir Hill neighborhood. I am representing my neighbor, Soledad Solame, her husband, Michael Corita, and myself. We have many questions and concerns that have not been addressed about the proposed railroad tunnels. Here a few of them:
4. First, we see the proposed project as a clear example of an abuse of social justice. The routing of these trains clearly targets poor and minority neighborhoods and avoids more affluent neighborhoods.
5. Secondly, my neighbors and I rely on our homes as a major element of our financial security. We believe this project will seriously de-value our properties and take money from all Reservoir Hill residents who have worked long and hard to make our neighborhood a desirable place to live.
6. Thirdly, our homes are directly above the tunnel pathways. The average home is 100 years old. They are built of soft, low-fire bricks, limestone, sandstone, and

Response to Comment 1:
A thorough analysis of alternatives was conducted prior to the select of Alternative 3B as the Preferred Alternative. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15 and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative, and Chapter IV provides further justification for the selection of Alternative 3B as the Preferred Alternative.

The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.

Response to Comment 2:
The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 3:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property
owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be compensated for the cost of repairs.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.
All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Response to Comment 4:
For the past several years, only one local freight train (Norfolk Southern) has been operating through the B&P Tunnel daily, serving customers south of the B&P Tunnel between Baltimore and Washington, DC. Currently, cargo to/from specific railroad customers of the freight trains that pass through the B&P Tunnel include vegetable oil, plastic pellets, paper, lumber, and produce. However, there are no regulations or restrictions which would preclude other forms of freight cargo on these trains, providing the material is moved in accordance with federal transportation rules.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at [https://www.fra.dot.gov/Page/P0444](https://www.fra.dot.gov/Page/P0444). From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 5:
Regarding diesel emissions, when NO₂ levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project...
The Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO\textsubscript{2}.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO\textsubscript{2} emissions from the Project. AERMOD is the US Environmental Protection Agency's preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\textsubscript{2} were within acceptable levels, all other criteria pollutant concentrations would be within acceptable limits of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Analysis of ventilation facility emissions included an air dispersion modeling analysis, which followed the latest US Environmental Protection Agency modeling guidelines for predicting air quality effects for regulated pollutants. The results of the analysis were compared to the stringent 1-hour NO\textsubscript{2} National Ambient Air Quality Standards (NAAQS) of 100 parts per billion (ppb) as opposed to the annual standard of 53 ppb. Emission studies have demonstrated that if NO\textsubscript{2} concentrations are maintained within acceptable levels, then other pollutant concentrations associated with diesel exhaust emissions will also be within acceptable limits. The maximum predicted 1-hour NO\textsubscript{2} concentration from the three ventilation facilities as well as north and south portals was 12.8 ppb. When added to the NO\textsubscript{2} background concentration of 51 ppb, the total predicted 1-hour concentration amounted to 63.8 ppb, which is below the NAAQS of 100 ppb. The maximum predicted 1-hour NO\textsubscript{2} concentration of the Intermediate Ventilation Facility is 2.9 ppb and when combined with NO\textsubscript{2} background concentration of 51 ppb the total NO\textsubscript{2} concentration would be 53.9 ppb, below the NAAQS threshold limits of 100 ppb.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock
Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Children’s Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA. No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water.

Under the Preferred Alternative, 112 sites of concern were identified within 1 mile of the alignment; once type and extent of contamination and details of construction are known, potential risk and exposure can be assessed and appropriate documentation in place.

Response to Comment 6:
The Project meets air quality standards; therefore, public alerts regarding emissions will not be required. An air quality alarm would not be appropriate given that the Project meets federal standards. However, in the event of an emergency, local first responders would assist in evacuation.

To prevent accidents and fires, FRA requires a range of measures that minimize the risk to the public, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA).

The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents,
as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the Tunnel would be projected up and away from the community.

The three ventilation facilities would be subject to the operational noise level standards included in the Noise Regulation of the Health Code of Baltimore City § 9-206 Noise Regulation, 2015. This regulation provides the noise limits for manufacturing, commercial, and residential zones in Baltimore City—depending on the source of noise and the types of adjacent land uses. For noise generated within residential zones, there is a limit of 55 dBA at any point on the property line of the use.

Noise levels in the immediate vicinity of the ventilation facility buildings would be caused by the continual operation of the ventilation fans within each facility. The horizontal fans would operate periodically and would generate sound that would propagate through the louvers at the top of the ventilation facility buildings. Fans would operate periodically when NO₂ levels in the tunnel exceed a set threshold or in emergencies when smoke is present in the tunnel. NO₂ levels are likely to be highest when the level of diesel locomotive operations is highest, or when congestion causes trains to operate slowly or to idle in the tunnel. However, there is not enough information currently available to determine how many hours per day, on average, the fans would run and whether or not they would run during the night.

The design standard for the ventilation facilities would limit the outdoor noise level, when the fans are in operation, to Lmax 50 dBA at the facility property lines. 50 dBA is approximately the noise produced by an indoor air conditioner at a distance of three feet.

To achieve the required reduction in noise level, cylindrical or rectangular sound attenuators would be mounted directly to each fan or to the ductwork within the system. In addition, the building itself would partially shield noise from the interior of the ventilation facility, which would further reduce noise levels outside of the building. The Preliminary Engineering Team has stated that the ventilation facilities, with attenuators installed, will emit noise at 45 dBA. This would meet the design standard of Lmax 50 dBA at the facility property lines (i.e., the noise level generated would be less than the design standard).

Please refer to responses to DEIS Comment #85 for responses to the RATT questions.

Response to Comment 7:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
**RESPONSES**

**Response to Comment 1:**
Norfolk Southern has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at [https://www.fra.dot.gov/Page/P0444](https://www.fra.dot.gov/Page/P0444). From that text:

> Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

**Response to Comment 2:**
This recommendation is a policy consideration and does not address the purpose or need of the Project. The Purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, which include:

- Reducing travel time through the B&P Tunnel and along the NEC,
- Accommodating existing and projected travel demand for intercity and commuter passenger services,
- Eliminating impediments to existing and projected operations along the NEC, and
- Providing operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.
In addition, the existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

As stated above, NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service.

**Response to Comment 3:**
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes.

**Response to Comment 4:**
Regarding diesel emissions, when NO\(_2\) levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO\(_2\).

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO\(_2\) emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed.
assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI.

Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NO\textsubscript{x}, VOC, and PM\textsubscript{2.5} between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation facilities would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

Response to Comment 5:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 6:
An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Please see Chapter III of the FEIS, which details the basis of elimination or retention for each alternative.
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<th>COMMENTS</th>
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<td>While reducing travel time through the B&amp;P Tunnel is one of several goals of the Project, it is not the reason the Project was initiated. Please refer to Response to Comment 2 for more information.</td>
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DEIS Comment 111:

Response to comment 1:

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
but in the '70's and '80's, it declined into a notorious open air drug market. As a response, in 1994, the City razed the buildings, but promised to rebuild commercial in Reservoir Hill. These promises went uneventful for 15 years.

In 2010, a group of ten neighbors, including myself, met together, and we had a passion for greening our neighborhood, but also meeting the health needs of our neighborhood. Reservoir Hill is one of the worst neighborhoods as far as diabetes and heart disease. It has the third worst rate of diabetes and the sixth highest rate of heart disease compared to other neighborhoods in Baltimore based on the 2011 Baltimore City Health Department Report. So, through the work of our committee volunteers, through our farm management, and through our Board, we built a thriving farm on the north side and the south side of Whitelock Street where the current ventilation building will be built. In just the past year, we have accomplished the following: We have grown almost 4,000 pounds of produce to sell to our neighbors. We fed 25 families through our Community Support and Agriculture Program, we diverted
thousands of gallons of food from the dump to our neighborhood composting program, we have increased sales to low income residents by 57 percent. We partner with the local elementary school and the middle school to teach them healthy eating habits and how to garden. We have managed 28 apprentices from local colleges. We have employed four high school students in our in our summer internship program. We have hosted five community potlucks and we have hosted workshops on canning, fermentation, and other things. That is just in the past year.

Also, the farm serves as one of the truly -- one of the only places where neighbors from diverse racial and economic backgrounds can come together and it serves as a place where we can come across the many bridges that keep us apart.

If the ventilation building is to be built at its current proposed location, it will destroy not only the work that we have achieved, it will also destroy the future that we are trying to build for kids in our neighborhood by teaching them about healthy eating and trying to reverse the health outcomes that we currently have.
Response to Comment 2:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact and health. No impacts to community health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the Health and Safety Plan will be implemented and regulatory authorities notified to appropriately address the hazardous material concerns.
DEIS Comment 112:

Finally, it would be, honestly, a slap in the face to our neighborhood. We were promised that it will be built as a commercial center. That promise was broken. We took control of our future, and now that we have taken control of it, it gives the opportunity for the government to come in and take it back. If there was commercial there, it wouldn't even be an option, but it is only an option because the community has made it into what we want, which is a green oasis for our neighborhood. So, I just ask that as decisions are being made, they are not made for corporate interest, but also for the health of communities and what communities desire. Thank you for the opportunity to speak.

THE HEARING OFFICER: Thank you.

Mr. Edward Cohen, followed by Russ Moss.

MR. COHEN: Good evening. My name is Edward Cohen. I chair two of the MTA Citizen Advisory Committees and the MTA Citizens Advisory Committee for Accessible Transportation, at the Schaefer Tower.

We, the members of the CAC and the CACAT, oppose the B&P Tunnel Replacement Plan for the following reasons:

Response to Comment 1:
The testimony provided addresses the possibility of restoring the Northern Central Railroad right-of-way; however, this is beyond the purview of the Project.

The report submitted along with the testimony, A Proposal to Unravel Baltimore’s Tangled Rail Lines, argues for a comprehensive system approach to rail planning in Baltimore and the mid-Atlantic region. It describes a list of projects and the order in which they should be completed. The report takes into consideration local, state, and regional transportation routes, and recommends new construction at a number of locations in order to relieve congestion and create opportunities for expanding rail service in the future.

While recommendations in the report focus on resolving issues at a regional level, they would not address or resolve the specific needs of the B&P Tunnel; therefore, the improvements suggested in the report would be beyond the purview of the Project. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life. It is considered to be structurally deficient due to its age, the original design, and wear and tear. The Tunnel is also functionally obsolete and unable to meet current and future rail demands. For additional information regarding the purpose and need of the Project, please see Chapter II of this FEIS.

To review the September 2015 report in its entirety, please refer to DEIS Comment #11.
It will permanently eliminate any possibility of restoring the Northern Central Railroad right-of-way with a connection to the northeast part. For years, Pennsylvania has been calling for passenger service along the Northern Corridor to York, Pennsylvania. It is shortsighted to construct a rail project that forever prevents such service. If service on the Northern Central Railroad were to be reestablished, it would be easy to connect the line with the Howard Street Tunnel and to provide Amtrak passenger service between Miami and Toronto, with intermediate stops including Orlando, Jacksonville, Charleston, Fayetteville, Raleigh, Richmond, Washington, D.C., Harrisburg, and Buffalo. It's inappropriate for Amtrak to be supporting a project that prevents such expansion.

It will permanently eliminate any possibility of restoring rail service between the Northeast Corridor and the Hanover sub. The land required to restore the wye just west of Fulton Interlocking (and Avenue) is still available. Restoration of the wye would permit MARC service between Baltimore or Washington and Westminster, Hagerstown, Hanover, and Gettysburg. Amtrak could create a Northeast
Corridor Bypass through York, Lancaster, and Allentown to Morristown, Newark, and either Hoboken Terminal or Penn Station New York City. Restoration of this connection would also permit Amtrak service from Baltimore to numerous western cities, including Pittsburgh, Chicago, and Denver. It is unwise for Amtrak and MARC to be supporting a project that prevents such expansion. It prevents the construction of a Sandtown/Winchester MARC station, which is part of the 2003 Baltimore Regional Rail Plan in state law. It prevents construction of a connection between the MARC Penn Line service and the Baltimore Metro Subway Upton Station in a rebuilt B&P Tunnel system or Penn Line trains only. Years ago, there was a station at Pennsylvania Avenue in the tunnel. It does not address Penn Station capacity constraints. Amtrak expects to double its Northeast Corridor service and MARC expects to triple its service. In the long term, Penn Station is likely to prove inadequate to support these demands. It does not address Amtrak's need for a new...
high-speed tunnel capable of supporting 220 mile-per-hour service. The high-speed tunnel must be built at some point anyway. To build a Great Circle Tunnel and spend money on the remnants of the B&P Tunnel would cost far more in the long term than to build a high-speed tunnel first and rebuild the B&P Tunnels for MARC use only afterwards. With this scale of expenditure, the 125-year depreciation period makes it practically impossible to justify the huge difference in cost of the Great Circle Tunnel versus the rebuild for MARC service only. The long depreciation period requires that we receive value for our public investment for the whole period. Resulting operational capabilities would be far greater as well. The decision to build this alternative was predicated upon a decision to continue Amtrak service through Penn Station.

THE HEARING OFFICER: Mr. Cohen, your time is up. I ask you that you might conclude your statement.

MR. COHEN: Okay. Let me just say that the committees put together a rail plan for Baltimore that was comprehensive, and it was integrated, and we have a copy
of it here, and we are submitting this along with our
reasons for not supporting this particular planning process,
and it addresses virtually everything that I have heard so
far tonight.

THE HEARING OFFICER: Thank you.

MR. COHEN: Thank you.

THE HEARING OFFICER: Mr. Russ Moss and
Mr. Moss will be followed by Jamar Day. Let me mention
written submissions should be left at our sign-in table or
placed in one of the comment boxes located in both the
registration area and the display area, located in the
cafeteria, and I mention again, the project staff is
available in the cafeteria area of the building tonight to
answer questions, discuss, and make available the DEIS and
its technical awards, and, again, answer specific questions
regarding all alternatives. Mr. Moss, followed by Mr. Jamar
Day.

MR. MOSS: Good evening. I guess I have
got to say, first of all, it's almost -- well, it is an
outrage to even be standing here of all nights to kick off
Black American History Month, and this whole B&P Proposal
Response to Comment 1:
The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

Response to Comment 2:
Regarding diesel emissions, when NO<sub>2</sub> levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO<sub>2</sub>. The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO<sub>2</sub> emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO<sub>2</sub> concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.
The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

Response to Comment 3:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 4:
Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the Executive Order on environmental justice is public outreach. The Project Team has conducted extensive engagement with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional
The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.

Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations. For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be...
underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.
DEIS Comment 114:

MR. DAY: Good afternoon. My name is Jamar Day.

Jamar Day: I reside at 413, I stand before you and I am glad that the gentleman mentioned Title IV once again because I want to thank the Department of Transportation for the lack of diversity that I have seen in every meeting we have. That could be part of the problem, just talking about it.

The second part is, I live in a historic neighborhood. My home was built in 1908. It is 100 years plus old building. It is on the fourth floor. So, when an ambulance or fire truck does ride by, we do feel the ground vibration. We believe it is a major concern for the freight trains and the passenger trains coming ahead.

Also, I believe the vent shaft is also located in front of the Whitlock Community Farm. We have major concerns about the pollution that will bring not to just our students and the schools they represent there, it is also across the street from the actual community center that houses hundreds of kids everyday after school. I am pretty sure that parents do not want to be breathing the toxic air.

Response to Comment 1:

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.
Response to Comment 2:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/industrial sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes.

Response to Comment 3:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\textsubscript{2} were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.
Response to Comment 4:
Since the publication of the DEIS, mitigation development has advanced and mitigation measures are included in this FEIS. Some examples include installation of public facilities, community centers, public services, small business assistance, and pedestrian and bicycle access improvements. Please refer to Chapter VII for more information. Final mitigation plans would be completed following the selection of the Preferred Alternative and final determination of impacts on the community.

Response to Comment 5:
The Project DEIS, including Appendices and supporting Technical Reports, was made available for comment from December 18th, 2015 to February 26, 2016. As described in Chapter VIII of this FEIS, the DEIS was distributed to several Federal, State, Regional, City, and County agencies, community organizations, stakeholders, and elected officials. The DEIS is also available on the Project website www.bptunnel.com. A hard copy of the DEIS document was also made available at ten locations, including the Baltimore City Department of Transportation, Transit Bureau, Bentalou Recreation Center, Bon Secours Community Works, four Enoch Pratt Library locations, John Eager Howard Recreation Center, Maryland Department of Transportation, and the Maryland Transit Administration.

The Project Team has engaged in extensive public outreach throughout the development of the project, including holding three public open houses and ten community meetings where the public was given the opportunity to learn about the project and engage in discussion with the Project Team. In addition to these meetings, the Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS. Additional details of this outreach are described in Chapter VI as well as Chapter VIII.
DEIS Comment 115:

MR. STAINMAN: My name is Stuart Stainman.
S-t-a-i-n-m-a-n. I live at Baltimore.
I am speaking for -- I sit on some Transportation Committees of the Metropolitan Area, and Maryland Port Administration Advisory -- Citizen Advisory Committees. While I am speaking for myself tonight, I want to express my support for Alternative 3. I am the only one so far speaking publicly.
I believe that this project is important for the Baltimore economy and for the creation of many more jobs in Baltimore. I certainly hope quick funding of what -- whichever A, B, or C of Alternative 3 is chosen. I understand that there will be, if it goes through Reservoir Hill, there will be some environmental effects, but I believe that they can be safely addressed by a small, tiny portion of the capital project. I just want to point out that if this is a $4 billion dollar project, one percent of the capital cost is $40 million, and I believe that if it does go to construction, 1 percent could easily -- $40 million can do a lot to alleviate many of the concerns.
There are several concerns addressed, but I want

Response to Comment 1:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
to point out that if these tunnels are not constructed, this will greatly weaken, if not destroy the economic advantage of the Port of Baltimore, which generates over 25,000 jobs. It will greatly weaken, if not destroy or eliminate the advantage of Baltimore's 50-foot draft channel. I also want to point out that ventilation structures can be designed to blend in with neighborhood buildings of similar size, and proportion, and concerns about freight oil tank cars -- trains passing through, by the time that this tunnel is constructed, that higher standard -- more safety requirements of oil tank cars required by the federal government will be in place. Thank you.

THE HEARING OFFICER: Thank you, Don Akchin. As Mr. Akchin comes forward, I want to remind everybody again that all written comments regarding the Draft Environmental Impact Statement are due on or before the close of business on February the 19th, 2016. Again, our comment form, which is postage paid, is available at the registration table. That form does indicate February 5th. Again, we were postponed due to the weather, so that comment period has been extended until February the 19th, 2016. So,
Response to Comment 1:
The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

Amtrak design practices require new NEC infrastructure meet current standards, including Plate H (double stack) clearances. However, the new tunnel could not be used by double stack freight trains unless certain factors are met. These factors include:

- Substantial improvements, such as extensive additional vertical clearance improvements north and south of the B&P Tunnel to other NEC infrastructure; these improvements are not being designed as part of the B&P Project;
- Federal, state, local and regional support for aforementioned improvements including funding and policy;
- Increasing the bridge and catenary clearance on the NEC where double stack/high dimension trains are to travel;
- Construction of new or modified Union tunnel to Plate H/K (double stack) clearances; without a high dimension Union tunnel, double stack freight service using the B&P Tunnel is not possible;
- NS currently favors the Harrisburg-Perryville route for intermodal service;
- Freight schedules limited to off peak/night time periods which affects the scheduling flexibility and transit time for high priority (intermodal) shipments for which time is absolutely critical; and
- Construction of track connection/s between the CSX and the NEC if CSX chooses to use the NEC.

In the short-term, there is no indication of any significant increase in freight movements through the B&P Tunnel.
Response to Comment 2:

All of the proposed Project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards. The Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal safety.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.
 COMMENTS

1. derailments of hazardous tunnels in other communities. We want to see an honest and thorough assessment of the health and safety risks for this community.

   Finally, we are extremely concerned about the issue of freight, particularly, hazardous cargo moving below our beds. The first proposal we were shown was for passenger rail only and that made sense. The tunnel connects a passenger rail terminal at Penn Station with a passenger commuter rail station in West Baltimore. Freight does not make sense. Somehow, freight is moving north and south now on other tracks. Why would it be re-routed to go through the passenger rail stations where it never unloads?

   It makes the community suspicious that the proposal places disproportionate environment dangers and burdens on communities of color. We do not oppose progress, but many hundreds of people of put their lives and investments on the line for this community. We are not prepared to go quietly for a proposal that places all of our hard work and love in jeopardy. Thank you.

   THE HEARING OFFICER: Thank you. The next speaker is Miss Jacqueline Caldwell, representing the

RESPONSES

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Response to Comment 3:

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 4:

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Response to Comment 5:

Norfolk Southern has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.
FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

**Response to Comment 6:**
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes.

The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.
Response to Comment 1:
The Project Team has performed an impact analysis for noise following the Federal Transit Administration’s guidance manual. The number of potential moderate and severe impacts were estimated using noise contour maps and land use information. For the Preferred Alternative, 296 moderate and 141 severe residential noise impacts above the FTA Frequent Impact Criterion of 35 dBA are anticipated. Mitigation measures were investigated for addressing moderate and severe noise impacts from tunnel operations and include vehicle skirts, undercar absorption, spring frogs, and acquisition of a buffer zone, among others, which are documented in Chapter VII of this FEIS.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves...
at the expense of tearing up our neighborhoods. Like I said, you are coming into neighborhoods of people of color predominantly. In Greater Mondawmin, a lot of our neighbors are homeowners. They are 60, 70, 80, 90 year-old people. They are not going anywhere. My concern is how is this going to affect them, their living, their health, the structure of their homes, and I just don't think it is fair it be brought into this community. I think you should just put it somewhere else. My question is people always try to put things in this community. Would you want it where you live? If you can say yes to that, then, maybe it's a good idea, but if you can say no to that, then, it shouldn't be done. Thank you.

THE HEARING OFFICER: Thank you. Let me mention again that there is a display area available tonight. Our project team staff are available. If you can check in at the registration table, they can direct you to the display area where you can view maps, as well as our printed information, including the Draft Environmental Impact Statement, and the staff can answer specific project questions regarding all of the alternatives associated with


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historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

Response to Comment 3:
The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.

The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.
Response to Comment 1:
The Purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, which include:

- Reducing travel time through the B&P Tunnel and along the NEC,
- Accommodating existing and projected travel demand for intercity and commuter passenger services,
- Eliminating impediments to existing and projected operations along the NEC, and
- Providing operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.

In addition, the existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Response to Comment 2:
The new tunnels would be designed to optimize safety and modern standards. Amtrak and Norfolk Southern (NS) are anticipated to use existing fleets and newly acquired equipment in the tunnel. This equipment must meet federal standards for safe operations. In addition, the tunnel will be equipped with Automatic Train Control (ATC) and Positive Train Control (PTC) systems, which use computer systems to control the speed of trains within the tunnel.

Response to Comment 3:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be compensated for the cost of repairs.
functions in the city older than that, but they are still standing, still operational, because people take care of them. The train system has a very, very poor record maintaining whatever they use. I say no. Thank you.

THE HEARING OFFICER: Thank you. At this time, we have no additional persons registered to testify.

I emphasize our hearing for tonight goes until 8:00 p.m. and you can register until 7:55 p.m. to testify here in the hearing room. I remind persons here tonight if you can share that information with your neighbors and community that there is an additional hearing scheduled for this Saturday, February the 6th, from 10:00 a.m. until 1:00 p.m., at this same location, Frederick Douglas High School. Our display area remains open until 8:00 p.m. tonight. If you have specific project questions, I direct you there. Again, members of our project team, which include Baltimore City, the Maryland Department of Transportation, the Federal Railroad Administration, and Amtrak are available to answer specific questions or provide detailed descriptions of maps, as well as additional project displays. That area is out this door and to your right, as well as private testimony.
for those who desire to provide oral testimony in a private setting. Again, we will be in this room until 8:00 o'clock for persons who desire to make public testimony. You are required to register for that public testimony in the lobby. Thank you.

THE SPEAKER: Question. Will that private testimony be available on a public record?

THE HEARING OFFICER: All testimony both oral, here in this hearing room, as well as testimony provided in the private room will be considered a part of the official record, as well as all written submissions, and I mention that again that all written submissions are due by the close of business on February 19th, and I direct you to the postage paid mailer which many of you should have received tonight. Additional copies are available which can be completed and mailed in, as well as I observed a number of persons with packages of written testimony that can be left at our registration table, and submitted as part of the official record tonight. Thank you. The hearing remains open until 8:00 p.m.

(Hearing concluded at 8:00 p.m.)
State of Maryland:
County of Baltimore, to wit:
    I, Susan Kambouris, a Notary Public of the
State of Maryland, County of Baltimore, do hereby certify
that the within-named proceedings took place before me
at the time and place herein set out.
    I further certify that the proceedings were
recorded stenographically by me and this transcript is a
true record of the proceedings.
    I further certify that I am not of counsel
to any of the parties, nor in any way interested in the
outcome of this action.
    As witness my hand this 15th day of
February, 2016.

SUSAN A. KAMBOURIS
Notary Public

My Commission Expires:
May 17, 2017
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THE HEARING OFFICER: Good morning. Let the record show that it is now 10:45 a.m. on Saturday, February 6. Good morning, ladies and gentlemen. My name is Anthony Brown. I will serve as today’s Hearing Officer. I am joined on stage by Ms. Michelle Fishburne from the Federal Railroad Administration. Also present at the hearing today in our display area is a number of staff persons representing Amtrak, the Maryland Department of Transportation, the Federal Railroad Association, and the City of Baltimore.

I would like to welcome you to this Public Hearing regarding the Draft Environmental Impact Statement and Section 4(f) Evaluation (DEIS) for the B&P Tunnel Project. Thank you for taking the time to attend today.

I call to order this Public Hearing which is being conducted by the Federal Railroad Administration (FRA) in cooperation with the Federal Transit Administration (FTA) and in coordination with
the Maryland Department of Transportation and the
National Railroad Passenger Corporation (Amtrak) as
provided in accordance to Title 23, Section 771.111(h)
of the Code of Federal Regulations.

The FRA will be holding or has held a mock
public hearing regarding this project. We are holding
today's hearing, and then a final public hearing is set
for Wednesday, February 17, from 5:00 p.m. to 9:00 p.m.
at the Carver Vo-Tech High School, and that information
is contained on a flyer at the registration table.

The FRA is holding these hearings to
receive testimony regarding the Draft Environmental
Impact Statement for the B&P Tunnel project. The DEIS
was released to the public on December 18, 2015 and
will be available for review and comment until
5:00 p.m. on February 26 of this year.

The DEIS and supporting documents are
available on the B&P Tunnel website, www.bptunnel.com,
as well as public libraries and other locations which
will be described later this morning in my
presentation. I will also mention that the DEIS and
its supporting documents are available for review today in our display area located in the cafeteria.

The B&P Tunnel is a two-track railroad tunnel underneath central Baltimore City. The tunnel opened in 1973 and is located between the West Baltimore MARC Station and Pennsylvania Station along Amtrak's Northeast Corridor (NEC). This section of the NEC is used by Amtrak and Maryland's MARC Commuter Rail passenger trains, as well as Norfolk Southern Railway freight trains.

The purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnels and to accommodate future high-performance intercity passenger rail service goals for the NEC, including: to reduce travel time through the B&P Tunnel and along the NEC; to accommodate existing and projected travel demand for intercity and commuter passenger services; to eliminate impediments to existing and projected operations along the NEC; and to provide operational reliability, while accounting for the value of the existing tunnel as an important
element of Baltimore's rail infrastructure.

The purpose is derived from the following needs:

1. The existing B&P Tunnel is more than 140 years old and it is approaching the end of its useful life with regard to its physical condition. While the tunnel currently remains safe for rail transportation, it requires substantial maintenance and repairs and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands due to the combination of its vertical and horizontal track alignment, i.e. its grades and curves. The low-speed tunnel creates a bottleneck at a critical point in the NEC, affecting operations of the most heavily traveled rail line in the United States.

2. The existing B&P Tunnel does not provide enough capacity to support existing and projected demands for regional and commuter passenger
service along the NEC.

3. The existing B&P Tunnel is not suited for modern high-speed usage due to the current horizontal and vertical track alignments, which limit passenger train speeds to 30 miles per hour.

4. Then finally, the existing B&P Tunnel is a valuable resource. The disposition of the existing tunnel needs to be considered in this project.

The DEIS analyzes impact of the project on the natural and human environment. The DEIS provides an evaluation of the alternatives that are still under consideration and assesses environmental impacts for the alternatives.

There are four alternatives being evaluated in the DEIS: Alternative 1, the No-Build Alternative; and then there are three Build Alternatives, called Alternative 3A, Alternative 3B, and Alternative 3C. These alternatives were retained through a comprehensive screening process that identified those alternatives that best address the project needs in consideration of the environmental impacts.
(BOD), which will formally select the alternative that could
be advanced to design and construction.

The FRA is committed to ensuring that no person is
excluded from participation in, or denied the benefit of its
transit services on the basis of race, color, or national
origin as protected by Title VI of the Civil Rights Act of
1964. I mention again that in the audience with us tonight
is Miss Michelle Fishburne, representing the Federal
Railroad Administration, and I believe she is joining me on
the stage now. You may address any questions to the Project
Team who are represented in the display area. Again, I
emphasize, we are hearing testimony only in this room, not
responding to specific questions; however, again, in the
display area is a full staff of project team members who can
answer questions, provide details on the specific
alternatives, and better possibly position you for your
testimony tonight. You may address any question, again, to
the Project Team members. We have also provided maps so you
may visualize the proposed alternatives.

I will now ask that the American Sign Language
(ASL) and Spanish Language translators to stand. These
Comments received on the DEIS and document the basis for the identification of the Preferred Alternative.

Following the FEIS, FRA will issue a Record of Decision (ROD) which will formally select the alternative that could be advanced to design and construction.

The FRA is committed to ensuring that no person is excluded from participation in, or denied the benefits of its transit services on the basis of race, color, or national origin, as protected by Title VI of the Civil Rights Act of 1964. You may address any questions to the Project Team, whose representatives are in the cafeteria area, the display area, in the rear to your right.

We have also provided maps so you can visualize the proposed alternative. With us today, we do have persons who can interpret American Sign Language (ASL) and a Spanish translator is also available. If you need the translation for Sign Language, we ask that you position yourself to my left, your right, and make yourself known to our Sign Language interpreter.
Regarding Spanish Language translation, I would ask that person to address the audience now.

(Whereupon, there was an announcement by the Spanish Language translator.)

THE HEARING OFFICER: Thank you. Ladies and gentlemen, there is a handout which you received which outlines all of the procedures for today's hearing. I will go through those quickly so that they are read into the official record for this hearing.

1. Elected and public officials will be heard first and will receive five minutes to testify.

2. Persons desiring to testify should register at the entrance to the hearing room and will be called in order of registration.

3. Any individual may appear and speak for him or herself, or if duly authorized, for any local civic group, organization, club, or association, subject to the rules provided herein. Speakers should give their name and address. And if they're representing a group, this information should also be given.
4. Speakers are requested to limit their speaking to three minutes to be courteous to all of those who may wish to speak. Additional prepared statements or literature pertaining to the B&P Tunnel Project may be submitted at this hearing or submitted by 5:00 p.m., February 26, 2016, to the B&P Tunnel Project DEIS Comment, mailing address 81 West Mosher Street, Baltimore, Maryland 21217.

These statements, both oral and written, will be made a part of the official hearing record. And the address that I referenced is detailed in the handouts this morning.

AUDIENCE MEMBER: There is no West Mosher Street, it's just Mosher Street.

THE HEARING OFFICER: Thank you.

5. For this hearing, all statements, oral or written, should be directed to the Hearing Officer and must be related to the subject matter of this hearing. Oral testimony may also be submitted privately to a court stenographer.

Please speak to hearing staff at the
registration table if you would like to submit private
oral testimony at this hearing. When you speak, we ask
that you use the floor microphone, and when you come
up, the court stenographer will be making transcription
of all of the proceedings, and when you come to that
microphone, please state your name and address. In
relation to the comment that came from the audience,
that exact address is detailed on the printed trail and
should be there.

Persons who register to speak will be
called in order of registration. If you have not
registered to speak, you may do so up until 12:55 p.m.
Today our hearing ends at 1:00 o'clock. With your
cooperation, everyone will be heard.

A couple of final notes. There are six
ways to provide comments on this project and to become
a part of the official hearing record:

1. You can leave your comments on the
designated drop boxes today. They are located at the
registration table in the display area.

2. You may give oral testimony.
3. You can give testimony in a separate room, private testimony.

4. Written correspondence, once again, to the B&P Tunnel Project address which is detailed in your literature.

5. You can send an e-mail to info@bptunnel.com with "DEIS COMMENT" as the subject line.

6. Or on the website, www.bptunnel.com, you can submit an online comment form.

For today's hearing, you must choose one option or the other. You either give oral or private testimony. Again, our deadline for all comments is 5:00 p.m. on February 26. And for the record, announcement of these hearings has been made in the following publications:

- The Afro-American
- Baltimore Sun
- City Paper
- The Grace & Glory Magazine.

The DEIS will remain available for public
DEIS Comment 119:

review. Again, a copy is located in our display area.
It's also available at the Baltimore City Department of
Transportation Transit Bureau, the Maryland Department
of Transportation, Maryland Transit Administration, Bon
Secours Community Works, the John Eager Howard
Recreation Center, Bentalou Recreation Center, as well
as the following libraries: Central Branch, Walbrook
Branch, and the Edmonson Avenue Branch. And the DEIS
is also available online at www.bptunnel.com.

I will now call for statements for those
who have registered to speak at this morning's Public
Hearing, and again, I direct you to one of the floor
microphones, ask that you might state your name and
your address for the official record.

We call an elected Official Delegate,
Barbara Robinson. Delegate Barbara Robinson. And
again, if you can limit your comments to three minutes.

MR. COHEN: She gets five.

THE HEARING OFFICER: My apologies. Thank
you for assisting me, Ed. Our elected officials do get
five minutes. Thank you.
DELEGATE ROBINSON: Thank you so much. And good morning to everybody. And I must say that this is the first time that I've attended this meeting concerning the tunnel. And what actually prompted me to come here this morning, I sit on the Appropriations Committee in Annapolis. And sitting in there, we were listening to the budget for the tunnel, the budget for the transportation, et cetera.

And I received an e-mail, Residents Against the Tunnel. And I started reading it, and it actually caught my attention so I passed it on to one of the budget handlers. And I said, "Look into this, if you will, and get back to me what this is all about."

I also -- I live in Reservoir Hill, and I also represent the 40th Legislative District, which is this district. And when I listened to and read some of material, I admit I just received this morning, and it talks about the tunnels. And it talks about all of those glowing effects of how the transportation would be improved. But then I looked at this very detailed report from some of the citizens that talk about why it
Response to Comment 1:
The Project Team has engaged in extensive public outreach throughout the development of the Project, including holding three public open houses and ten community meetings where the public was given the opportunity to learn about project development and engage in discussion with the Project Team. In addition to these meetings, the Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS. Details of outreach are described in Chapter VI as well as Chapter VIII.
DEIS Comment 120:

1. with my people. And I would like to have more
2. information to see why I should not stand with my
3. people. And yet I have not heard anything to the
4. contrary.

5. So my point is, I would like to have more
6. information. I would like to have information for the
7. City Delegation, and would like to invite you to
8. Annapolis to the present to the City Delegation so that
9. we can better understand what it is that our citizens
10. do not want. Thanks.

THE HEARING OFFICER: Thank you.

12. Dr. Marvin Cheatham. Thank you, Ms. Robinson. And let
13. me just mention as Dr. Cheatham comes, regarding the
14. information that I read, copies of that hearing
15. introduction are available at the registration table.
16. Dr. Cheatham, three minutes. Thank you.

18. DR. CHEATHAM: Thank you. I'm Dr. Marvin
19. Cheatham. I am the Chief Executive Officer for the
20. Matthew Henson Community Development Corporation. My
21. address is 3121 1st Street, NW. And I am happy to come behind my illustrious delegate.
Response to Comment 1:
Regarding the Baltimore City Health Disparities Report written by the Baltimore City Health Department and Johns Hopkins University, Children’s Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS.

The Preferred Alternative would pose no health or safety risks that would disproportionately affect children. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA. No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water. Under the Preferred Alternative, 112 sites of concern were identified within 1 mile of the alignment; once type and extent of contamination and details of construction are known, potential risk and exposure can be assessed and appropriate documentation in place.
Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the Executive Order on environmental justice is public outreach. The Project Team has conducted extensive engagement with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three Public Open Houses, as well as ten community meetings, have been held where the public was given the opportunity to learn about the Project development in-person, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter’s Clavier Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School.

Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and fliers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations.

The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.
Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations. For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.

Response to Comment 3:
Regarding the CO threshold, EPA sets de minimis thresholds for every ‘criteria’ pollutant. However, those thresholds are only applicable in areas that are in non-attainment or maintenance status for a particular pollutant. Baltimore City is in attainment for CO, so the threshold does not apply. As a result, the threshold for CO did not appear on the board at the meeting.
THE HEARING OFFICER: Councilperson Nick Mosby. And we remind everyone again, our statements are three minutes. Our elected officials get five minutes. Mr. Mosby.

COUNCILMAN MOSBY: First and foremost, thank you for allowing me the opportunity to come and speak to you today. I am the City Councilman in the 7th District that is impacted by this design. But more importantly as a resident, growing up here in the City of Baltimore, my family having deep roots in the West Baltimore in the Franklin Square community, I know firsthand the adverse effects that transportation projects have caused on the West Baltimore residents.

When you talk about the highway to nowhere, and of course none of us here today have direct involvement in that project, but I think it's important to interject the history of where we are currently today in West Baltimore. When we talk about the highway to nowhere that ripped out thousands upon thousands of homes, and really developed the demarcation to destroy the housing stock in West
Baltimore, predominately African-American community, for a highway that really has not resulted in any significant growth, economic growth, or any community growth in that area, that's a major challenge. We talk about 93, how it ripped up part of my community in Reservoir Hill, that's something that we can't erase. However, it impacts the community today by again, creating the huge demarcation between the neighboring communities and neighboring assets. Then lastly, when you talk about the Red Line, and again, none of us today have anything to do with specifically the elimination of the Red Line, but we know the Achilles heel of the City of Baltimore is transportation. And the Red Line may not have been a perfect system. However, we know that transportation disproportionately impacts the poor and residents of West Baltimore getting access to jobs in Baltimore County, on the east side. By taking the Red Line away, that basically eliminated that possibility. Now that we come with this B&P Tunnel,
Response to Comment 1:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Response to Comment 2:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 3:
The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.
which is really used as a model throughout the city of Baltimore. It is nothing that the City of Baltimore did. It was nothing that the state did. It was nothing that the federal government did. It just took hardworking community members coming together to fight for their community.

The fact that we talk now about taking lots away and make it into a ventilation system where it’s literally directly across the street from a large apartment building, where it’s literally directly across an alley with houses, directly across from this urban agriculture, directly across from a basketball court, directly across from a community center, it is not the place for this ventilation unit.

(Applause.)

And folks can sit in New York, folks can sit in Philadelphia, folks can sit in Washington, D.C. to make decisions about our community. But as a councilman, I am here to tell you it’s not going to happen because we have been adversely impacted by these failed decisions over and over again. It looks great.
Response to Comment 4:
Since publication of the DEIS, Alternative 3B was advanced through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 122:

minutes faster, again, should not have to have
adversely impact forever communities here in West
Baltimore, and many of the folks here in West
Baltimore, because of the lack of jobs, because of the
lack of economic growth, because of failed
transportation policies such as this, will never be
able to the even participate in riding those rails.
Thank you.

THE HEARING OFFICER: Thank you. Bill Lee.
And then following Bill Lee is Lauren Haney Provost.

Bill Lee. Ms. Provost, you can position yourself here
so we can go right to you. Again reminding you general
public gets three minutes. Thank you.

MR. LEE: My name is Bill Lee. I live at
I'm here to represent my neighbors,
friends, family, and primarily my house in opposing the
planned construction of tunnels underneath my
neighborhood. My house is similar in construction to
the one described by my neighbor, Kathryn Apple at the
February 1 hearing.

My house is several decades older than me
Response to Comment 1:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to age), the property owner would be compensated for the cost of repairs.

Response to Comment 2:
The Purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC, including:
- To reduce travel time through the B&P Tunnel and along the NEC,
- To accommodate existing and projected travel demand for intercity and commuter passenger services,
- To eliminate impediments to existing and projected operations along the NEC, and
- To provide operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.

The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

Response to Comment 3:
The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
Response to Comment 4:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO$_2$ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO$_2$ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Response to Comment 5:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.

The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative.

Response to Comment 6:
The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than a fire or other emergency event on an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.
DEIS Comment 123:

If the tunnel project is pursued, I think my house should have answers to the many questions that have been raised by the many people who are testifying at these hearings. Thank you.

THE HEARING OFFICER: Thank you.

Ms. Provost.

MS. PROVOST: Good morning. My name is Lauren Haney Provost. I live at 21217, in the Reservoir Hill neighborhood. I'm here to represent St. Francis Neighborhood Center. I'm the Board President.

I moved here to Baltimore six years ago from Atlanta, Georgia and quite quickly fell in love with the Reservoir Hill neighborhood, the vibrancy of the neighbors, the community itself, and the St. Francis Neighborhood Center, which has been there for 150 years, and which is an amazing thing for a community center to be there as long as it has been.

And I am here to strongly oppose the tunnel project. Not only does it affect the neighborhood center, the ventilation plant would be built directly
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Response to Comment 3:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty...
impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Response to Comment 4:
The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
Response to Comment 1:
The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI.

The Project Team has engaged in extensive public outreach throughout the development of the project, including holding three public open houses and ten community meetings where the public was given the opportunity to learn about the project and engage in discussion with the Project Team. In addition to these meetings, the Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS. Additional details of this outreach are described in Chapter VI as well as Chapter VIII.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
Response to Comment 2:
Per Chapter V of the FEIS, it is projected that in 2040, 388 trains are expected to use the tunnel—386 passenger trains with no hazardous material cargo, and two freight trains with the potential to have limited hazardous material cargo (based on current freight volumes projected into the future). Since Amtrak is responsible for operating a robust passenger rail service, the two inner tracks of the four-track tunnel system would be reserved (in all but emergency conditions) for high-speed passenger train operations and freight services would be restricted to share the two slower, outer tracks. It is not possible for the tunnel system to accommodate significantly increased freight operations.

Response to Comment 3:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 4:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NOx concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NOx were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.
Response to Comment 5:
The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
DEIS Comment 125:

the vent system placed right in the middle of a residential neighborhood. I have lived in Reservoir Hill for seven years. This is a neighborhood that is undergoing a renaissance. New homes are being built. A school is being restored. Trees are being planted.

This is a neighborhood that we love. When others who are potential homebuyers hear about a four-lane tunnel being placed under our neighborhood, how will this attract new homeowners? How do we keep homeowners from moving out? I am opposed to the tunnel project because of the effect that it will have on not only those who are already here but those who we want to attract. Thank you.

THE HEARING OFFICER: Mr. Winborne is here and he will be followed by Mr. Russ Moss. Mr. Russ Moss.

MR. WINBORNE: Good morning. My name is Kylis Winborne. I'm a Baltimore native. I'm went to Baltimore Public Schools. I graduated from college here in Baltimore. I worked here in Baltimore for over 40 years professionally, and I'm a resident of Baltimore.
Response to Comment 1:
Trains are among the safest form of transportation available on an accident per passenger-mile basis. In the unlikely event of an accident, local responders receive training for a variety of incidents related to specific facilities, including the B&P Tunnel. The tunnel would be constructed to meet current standards for fire protection. Additionally, the Project sponsor will develop and implement a Hazardous Spill Prevention Plan and a Hazardous Materials Remediation Plan, as well as an Emergency Management Plan to be implemented in the event of a tunnel emergency.

Response to Comment 2:
Regarding quality of life, potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Regarding historical impact, the build alternatives would impact the Midtown-Edmondson Historic District. Construction would require demolition of nine historic properties located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The current preferred location for the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

Response to Comment 3:
The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
COMMENTS

DEIS Comment 126:

Reservoir Hill. I have five major concerns for my neighborhood and Baltimore community.

The first is train safety. My second concern is the quality of life these tunnels will have on our residents. The historical impact of my particular neighborhood and other neighbors is another concern, aging infrastructure, how these tunnels will affect those things. And financial loss, which I know is going to be a major feature of these tunnels. The last thing I want to say is we don’t want no stinking tunnels.

THE HEARING OFFICER: Russ Moss. And Mr. Moss will be followed by Gary Messaman.

MR. MOSS: Good morning. My name is Russ Moss, and I live at Baltimore, 21217. I’d like to start my comments by reading a brief article that was in Thursday’s or February 4 Washington Post.

And the headline is: “Train car carrying half a dozen material derails in Baltimore. Officials say a train car carrying hazardous materials derails in
Response to Comment 1:
Trains are among the safest form of transportation available on an accident per passenger-mile basis. In the unlikely event of an accident, local responders receive training for a variety of incidents related to specific facilities, including the B&P Tunnel. The tunnel would be constructed to meet current standards for fire protection. Additionally, the Project sponsor will develop and implement a Hazardous Spill Prevention Plan and a Hazardous Materials Remediation Plan, as well as an Emergency Management Plan to be implemented in the event of a tunnel emergency.
Response to Comment 2:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
Final Environmental Impact Statement and Section 4(f) Evaluation

COMMENTS

DEIS Comment 127:

Do you desire to testify, Ms. Blair? Obviously not.
Again, Gary Messaman, Jr. And then Gary will be
followed by Mr. Edward Cohen.

MR. COHEN: Mr. Hearing Officer, may I wait
until the end of the hearing to testify?

MR. MESSAMAN: Okay. My name is Gary
Messaman, Jr. Here to represent members of the MTA
Citizens Advisory Committee for Accessible
Transportation and we are opposed to the building of
the tunnel. We respectfully request consideration of
new alternatives for the replacement of the B&P Tunnel
that do not pass through Penn Station.

In addition, these requests and
consideration of the tunnel recommendations listed in
our 2015 report, there are also environmental impacts
to be considered. Numerous row homes would have to be
demolished causing unnecessary residential
displacement. Constructing a tunnel will reduce the
incentive to build a new freight tunnel should anything
happen to the Howard Street Tunnel, it could become
necessary for freight trains to use the same tunnels as

RESPONSES

Response to Comment 1:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Response to Comment 2:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project
Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

Executive Order 12898 requires federal agencies to ensure effective, meaningful involvement of low-income and minority populations in project planning and development, and potentially affected EJ populations have fair and equal access to information. The Project Team has engaged in extensive public outreach throughout the development of the Project, including three public open houses and ten community meetings. In addition to these meetings, Mitigation Working Groups comprised of community organization representatives and members of the Project Team were established to determine the most effective mitigation for the Project. Details of this outreach are described in Chapter VI and Chapter VIII.

Response to Comment 3:
The purpose of this Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the NEC. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.

The Howard Street Tunnel is privately owned by CSX, who is currently studying options to increase capacity there. Those efforts are beyond the purview of the Project.

Response to Comment 4:
Norfolk Southern has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate
compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 5:
The Maryland Department of Transportation oversees comprehensive transportation planning for the State. Prior studies have been performed that evaluate the full network of rail corridors, especially those in and around the City of Baltimore. The study of the B&P Tunnel partly resulted from the identification of this project as a critical component to the greater rail access plan.
DEIS Comment 128:

Response to Comment 1:
Please refer to DEIS Comment #39 for corresponding written comments.
Response to Comment 2:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Response to Comment 3:
While reducing travel time through the B&P Tunnel and along the NEC is a goal of the Project, it is not the sole reason the Project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS. Goals of the Project include:

- Reducing travel time through the B&P Tunnel and along the NEC,
- Accommodating existing and projected travel demand for intercity and commuter passenger services,
- Eliminating impediments to existing and projected operations along the NEC, and
- Providing operational reliability, while accounting for the value of the existing tunnel as an important element of Baltimore’s rail infrastructure.
Response to Comment 4:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes.

Response to Comment 5:
Regarding diesel emissions, when NO\textsubscript{2} levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO\textsubscript{2}.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO\textsubscript{2} emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI.
The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

To prevent accidents and fires, FRA requires a range of measures that minimize the risk to the public, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA). Emergency access/egress for pedestrians would be accomplished via emergency exits no farther than 2,500 feet apart or cross-passages between tunnels every 800 feet or less, or in some situations, a combination of both. For the Preferred Alternative, three locations would be provided for emergency egress to the surface, working with cross-passages in the tunnels. The emergency egress to ground level would be provided at the south portal Ventilation Facility, via the Intermediate Ventilation Facility, and at the north portal Ventilation Facility.

The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the Tunnels would be projected up and away from the community. In the very rare event of a tunnel fire, the path from a fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.

Response to Comment 6:
Amtrak’s first priority is to its passenger services. Therefore, although Amtrak must accommodate requests from NS or other freight operators with trackage rights agreements for additional train moves on the NEC, Amtrak need only schedule such moves as space between passenger trains can be made available. Where the freight operator and Amtrak have a dispute about scheduling of freight moves, the Surface Transportation Board (STB) adjudicates trackage rights agreements.
For the past several years, only one local NS freight train has been operating through the B&P Tunnel daily, serving customers south of the B&P Tunnel between Baltimore and Washington, DC. NS has no plans to increase or change its B&P Tunnel freight operation in the near future. NS has, however, restated its contractual right to increase freight operations in the future should it see value in doing so. In addition, the agreements provide that Amtrak cannot take any action that may restrict future growth in freight traffic through the B&P Tunnel.

Response to Comment 7:
Please refer to Response to Comment 1 for information regarding the alternatives analysis. An alternative was considered to have a fatal flaw if it did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge. The viable alternatives are close to the existing Tunnel in order to utilize existing infrastructure.

Response to Comment 8:
The Maryland Department of Transportation oversees comprehensive transportation planning for the State. Prior studies have been performed that evaluate the full network of rail corridors, especially those in and around the City of Baltimore. The study of the B&P Tunnel partly resulted from the identification of this project as a critical component to the greater rail access plan.

While recommendations for a new line might aid in resolving issues at a regional level, they would not address or resolve the specific needs of the B&P Tunnel. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life. It is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. For additional information regarding the purpose and need of the Project, please see Chapter II of this FEIS.

Response to Comment 9:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others), as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
DEIS Comment 129:

MR. ARTHUR: Hello, I'm Stephen Arthur. I'm at 1 and I think we have heard a lot of great testimony and we have seen things about the proposal. I commute daily from Reservoir Hill to Capitol Hill and so I'm in that tunnel ten to 14 times a week. And I know it needs to be replaced. I know there's delays through Amtrak and MARC because of it. I also have a 6-year-old niece, who has grown up with me at Park and Lennox, and will also be potentially impacted by the tunnel. And I've learned a lot from her, like sometimes it's important to simply state a problem so that you are clearly understood. So with some inspiration from Dr. Seuss:

I think it would be really great if the tunnel was not for freight.

We really wish you would review putting the tunnel under North Avenue. We do not want it under Whitlock Farm where it would do a lot of harm. We do not want it under our beds. We do not want it where we lay our heads. We do not want the noise at night when we were sleeping tight.

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Response to Comment 1:
The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic is planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces of rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

Response to Comment 2:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Since the publication of the DEIS, Alternative 3B was selected as the Preferred Alternative. Alternative 3B was advanced through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts,
It would really be great if the tunnel was not for freight.

We do not want our homes to shake. We do not want our homes to break. We do not want our homes to cake. This is a great tunnel you must not make.

It would really be great if the tunnel was not for freight.

We do not want the fracking oil. We do not want the diesel oil. We do not want the leaking gas or the risk of fire between those tracks.

It would really be great if the tunnel was not for freight.

We do not want the nuclear material. We do not want the hazardous chemicals. We do not want the toxic waste. Our neighborhood you must not debase. We do no want the big ventilation plant because it's not a plant, it's a pollutant. If this risk to us is only for profit, we must insist that you stop it.

It would really be quite great if the tunnel was not for freight.

I have a minute left so I went over to the

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Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the selection of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Response to Comment 3:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue, and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 4:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated...
here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hypersensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Response to Comment 5:
Norfolk Southern has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system,
including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

Response to Comment 6:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\(_2\) concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\(_2\) were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Response to Comment 7:
Efficient transport of goods provides economic benefit to the City, region, and rail consumers.

The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future.

It is not possible to provide cost projections for private usage of the B&P Tunnel. The owner of the tunnel, Amtrak, is a private company, as are the freight companies that may use the tunnel in the future. NS and CSX are not required to release information on projected financials or similar information considered to be proprietary. Furthermore, it is not clear whether these companies have projected costs. Fees are unknown because usage is unknown. For more information on the relationship between the freight industry and the rail line, please see Chapter V of this FEIS.
Response to Comment 1:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

The Preferred Alternative would displace 22 residential buildings in the Midtown-Edmondson neighborhood, Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings. Executive Order 12898 requires federal agencies to ensure effective, meaningful involvement of low-income and minority populations in project planning and development, and potentially affected EJ populations have fair and equal access to information. The Project Team has engaged in extensive public outreach throughout the development of the Project, including three public open houses and ten community meetings. In addition to these meetings, Mitigation Working Groups comprised of community organization representatives and members of the Project Team were established to determine the most effective mitigation for the Project. Details of this outreach are described in Chapter VI and Chapter VIII.
Response to Comment 2:
The Project Team has engaged in extensive public outreach throughout the development of the project, including holding three public open houses and ten community meetings where the public was given the opportunity to learn about the project and engage in discussion with the Project Team. In addition to these meetings, the Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in [Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in [Chapter VII. These efforts are ongoing and are documented in this FEIS. Additional details of this outreach are described in [Chapter VI as well as [Chapter VIII.
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 2:

As described in Chapter III of the FEIS, the build alternatives would require three ventilation facilities in order to meet current safety industry standards (NFPA 130) for projected NEC FUTURE train demand headway, and to ensure proper ventilation of the proposed tunnels. The purpose of the ventilation facility is to pull fresh air into the tunnel and ventilate the tunnel air to the outside. One ventilation facility will be located at the south portal, and another will be located 300-600 feet from the north portal. A third ventilation facility would be located at street level, connected to the bored portion of the tunnels by a vertical shaft and connecting tunnel (plenum), splitting the proposed tunnel into two unequal lengths. The Intermediate Ventilation Facility would consist of a building, approximately 100 feet by 200 feet in plan with a maximum height of 60 feet.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals
could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Response to Comment 3:
The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.
DEIS Comment 132:

1. This fight would mean that we would win
2. because we were against this type of service. We don't
3. need vents. We don't need a train running under our
4. houses, shaking our houses. We have been dealing with
5. MTA for years because our houses have been shaking. We
6. all can show you pictures of our houses where we have
7. repaired, repaired, and repaired the cracks that have
8. evolved from the buses.
9. We have gotten stop signs on Park Avenue
10. and Newington to stop the buses from speeding down Park
11. Avenue, creating these cracks in or houses. We have
12. been in touch with MTA and other city officials trying
13. to get them to change the process in which the MTA
14. travels to give us lighter buses, to slow down. So now
15. we are becoming a fight with the train system. Four
16. tracks under our houses, a vent system in or around
17. Reservoir Hill is just no good.
18. THE HEARING OFFICER: Thank you.
19. Mr. Lemon.
20. MR. LEMON: Hey, how is everybody doing out
21. there? My name is Khary Lemon. I'm from
Response to Comment 1:
The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.

The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.

Response to Comment 2:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
Response to Comment 3:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 4:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\textsubscript{2} were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 2:
Trains are among the safest form of transportation available on an accident per passenger-mile basis. In the unlikely event of an accident, local responders receive training for a variety of incidents related to specific facilities, including the B&P Tunnel. The tunnel would be constructed to meet current standards for fire protection. Additionally, the Project sponsor will develop and implement a Hazardous Spill Prevention Plan and a Hazardous Materials Remediation Plan, as well as an Emergency Management Plan to be implemented in the event of a tunnel emergency.
Response to Comment 3:
The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
DEIS Comment 134:

Reservoir Hill. And it's an area in Reservoir Hill
where people have said over and over again, it's making
that turn. You've got new residents coming in. A huge
problem they had with a housing complex, that's been
shut down. I've seen and heard about some of the plans
to put in more retail, more offices, new housing, even
a new supermarket.

But all that changes when you put in a but.
A but we are going to have a tunnel underneath
Reservoir Hill. But there is going to be a ventilation
plant put here that could cause a lot of destruction.
And so I ask that you listen to the neighbors and make
sure that that investment counts because they have
invested for a very long time. And the people that are
on their way to Reservoir Hill, to think about them as
well. I thank you for listening and taking the time,
and I want to thank the residents and other folks for
coming out. Thank you.

THE HEARING OFFICER: Thank you. Mr.

MR. COHEN: Good afternoon, and thank you
Response to Comment 1:

It is beyond the scope of this study to consider alignments outside the NEC. This project evaluated replacement or re-use of the existing B&P Tunnel. The current Preferred Alternative would not re-purpose the existing tunnel; however, Amtrak desires to reserve the existing tunnel for a future rail transportation use.

The B&P Tunnel Project proposes four tracks, which will be designed to accommodate Amtrak, MARC, and existing freight traffic. Additional improvements would be required to increase the amount of freight going through the tunnel.

Additionally, the report provided, A Proposal to Unravel Baltimore’s Tangled Rail Lines, argues for a comprehensive system approach to rail planning in Baltimore and the mid-Atlantic region. It describes a list of projects and the order in which they should be completed. The report takes into consideration local, state, and regional transportation routes, and recommends new construction at a number of locations in order to relieve congestion and create opportunities for expanding rail service in the future.

While recommendations in the report focus on resolving issues at a regional level, they would not address or resolve the specific needs of the B&P Tunnel; therefore, the improvements suggested in the report would be beyond the purview of the Project. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life. It is considered to be structurally deficient due to its age, the original design, and wear and tear. The Tunnel is also functionally obsolete and unable to meet current and future rail demands. For additional information regarding the purpose and need of the Project, please see Chapter II of this FEIS.

To review the September 2015 report in its entirety, please refer to DEIS Comment #11.
Response to Comment 2:
An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Please see Chapter III of the FEIS, which details the basis of elimination or retention for each alternative.
and we don't have to build this many tubes.

That would mean that we would end up for something that would work better for Baltimore. We
would not have to deal with the hazmat going through the harbor and the city and we would have high speed rail sooner. And not end up with extra traffic in the future. Those who are interested in what our proposal is can go to the MTA website and look under the Citizens' Advisory Committee. If it is not online yet, and it may not be, you can contact MTA customer service and speak with Denise Hagans, who can e-mail it to you.

Thank you very much.

THE HEARING OFFICER: Thank you. This concludes at this time the list of persons who have registered to testify. If there are other persons who would like to testify, you can register at our registration table. We will be accepting registrations through 12:55 p.m. this afternoon to testify here.

Also a reminder, if you want to provide private testimony, there is a location outside of this room. And again, they can give you directions at the
Response to Comment 1:
The Preferred Alternative would displace 22 residential buildings in the Midtown-Edmondson neighborhood, Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings. Executive Order 12898 requires federal agencies to ensure effective, meaningful involvement of low-income and minority populations in project planning and development, and potentially affected EJ populations have fair and equal access to information. The Project Team has engaged in extensive public outreach throughout the development of the Project, including three public open houses and ten community meetings. In addition to these meetings, Mitigation Working Groups comprised of community organization representatives and members of the Project Team were established to determine the most effective mitigation for the Project. Details of this outreach are described in Chapter VI and Chapter VIII.

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project's Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Since the publication of the DEIS, Alternative 3B was selected as the Preferred Alternative. Alternative 3B was advanced through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the selection of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 136:

I am so outraged by this whole thing. I don't know if this is going to do any good. I don't know if there's anything that can fix this but you need to put your tunnel someplace else. Nowhere is this tunnel going to benefit anybody in our neighborhood. It's not going to benefit anybody in our part of the town. It's not going to benefit anybody that's living in our neighborhood trying to get to work. That's all I have to say. Move it someplace else.

THE HEARING OFFICER: Thank you. Welcome to the microphone Heather -- I can understand the first name. Heather. Remind all persons that we do have materials in the display area out the door and down the hall in the cafeteria. There's a full room of displays and staff that can answer your specific questions. Again, if you could state your full name and address.

MS. WEIR: My name is Heather Weir, no middle name, W-E-I-R. I live at

            I am also on the MTA CAC currently. I think there are a couple items, and I'm hearing a lot of people mention that the tunnel that
Response to Comment 1:
Amtrak desires to reserve the existing tunnel for a future rail transportation use.

Response to Comment 2:
New tunnels would be designed to optimize safety and meet modern standards. Amtrak and Norfolk Southern (NS) are anticipated to use existing fleets and newly-acquired equipment in the B&P Tunnel and the equipment must meet federal standards for safe operations. In addition, the B&P Tunnel would be equipped with Automatic Train Control (ATC) and Positive Train Control (PTC) systems, which use computer systems to control the speed of both passenger and freight trains within the tunnel.
Response to Comment 3:
A Maglev train would not utilize existing or planned Amtrak infrastructure. The design of such a system requires significantly different rights-of-way and infrastructure. The design criteria for Maglev are extremely restrictive and would only be achievable on new alignments.
DEIS Comment 137:

regarding the Draft Environmental Impact Statement for the B&P Tunnel Project. And Ms. Lisa Dove, I believe you would like to offer testimony. And as you come, just remind you to limit your comments to three minutes.

MS. DOVE: Good afternoon. My name is Lisa Dove, and I reside in Reservoir Hill. I've been a resident there for 17 years, and my concerns consist of the potential damages and impact to the infrastructure of our homes. Our homes were built anytime in the 1800s. It's of great concern to me because on my third floor with the current Amtrak we can actually feel vibrations of the Amtrak going through underground.

So to have a new tunnel built or revised and of a greater magnitude is very leery. The other thing that concerns me is the risk of the actual cost being lowered in the neighborhood. And of course we all know in 2008 our market went down very low for the neighborhood and all of the current buildings in our neighborhood. And so that is a great concern, that our

Response to Comment 1:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Response to Comment 2:
The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
homes would incur lower costs in the market as a result. Thank you.

THE HEARING OFFICER: Thank you so much.

Again, we are here through 1:00 o’clock. If you would like to testify in this room you can register in the lobby through 12:55 p.m. Thank you.

(Off the record at 12:40 p.m.)

(On the record at 12:55 p.m.)

THE HEARING OFFICER: We are opening the Public Hearing for the B&P Tunnel Project. We are receiving public comments on the Draft Environmental Impact Statement today. Today is Saturday, February 6. This is the second of a series of three hearings. A final hearing will take place on Wednesday, February 17, 5:00 to 8:00 p.m. at Carver Vo-Tech High School.

Reminding all of those who have signed up to testify that you are limited to three minutes for your comments. And we welcome Aaron Brosy (ph.). And as you come, if you could just restate your name and address.

MR. BROSY: Sure. Thank you. My name is
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 2:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Response to Comment 3:
Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes. Due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Amtrak’s first priority is to its passenger services. Therefore, although Amtrak must accommodate requests from NS or other freight operators with trackage rights agreements for additional train moves on the NEC, Amtrak need only schedule such moves as space between passenger trains can be made available. Where the freight operator and Amtrak have a dispute about scheduling of freight moves, the Surface Transportation Board (STB) adjudicates trackage rights agreements.
**Response to Comment 1:**

The current preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 2:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO$_2$ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO$_2$ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Response to Comment 3:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.
The comments you provide are valuable and will be considered as a part of FRA’s decision making process.

Thank you.

(Hearing concluded at 1:00 p.m.)
State of Maryland,
City of Baltimore, to wit:

I, Kyle L. Kingsley, a Notary Public of the State of Maryland, City of Baltimore, do hereby certify that the within-proceedings took place before me at time and place herein set out.

I further certify that the proceedings were recorded stenographically by me and this transcript is a true record of the proceedings.

I further certify that I am not of counsel to any of the parties, nor in any way interested in the outcome of this action.

As witness my hand this 18th day of February, 2016.

Kyle L. Kingsley
Notary Public

My Commission Expires:
April 4, 2017
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Hearing Officer's Hearing
February 1, 2016

SPEAKER: Page
Ryan Jordan 10
THE HEARING OFFICER: Let the record show that it is now 10:30 a.m. on Saturday, February 6th, 2016. Good evening, ladies and gentlemen. My name is Anthony Brown, I will serve as today's Hearing Officer. Also in the audience tonight is Michelle Fishburne from The Federal Railroad Administration. I would like to welcome you to this Public Hearing regarding the Draft Environmental Impact Statement and Section 4(f) Evaluation (DEIS) for the B&P Tunnel Project. Thank you for taking the time to attend. I call to order this Public Hearing conducted by the Federal Railroad Administration (FRA) in coordination with the Federal Transit Administration (FTA) and in coordination with the Maryland Department of Transportation and the National Railroad Passenger Corporation (Amtrak) as provided for in accordance to Title 23, Section 771.111(h) of the Code of the Federal Regulations. The FRA will be holding two Public Hearings regarding the Draft Environmental Impact Statement for the B&P Tunnel Project. You are attending the first of two hearings tonight, February 1st, Monday, from 5:00 to 8:00 p.m. In addition to tonight's hearing, a second hearing is scheduled for this
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<td>Saturday, February 6th, from 10:00 a.m. until 1:00 p.m., at this same location, Frederick Douglas High School. The DEIS was released to the public on December 18th, 2015 and will be available for review and comment until 5:00 p.m. on February the 19th, 2016. The DEIS and supporting documents are available on the B&amp;P Tunnel website located at <a href="http://www.bptunnel.com">www.bptunnel.com</a>, as well as public libraries and other locations described later in this hearing.</td>
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<td>The Baltimore and Potomac or B&amp;P Tunnel is a two-track railroad tunnel underneath central Baltimore City. The tunnel opened in 1873 and is located between the West Baltimore MARC Station and Penn Station or the Pennsylvania Station along Amtrak's Northeast Corridor, which I will refer to throughout this period as the NEC. Again, along Amtrak's Northeast Corridor, referred to as NEC. This section of the NEC is used by Amtrak and Maryland's MARC Commuter Rail passenger trains, as well as Norfolk Southern Railway freight trains. The purpose of the Project is address the structural and operational deficiencies of the existing B&amp;P Tunnel and to accommodate future high-performance intercity passenger rail service goals for</td>
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| RESPONSES |
the NEC, including: To reduce travel time through the B&P Tunnel and along the NEC to accommodate existing and projected travel demand for intercity and commuter passenger services; to eliminate impediments to existing and projected operations along the NEC; and to provide operational reliability while accounting for the value of the existing tunnel as an important element of Baltimore's rail infrastructure.

The purpose of the project is derived from the following needs:

The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the tunnel currently remains safe for rail transportation, it requires substantial maintenance and repairs and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands due to the combination of its vertical and horizontal track alignment, for example, its grades and its curves. The low-speed tunnel
creates a bottleneck at a critical point in the Northeast Corridor, affecting operations of the most heavily traveled rail line in the United States.

The existing B&P Tunnel does not provide enough capacity to support existing and projected demands for regional and computer passenger service along the Northeast Corridor.

Additionally, the existing B&P Tunnel is not suited for modern high speed usage due to the current horizontal and vertical track alignments, which limit passenger train speeds through the tunnel to 30 miles per hour.

The existing B&P Tunnel is a valuable resource. The disposition of the existing tunnel needs to be considered in the project.

The DEIS, the Draft Environmental Impact Statement, analyzes impacts of the project on the natural and human environment. The DEIS provides an evaluation of the alternatives that are still under consideration and assesses environmental impacts for these alternatives. I would emphasize for those who are unaware that the DEIS and
supporting technical documents, as well as project displays
are available in a display area. If you travel to the
lobby's registration table, they can direct you to that area
where you can see those displays. There are four
alternatives evaluated in the DEIS: Alternative 1, the
No-Build Alternative; and three Build Alternatives, called
Alternative 3A, Alternative 3B, and Alternative 3C. These
alternatives were retained through a comprehensive screening
process which identified those alternatives that best
address the project needs in consideration of environmental
impacts. I will mention those alternatives again:
Alternative 1, the No-Build Alternative; the Build
Alternatives are Alternative 3A, 3B, and 3C. I mention
again, complete information regarding all of these
alternatives is available in the display area located in the
cafeteria portion of the building, and they are available
for your review tonight.

The purpose of these hearings is to allow the
public an opportunity to provide testimony on the DEIS.
Comments received at the Public Hearing will be considered
in FRA's identification of a Preferred Alternative.
Following the Public Hearing and comment period for the DEIS, FRA, the Federal Railroad Administration, in cooperation with FTA, the Federal Transit Administration, and in coordination with the Maryland Department of Transportation and Amtrak will identify a Preferred Alternative for the project. FRA, the Federal Railroad Administration may identify the Preferred Alternative as Alternative 1, Alternative 3A, Alternative 3B, or Alternative 3C. In consideration of public and agency comments received regarding the alternatives, as well as the environmental impacts of the alternatives, the FRA may refine one or more alternatives prior identifying its preference. FRA's goal is to identify the best alternative in light of the alternative's benefits and ability to meet project needs, while taking into account potential impacts to the environment and public input. FRA, the Federal Railroad Administration will then prepare a Final Environmental Impact Statement referred to as an FEIS, to address comments received on the DEIS and document the basis for the identification of the preferred alternative. Following the FEIS, FRA will issue a Record of Decision,
(ROD), which will formally select the alternative that could 
be advanced to design and construction.

The FRA is committed to insure that no person is 
excluded from participation in, or denied the benefit of its 
transit services on the basis of race, color, or national 
origin as protected by Title VI of the Civil Rights Act of 
1964. I mention again that in the audience with us tonight 
is Miss Michelle Fishburne, representing the Federal 
Railroad Administration, and I believe she is joining me on 
the stage now. You may address any questions to the Project 
Team who are represented in the display area. Again, I 
emphasize, we are hearing testimony only in this room, not 
responding to specific questions; however, again, in the 
display area is a full staff of project team members who can 
answer questions, provide details on the specific 
alternatives, and better possibly position you for your 
testimony tonight. You may address any question, again, to 
the Project Team members. We have also provided maps so you 
may visualize the proposed alternatives.

I will now ask that the American Sign Language 
(ASL) and Spanish Language translators to stand. These
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 2:
The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 3:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)). Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Since the publication of the DEIS, Alternative 3B was selected as the Preferred Alternative. Alternative 3B was advanced through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the selection of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Response to Comment 4:
Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis.
levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation facilities would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\(_2\) concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\(_2\) were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

**Response to Comment 5:**
Amtrak has statutory and contractual obligations to permit the continued operation of freight trains. Currently, Norfolk Southern (NS) operates two trains through the existing B&P Tunnel daily for freight purposes.

NS has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at [https://www.fra.dot.gov/Page/P0444](https://www.fra.dot.gov/Page/P0444). From that text:

> Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.
CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the B&P Tunnel Project.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 6:

While reducing travel time through the B&P Tunnel is one of several goals of the Project, it is not the reason that the project was initiated. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the Project is further defined in Chapter II of this FEIS.
State of Maryland:
County of Baltimore, to wit:

I, Susan Kambouris, a Notary Public of the State of Maryland, County of Baltimore, do hereby certify that the within-named proceedings took place before me at the time and place herein set out.

I further certify that the proceedings were recorded stenographically by me and this transcript is a true record of the proceedings.

I further certify that I am not of counsel to any of the parties, nor in any way interested in the outcome of this action.

As witness my hand this 17th day of February, 2016.

SUSAN A. KAMBOURIS
Notary Public

My Commission Expires:
May 17, 2017
## Comments

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February 17, 2016

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Gore Brothers Reporting & Videoconferencing
410 837 3027 - Worldwide - www.gorebrothers.com
THE HEARING OFFICER: Let the record show that it is now 5:30 p.m., on Wednesday, February 17th, 2016. Good evening, ladies and gentlemen. My name is Anthony Brown, I will serve as today’s Hearing Officer. I am joined -- along side me is Miss Michelle Fishburne from the Federal Railroad Administration. Also present in the hearing audience and more specifically in our display area are Project Tea and staff from the Maryland Transportation, Amtrak, and Maryland Transit Administration. I would like to welcome you to this Public Hearing regarding the Draft Environmental Impact Statement and Section 4(f) Evaluation (DEIS) for the B&P Tunnel Project. Thank you for taking the time to attend.

I call to order this Public Hearing which is being conducted by the Federal Railroad Administration (FRA) in coordination with the Federal Transit Administration (FTA) and in coordination with the Maryland Department of Transportation and the National Railroad Passenger Corporation (Amtrak) as provided for in accordance to Title 23, Section 771.111(h) of the Code of the Federal Regulations. The FRA will be holding or has held two
previous Public Hearings regarding the DEIS on February 1st, and February 6th. The DEIS was released to the public on December 18th, 2015 and will be available for review and comment until 5:00 p.m. on February 26th of this year. The DEIS and supporting documents are available on the B&P Tunnel website, www.bptunnel.com, as well as public libraries and other locations which will be described later in this hearing and also listed on information handouts you might have picked up at our registration table.

The B&P Tunnel is a two-track railroad tunnel underneath central Baltimore City. The tunnel opened in 1873 and is located between the West Baltimore MARC Station and Penn Station or the Pennsylvania Station, along Amtrak's Northeast Corridor. This section of the Northeast Corridor is used by Amtrak and Maryland's MARC Commuter Rail passenger trains, as well as Norfolk Southern Railway freight trains. The purpose of the Project is to address the structural and operational deficiencies of the existing B&P Tunnel and to accommodate future high-performance intercity passenger rail service goals for the Northeast Corridor, including: To reduce travel time through the B&P...
Tunnel and along the Northeast Corridor to accommodate existing and projected travel demand for intercity and commuter passenger services; to eliminate impediments to existing and projected operations along the Northeast Corridor; and to provide operational flexibility while accounting for the value of the existing tunnel as an important element of Baltimore's rail infrastructure.

The purpose of the project is derived from the following needs:

The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the tunnel currently remains safe for rail transportation, it requires substantial maintenance and repairs, and it does not meet current design standards. The tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The tunnel is also functionally obsolete and unable to meet current and future rail demands due to the combination of its vertical and horizontal track alignment, example, its grades and curves. The low-speed tunnel creates a bottleneck at a critical point in the Northeast
Corridor, affecting operations of the most heavily traveled rail line in the United States.

Additionally, the existing B&P Tunnel does not provide enough capacity to support existing and projected demands for regional and commuter passenger service along the Northeast Corridor.

The existing B&P Tunnel is not suited for modern high speed usage due to the current horizontal and vertical track alignments, which limit passenger train speeds through the tunnel to 30 miles per hour.

The existing B&P Tunnel is a valuable resource. The disposition of the existing tunnel needs to be considered in the project.

The DEIS, the Draft Environmental Impact Statement, analyzes impacts of the project on the natural and human environment. It involved the alternatives which are still under consideration and assesses environmental impacts for these alternatives. There are four alternatives being evaluated by the DEIS: Alternative 1, the No-Build Alternative; and, then, there are three Build Alternatives, called Alternative 3A, Alternative 3B, and Alternative 3C.
These alternatives were retained through a comprehensive screening process which identified those alternatives that best address the project needs in consideration of environmental impacts.

These hearings will allow the public an opportunity to provide testimony on the DEIS. Comments received at the Public Hearing will be considered in the FRA’s identification of a Preferred Alternative. Following the Hearing and comment period, which is, again, through February 26th for the DEIS, FRA, in cooperation with the FTA, the Federal Transit Administration, and in coordination with MDOT and Amtrak will identify a Preferred Alternative for the project. FRA may identify the Preferred Alternative as Alternative 1, Alternative 3A, Alternative 3B, or Alternative 3C. In consideration of public and agency comments received regarding the alternatives, as well as the environmental impacts of the alternatives, the FRA may refine one or more alternatives prior to identifying a preference. FRA’s goal is to identify the best alternative in light of the alternative’s benefits and ability to meet project needs, while taking into account potential impacts.
to the environment and public input. FRA will then prepare
a Final Environmental Impact Statement or FEIS to address
comments received on the DEIS and document the basis for the
identification of the preferred alternative. Following the
FEIS, FRA will issue a Record of Decision, which will
formally select the alternative that could be advanced to
design and construction.

The FRA is committed to ensuring that no person is
excluded from participation in, or denied the benefit of its
transit services on the basis of race, color, or national
origin as protected by Title VI of the Civil Rights Act of
1964. You may address any questions to the Project Team in
the display area. We will not respond to questions during
this portion of the public testimony; however, again,
project representatives are available in the cafeteria area
to respond to your questions. They also have maps so you
may visualize the proposed alternatives.

As you have seen by now, we do have interpreters
from American Sign Language, as well as a Spanish translator
who can provide assistance for those who may need them.

Please speak to the American Sign Language individual who is
standing to my right if you need her assistance or the
Spanish translator is also available, seated here to my
right. I will ask her to address the crowd in Spanish
should someone need assistance.

(Whereupon, an announcement was made to the
audience in Spanish.)

THE HEARING OFFICER: Again, these
individuals will be here throughout the meeting. Should you
need their assistance, please move forward and contact them
to my right. There is a handout -- was a handout which
outlined the procedure conducting these hearings. This
format will be followed to permit everyone an opportunity to
be heard. For the record, I will read quickly through these
procedures:

1. Elected and public officials will be heard
first and will receive five minutes to speak.

2. Persons desiring to testify should register at
the entrance to the school tonight and will be called in
order of registration.

3. Any individual may appear and speak for him or
herself, or if duly authorized, for any local civic group,
1. organization, club, or association subject to the rules
2. provided herein. Speakers should give their name and
3. address, and if representing a group, this information
4. should also be given.
5. 4. Speakers are requested to limit their
6. statements to three minutes to be courteous to all of those
7. who wish to speak. Again, elected officials will be allowed
8. five minutes. Additional prepared statements or literature
9. pertaining to the B&P Tunnel Project may be submitted at
10. this hearing or by 5:00 p.m. February 26th, 2016 to the B&P
11. Tunnel Project address for DEIS Comment, 81 West Mosher
12. Street, Baltimore, Maryland 21217. All of these statements
13. will be made part of the official hearing record. I am
14. aware that that address should be on the printed literature
15. you got today.
16. 5. For this hearing, all statements oral or
17. written, should be directed to myself, the Hearing Officer,
18. and should be related to the subject matter of this hearing.
19. All testimony may also be submitted privately to a court
20. stenographer, out the door and to the left. I believe it is
21. Room 314. There is a stenographer there where you can
provide your testimony in private, and, again, out the door
to my left, and that person will be here throughout the
evening.

6. If required, I, the Hearing Officer will
announce any other specific rules governing this hearing.

Persons who registered to speak, as I said, will
be called in the order of registration. You must register
in order to speak. When you approach the mike, I would ask
that you state your name and your address. With your
cooperation, everyone will be heard. Let me summarize the
sixth way your testimony -- six ways your testimony can
become a part of the official record for this project. You
can leave a written comment with us today. There are
comment forms. There are comment boxes. You can give oral
testimony in this hearing. You can give oral testimony in a
private room out the door to my left. You can send written
correspondence to the address I shared earlier. That
address, again, is printed on your handout materials today.
You can send an email to info@bptunnel.com, DEIS Comment as
the subject line, or you can complete an On-line Comment
Form at the website, www.bptunnel.com. For the purposes of
tonight, should you choose to give public testimony, you
would not also be allowed to share private testimony. All
correspondence regarding the B&P Tunnel Project received
through 5:00 p.m. February 26th will be made a part of the
official hearing record. For the record, announcement of
these hearings has been made in the Afro-American, The
The DEIS remains available for public review at the
Baltimore City Department of Transportation Transit Bureau,
the Maryland Department of Transportation, the Maryland
Transit Administration, Bon Secours Community Works, the
John Eager Howard Recreation Center, the Bentonou Recreation
Center, as well as the following Enoch Pratt Free Libraries:
The Central Branch, the Walbrook Branch, the Pennsylvania
Avenue Branch, and the Edmondson Avenue Branch.
The DEIS remains available for public review at
the Baltimore City Department of Transportation Transit
Bureau, Maryland Department of Transportation, Mass Transit
or Maryland Transit Administration, Bon Secours Community
Works, John Eager Howard Recreation Center, Bentonou
Recreation Center, as well as the following Enoch Pratt Free
DEIS Comment 141:

Libraries: The Central Branch, Pennsylvania Avenue Branch, the Walbrook Branch, and the Edmondson Avenue Branch.

The DEIS can also be viewed as I mentioned earlier on-line at www.bptunnel.com and there is a copy of the DEIS available for review in our display area tonight.

With that information shared, I will begin to call the names of the persons who have registered to testify tonight. I will remind you again to limit your statements to three minutes and when you approach the mike, please share your full name and your address. Jon Kenney, representing, I believe, the Chesapeake Climate Action Network. Mr. Kenney?

MR. KENNEY: I am sorry. Thanks. I am

Jon Kenney with Chesapeake Climate Action Network and our address -- do you want us to state the address right now?

THE HEARING OFFICER: Yes, please.

MR. KENNEY: Our address is

Tacoma Park, Maryland. The Chesapeake Climate Action Network is the biggest and oldest grass roots organization dedicated to fighting climate change in Maryland, Virginia, and Washington, D.C. It is a powerful
Response to Comment 1:
Norfolk Southern has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

Response to Comment 2:
The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than a fire or other emergency event on an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.

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The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than a fire or other emergency event on an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.
Response to Comment 3:
The type of locomotive traveling through the tunnel is determined by the train service operator. As per the 2040 projections, of the 388 daily vehicles running through the tunnel, 222 will be electric (Acela, NE Regional, and Metropolitan), and 166 will be diesel (2 freight and 164 MARC). Please refer to Chapter VI for additional information.
**Response to Comment 1:**

The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are in Chapter VI.

Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

**Response to Comment 2:**

As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of
Alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Since the publication of the DEIS, Alternative 3B was selected as the Preferred Alternative. Alternative 3B was advanced through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the selection of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.
DEIS Comment 143:

THE HEARING OFFICER: Thank you, Bill Lee. Again, Mr. Lee, state your name and address.

MR. LEE: My name is Bill Lee. I live at 1352 White Marsh Road in Baltimore. Good evening. I am here to oppose the building of train tunnels beneath my house.

My house is a fine old lady, with a great history and solid bones. I have been talking to her lately about the fact that some people, train people want to build tunnels so they can run trains, diesel freight trains underneath her.

At the last meeting, I testified that she does not like this idea. In fact, she is adamantly opposed. What are they trying to do to me, she asked the other day. An hour ago, I was shaken up by a large truck, followed by two city buses roaring down Rutaw Place. The horses and buggies and even the trolleys are light weight compared to these big dumb machines tearing us up every few minutes.

My house was built in the 1880’s. So, she is well over 100 years old. She is constantly undergoing repair and renovation. It’s the only way old houses can survive. The whole idea of diesel trains rumbling beneath her everyday makes her very nervous. They don’t really care.

Response to Comment 1:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be compensated for the cost of repairs.
Response to Comment 2:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\textsubscript{2} were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Response to Comment 3:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.
DEIS Comment 144:

about me or my friends, she told me. They are planning to
builds that five-story building a block away to spew out
debris, oil, diesel fuel, and lots of other things into the
air around us. We will all get sick on that stuff. I know,
I said, but some people seem concerned. The City Council is
considering a bill that would study the effects of freight
trains running through Baltimore neighborhoods. Study
smuddy, she countered, we don’t need another study. We all
know that old houses like us already have big problems.
Look around. We are having a hard time. Some of my closest
friends on this block are so neglected they can barely
stand. What do these train people want to do, jumble my
guts and dust up my windows? That’s what. They are
destroying this fine old neighborhood. I don’t know what to
do. If I could, I would go to that hearing and give them
all a piece of my historic mind. Okay, okay, I will go to
the hearing and tell them what you think, I told her, and,
so, I have. Thank you.

THE HEARING OFFICER: Thank you, sir.

Peter Halstad? Peter Halstad?

MR. HALSTAD: My name is the Peter
Response to Comment 1:

Norfolk Southern has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

The number of variables involved makes it virtually impossible to accurately forecast freight usage through the tunnel. Therefore, due to low probability of new freight customers and the high cost of interconnecting freight lines with the NEC, Amtrak anticipates that the number of freight trains using the new tunnel will remain unchanged for the foreseeable future.

The tunnel will be equipped with Automatic Train Control (ATC) and Positive Train Control (PTC) systems, which use computer systems to control the speed of both passenger and freight trains within the tunnel.

Response to Comment 2:

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and
individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO$_2$ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO$_2$ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Response to Comment 3:
The Project Team has engaged the community in extensive public outreach throughout the development of the project including three Public Open Houses, as well as 10 community meetings where the public was given the opportunity to learn about the project development in-person and directly ask questions and engage in discussion with the Project Team. In addition to these meetings, Mitigation Working Groups comprising community organization representatives and members of the Project Team were established to determine the most effective mitigation for the Project. Details of this outreach are described in Chapter VI as well as Chapter VIII.

Response to Comment 4:
Amtrak design practices require new NEC infrastructure meet current standards, including Plate H (double stack) clearances. However, the new tunnel could not be used by double stack freight trains unless certain factors are met. These factors include:

- Substantial improvements, such as extensive additional vertical clearance improvements north and south of the B&P Tunnel to other NEC infrastructure; these improvements are not being designed as part of the B&P Project;
- Federal, state, local and regional support for aforementioned improvements including funding and policy;
- Increasing the bridge and catenary clearance on the NEC where double stack/high dimension trains are to travel;
- Construction of new or modified Union tunnel to Plate H/K (double stack) clearances; without a high dimension Union tunnel, double stack freight service using the B&P Tunnel is not possible;
- NS currently favors the Harrisburg-Perryville route for intermodal service;
- Freight schedules limited to off peak/night time periods which affects the scheduling flexibility and transit time for high priority (Intermodal) shipments for which time is absolutely critical; and
- Construction of track connection/s between the CSX and the NEC if CSX chooses to use the NEC.
In the short-term, there is no indication of any significant increase in freight movements through the B&P Tunnel.

CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the B&P Tunnel Project.

Amtrak’s first priority is to its passenger services. Therefore, although Amtrak must accommodate requests from NS or other freight operators with trackage rights agreements for additional train moves on the NEC, Amtrak need only schedule such moves as space between passenger trains can be made available. Where the freight operator and Amtrak have a dispute about scheduling of freight moves, the Surface Transportation Board (STB) adjudicates trackage rights agreements.

Response to Comment 5:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using analysis procedures from the FTA Transit Noise and Vibration Impact Assessment. Construction vibration levels were also evaluated using both FTA guidelines and standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.
Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Response to Comment 6:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.
DEIS Comment 145:

THE HEARING OFFICER: Mr. Halstad, I would ask that you conclude your comments.

MR. HALSTAD: Thank you for your time.

THE HEARING OFFICER: Okay. Thank you.

Written comments can be left at the registration table, or placed in the comment box, and they do become part of the official record. Field Blackett.

FIELD BLAUBELT: Close enough. My name is Field Blaubelt, and I live at Reservoir Hill. I lived here in the 1970's, and since then, I have lived in New York, Dallas, Los Angeles, Washington, D.C., London, and Berlin. I have returned to live within the gracious architecture, diverse population of this historic Baltimore neighborhood, and I have the perspective to say that even with its challenges, this is a very special and a very fragile place. I object to the proposed plan. I sincerely believe that it would do serious, irreparable
Response to Comment 1:  
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

The Preferred Alternative would displace 22 residential buildings in the Midtown-Edmondson neighborhood, Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings. Executive Order 12898 requires federal agencies to ensure effective, meaningful involvement of low-income and minority populations in project planning and development, and potentially affected EJ populations have fair and equal access to information. The Project Team has engaged in extensive public outreach throughout the development of the Project, including three public open houses and ten community meetings. In addition to these meetings, Mitigation Working Groups comprised of community organization representatives and members of the Project Team were established to determine the most effective mitigation for the Project. Details of this outreach are described in Chapter VI and Chapter VIII.

Response to Comment 2:  
Alternative 3A is estimated to have 254 Moderate noise impacts, Alternative 3B is estimated to have 141 Severe and 296 Moderate noise impacts, and Alternative 3C is estimated to have 111 Severe and 979 Moderate noise impacts. The severe impacts were predicted at residential areas nearest the railroad between the West Baltimore station and the south portal. The duration of the construction period will be six years; 2020 to 2025. Measures will be implemented to lessen noise during construction, which could potentially include erection of temporary walls or earth berms between the noise source and the sensitive receptor, the identification of haul routes that avoid sensitive receptors to the maximum extent possible, and location of stationary noise generating equipment at a distance from sensitive receptors. In addition, construction activities can be planned to avoid prolonged noise generating activities and to minimize construction activities during the most sensitive time of day or night. Chapter VI of this FEIS further details noise construction mitigation.
Response to Comment 3:
A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Response to Comment 4:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
DEIS Comment 146:

The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
Regarding vibration, a general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities. Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.
Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

Alternative 3A is estimated to have 254 Moderate noise impacts, Alternative 3B is estimated to have 141 Severe and 296 Moderate noise impacts, and Alternative 3C is estimated to have 111 Severe and 979 Moderate noise impacts. The severe impacts were predicted at residential areas nearest the railroad between the West Baltimore station and the south portal. The duration of the construction period will be six years; 2020 to 2025. Measures will be implemented to lessen noise during construction, which could potentially include erection of temporary walls or earth berms between the noise source and the sensitive receptor, the identification of haul routes that avoid sensitive receptors to the maximum extent possible, and location of stationary noise generating equipment at a distance from sensitive receptors. In addition, construction activities can be planned to avoid prolonged noise generating activities and to minimize construction activities during the most sensitive time of day or night. Chapter VI of this FEIS further details noise construction mitigation.

Regarding home values, the economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Regarding diesel emissions, when NO2 levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO2.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO2 emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm
to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI.

Trains are among the safest form of transportation available on an accident per passenger-mile basis. In the unlikely event of an accident, local responders receive training for a variety of incidents related to specific facilities, including the B&P Tunnel. The tunnel would be constructed to meet current standards for fire protection. Additionally, the Project sponsor will develop and implement a Hazardous Spill Prevention Plan and a Hazardous Materials Remediation Plan, as well as an Emergency Management Plan to be implemented in the event of a tunnel emergency.

Response to Comment 3:
Norfolk Southern has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:

Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.
DEIS Comment 147:

scheduled to begin renovation this year. There is the Whiteslock Community Farm. There are plenty of active neighborhood organizations and wonderful people in this neighborhood.

Building train tunnels under our neighborhood could set Reservoir Hill back severely. The trains carrying hazardous materials decrease the quality of living for residents. A train fire or explosion could destroy lives and homes. I propose the tunnels to be located in a more industrial part of Baltimore. Consider if it were your home. Consider if it were your children in these neighborhoods and schools. Would you support the proposed B&P Tunnels? I think we all know the answer to that.

THE HEARING OFFICER: Thank you. Let me ask again if Mr. Ben Gilardi is in the room or Mr. Gerry Delisle? Let me call on Mark West.

MR. WEST: I am dividing this with Soledad Salame and she is having somebody else read it so I get time out. This is actually two of our testimony. Projected estimates are that by 2040 the B&P Tunnels will have 338 trains passing through every 24 hours.
Response to Comment 1:
Regarding diesel emissions, when NO\textsubscript{2} levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO\textsubscript{2}.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO\textsubscript{2} emissions from the Project. AERMOD is the US Environmental Protection Agency's preferred and recommended air dispersion model. For the AERMOD analysis, a "worst case" scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Air dispersion modeling results are found in Chapter VI.

The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\textsubscript{2} were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Response to Comment 2:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 3:
The type of locomotive traveling through the tunnel is determined by the train service operator. As per the 2040 projections, of the 388 daily vehicles running through the Tunnel, 222 will be electric (Acela, NE Regional, and Metropolitan), and 166 will be diesel (2 freight and 164 MARC). Please refer to Chapter VI for additional information.

Response to Comment 4:
Analysis of ventilation facility emissions included an air dispersion modeling analysis, which followed the latest US Environmental Protection Agency modeling guidelines for predicting air quality effects for regulated pollutants. The results of the analysis were compared to the stringent 1-hour NO\textsubscript{2} National Ambient Air Quality Standards (NAAQS) of 100 parts per billion (ppb) as opposed to the annual standard of 53 ppb. Emission studies have demonstrated that if NO\textsubscript{2} concentrations are maintained within acceptable levels, then other pollutant concentrations associated with diesel exhaust emissions will also be within acceptable limits. The maximum predicted 1-hour NO\textsubscript{2} concentration from the three ventilation facilities as well as north and south portals was 12.8 ppb. When added to the NO\textsubscript{2} background concentration of 51 ppb, the total predicted 1-hour concentration amounted to 63.8 ppb, which is below the NAAQS of 100 ppb. The maximum predicted 1-hour NO\textsubscript{2} concentration of the Intermediate Ventilation Facility is 2.9 ppb and when combined with NO\textsubscript{2} background concentration of 51 ppb the total NO\textsubscript{2} concentration would be 53.9 ppb, below the NAAQS threshold limits of 100 ppb.

Response to Comment 5:
The Project meets air quality standards; therefore, public alerts regarding emissions will not be required.

Please refer to Chapter VI for issues pertaining to public health.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Children’s Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NO\textsubscript{x}, VOC, and PM\textsubscript{2.5} between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA. No sole source aquifers, active water supply reservoirs,
or wells are located near the Project. The Project will have no impact to potable water. Under the Preferred Alternative, 112 sites of concern were identified within 1 mile of the alignment; once type and extent of contamination and details of construction are known, potential risk and exposure can be assessed and appropriate documentation in place.

The Project would design and implement vertically-oriented fans at ventilation facilities to facilitate dispersion and avoid violation of air quality regulations. For information regarding mitigation measures, please see Chapter VII.

To prevent accidents and fires, FRA requires a range of measures that minimize the risk to the public, including emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. The build alternatives would be designed and constructed in compliance with all current standards relative to Fire Life and Safety, which includes compliance with the National Fire Protection Association (NFPA).

The ventilation facilities would be an essential Life/Safety component of the build alternatives, beyond their function of providing emergency access/egress for the tunnels. The ventilation facilities would include an above-ground structure housing fans and ancillary equipment, operations and control equipment, fire protection equipment, and silencers and dampers. In the unlikely event of a fire, smoke could emerge from the vents, as is the case with any structural fire. The ventilation facilities and fans are built so that smoke emerging from the Tunnel would be projected up and away from the community. In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

The tunnel would be constructed to meet current standards for fire protection. Emergency access/egress for pedestrians would be accomplished via emergency exits no farther than 2,500 feet apart or cross-passages between tunnels every 800 feet or less, or in some situations, a combination of both. For the Preferred Alternative, three locations would be provided for emergency egress to the surface, working with cross-passages in the tunnels. The emergency egress to ground level would be provided at the south portal Ventilation Facility, via the Intermediate Ventilation Facility, and at the north portal Ventilation Facility. Additionally, the Project sponsor will develop and implement a Hazardous Spill Prevention Plan, a Hazardous Materials Remediation Plan, and an Emergency Management Plan.

Please refer to responses to DEIS Comment 85 for responses to the RATT questions.
Response to Comment 1:
Local, state, and federal fire and rescue officials are prepared to respond to situations such as the ones you’ve described. The B&P Tunnel would not create conditions that do not already exist elsewhere in the City and State.

The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.

In terms of structural integrity, all of the proposed Project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards. The Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal safety.
Response to Comment 2:
In the very rare event of a tunnel fire, the path from a tunnel fire to the exhaust louvers is long and circuitous, with many bends that reduce the ability of particles to travel through the fans and louvers.

In the event of an emergency, local first responders will alert the community. Evacuation routes, if needed, would be established following an event. Evacuation routes cannot be established prior to knowledge of the location of the event.

The Project meets air quality standards; therefore, public alerts regarding emissions will not be required.

Response to Comment 3:
For the past several years, only one local freight train (Norfolk Southern) has been operating through the B&P Tunnel daily, serving customers south of the B&P Tunnel between Baltimore and Washington, DC. Currently, cargos to/from specific railroad customers of the freight trains that pass through the B&P Tunnel include vegetable oil, plastic pellets, paper, lumber, and produce. However, there are no regulations or restrictions which would preclude other forms of freight cargo on these trains, providing the material is moved in accordance with federal transportation rules.

The build alternatives could increase throughput capacity for freight traffic through the Study Area. CSX freight lines do not currently connect with the NEC in a manner that would allow CSX trains to travel through the tunnel without construction of additional connections as part of a separate project from the Project. While no specific increase in freight traffic are planned or proposed with the Project, increased capacity and operational flexibility on the NEC could allow more freight trains through the Study Area without impeding their passenger operations. At present, there are no indications from the freight railroads that existing freight traffic levels through the B&P Tunnel are to change in the near future. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces on rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.

The Project was initiated because the B&P Tunnel is more than 140 years old and is approaching the end of its useful life with regard to its physical condition. While the existing Tunnel remains safe for rail transportation, it requires substantial maintenance and repairs, and does not meet current design standards. The Tunnel is considered to be structurally deficient due to its age, the original design, and wear and tear. The Tunnel is
also functionally obsolete and unable to meet current and future rail demands. The Purpose and Need of the B&P Tunnel Project is further defined in Chapter II of this FEIS.

The Project Team has conducted extensive research with special interest groups such as the Chesapeake Bay Foundation. Any comments received from conservation groups during the DEIS review time period are included in this FEIS.

**Response to Comment 4:**
Representatives from the Maryland Department of Transportation (MDOT) and the Federal Railroad Administration were present at various meetings on 10/15/2014, 05/20/2015, 06/17/2015, 04/20/2016, and 06/17/2015, respectively. MDOT tracks the movement of freight within the State and works with the local jurisdictions to ensure that plans are in place in the event of an accident.

**Response to Comment 5:**
The Northeast Corridor (NEC) faces serious challenges to meet current and projected travel demand. Responding to these pressing issues, the FRA initiated the NEC FUTURE Environmental Impact Statement as a comprehensive planning process for future investment in the corridor. The NEC FUTURE identified the B&P Tunnel as one of the segments along the NEC that faces capacity constraints and reliability challenges due to multiple chokepoints and state-of-good-repair needs.

Consistent with NEC long-range planning needs identified in the NEC FUTURE Program, the Project proposes a total of four tracks through Baltimore. The increased number of tracks will eliminate a chokepoint and expand capacity to accommodate future high-frequency, high-speed passenger train service anticipated on the NEC by 2040. Four tracks provide the resiliency/redundancy needed to maintain rail traffic between the West Baltimore MARC Station and Baltimore Penn Station and NEC connectivity in the event of interruptions to service on any of the tracks. Four tracks also provide the ability for conflict-free operation and separation of traffic types (intercity vs. commuter) which further improves operations, reduces travel time, and accommodates over-takes of slower trains by faster trains.

**Response to Comment 6:**
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2:
Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Since the publication of the DEIS, Alternative 3B was selected as the Preferred Alternative. Alternative 3B was advanced through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the selection of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

The Environmental Justice (EJ) analysis in Chapter VI of this FEIS describes the methodology for determining disproportionate impact to minority or economically disadvantaged communities. EJ populations would experience impacts as a result of the Project, including property acquisition; impacts to housing, land use/zoning, and community facilities; changes in visual quality, and noise impacts as described in Chapter VI. The Project Team has engaged extensively with the community throughout the development of the Project, detailed in Chapter VIII. Mitigation efforts are ongoing with community members and organizations and are documented in this FEIS.

Response to Comment 7:
As described above, currently, cargos to/from specific railroad customers of the freight trains that pass through the B&P Tunnel include vegetable oil, plastic pellets, paper, lumber, and produce. However, there are no regulations or restrictions which would preclude other forms of freight cargo on these trains, providing the material is moved in accordance with federal transportation rules. Railroad freight traffic is subject to numerous variables, including government regulation, as well as market forces on rail transported materials such as coal, which represents 20-25 percent of total railroad car loads, crude oil/crude industrials sands and ethanol. As an example of this variability, the Department of Energy reported that for the first five months of 2016, crude oil by rail transportation decreased 45 percent compared to the same period in 2015. The combination of these variables makes it virtually impossible to accurately forecast freight usage through the tunnel. Variability of freight traffic is further described in Chapter V.
All of the proposed Project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards. The Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal safety. These things will reduce the possibility of accidents in the new B&P Tunnel, and will also ensure the best possible protection in the unlikely event of an incident.

Response to Comment 8:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Please refer to responses to DEIS Comment 85 for responses to the RATT questions.
Final Environmental Impact Statement and Section 4(f) Evaluation

COMMENTS

DEIS Comment 149:

1. buses pass by and we all have cracks from the vibration. We think that we will experience irreversible deterioration from construction and vibrations, especially the four tunnels are handling hundreds of trains a day. Thank you for your time and addressing our consideration.

THE HEARING OFFICER: Thank you so much.

Again, I mention that all written comments can be left at our registration table and will become a part of the official hearing record. Miss Pamela Patterson?

MS. PATTERSON: Good evening. My name is Pamela Patterson, a resident of Reservoir Hill and I am also the neighbor -- the potential neighbor to the vent that is going to be built. I am here to talk about and testify that I am against the BP Tunnel for the reasons I am also a chronic asthmatic. So, probably in the next year or so, I will die from this excursion or possible activity you guys are getting ready to put together.

I also have a concern with the children in our community and the whole community of 21217, including this school, which will be affected because of the air quality.

RESPONSES

Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
The Project Team has assessed the existing air quality conditions of the Project Study Area. Any changes to air quality would be in accordance with the Clean Air Act and other applicable air quality regulations. The project team has compared emissions from diesel train traffic through the Study Area with and without a new tunnel. With additional trains made possible by the new tunnel, the emissions levels of VOC, NOx, and PM2.5 will change, but would be below the de minimis levels that were set to safeguard public health. The proposed project would not result in adverse impacts to air quality due to operational emissions.

Response to Comment 3:
Children’s Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA. No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water. Under the Preferred Alternative, 112 sites of concern were identified within 1 mile of the alignment; once type and extent of contamination and details of construction are known, potential risk and exposure can be assessed and appropriate documentation in place.
Response to Comment 4:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.

The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health, among others, as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.

No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

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A lot of children in this community also suffer with asthma. Baltimore City, as it was stated, has a large asthmatic population especially with the children, also.

As a concerned citizen, I noticed downstairs you all had examples. You all compared Brooklyn, New York and Manhattan Island to this project, which is really unfair because New York is an old city, and Manhattan is an island, and Baltimore City is not. It does really seem wishy washy with some of these comparisons. It doesn’t feel right. I don’t have a written statement, but I am talking and representing us citizens. I am a New Yorker and I know what wishy washy looks like, and it doesn’t feel like this project and this type of community -- this is not -- this is a very small community not surrounded by high traffic. So, with the potential to put a high traffic train, and vent, and pollute it, there is something else going on. So, I am here to please ask you to reconsider not stopping the project, stopping it in this type of community, the 21217 community to destroy the population of all children that it will take over. So, please consider putting it somewhere else a little safer. Thank you very much for your time.
Response to Comment 1:
The Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS.

Response to Comment 2:
As part of the mitigation efforts, the Project sponsor would provide coordination with local job training organizations to 1) facilitate targeted job training by providing estimates of the type, number, and timing of jobs expected to be created by project contractors, 2) include in construction contracts goals for nationally targeted workers of social and economic disadvantage, and 3) require project contractors to report on a regular basis their progress in meeting contract goals. The Project sponsor will provide public reporting on job creation. These efforts are ongoing and are documented in this FEIS as described in Chapter VI.

Response to Comment 3:
All of the proposed Project infrastructure will be designed, constructed, and maintained using proven modern design and safety standards. The Project will be designed in accordance with applicable regulations, oversight agency guidance, and knowledge of safety standards to ensure optimal safety.

The housing market in Reservoir Hill is subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.
Response to Comment 4:
The Project Team has assessed the existing air quality conditions of the Project Study Area. Any changes to air quality would be in accordance with the Clean Air Act and other applicable air quality regulations. The project team has compared emissions from diesel train traffic through the Study Area with and without a new tunnel. With additional trains made possible by the new tunnel, the emissions levels of VOC, NO\textsubscript{x}, and PM\textsubscript{2.5} will change, but would be below the de-minimis levels that were set to safeguard public health. The proposed project would not result in adverse impacts to air quality due to operational emissions.

Alternative 3A is estimated to have 254 Moderate noise impacts, Alternative 3B is estimated to have 141 Severe and 296 Moderate noise impacts, and Alternative 3C is estimated to have 111 Severe and 979 Moderate noise impacts. The severe impacts were predicted at residential areas nearest the railroad between the West Baltimore station and the south portal. The duration of the construction period will be six years; 2020 to 2025. Measures will be implemented to lessen noise during construction, which could potentially include erection of temporary walls or earth berms between the noise source and the sensitive receptor, the identification of haul routes that avoid sensitive receptors to the maximum extent possible, and location of stationary noise generating equipment at a distance from sensitive receptors. In addition, construction activities can be planned to avoid prolonged noise generating activities and to minimize construction activities during the most sensitive time of day or night. Chapter VI of this FEIS further details noise construction mitigation.

A general vibration assessment was conducted to assess the potential for impacts at sensitive receptors within the Study Area. Operational impacts were evaluated using FTA Transit Noise and Vibration Impact Assessment and construction vibration levels were also evaluated using both FTA guidelines as well as standard industry practices for evaluating vibration due to tunnel boring and other tunnel excavation activities.

Operational levels under the build alternatives due to ground-borne vibration from train passbys are not predicted to exceed the FTA ‘frequent’ impact criteria at any residences (FTA Category 2 land-uses) or institutional receptors (FTA Category 3 land-uses). However, under the Preferred Alternative, impacts due to ground-borne noise from Acela train passbys are predicted at 444 residences and 5 institutional receptors. No FTA Category 1 land-uses (highly-sensitive equipment) were identified along the Project corridor.

Heavy machinery is the major source of vibration during construction. Heavy machinery could include tunnel boring machines (TBM), earth-moving equipment, and heavy-duty impulsive equipment. The TBM induced ground-borne vibrations are frequently discussed as Peak Particle Velocity (PPV) at a given location. PPVs generally use units of inches per second (ips) as a unit of measurement. TBM vibrations during construction would generally be between 0.04 and 0.2 ips, and thus are not likely to damage buildings near or above the proposed tunnels. The TBM would advance around 30 feet per day, meaning the vibration...
source would likely only be felt for a short duration before the vibration source moves away from a given location. This means that someone may sense the TBM vibrations for a day or two when tunneling is continuous. One could describe the perceived vibrations by common activities such as traffic or construction equipment. The range of PPVs estimated here would be comparable to the vibration (but not the noise) of a truck traveling 20 to 30 feet away from an observer.

Another major source of vibration during construction is Drill and Blast tunnel excavation. This technique produces two types of disturbing vibrations, ground-borne vibrations and air vibrations, which are described in Chapter VI. Drill and Blast excavation would take place at the north and south portals, cross passages, sump pump stations, the North Ventilation Facility, the Intermediate Ventilation Facility, the Intermediate Ventilation Facility cavern, plenum tunnel and shaft, and the egress cavern and tunnel. The portals could be configured to contain or block the overpressures so as not to disturb the surrounding portal areas, and ground-borne blasting vibrations are generally less than 2 inches/second, which is a generally accepted building damage threshold.

All construction activities would need to comply with the FTA limits and guidelines to minimize vibration in the community. Details of vibration impacts and minimization are discussed in Chapter VI.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include: sites where vibration or ground-borne noise impacts are predicted or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities, rather than other factors (such as normal deterioration due to old age) the property owner would be compensated for the cost of repairs.

The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. As the Project is advanced to the design phase and if funding is available, the Project Team would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include
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<th>COMMENTS</th>
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<td>construction contract goals for workers of social and economic disadvantage. The Project will also provide relocation benefits to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.</td>
<td>Response to Comment 5: The Project has been planned mostly underground in order to avoid greater impacts to the community.</td>
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DEIS Comment 151:

1. that the property values will decrease because no one will
2. want to live on top of a tunnel, not to mention the exposure
3. to toxic fumes, noise, vibration, damage to our historic
4. properties. Relocating a few homes or businesses is not
5. acceptable at any cost. Highways are built to bypass
6. business districts and cities. Why can't a tunnel be built
7. to bypass a vital residential area. Reservoir Hill is
8. growing and plays a vital part in people returning to the
9. city. The neighborhood is stable, diverse, and there is
10. room for growth. The heart of Baltimore is within a five
11. minute ride down the Jones Falls Expressway. The B&P Tunnel
12. will be a devastating blow to those of us who work so hard
13. in building a great quality of life. Thank you.

THE HEARING OFFICER: Mr. Ross Moss.

MR. MOSS: Good evening. I can see the
14. clock good now. So, I am going to tell my statement so I
15. can make sure I come in under the watch. My name is Ross
16. Moss. I live at and I am not going to
17. repeat a lot of the very true comments that have already
18. been made. I am going to use my two minutes and 45 seconds
19. that are left to remind the panel here and, for the record,
Response to Comment 1:
The existing B&P Tunnel tracks are in Bolton Hill. Options as to where the new B&P Tunnel should reside are limited. Due to the geography and the shallowness of the area beneath Bolton Hill, this area was not a feasible option for the proposed Tunnel, whereas the area underneath Reservoir Hill is deeper and more practicable.

Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the Executive Order on environmental justice is public outreach. The Project Team has conducted extensive engagement with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three Public Open Houses, as well as ten community meetings, have been held where the public was given the opportunity to learn about the Project development in-person, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter’s Clavier Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School.

Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and fliers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations.

The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77

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Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.

Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations. For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.
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<td>DEIS Comment 152:</td>
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<td>of different nationalities, because Reservoir Hill is one of the few mixed communities in Baltimore City. African Americans, Italian Americans, or the Asian Americans, all of us who live there, we are going to fight like hell because it is fundamentally unfair, and it's an elephant in the living room that someone needs to cull out. So, I am just going to take this other 32 seconds and remind people that it was unfair in the last century, it is unfair in this one, and, for once, we are going to use the digital technology of our big mouths and we are going to use the media, we are going to use everything we have got. If you all think it was a lot much stuff happening in Paris, we are going to make this known around the world. I will leave it on that point.</td>
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<td>THE HEARING OFFICER: Let me announce these two names again: Ben Gilardi or Gerry Deliste? Again, state your name and your address when you come to the mike, please.</td>
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<td>MR. ST. JEAN: My name is Warrick St. Jean and my address is in Baltimore. I have been living in Reservoir Hill for a little over a</td>
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Response to Comment 1:
Since publication of the DEIS, Alternative 3B was advanced and modified through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. The FEIS identifies Alternative 3B as the Preferred Alternative. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the identification of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

Response to Comment 2:
No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water.

Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation facilities would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses including even those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.
Response to Comment 3:
The Project has been planned mostly underground in order to avoid greater impacts to the community. Fire in a tunnel is much less damaging to a community than a fire or other emergency event on an above-ground track running through the neighborhood. The new B&P Tunnel will be designed to be better equipped and prepared than the current B&P Tunnel.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.

Response to Comment 4:
Regarding diesel emissions, when NO\textsubscript{2} levels are below applicable standards, other pollutants of concern are also within the appropriate range. As a result, when the Project Team analyzed predicted emissions from Ventilation Facilities, it focused on evaluating NO\textsubscript{2}.

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) was used to evaluate the potential 1-hour NO\textsubscript{2} emissions from the Project. AERMOD is the US Environmental Protection Agency’s preferred and recommended air dispersion model. For the AERMOD analysis, a “worst case” scenario was analyzed assuming an average of ten diesel trains per hour operating between the hours of 6:00 am to 7:00 pm (peak hours of operation). No diesel operations were assumed from 10:00 pm to 3:00 am and partial operations (i.e., five diesel trains per hour) were assumed for the remaining time. Air emissions from the diesel train operations were assumed to exit through the north and south portals and from all three ventilation facilities. The emissions associated with the proposed portals and ventilation facilities would not result in adverse impacts to air quality. The maximum 1-hour NO\textsubscript{2} concentrations were predicted to be below the National Ambient Air Quality Standards threshold levels that were set to safeguard public health. Air dispersion modeling results are found in Chapter VI.
DEIS Comment 153:

That's it.

THE HEARING OFFICER: Thank you. Again, persons who would like to testify for the hearing should register at our registration table on the level below us. We will be here until 8:00 o'clock tonight. You can register up until 7:55 and the display area is open until 8:00 o'clock, so those displays, if you want to go look at those. If you are interested in registering, sign up, and we will hear your testimony here. Thank you.

(Recess taken -- 6:17 p.m.)

(After recess -- 6:21 p.m.)

THE HEARING OFFICER: I will remind all persons who are testifying you should state your name, and address, and association with the organization, and remind you that you have three minutes to testify, and we welcome the St. Francis neighborhood.

MS. CHILDRESS: We are at My name is Jessica Childress. I am here representing St. Francis Neighborhood Center. I am here with Tara Thompson, Jenna Gray, Emanuel Leach, and Darnell Timons. These are students in our upper school program. St. Francis
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 2:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO$_2$ concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO$_2$ were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NO$_x$, VOC, and PM$_{2.5}$ between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation facilities would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.

Response to Comment 3:
Norfolk Southern has a Common Carrier Obligation, which prohibits it from refusing reasonable requests for their service, including transportation of hazardous materials. Hazardous/flammable materials can be transported along the Northeast Corridor and through the B&P Tunnel subject to the US Department of Transportation (USDOT) regulations governing the proper labeling/placarding and transportation of such regulated materials or wastes. The rules are explained at https://www.fra.dot.gov/Page/P0444. From that text:
Under authority delegated to FRA by the Secretary of Transportation, the Hazardous Materials Division administers a safety program that oversees the movement of hazardous materials (including dangerous goods), such as petroleum, chemical, and nuclear products, throughout the Nation’s rail transportation system, including shipments transported to and from international organizations. The Division also has authority to oversee the movement of a package marked to indicate compliance with a Federal or international hazardous materials standard, even if such a package does not contain a hazardous material.

FRA requires a range of measures that minimize the risk to the public, including container labeling, container durability standards, emergency response information and safety and security plans. Local first responders receive training in hazardous materials incidents for specific facilities, including the B&P Tunnel. Build alternatives would be constructed to meet current standards for fire protection.
DEIS Comment 154:

Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 2:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Response to Comment 3:
No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water.

Response to Comment 4:
Chapter VI of this FEIS specifically reviewed Air Quality, Water, Soil, and Hazardous Material impacts on Children’s Health. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation facilities would cause, or substantially contribute to a violation of NAAQS, established by the USEPA.
DEIS Comment 155:

Response to Comment 1:
The report provided, *A Proposal to Unravel Baltimore’s Tangled Rail Lines*, argues for a comprehensive system approach to rail planning in Baltimore and the mid-Atlantic region. It describes a list of projects and the order in which they should be completed. The report takes into consideration local, state, and regional transportation routes, and recommends new construction at a number of locations in order to relieve congestion and create opportunities for expanding rail service in the future.

While recommendations in the report focus on resolving issues at a regional level, they would not address or resolve the specific needs of the B&P Tunnel; therefore, the improvements suggested in the report would be beyond the purview of the Project. The existing B&P Tunnel is more than 140 years old and is approaching the end of its useful life. It is considered to be structurally deficient due to its age, the original design, and wear and tear. The Tunnel is also functionally obsolete and unable to meet current and future rail demands. For additional information regarding the purpose and need of the Project, please see Chapter II of this FEIS.

To review the September 2015 report in its entirety, please refer to DEIS Comment #11.
cover sheet of an Alternative Proposal that the members of
the CAC, the CACAT, and another transportation committee
that we work with put together for you guys to look at. It
explains why we are opposed and an alternative that we think
might work.

THE HEARING OFFICER: Okay.

MS. HANDLER: Because it would be too
much for me to read this whole thing. I am only given three
minutes.

THE HEARING OFFICER: Thank you so much.

Written comments can be left at the registration table.
They do become a part of the official record. We will
accept comments until the 26th, at 5:00 p.m. You can mail
those comments to the address that has been provided or go
on the web site and provide a comment on-line. We will be
hearing testimony until 8:00 p.m. tonight if you want to
testify, you should register at the registration table on
the level right below you, and the display area remains open
if you want to go there and ask the project team questions.
Thank you.

(Whereupon, there was a brief recess.)
Response to Comment 1:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 2:
The emissions associated with the proposed ventilation facilities and the air exiting the portals would not result in adverse impacts to air quality. The maximum 1-hour NO\(_2\) concentrations were predicted to be below the National Ambient Air Quality Standards (NAAQS) threshold, set to safeguard public health. Because the concentrations of NO\(_2\) were within acceptable levels, all other criteria pollutant concentrations would be within acceptable levels of the NAAQS. Chapter VI provides details of the air quality analysis, including ventilation facility air dispersion modeling.

Response to Comment 3:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Children’s Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NO\(_x\), VOC, and PM\(_{2.5}\) between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA. No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water. Under the Preferred Alternative, 112 sites of concern were identified within 1 mile of the alignment; once type and extent of contamination and details of construction are known, potential risk and exposure can be assessed and appropriate documentation in place.
Response to Comment 1:
Potential environmental impacts to the Study Area communities as a result of the Project are documented in Chapter VI of the FEIS. For all build alternatives, the majority of the Project would be constructed underground, and north portal construction (including north ventilation facilities) would take place within existing transportation land uses. Impacts would primarily occur due to the construction of the south portal and the Intermediate Ventilation Facility.

For Alternative 3A, community impact would occur due to the estimated displacement of nine businesses. For the Preferred Alternative, community impacts would be due to the estimated displacement of 22 residential buildings, 13 businesses, and four places of worship. For Alternative 3C, community impacts would be due to the estimated displacement of 12 residential buildings, 16 businesses, and 1 fire station. The Project Team is working with community groups and community members to determine the most effective mitigation measures. These efforts are ongoing and are found in Chapter VII.
Response to Comment 2:
Under Executive Order (12898), federal agencies are required to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The Department of Transportation’s environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

The B&P Project Team has performed an Environmental Justice (EJ) analysis consistent with EO 12898 and subsequent USDOT Orders. A critical component of the Executive Order on environmental justice is public outreach. The Project Team has conducted extensive engagement with the community throughout the development of the Project, as detailed in Chapter VIII. Meetings were held with local officials; public, local, and regional organizations; government agencies; and representatives of affected EJ communities along the evaluated alternative alignment. Three Public Open Houses, as well as ten community meetings, have been held where the public was given the opportunity to learn about the Project development in-person, ask questions, and engage in discussions with the Project Team. The Project Team also attended several local community association meetings with environmental justice populations to present information on the Project and respond to questions in smaller, neighborhood-focused settings. Additionally, the Project Team attended meetings at the request of the following organizations: Residents Against the Tunnel (RATT) on May 24, 2016 at the Beth AM Synagogue; No Boundaries Coalition on June 14, 2016 at St. Peter’s Clavier Church; and Baltimore City Public Schools on June 16, 2016 at John Eager Howard Elementary School.

Direct mailings to residents in the Study Area included property owners within one-quarter mile of the build alternatives, as well as additional properties within the south portal area that could potentially be impacted by the Project. The Project website continues to post meeting notices, Project information, and avenues to comment. Publications including print advertisements, newsletters, and fliers have been distributed at transit hub locations, educational facilities, libraries, senior homes, shopping centers, laundromats, places of worship, and other organizations.

The Project Team studied community composition in the areas affected by the build alternatives. It reviewed data from the American Community Survey 2009-2013 for minority and low-income populations, the National Center for Educational Statistics, government-assisted housing programs, historical references, city officials, field visits, and community meetings. From this information, the Project Team learned that of the 77 Census Block Groups in the Study Area, 72 contain minority race and/or ethnicity populations of 50 percent or more. Thirty-six Census Block Groups contain 32 percent or higher low-income households. More information can be found in Chapter V of this FEIS.

Because the build alternatives are located almost entirely within EJ communities within the Study Area, the effects would be borne primarily by minority and low-income populations.
For the Preferred Alternative, neighborhood and community facility impacts would primarily occur at the north portal within the Jones Falls area neighborhood, the south portal within the Midtown-Edmondson neighborhood, and the Intermediate Ventilation Facility location within the Reservoir Hill neighborhood. The Preferred Alternative would result in 22 residential and 6 commercial property displacements. Four places of worship in the Midtown-Edmondson neighborhood would be displaced. There would be high and adverse effects to EJ populations from noise, as well as medium and adverse effects to EJ populations from visual quality due to the placement of a ventilation facility. Alternative 3A would displace no residential buildings, and Alternative 3C would displace 12 residential buildings.

As the Project is advanced to the design phase and if funding is available, the Project sponsor would carry out mitigation measures and would continue to work with the community in order to minimize impacts. The vast majority of this Project will be underground which would reduce the overall impact to the communities. The Project sponsor will also establish a fund to support community development within affected communities, as well as a fund for maintenance of and improvement to publicly-owned parks and recreational facilities within ¼ mile of the Project alignment. The Project will coordinate with local job training organizations to facilitate targeted job training and include construction contract goals for workers of social and economic disadvantage. The Project sponsor will also provide relocation protections to property owners and tenants pursuant to the Uniform Relocation Act. For more information, please refer to Chapter VII of this FEIS.

Response to Comment 3:
The existing B&P Tunnel tracks are in Bolton Hill. Options as to where the new B&P Tunnel should reside are limited. Due to the geography and the shallowness of the area beneath Bolton Hill, this area was not a feasible option for the proposed Tunnel, whereas the area underneath Reservoir Hill is deeper and more practicable.

Response to Comment 4:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.
Response to Comment 1:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Response to Comment 2:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

The economic and housing markets in Reservoir Hill are subject to many variables and externalities outside of the Project. This fact makes it virtually impossible to predict or measure the future economic impact of the Project on the Reservoir Hill community.

Response to Comment 3:
Children's Health was assessed for Air Quality, Water, Soil and Hazardous Material and is described in Chapter VI of this FEIS. The build alternatives would pose no health or safety risks that would disproportionately affect children. The build alternatives would have no significant effects on air quality, as the net change in emissions of NOx, VOC, and PM2.5 between 2040 No-Build and the 2040 Build scenario would be below de minimis levels (levels too low to measure or to have meaningful environmental or health impacts). In accordance with the General Conformity Thresholds, it is unlikely that emissions associated with the ventilation plants would cause, or substantially contribute to a violation of NAAQS, established by the USEPA. No sole source aquifers, active water supply reservoirs, or wells are located near the Project. The Project will have no impact to potable water.
Under the Preferred Alternative, 112 sites of concern were identified within 1 mile of the alignment; once type and extent of contamination and details of construction are known, potential risk and exposure can be assessed and appropriate documentation in place.
DEIS Comment 159:

1 families moving into the neighborhood and this would
2 extremely -- would give them reason for concern, and
3 probably would not move to the neighborhood if this project
4 goes forward. Thank you.
5
6 THE HEARING OFFICER: Thank you.
7 (Whereupon, there was a brief recess.)
8
9 THE HEARING OFFICER: Doctor John Azalea,
10 if you could state your full name, and your address, and
11 offer your testimony. Just remember, it should be focused
12 on three minutes.
13
14 DR. AZALEA: Good evening. My name is
15 Doctor John Azalea, I live at Reservoir
16 Hill. I am a relative newcomer to Baltimore City, but I am
17 not a newcomer to common sense and critical thinking, and
18 like many of you decision makers on this tunnel project, my
19 ability to think critically and problem solve was acquired
20 long before I went to school to obtain my degree in
21 engineering. While I can understand the seemingly unstoppable
22 force of capitalism and the overwhelming pressure of the
23 corporations and local governments to drive an overgrowing
24 economy, I don't understand the logic behind the proposal

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Response to Comment 1:
As described in this FEIS, the initial range of alternatives was identified based on previous studies and during the preliminary alternatives development phase of the Project. A total of 16 preliminary alternatives were identified, including Alternative 1: No-Build, Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, and 14 new location alternatives. The 14 new location alternatives included five alternatives based on previous studies (Alternatives 3 through 7), and nine additional alternatives identified by this Project (Alternatives 8 through 16). The preliminary alternatives screening process was applied to all of the 16 preliminary alternatives with the exception of Alternative 1: No-Build and Alternative 2: Restore/Rehabilitate Existing B&P Tunnel, in accordance with Council on Environmental Quality regulations (40 CFR Part 1502.14(d)).

Alternatives 3 through 16 were first screened for fatal flaws that clearly rendered the alternative not feasible or unreasonable. An alternative was considered to have a fatal flaw if it did not meet the Project’s Purpose and Need, did not utilize existing infrastructure at Baltimore Penn Station and the Gwynns Falls Bridge, or would result in an unacceptable engineering issue that could not be reasonably avoided or solved during the early stages of alternatives development. Alternative 5: Route 40, along with Alternatives 6, 7, 14, 15, and 16 were all found to have a fatal flaw. Chapter III of the FEIS details the basis of elimination or retention for each alternative.

Since the publication of the DEIS, Alternative 3B was selected as the Preferred Alternative. Alternative 3B was advanced through a comprehensive alternatives development and evaluation process that incorporated input from the public as well as federal, state and local government agencies. These changes resulted in sizeable reductions in impacts, particularly to residences and historic resources. Chapter III in this FEIS provides a comparison of the Preferred Alternative to the other alternatives carried forward based on engineering and environmental evaluation criteria. Further justification for the selection of Alternative 3B as the Preferred Alternative is described in Chapter IV of this FEIS.

The build alternatives would impact the Midtown-Edmondson Historic District. Construction of the Preferred Alternative would require demolition of nine historic properties, located in the Midtown-Edmondson neighborhood. The build alternatives would also impact the Reservoir Hill Historic District as a result of the Intermediate Ventilation Facility. The Intermediate Ventilation Facility would be constructed along 900-940 West North Avenue (including 1000 Linden Avenue), which would constitute a Section 4(f) use resulting from demolition of a contributing resource. Further analysis of historic properties is found in Chapter VI of this FEIS. Potential mitigation strategies include historic property documentation, establishment of a historic properties preservation fund, and interpretive signage. More information on potential Section 4(f) mitigation measures are available in Chapter VI and Chapter VII.
Response to Comment 2:
The Project Team has studied potential impacts to the housing stock in the Study Area and determined that the estimated vibration is not sufficient to damage fragile houses, including those constructed on rubble foundations. A pre-construction survey is proposed at select buildings in the Study Area which will be documented in written reports and photographs. These buildings would be selected based on a number of factors, which include sites where vibration or ground-borne noise impacts are predicted, or sites identified by the community as hyper-sensitive or otherwise of interest. If a property owner believes structural damage has occurred as a result of vibration during construction, he or she would be able to file a claim and the property would be compared to its pre-construction condition. If the structural damage is determined to have been caused by the Project construction activities rather than other factors (such as normal deterioration due to old age), the property owner would be compensated for the cost of repairs.

Response to Comment 3:
The preferred location of the Intermediate Ventilation Facility is 900-940 West North Avenue (including 1000 Linden Avenue), and not the Whitelock Street or Brookfield Avenue sites. The Project Team considered additional locations beyond the Whitelock Street and Brookfield Avenue sites based on community input and the need to reduce environmental impacts. The North Avenue site is more commercial in nature than the Whitelock Street site, and a ventilation facility would blend better with the land use in that corridor. The ventilation facility would be designed to fit into the aesthetic context of the surrounding area. Ventilation facility construction has the potential to affect community character with noise impacts and displacement of residences and community facilities, as described in Chapter VI. Mitigation efforts are ongoing with community groups and individual community members to identify potential mitigation measures, which are documented in this FEIS in Chapter VII.

Response to Comment 4:
No impacts to public health are anticipated from construction of the build alternatives. The build alternatives would conform to federal and state air quality standards and if a public health and safety concern is identified during hazardous materials investigations, provisions within the investigation Health and Safety Plan will be implemented and regulatory authorities notified to appropriately mitigate the hazardous material concerns.

Response to Comment 5:
The Project Team has engaged in extensive public outreach throughout the development of the project, including holding three public open houses and ten community meetings where the public was given the opportunity to learn about the project and engage in discussion with the Project Team. In addition to these meetings, the Project Team is working with community groups and individual community members to determine the most effective mitigation measures to address issues concerning community impact, noise
and vibration impacts, and community health (among others) as described in Chapter VI. The Project Team has met with community members on two occasions: May 10 and May 31, 2016, to discuss project mitigation as described in Chapter VII. These efforts are ongoing and are documented in this FEIS. Additional details of this outreach are described in Chapter VI as well as Chapter VIII.
State of Maryland:
County of Baltimore, to wit:

I, Susan Kambouris, a Notary
Public of the State of Maryland, County of Baltimore,
do hereby certify that the within-named witness
personally appeared before me at the time and place
herein set out, and was examined by counsel.

I further certify that the examination was
recorded stenographically by me and this transcript is
a true record of the proceedings.

I further certify that I am not of
counsel to any of the parties, nor in any way
interested in the outcome of this action.

As witness my hand this 29th day of
February, 2016.

SUSAN A. KAMBOURIS
Notary Public

My Commission Expires:
May 17, 2017