Lead Agencies:

U.S. Department of Transportation
Federal Highway Administration

U.S. Department of Transportation
Federal Railroad Administration

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

Cooperating Agencies:

Maryland Department of Transportation

pennsylvania DEPARTMENT OF TRANSPORTATION

STATE OF WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

West Virginia
Department of Transportation

Environmental Assessment and Section 4(f) Evaluation

Phase I National Gateway Clearance Initiative

Pursuant to the National Environmental Policy Act of 1969 42 U.S.C. 4332(2)(C)

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Environmental Assessment and Section 4(f) Evaluation

Phase I National Gateway Clearance Initiative

Approved for Advertisement of Availability for Public Review:

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1. Summary

The National Gateway Clearance Initiative is an improvement program to achieve a minimum of 21 feet of clearance along CSX Transportation Inc's (CSX) rail corridor so that double-stacked intermodal railcars can be transported between Mid-Atlantic States and their ports to Midwest markets. Phase I of the National Gateway Clearance Initiative includes federally funded clearance improvements and other rail improvements between Northwest Ohio and Chambersburg, Pennsylvania, as noted subsequently, see Figure 1. The U.S. Department of Transportation (U.S. DOT) awarded a Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant to the National Gateway Freight Rail Corridor. The Federal Railroad Administration (FRA) and The Federal Highway Administration (FHWA) are partnering to administer the implementation of the TIGER grant on behalf of the U.S. DOT and in collaboration with the states of Ohio, Pennsylvania, West Virginia, and Maryland and CSX.

1.1 History of the Initiative

CSX and the State of Ohio publicly launched the National Gateway initiative on May 1, 2008, in Dublin, Ohio. The National Gateway initiative is an effort to improve efficiency and expand capacity on the nation's transportation network. This public-private partnership consists of more than $842 million in rail infrastructure and intermodal terminal work that will enhance transportation service options along three major corridors: I-95/I-81 in North Carolina, Virginia, and Maryland; I-70/I-76/I-80 between Washington, D.C. and Northwest Ohio; and the I-40/Carolina Corridor between Charlotte and Wilmington, North Carolina (Figure 1). The National Gateway initiative corridor crosses six states and the District of Columbia. These states include Ohio, Pennsylvania, West Virginia, Maryland, Virginia, and North Carolina. The National Gateway initiative will create a highly efficient rail system to connect Midwest producers and consumers with mid-Atlantic ports and world markets. These improvements are likely to spur economic growth throughout the region. The ability to quickly and efficiently move goods to markets throughout the country is vital to

the economy. Part of this initiative proposes to modify existing railroad infrastructure to provide sufficient vertical clearance and operating capability for CSX to operate double-stacked, domestic-container, rail traffic cars on the CSX's intermodal rail network along the National Gateway initiative corridor. Using double-stacked freight trains to move freely between Mid-Atlantic ports and Midwest markets is one way to increase capacity without exceeding the existing capacity of the infrastructure, or using new rail lines with additional trains. Completion of this initiative will allow America's rail network to support increased freight volumes, including traffic coming from the East Coast ports.

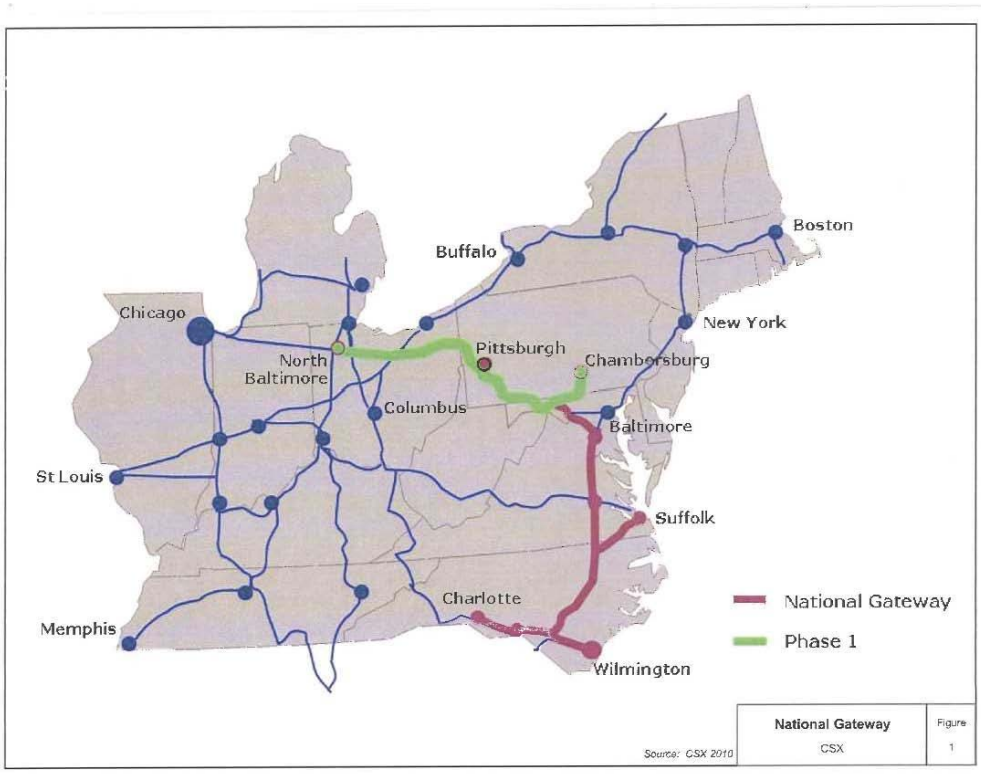


Figure 1 Phase I Corridor National Gateway Clearance Initiative

As part of this larger program, the National Gateway Clearance Initiative will allow for double-stacked freight trains between the yards located in Northwest Ohio, near North Baltimore; Chambersburg, Pennsylvania; Baltimore, Maryland; Suffolk, Virginia; and Wilmington, North Carolina. The State of Ohio on behalf of Pennsylvania, Maryland,

Virginia, and West Virginia, submitted a U.S. DOT TIGER Discretionary Grant application for the clearance improvements on September 14, 2009. The application requested $258 million to modify existing railroad infrastructure at 61 obstructions to provide sufficient vertical clearance and operating capability for CSX to operate double-stacked, domestic-container, rail traffic cars on CSX's intermodal rail network along the National Gateway Clearance Initiative corridor. On February 17, 2010, the U.S. DOT awarded Ohio, Pennsylvania, West Virginia and Maryland $98 million in TIGER grant funding for Phase I of the National Gateway Freight Rail Corridor. The FRA and FHWA will oversee the implementation of the TIGER grant. This grant award will be utilized by the four states and CSX for the proposed action to increase the vertical clearance at 30 obstructions along Phase I of the rail corridor from the intermodal yard near North Baltimore, Ohio, to the yard at Chambersburg, Pennsylvania. The FRA and FHWA have concluded that these two railroad yards are logical termini, that the corridor has independent utility, and that completion of this Phase I will not foreclose reasonable alternatives for future phases of the National Gateway initiative. In addition to the TIGER grant, the State of Ohio has pledged state funds to increase the vertical clearance at four obstructions and American Recovery and Reinvestment Act (ARRA) funds for eight other obstructions (six clearance obstructions and two interlockings). The proposed action, the rail corridor clearance improvements between these two intermodal yards, is referred to as Phase I. Table 1 notes the 40 clearance obstructions and proposed improvements included in the Phase I corridor, and they are depicted in Figure 2. It should be noted that the states' TIGER federal funding request did not include the Northwest Ohio Terminal near North Baltimore, Ohio or the CSX Chambersburg Terminal in Chambersburg, Pennsylvania and that no federal funding was provided in the TIGER grant award for these facilities.

The projected cost to complete the clearance improvements proposed for Phase I is $183 million. These costs will be covered by a combination of federal, state, and private funds (CSX). As noted previously, the U.S. DOT awarded the National Gateway Freight Rail Corridor $98 million in TIGER grant funding. As part of the National Gateway Clearance Initiative, the State of Ohio pledged $30 million ($20 million in ARRA funds and $10 million in state funds) in funding, and the Commonwealth of Pennsylvania pledged $35 million in a Transportation Assistance Program (TAP) grant. The state funds will be utilized for the proposed clearance improvements in Phase I, in each respective state. In addition, CSX has approved up to $20 million in capital funding to cover the remaining portion of the clearance work, if needed. Estimated

costs by obstruction and funding source are included in Table 1. Additional track support work required to complete the clearance improvements is included in Table 1a. Track support work consists of interlockings (rail crossovers) that are constructed to facilitate the efficient movement of trains through improvement locations. In Pennsylvania where tunnels are proposed for open cutting land will be used for the permanent placement of material removed from the open-cutting operations.

Example of Rail Interlocking

As noted previously, Ohio has separately advanced improvements to ten obstructions included in Table 1 with funding outside the proposed action supported by the TIGER grant award. Four bridge projects are moving forward under a $10 million state allocation. The improvements will be permitted in accordance with state and federal requirements. Additionally, in Ohio, improvements to six obstructions and the two interlockings have received a $20 million commitment of Ohio ARRA funds. These improvements were approved as Categorical Exclusions (CE). Copies of the approved CEs for the ARRA funded projects are provided as Appendix A. These ten Ohio bridges are structurally deficient and therefore their replacement or removals possess independent utility. The two interlocking projects were necessitated by adjacent bridge projects. Moreover, they do not constrain the decision to build or not build the remainder of National Gateway Phase 1. Therefore their impacts are not included in this document.

Table 1. Phase I List of Obstructions

NAME	CITY	STATE	ID	TYPE	FUNDING	ESTIMATED COSTS
TR 391	Sullivan	OH	BG 175.70	Replace Bridge	State	$3,306,923
CR 150	Sullivan	OH	BG 175.30	Remove Bridge	State	$3,428,336
River Corners Road	Pawnee	OH	BG 169.70	Replace Bridge	State	$3,196,693
Pawnee Road	Pawnee	OH	BG 168.70	Remove Bridge	State	$3,870,702
Mud Lake Road	Westfield	OH	BG 160.20	Replace Bridge	ARRA	$4,299,000
Thornton Street	Akron	OH	BG 131.00	Lower Track	TIGER	$251,926

Table 1. Phase I List of Obstructions

NAME	CITY	STATE	ID	TYPE	FUNDING	ESTIMATED COSTS
Overhead Walkway	Akron	OH	BG 130.13	Lower Track	TIGER	$323,919
Park Street	Akron	OH	BG 129.50	Remove Bridge	ARRA	$1,984,154
W&LE Railway Bridge	Kent	OH	BG 118.20	Lower Track	TIGER	$5,393,803
Main Street	Kent	OH	BG 117.30	Lower Track	TIGER	$14,376,894
Crain Avenue	Kent	OH	BG 117.00	Replace Bridge	ARRA	Under Construction
Recreational Trail	Kent	OH	BG 115.80	Raise Bridge	TIGER	$2,579,457
W&LE Railway Bridge	Kent	OH	BG 115.67	Raise Bridge	TIGER	Included Within 115.80 costs of $2,579,457
NS Railroad Bridge	Ravenna	OH	BG 110.80	Lower Track	TIGER	$6,347,259
Knapp Road	Ravenna	OH	BG 107.10	Replace Bridge	ARRA	$3,096,562
Rock Spring Road	Newton Falls	OH	BG 105.40	Replace Bridge	ARRA	$3,086,462
5th Street	Niles	OH	BG 85.70	Replace Bridge	ARRA	$4,159,432
Abandoned Railroad Bridge	Youngstown	OH	BG 76.60	Remove Bridge	TIGER	$480,037
Overhead Walkway	Coraopolis	PA	PLE 10.25	Remove Bridge	TIGER/ TAP	$852,162
Ohio Central Railroad	McKees Rocks	PA	PLE 3.79	Lower Track/ Raise Bridge	TIGER/ TAP	$2,751,940
Chartiers Creek	Pittsburgh	PA	PLE 3.36	Bridge Modification	TIGER/ TAP	$115,247
Smithfield Street	Pittsburgh	PA	PLY 0.09	Lower Track	TIGER/ TAP	$3,006,596
West End of J&L Tunnel	Pittsburgh	PA	PLY 1.96	Remove Bridge	TIGER/ TAP	$190,869
J&L Tunnel	Pittsburgh	PA	PLY 2.00	Raise Tunnel Roof	TIGER/ TAP	$27,589,386
East End of J&L Tunnel	Pittsburgh	PA	PLY 2.37	Bridge Modification/Remove Portion of Bridge	TIGER/ TAP	$466,579
Walnut Street	McKeesport	PA	BF 309.70	Lower Track	TIGER/ TAP	$865,813
Benford Tunnel	Confluence	PA	BFJ 5.00	Open Cut	TIGER	$1,099,278

Table 1. Phase I List of Obstructions

NAME	CITY	STATE	ID	TYPE	FUNDING	ESTIMATED COSTS
Brook Tunnel	Confluence	PA	BF 239.70	Tunnel Liner Removal	TIGER	$9,621,460
Shoo Fly Tunnel	Confluence	PA	BF 236.80	Open Cut	TIGER	$1,099,278
Pinkerton Tunnel	Pinkerton	PA	BF 235.40	Open Cut/Tunnel Liner Removal	TIGER	$6,082,532
Church Street	Garrett	PA	BF 220.00	Replace Bridge	TIGER/ TAP	$4,969,791
Blue Lick Truss	Sand Patch	PA	BF 212.83	Raise Bridge	TIGER/ TAP	$328,598
Sand Patch Tunnel	Sand Patch	PA	BF 210.60	Liner Notching	TIGER	$5,469,385
Falls Cut Tunnel	Fairhope	PA	BF 198.40	Tunnel Liner Removal	TIGER	$5,422,670
Railroad Bridge	Hyndman	PA	BF 191.92	Bridge Modification	TIGER/ TAP	$89,804
CSX Railroad Bridge	Mexico Farms	MD	BA 172.70	Remove Bridge	TIGER	$858,448
Carothers Tunnel	Paw Paw	WV	BA 147.00	Tunnel Liner Removal	TIGER	$12,615,060
Graham Tunnel	Magnolia	MD	BA 145.80	Tunnel Liner Removal	TIGER	$19,022,780
Stuart Tunnel	Hansrote	WV	BA 144.50	Liner Notching	TIGER	$7,507,075
Randolph Tunnel	Hansrote	WV	BA 142.30	Tunnel Liner Removal	TIGER	$12,616,677

Estimated Costs: Based on the TIGER grant application.
TIGER funding includes the $98 million TIGER grant award, $35 million in Pennsylvania TAP grant assistance, and up to $20 million in CSX capital funding.
Crain Avenue- Separately funded Ohio ARRA grant, not included in Phase I estimated total cost.
Recreational Trail BG 115.80 and W&LE Railway Bridge OH BG 115.67, Kent Ohio share abutments; project costs are combined.

Table 1a. Track Support Work

NAME	CITY	STATE	ID	TYPE
New Interlocking	Kent	OH	BG 120.00	Support Track Work
Upgrade Existing Interlocking	Newton Falls	OH	BG 103.95	Support Track Work
Confluence EMPA	Confluence	PA	BF 243.10	Material Placement
Black Township EMPA	Rockwood	PA	BF 226.00	Material Placement
Sand Patch EMPA	Sand Patch	PA	BF 211.35	Material Placement
New Interlocking	Magnolia	WV	BA 145.00	Support Track Work

Costs for the support work are included in the estimated costs for individual obstructions provided in Table 1.

Example of Excess Material Placement Area

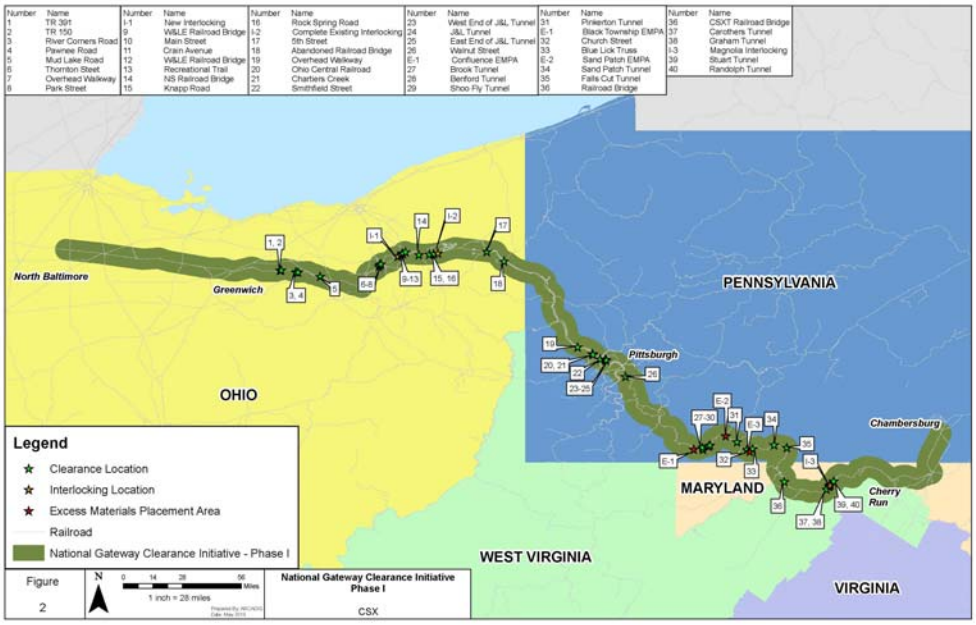


Figure 2 Phase I Corridor National Gateway Clearance Initiative Obstructions

1.2 Logical Termini

The termini for Phase I are the Northwest Ohio Terminal near North Baltimore, Ohio and the Chambersburg Terminal in Chambersburg, Pennsylvania. These intermodal

yards have the facilities and equipment to handle double-stacked, domestic-container, rail traffic freight trains. These trains include cars that can carry double-stacked, standard-sized, shipping containers. These containers are intermodal in that they can be efficiently transported by ship, train or truck. Construction of these facilities, as noted subsequently, is either completed or on-going and was privately funded.

Existing Intermodal Yard

The Northwest Ohio Terminal is strategically located in southern Wood County, Ohio and will be a 185-acre world-class freight distribution hub and the nerve center of CSX's nationwide intermodal network. The official groundbreaking for this facility was held in August 2009. Work is ongoing at the construction site, and the terminal is scheduled to open to business in 2011. The construction of the Northwest Ohio Terminal is being funded by CSX and its affiliates.

Northwest Ohio Intermodal Yard Groundbreaking August 14, 2009

The Northwest Ohio Terminal, like an air cargo hub, will handle freight trains that arrive directly from across the nation and its ports. The facility will quickly and efficiently redistribute the freight to a network of double-stacked cargo trains to speed final delivery across the eastern United States. Specifically, the facility will serve as a key connection point for the CSX network and will be capable of consolidating and distributing traffic throughout the Midwest and Ohio Valley from the Mid-Atlantic terminals at Baltimore and Portsmouth, as well as expanding the service capabilities in New York and New England. Additionally, the terminal will allow CSX's interchange traffic to be expedited through the Chicago region and switched at North Baltimore, freeing additional capacity at the Chicago terminals.

The privately funded, CSX Chambersburg Terminal opened for business on September 7, 2007. This terminal is an 85-acre facility close to the center of Chambersburg, Pennsylvania. Similar to the Norwest Ohio Terminal, the Chambersburg Terminal allows shippers to take advantage of intermodal transportation, the ability to move double-stacked freight containers from train to truck without any direct handling of the freight itself. This facility is located near multiple

distribution and population centers and serves as a key link in the movement of traffic between the population and manufacturing centers of the Midwest and the East Coast's international deepwater ports and major consumption markets.

It should be noted that the states' TIGER federal funding request did not include the Northwest Ohio Terminal or the CSX Chambersburg Terminal in Pennsylvania and that no federal funding was provided in the TIGER grant award for these facilities. More specifically, no work is proposed for the terminals as part of the $183 million to be used for clearance improvements along Phase I of the National Gateway initiative corridor. These terminals are not part of the proposed improvements for Phase I.

1.3 Need and Purpose

The need for the project is to improve the existing rail transportation capacity. There are 40 vertical clearance obstructions (overpasses and tunnels) that prevent the opportunity for trains carrying double-stacked intermodal cars to pass between the termini of the proposed action. The U.S. DOT forecasts an increase in freight transportation. The current capacity of the transportation network will not be able to maintain projected increases. The National Gateway Clearance Initiative is a package of rail infrastructure improvements that will enhance transportation service options along an existing major freight corridor. The improvements will allow trains to carry double-stacked intermodal containers which will increase the existing freight capacity, making the corridor more marketable to ports and shippers.

Intermodal transportation combines the long-haul efficiencies of rail with the short-haul flexibility of trucks to achieve cost-effective, efficient, and reliable freight transport. The Freight Rail Plans for the states of Ohio, Pennsylvania and Maryland support the following:

- Estimated volumes of intermodal freight are projected to increase.

- The level of service along the major freight rail routes will decline if improvements are not completed.

- One key improvement to the rail infrastructure was identified as removing chokepoints such as low clearance obstructions that impede the use of double-stack containers.

Other issues that intersect with the noted need to improve the existing rail transportation capacity include:

- Freight transportation capacity, especially highway capacity, is expanding too slowly to keep up with projected demand.

- The U.S. is increasingly dependent on foreign oil; freight trains are three times more fuel efficient than long haul trucks.

- Greenhouse gas (GHG) emissions from freight transportation are tied closely to freight energy use. Both are growing because energy efficiency improvements in the truck freight sector have not kept pace with growth in demand.

Completion of the project will result in benefits that address the projected increasing freight capacity demands, as well as, providing other gains for the U.S, such as:

- Improvements to railroad capacity, thus providing a cost-effective alternative to long-haul trucking.

- Improves U.S. economic competitiveness by reducing the use of inefficient long-haul trucking and increasing use of the more efficient existing rail corridor, which will reduce GHG emissions and the Nation’s dependence on oil.

- Saves in shipper and logistics costs by increasing existing freight capacity.

- Reductions in long-haul congestion on the highway system and thus improves highway safety for the traveling public.

- Creation of short-term construction jobs, over half of which are in economically distressed areas.

The purpose of the proposed action is to remove obstacles to vertical clearance and complete other necessary improvements to provide for safe passage of double-stacked intermodal containers between the Northwest Ohio Terminal and the CSX Chambersburg Terminal. The rail line will be kept operational during construction. Completion of the proposed action will double intermodal capacity on the existing corridor without increasing noise, emissions, or the number of trains. Instead, completion of the proposed action allows any given train to more efficiently carry freight.

1.4 Summary of Impacts and Mitigation

The subsequent discussion is a summary of impacts, both beneficial and adverse, of the Phase I proposed action, which was compiled from each of the four states' appropriate level of environmental documentation. Appendix B provides the statistical analysis completed for the proposed action. Cultural resource coordination competed by the FRA/FHWA is provided as Appendix C. Additional detail concerning each topic at a specific obstruction can be obtained by state in Appendix D, Appendix E, Appendix F, and Appendix G for Ohio, Pennsylvania, West Virginia, and Maryland, respectively. As noted previously, the proposed action will be completed to increase the vertical clearance at 30 obstructions along the rail corridor from the Northwest Ohio Terminal to the CSX Chambersburg Terminal. The rail corridor improvements between these two intermodal yards are referred to in this document as Phase I, and this summary of impacts and mitigation is specific to the federally funded clearance and improvement locations in this Phase I corridor.

- The majority of the individual improvement locations occur within CSX railroad right of ways (ROWs). For a few individual obstruction improvements, minor land acquisition is necessary; however, local land use patterns will not change as a result of the implementation of this action. The proposed action will not change the cohesion of the neighborhoods in the specific states or communities along the route.

- The proposed action will not have any disproportionately high or adverse human health or environmental effects on minority and low-income populations.

- Job creation for the proposed action has been estimated using metrics established by the White House Council of Economic Advisors in which $92,136 of government spending creates one job-year. By the end of 2013, Phase I of the National Gateway Clearance Initiative will create more that 3,600 jobs, including nearly 1,300 jobs in economically distressed areas. Information detailing the derivation of economic statistics and job projections is provided as Appendix B.

- Phase I of the National Gateway Clearance Initiative is projected to have the beneficial impact of reducing highway congestion by allowing for double-stacked freight trains and reducing the need for long-haul trucks on the region's highways. Railroads are more efficient at moving freight than trucks. Completion will allow more freight to move on any given train, which will reduce carbon dioxide emissions by 1.19 million tons and save nearly 102 million gallons of fuel. Information detailing the derivation of environmental benefit statistics is provided as Appendix B.

- The proposed action will provide relief to congested rail and highway corridors by enabling trains to more efficiently carry freight. The ability to transport double-stacked containers and the improved economies of scale generated by the proposed action will provide a cost-effective solution to long-haul trucking. This will directly reduce highway congestion and reduce highway maintenance costs. Benefits associated with reduced truck traffic over the next 20 years include public roadway congestion cost savings of nearly $33.6 million and public roadway pavement cost savings of over $59 million. Local traffic at intermodal facilities is influenced by the interaction of the overall rail system, as well as other unrelated local conditions. These traffic changes are addressed through the existing transportation programs of the local and state government.

- The majority of work is limited to rail projects with no vehicular traffic detours or maintenance of traffic required. Two Pennsylvania obstructions will have traffic detours: J&L Tunnel in Pittsburgh and Church Street in Garrett. Traffic plans (e.g., detours and traffic management measures) have been developed and coordinated

with local representatives. Additional details concerning the affected route and maintenance of traffic for these two obstructions are included in Appendix E.

J&L Tunnel

- The General Conformity Rule applies to all federal actions not addressed by the transportation conformity rule. Therefore, in accordance with 40 Code of Federal Regulations (CFR) 93.153 and 93.158, emissions of ozone precursor compounds nitrogen oxide (NOx) and volatile organic compounds (VOCs) and PM2.5 and PM2.5 precursor compounds (sulfur dioxide [SO2] and NOx) were analyzed in a General Conformity analysis, for obstructions within non-attainment areas. Results of the air analysis were compared to the *de minimis* thresholds. The worst case for emissions is expected to be the first year of operation. The estimated releases of CO, PM2.5, NOx, SO2, and VOCs are below the general conformity thresholds of 100 tons per year. Based on the air analysis, the proposed action meets the requirements of the Clean Air Act.

Church Street Bridge

- The proposed action will not cause an increase in rail traffic noise levels because it will not provide additional mainline tracks on new alignment, it will not change the maximum operating speed of the track and it will not substantially change the shielding effects of the surrounding area. At one obstruction, Church Street (State Route [SR] 2037) in Garrett, Pennsylvania, a minor change of less than 3 feet will be made to the vertical alignment of the roadway. At a second obstruction, J&L Tunnel in Pittsburgh, Pennsylvania, 26th Street will be shifted to better align two skewed intersections (with Tunnel Boulevard and South Water Street). No changes will be made to the roadway capacity. These minor changes to alignment do not meet FHWA's *Highway Traffic Noise Analysis and Abatement Policy and Guidance* (1995) - Type I, project criteria. Traffic noise levels will not change as a result of the proposed improvements at these two roadway locations.

- Vibration from freight trains is generally dominated by the diesel locomotive, which is the prevailing weight on most trains and considerably heavier than most of the rolling stock. For example, locomotives weigh approximately 200 tons while coal or hopper cars weigh 143 tons (73 percent of the weight of the locomotive). By comparison, container stack railcars weigh approximately 73-110 tons maximum or only 56 percent of the weight of a locomotive. Other factors contributing to elevated vibration levels from freight train passbys, other than weight, include travel speed, stiffness of the suspension system, condition or trueness of the wheels, condition or type of rail, track type, and type of ground. Therefore, the potential vibration effects resulting from the introduction of double-stacked container cars along the existing corridor are minimal based on the lower weight of the container cars compared to the diesel locomotive.

- The vast majority of the individual improvements are contained within the CSX ROW, and based on a records review no hazardous materials should be encountered during construction of these improvements. Should hazardous materials be encountered prior to or during the construction phase of the proposed action, any identified waste will be managed according to applicable federal, state, and local laws, ordinances, and regulations.

- Any excess materials generated during the grading/cut activities that cannot be used within the current CSX-owned ROW will be managed appropriately in accordance with applicable federal, state, and local laws, ordinances, and regulations. Materials excavated during construction are expected to be considered nonhazardous.

- Based on a review of the National Flood Insurance Program Mapping, portions of individual obstruction locations are within the 100-year flood boundary; however, no encroachment into the 100-year floodplain is required.

- The proposed action at CSX Railroad Bridge, Mexico Farms, Maryland, will require a U.S. Army Corps of Engineers (U.S. ACE) 404 permit, and corresponding 401 Water Quality Certification from the State of Maryland, for impacts to wetlands and jurisdictional streams. It is expected that the proposed action at CSX Railroad Bridge will permanently impact approximately 0.26 acre of wetlands and temporarily impact 0.37 acre of wetlands and affect 1.0 to 1.5 acres of wetland

buffer. Engineering designs to minimize these impacts are ongoing. Coordination regarding potential mitigation for the impacts at CSX Railroad Bridge will be completed as part of the permitting process. There are no other impacts to streams or wetlands at any of the other individual obstruction locations.

- For those clearance improvements with earth disturbance over 1 acre, a Storm Water Pollution Prevention Plan (SWPPP) will be implemented during construction to reduce the potential for erosion and sediment runoff during construction activities. Best management practices for erosion control during construction will be implemented at all improvement locations to minimize pollutants entering waterways. The contractors shall follow best management practices.

- At all locations requiring a SWPPP, a National Pollutant Discharge Elimination System (NPDES) construction storm water permit, verified by the State Environmental Protection Agency, will be included with the contract plans for adherence during construction. All conditions and terms associated with these permits will be fulfilled.

- All improvement locations were reviewed for potential impacts to federally listed threatened and endangered species. Coordination with the Ohio Department of Natural Resources (ODNR), U.S. Fish and Wildlife Service (U.S. FWS) in Pennsylvania, West Virginia, and Maryland resulted in a 'no effects' conclusion in the states. However, trees suitable for use as Indiana bat (*Myotis sodalis*) summer roosting habitat have been identified in the vicinity of several Pennsylvania and West Virginia clearance improvement locations. Removal of these trees has been coordinated with the U.S. FWS. Coordination with the U.S. FWS in Ohio is ongoing; any comments received by the U.S. FWS will be implemented and followed prior to and during construction.

- The degree to which proposed action area aesthetics and visual character may be impacted was assessed. Overall, the Phase I of the National Gateway Clearance Initiative proposed action will create changes to the visual and aesthetic character of the rail corridor and surrounding area. Some of these changes may be perceived as either positive or negative. However, because most of the changes will be to existing infrastructure within an existing corridor, the majority of these changes will likely be perceived as aesthetically and visually neutral.

- There will be no permanent impacts to parks or recreational resources. Portions of the proposed action are in the immediate vicinity of two bicycle/pedestrian paths (Kent Hike and Bike Path, Kent, Ohio and the Somerset County Rails to Trails Path Allegheny Highland Trail, Keystone Viaduct, Sand Patch, Pennsylvania) and a publicly owned area designated for open-space (Open Space over the J&L Tunnel, Pittsburgh, Pennsylvania). Impacts to the two bicycle/pedestrian paths and the publicly owned area designated for open-space will be temporary in nature and of short duration; the resource will be fully restored at completion of the proposed action, and these details been fully coordinated with the officials with jurisdiction over each of the three resources. Memorandums of Understanding (MOUs) are being completed with the public officials having jurisdiction of these resources. Graham Tunnel in Maryland (vicinity of Magnolia, West Virginia) runs through an unnamed hill in the Green Ridge State Forest within the CSX-owned ROW. There are no recreational features of the State Forest near the Graham Tunnel project activity. Figures depicting the tunnel location, the CSX ROW, and the Green Ridge State Forest facilities are included in Attachment 6 of Appendix G.

J&L Tunnel Open Space Area

- No districts or resources eligible for inclusion on the National Register of Historic Places (NRHP) will be adversely affected in the state of Ohio. In Pennsylvania, portions of proposed action include two historic railroad corridors, which are eligible for listing in the NRHP: Pittsburgh and Lake Erie (P&LE) Railroad and Baltimore and Ohio (B&O) Railroad Pittsburgh Division; and are in the immediate vicinity of three historic bridges of national significance: Smithfield Street Bridge (National Engineering Landmark), Pittsburgh; Walnut Street (SR 0048) Bridge (Boston Bridge), McKeesport; and Blue Lick Truss, Sand Patch. The following contributing resources to the P&LE Railroad are in the immediate vicinity of or will be improved by the proposed action: Chartiers Creek Bridge, Pittsburgh & Lake Erie Station, and J&L Tunnel all located in Pittsburgh. Through coordination with the PHMC it has been determined, under Section 106 of the NHPA, that there will be no adverse affects by the proposed action on the P&LE Railroad including elements such as the railroad's vertical and horizontal alignment, tunnels and bridges, signal equipment, rock and slide fencing, drainage, stations/stops, cut and fill slopes, sidings, switches, right of way/ownership limits, vegetation as well as the

noted contributing resources: Chartiers Creek Bridge, Pittsburgh & Lake Erie Station, and J&L Tunnel. The B&O Railroad Pittsburgh Division stretches from McKeesport, Pennsylvania to Cumberland, Maryland. This historic railroad corridor includes the following contributing resources Wills Creek Bridge at Hyndman, six tunnels in Somerset County and the two unnamed bridges over Wills Creek which are the approaches to Falls Cut Tunnel. Due to proposed vertical clearance improvements at the six tunnels in Somerset County, the PHMC determined that there would be an adverse effect by the proposed action on the B&O Railroad Pittsburgh Division. There will be no adverse effects on many of the other B&O Railroad Pittsburgh Division elements such as Wills Creek Bridge at Hyndman; the two unnamed bridges over Wills Creek which are the approaches to Falls Cut Tunnel; and the railroad's vertical and horizontal alignment, various unnamed bridges, signal equipment, rock and slide fencing, drainage, stations/stops, cut and fill slopes, sidings, switches, right of way/ownership limits, and vegetation. The Smithfield Street Bridge in Pittsburgh, Pennsylvania; the Walnut Street Bridge in McKeesport, Pennsylvania and the Blue Lick Truss located in Somerset County, Pennsylvania are historic bridges of national significance. Through coordination with the PHMC it has been determined that there will be no adverse affects by the proposed action on the Smithfield Street Bridge, the Walnut Street Bridge or the Blue Lick Truss, nor will any property within a historic boundary be acquired. In West Virginia and Maryland, the B&O Railroad Magnolia Cutoff has been determined eligible of listing on the NRHP. The B&O Railroad Magnolia Cutoff is twelve-mile-long, double-track and includes four tunnels (Carothers, Graham, Stuart and Randolph), a long cut at Doe Gully, two bridges over the Potomac (Kessler and Magnolia bridges), and a concrete retaining wall west of Paw Paw, all of which are contributing resources. Due to the proposed vertical clearance improvements at the four tunnels it was determined that there would be an adverse effect by the proposed action on the B&O Railroad Magnolia Cutoff. The proposed action will have no impact on, therefore will not affect the Kessler or Magnolia bridges, the long cut at Doe Gully or the concrete retaining wall west of Paw Paw and the railroad's vertical and horizontal alignment, various unnamed

Stuart Tunnel East Portal

Randolph Tunnel West Portal

bridges, signal equipment, rock and slide fencing, drainage, stations/stops, cut and fill slopes, sidings, switches, right of way/ownership limits, and vegetation.

- Coordination with each State's Historic Preservation Office (SHPO) has been concluded. The SHPOs in the four states have concurred with the submitted Eligibility and Effects for Section 106 resources. A Memorandum of Agreement (MOA) has been prepared for the proposed action outlining the results of the Section 106 process and the agreed to mitigation, and signed by all parties. The MOA is included in Appendix C.

- A Net Benefit Programmatic Section 4(f) Evaluation has been prepared for the Phase 1 corridor, for the adversely effected, significant historic resources with input from the FRA/ FHWA and the States. The Section 4(f) Evaluation is included as Section 5 of this Environmental Assessment.

1.5 Agency Coordination and Public Involvement

1.5.1 Agency Coordination

In preparation for the environmental document, input from the appropriate federal, state, and local agencies concerning potential effects of the proposed action to the environment was requested. Scoping letters were sent to the appropriate agencies in each of the four project states. Coordination was also conducted through verbal and written communication, as needed. The agencies with which coordination was conducted are listed by state below. Written comments were received from agencies noted with an asterisk (*).

Coordination in Ohio was conducted with the following agencies:

U.S. FWS
Ohio Environmental Protection Agency
Ohio Historic Preservation Office (OHPO)*
ODNR*
Ohio Department of Transportation (ODOT)*
The City of Kent*
Municipal and private utility stakeholders, as needed

Coordination in Pennsylvania was conducted with the following agencies:

- U.S. FWS*
- National Park Service (NPS) – Potomac Heritage National Scenic Trail*
- Pennsylvania Department of Conservation and Natural Resources*
- Pennsylvania Department of Environmental Protection*
- Pennsylvania Department of Transportation (Penn DOT)*
- Pennsylvania Historical and Museum Commission (PHMC)*
- Pennsylvania Public Utility Commission
- Somerset County*
- City of Pittsburgh
- Urban Redevelopment Authority of Pittsburgh (URA)*
- Municipal and private utility stakeholders, as needed

Coordination in West Virginia was conducted with the following agencies:

- U.S. FWS*
- West Virginia Department of Transportation*
- West Virginia Division of Culture and History (WVDCH)*
- West Virginia Division of Environmental Protection
- West Virginia Division of Natural Resources (WVDNR)*
- Municipal and private utility stakeholders, as needed

Coordination in Maryland was conducted with the following agencies:

- U.S. FWS*
- National Park Service
  - Chesapeake and Ohio National Historical Park
  - National Capital Region
- Maryland Department of Transportation
- Maryland Department of the Environment
- Maryland Department of Planning
- Maryland Department of Natural Resources (MDNR)*
- Maryland Historical Trust (MHT)*
- Maryland Commission on Indian Affairs

Green Ridge State Forest*
Municipal and private utility stakeholders, as needed

Coordination was completed with the following Native American nations and tribes:

Absentee-Shawnee Tribe of Oklahoma
Cayuga Nation
Cherokee Nation of Oklahoma
Citizen Potawatomi Nation
Community of Wisconsin Potawatomi Indians
Delaware Nation
Delaware Tribe
Delaware Tribe of Indians
Eastern Band of Cherokee Indians of North Carolina
Eastern Shawnee Tribe of Oklahoma
Keweenaw Bay Indian Community
Lake Superior Chippewa
Miami Tribe of Oklahoma
Oneida Indian Nation
Oneida Nation of Wisconsin
Onondaga Nation
Ottawa Tribe of Oklahoma
Peoria Tribe of Indians of Oklahoma
Prairie Band of Potawatomi Indians
Seneca Nation of Indians
Seneca-Cayuga Tribe of Oklahoma
Shawnee Tribe
Shawnee Tribe of Oklahoma
St. Regis Mohawk Tribe
Stockbridge-Munsee Band of the Mohican Nation of Wisconsin
Tonawanda Seneca Nation
Tuscarora Nation
Turtle Mountain Band of Chippewa Indians
United Keetoowah Band of Cherokee Indians of Oklahoma
Wyandotte Nation
Youghiogheny River Band of Indians, Inc.

Additionally, coordination has been completed with private stakeholders including the Wheeling and Lake Erie (W&LE) Railway, Akron Barberton Cluster Railway (ABCR), Norfolk Southern Corporation (NS), and the Ohio Central Railway.

Received comments and additional details regarding the coordination are provided within the state National Environmental Policy Act (NEPA) documentation included in Appendices D, E, F and G. The environmental documentation contained in Appendices D through G contain the information gathered in each Phase I state to support the NEPA process. The documentation was assembled using the appropriate preexisting state forms where available and was provided to the FRA/FHWA in support of the preparation of the Environmental Assessment and are not intended to serve as standalone NEPA documentation.

1.5.2 Public Involvement

Public involvement efforts are essential to the implementation of transportation solutions that improve safety and efficiency, protect the natural and human environments, and contribute to the community. To provide citizens with ample opportunities to learn and comment about the proposed action, a variety of communication techniques were employed in the public involvement process for the proposed action. Public involvement outreach for the proposed action included letters to stakeholders, public notices in newspapers in the vicinity of the obstructions, media releases, and four informational workshops held in Ohio, Pennsylvania, and Maryland; and the *National Gateway – Project Updates* website (http://updates.nationalgateway.org/). Additional details regarding the public involvement outreach and a summary of comments received are provided with the state NEPA documentation included in Appendices D, E, F and G.

2. Need and Purpose of the Action

The need for the project is to improve the existing rail transportation capacity. There are 40 vertical clearance obstructions (overpasses and tunnels) that prevent the opportunity for trains carrying double-stacked intermodal cars to pass between the termini of the proposed action.

According to a white paper developed for FHWA (Cambridge Systematics et al. 2005.), "The nation is entering the early stages of a freight transportation capacity crisis. The last several decades have witnessed steady growth in the demand for freight transportation in the United States, but freight transportation capacity, especially highway capacity, is expanding too slowly to keep up with demand." In addition it is noted that: "The effects of growing demand and limited capacity are felt as congestion, upward pressure on freight transportation prices, and less reliable trip times as freight carriers struggle to meet delivery windows." The Ohio Statewide Rail Plan – Final Report (Ohio Department of Transportation 2010), the Pennsylvania Intercity Passenger and Freight Rail Plan (Pennsylvania Department of Transportation 2010), and the Maryland Statewide Freight Plan (Maryland Department of Transportation 2009) each note the following:

- Projected increases in the estimated volume of intermodal freight that are anticipated to be moved along rail lines within their respective states through the year 2035.

- Potential reductions of level of service along the major freight rail routes, including the National Gateway initiative corridor, within each respective state if improvements to the rail infrastructure are not completed.

Fuel price volatility and supply are another major influence on the cost of moving freight. According to the Department of Energy, the United States uses 20 million barrels of oil a day, 55 percent of which is imported. The United States imports more petroleum and natural gas than any other country. In 2006 trucking accounted for 67 percent of freight transportation energy consumption, while rail accounted for only 8 percent (FHWA 2009b). Freight trains are the most efficient component of the intermodal system, approximately three times more fuel efficient than long haul trucks. Rail can transport a ton of goods more than 436 miles on a single gallon of fuel, and

one train can carry the load of 280 trucks. The Association of American Railroads estimates that if 10 percent of the nation's freight were diverted to rail, fuel savings would approach one billion gallons annually.

Dan Brand (FHWA 2009a) notes that "the impacts of recent oil and gasoline price swings notwithstanding, the huge impacts of transportation on U.S. energy independence and global warming are continuing primary concerns affecting national transportation policy. Importing 60 percent of our domestic consumption, much of it from quite unfriendly countries, has annual costs for the United States in the hundreds of billions of dollars in transfers of wealth, price shocks, military costs in blood and treasure, and other costs such as for the Strategic Petroleum Reserve. The current economic situation has shown that adding these costs annually to our national debt may be unsustainable." Completion of the National Gateway initiative promotes rail as a cost-effective more efficient alternative to long-haul trucking, reducing GHG emissions and the Nation's dependence on oil.

As discussed in an FHWA research publication, Innovations for Tomorrow's Transportation (FHWA 2009b). "GHG emissions from freight transportation are tied closely to freight energy use. The transportation sector in total is responsible for 28 percent of all U.S. GHGs, as reported in the U.S. EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks. Within the transportation sector, freight movement accounts for 27 percent of transportation GHG emissions, with the majority of emissions generated by trucking. The rapid growth in freight GHGs and the overall decline in freight energy efficiency reflect a growing reliance on freight modes, particularly truck and air that provide faster, more reliable service but have higher energy intensity. The notable exception to freight's growing energy intensity can be seen in rail shipments."

The increased capacity and improved economies of scale provided through completion of the proposed action will result in a cost-effective alternative to long-haul trucking, directly reducing highway congestion and highway maintenance costs. The project's benefits include reduced GHG and fuel usage, lower transportation costs, improved service reliability, shorter transport times, improved highway safety and expanded access to rail services. Furthermore, air quality is projected to improve as rail transport produces fewer emissions than truck transport.

The proposed action is projected to promote highway maintenance and safety cost savings in each state by moving long-haul trucks to rail. The Fatality Analysis Reporting System states Ohio and West Virginia have increases in truck related crashes since 2006. Pennsylvania has one of the highest numbers of truck-related accidents and fatalities in the nation. The proposed action is estimated to reduce truck miles traveled by more than 14.3 billion miles. Moving long-haul truck freight to the railroad will reduce highway traffic, and result in safer traveling for the general public.

Significant portions of the investments in this corridor are in economically distressed areas. Completion of the National Gateway Clearance Initiative will create over 4,000 short-term construction jobs, 2,600 of which are in economically distressed areas. Job creation was estimated using metrics established by the White House Council of Economic Advisors.

The rail line will be kept operational during construction. Upon completion of the proposed action no additional public funding will be needed to maintain the infrastructure, since it will remain privately owned and maintained. Completion of the proposed action will preserve the competitiveness and sustainability of America's railroad.

The purpose of the proposed action is to remove obstacles to vertical clearance and complete other necessary improvements to provide for safe passage of double-stacked intermodal containers between the Northwest Ohio Terminal and the CSX Chambersburg Terminal. The proposed action will not increase the number of trains on the existing corridor. Modifying vertical clearances to allow for double-stack intermodal trains will provide relief to congested rail and highway corridors by enabling every train to carry more freight. By increasing the capacity of the existing rail infrastructure to move freight, the projected increases in domestic and international freight transportation can more readily be accommodated. The ability to quickly and efficiently move goods to markets throughout the country is vital to the economy, and the ability of using double-stacked trains to move freely between Midwest markets and Mid-Atlantic ports is a way to increase capacity without additional trains or new rail corridors. This action will aid in improving the nations capacity to move freight, improve air quality, improve highway safety, create jobs and preserve the competitiveness and sustainability of America's railroad.

3. Context of the Action and Development of Alternatives

3.1 Overview

The CSX rail line infrastructure on the National Gateway Clearance Initiative corridor is not currently equipped to accommodate double-stacked freight trains. The *CSX Clearance Improvement Feasibility Study between Greenwich, Ohio and Chambersburg, Pennsylvania; Baltimore, Maryland and Weldon, North Carolina* (AECOM 2007) details obstructions in the corridor that prohibit the use of double-stacked freight trains and potential alternatives to clearing the identified obstructions and describes a proposed action at each individual project location. The identified goal in the feasibility study was to achieve vertical clearance improvements by providing a minimum 21-foot vertical clearance standard to allow for unimpeded passage of second generation, domestic double-stacked containers. The feasibility study reviewed available information on the obstructions, conducted field surveys that included measurements of the vertical and horizontal clearances at each quadrant of a particular obstruction, and made recommendations for the proposed method of increasing the vertical clearance at each obstruction. Consideration was given at each obstruction to the age and state of repair of the structure, its current use and/or closure, the surrounding land use, ownership of the structure, and the distance needed to achieve a minimum 21-foot vertical clearance before recommending a method to achieve the desired vertical clearance. The obstructions identified in the feasibility study can generally be separated into two categories: bridges and tunnels. There are four general methods for increasing the vertical clearance of a bridge: raise the existing bridge; modify the bridge superstructure (modify or replace); remove the bridge; or lower the tracks beneath the bridge. For tunnels, there are two general methods for increasing the vertical clearance: open cutting the tunnel (remove the overburden over the tunnel) or modifying the tunnel liner. Except for open cutting a tunnel, these improvements are generally minor in nature, will consist of reconstructing existing infrastructure, and will generally occur within an existing ROW.

3.1.1 No Build Alternative

This alternative has been studied, and it does not correct the situation that creates chokepoints to the efficient movement of double-stacked freight containers through the corridor. The No Build Alternative does not meet the purpose and need of the

proposed action. This alternative was analyzed to provide a baseline condition for comparison and evaluation of the proposed action.

The No Build Alternative assumes normal track maintenance retaining the existing conditions along the National Gateway Phase I corridor. The states of Ohio, Pennsylvania, and Maryland have noted in their respective statewide rail or freight plans that an estimated increase in the volume of freight is anticipated through the year 2035 and that improvement to existing railroads are needed to handle this increased volume. Without the improvements to the existing railroad infrastructure, the increased volume of freight must be accommodated on the states' highway systems by increasing the numbers of long-haul trucks. Increasing numbers of trucks on the states' highway systems will likely lead to increasing roadway congestion, increasing maintenance and construction costs, and decreasing highway safety and decreasing air quality.

3.1.2 Proposed Action

The work proposed for Phase I federally funded projects to achieve vertical clearance includes removing four bridges, raising of four bridges, modifying four bridges, modifying the liners of eight tunnels and open cutting three tunnels, and lowering or realigning tracks at seven obstructions. One interlocking (rail crossover) will be constructed to facilitate the efficient movement of trains through various improvement locations. Finally, in Pennsylvania where tunnels are proposed for open cutting, three CSX-owned properties will be utilized as excess material placement areas.

3.2 Bridge Removal

The following four obstructions have been recommended for bridge removal:

- Ohio, Youngstown, Mahoning County, Abandoned Railroad Bridge
- Pennsylvania, Coraopolis, Alleghany County, Overhead Walkway Bridge
- Pennsylvania, Pittsburgh, Alleghany County, West End J&L Tunnel, Bridge Removal

- Maryland, Mexico Farms, Allegany County, CSX Railroad Bridge

3.3 Bridge Raising

The following four obstructions have been recommended for bridge raising:

- Ohio, Kent, Portage County, Abandoned Railroad Bridge and ABCR Railroad Bridge (obstructions share abutment)
- Pennsylvania, McKees Rocks, Alleghany County, Ohio Central Railroad Bridge (A track lowering is still being assessed at this location.)
- Pennsylvania, Sand Patch, Somerset County, Blue Lick Truss

3.4 Bridge Modification

The following four obstructions have been recommended for modification:

- Pennsylvania, Garrett, Somerset County, Church Street Bridge

  (This bridge will be replaced.)
- Pennsylvania, Pittsburgh, Alleghany County, Chartiers Creek Bridge (The superstructure of this bridge will be modified.)
- Pennsylvania, Pittsburgh, Alleghany County, East End J&L Tunnel, Bridge Modification (Portions of the structure will be removed.)
- Pennsylvania, Hyndman, Bedford County, Railroad Bridge (The superstructure of this bridge will be modified.)

Mexico Farms Railroad Bridge Removal

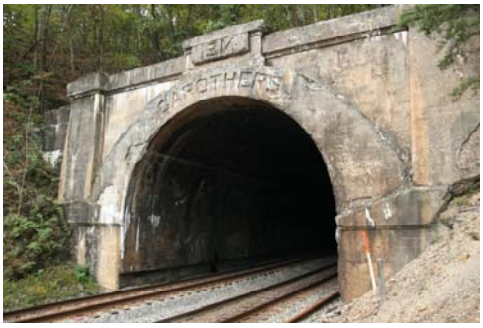
Kent Bike and Hike Trail Bridge Raising

Hyndman Railroad Bridge Modification

3.5 Tunnel Liner Modification

The following eight obstructions have been recommended for tunnel liner modification:

- Pennsylvania, Pittsburgh, Alleghany County, Pennsylvania, J&L Tunnel
- Pennsylvania, Confluence, Somerset County, Brook Tunnel
- Pennsylvania, Sand Patch, Somerset County, Sand Patch Tunnel
- Pennsylvania , Fairhope, Somerset County, Falls Cut Tunnel
- West Virginia, Paw Paw, Morgan County, Carothers Tunnel
- Maryland, Allegany County, in the vicinity of Magnolia, West Virginia, Graham Tunnel
- West Virginia, Hansrote, Morgan County, Stuart Tunnel
- West Virginia, Hansrote, Morgan County, Randolph Tunnel



Carothers Tunnel East Portal

Graham Tunnel North Portal

3.6 Tunnel Open Cut

The following three obstructions have been recommended for tunnel open cutting:

- Pennsylvania, Confluence, Somerset County, Benford Tunnel
- Pennsylvania, Confluence, Somerset County, Shoo Fly Tunnel
- Pennsylvania, Pinkerton, Somerset County, Pinkerton Tunnel (Tunnel liner modifications also being assessed at this location.)

Shoo Fly Tunnel

3.7 Excess Material Disposal

The following three areas have been recommended for excess material placement from tunnel open cutting operations:

- Pennsylvania, Confluence, Somerset County, Excess Material Placement Area
- Pennsylvania, Rockwood, Somerset County, Black Township Excess Material Placement Area
- Pennsylvania, Sand Patch, Somerset County, Excess Material Placement Area

Any excess materials generated during the tunnel liner modifications, and grading/cut activities that cannot be used within the CSX ROW or at the three CSX-owned excess material placement areas will be managed appropriately in accordance with applicable federal, state, and local laws, ordinances, and regulations.

3.8 Grade Adjustment

The following seven obstructions have been recommended for grade adjustment (track lowering):

- Ohio, Akron, Summit County, Thornton Street
- Ohio, Akron, Summit County, Overhead Walkway
- Ohio, Kent, Portage County, W&LE Railway Bridge
- Ohio, Kent, Portage County, Main Street Bridge
- Ohio, Ravenna, Portage County, NS Railroad Bridge
- Pennsylvania, Pittsburgh, Alleghany County, Smithfield Street Bridge

NS Railroad Bridge Ravenna Track Lowering Grade Adjustment

- Pennsylvania, McKeesport, Alleghany County, Walnut Street (SR 0048) Bridge (Boston Bridge)

3.9 Grade Crossing Closures/Modifications

No public at-grade crossing closures or modifications to existing grade crossings are proposed.

3.10 Other Aspects

3.10.1 Interlocking

To maintain rail traffic during improvements at the tunnels in West Virginia and Maryland, rail traffic must be shifted from one track to another. To facilitate this movement of rail traffic, one new interlocking (rail crossovers) is proposed.

- West Virginia, Magnolia, Morgan County, Magnolia Interlocking

3.10.2 Modal Hubs

The TIGER federal funding request did not include the Northwest Ohio Terminal near North Baltimore, Ohio (currently under construction) or the newly constructed CSX Chambersburg Terminal in Chambersburg, Pennsylvania, and no federal funding was provided in the TIGER grant award for these facilities. More specifically, no work is proposed for the terminals as part of the $183 million to be used for clearance improvements along Phase I of the National Gateway. These terminals are not part of the proposed improvements for Phase I.

4. Impacts and Mitigation

4.1 Corridor-Wide Impacts

4.1.1 Right-of-Way

There will be no permanent displacements. The majority of the individual improvement locations occur within the CSX railroad ROW. For a few individual improvement locations, minor land acquisition and/or temporary construction easements are necessary. All acquisition activities will be conducted in accordance with the Uniform Relocation and Real property Acquisitions Policy Act, as amended. Copies of the State's acquisition brochures are provided in Appendix I. No property will be acquired in West Virginia, therefore no acquisition brochure is included.

4.1.2 Community and Socio-Economic

4.1.2.1 Community Cohesion

The National Gateway Clearance Initiative will not provide new access points, public at-grade crossings, or additional mainline trackage. The proposed action will improve the existing railroad infrastructure within its existing alignment; therefore, the proposed action is not expected to impact the overall physical make-up of the surrounding communities or neighborhoods.

The minor change to the vertical alignment at Church Street (SR 2037) in Garrett, Pennsylvania and the shift in horizontal alignment of 26th Street at the J&L Tunnel in Pittsburgh, Pennsylvania will not impact any building or the overall physical make-up of the surrounding communities or neighborhoods. Traffic detours for construction at these two locations will be of short duration. The duration for the Church Street detour is expected to be 4 months. 26th Street over J&L Tunnel will be detoured for over a year.

4.1.2.2 Employment Opportunity

Job creation has been estimated using metrics established by the White House Council of Economic Advisors in which $92,136 of government spending creates one

job-year. By the end of 2013, the Phase I of the National Gateway Clearance Initiative will create more than 3,600 jobs, including nearly 1,200 jobs in economically distressed areas. The demand for long-haul truck drivers is expected to increase. The use of double-stack trains will flatten the rate if increase demand for long-haul drivers by diverting loads from long-haul trucks to double stack trains and increase demand for short-haul truck drivers near the intermodal facilities. Information detailing the derivation of economic statistics, environmental benefits, and job projections is provided as Appendix B.

By providing clearances for double-stacked trains and expanding intermodal terminal capacity the National Gateway Clearance Initiative, over the next 30 years will

- Provide nearly $5 billion in net public benefits or more than $6 in public benefits for every $1 spent.
- Create more than 3,600 jobs by the end of 2013.
- Enable modal conversion of nearly 18 million truck trips from United States' highways and reduce truck miles traveled by more than 14 billion miles.
- Provide nearly $590 million in pavement maintenance cost savings.
- Provide more than $395 million in shipper and logistics cost savings for new and existing rail customers.
- Reduce transit times between western United States population centers and ports in the east and Mid-Atlantic by 24 to 48 hours.

4.1.2.2.1 Ohio Benefits

Upon completion, the Phase I National Gateway Clearance Initiative will deliver $398 million of public benefits to Ohio by

- Expanding rail market access potential for the State.
- Enhancing rail transportation infrastructure.

- Investing directly in short-term construction projects in Ohio; including 836 additional jobs.

- Reducing Ohio's highway congestion and greatly improving public safety by shifting freight from trucks to the enhanced rail network, saving nearly $34.1 million of highway maintenance costs in Ohio.

CSX has estimated that 836 jobs will accrue to Ohio for the clearance initiative. These jobs require specialized labor because of the nature of the work, which includes working over or adjacent to an active railroad, utility relocation, structure demolition/erection, and the necessary protective services and inspections.

4.1.2.2.2 Pennsylvania Benefits

Upon completion, the Phase I National Gateway Clearance Initiative will deliver $203.1 million of public benefits to Pennsylvania by

- Expanding rail market access potential for the State.

- Enhancing rail transportation infrastructure.

- Investing directly in short-term construction projects in Pennsylvania creating 978 additional jobs by 2013.

- Reducing Pennsylvania's highway congestion and greatly improving public safety by shifting freight from trucks to the enhanced rail network, saving over $17.4 million of highway maintenance costs in Pennsylvania.

CSX has estimated that 978 construction jobs will be generated in Pennsylvania for the construction of the individual clearance projects. These jobs require specialized labor because of the nature of the work, which includes working over or adjacent to an active railroad, utility relocation, structure demolition/erection, and the necessary protective services and inspections.

4.1.2.2.3 West Virginia Benefits

Upon completion, the Phase I National Gateway Clearance Initiative will deliver $55.4 million of public benefits to West Virginia by

- Enhancing rail transportation infrastructure.
- Investing directly in short-term construction projects in West Virginia creating 433 additional jobs by 2013.
- Reducing West Virginia's highway congestion and greatly improving public safety by shifting freight from trucks to the enhanced rail network, saving over $4.8 million of highway maintenance costs in West Virginia.

4.1.2.2.4 Maryland Benefits

Upon completion, the Phase I National Gateway Clearance Initiative will deliver $33.6 million of public benefits to Maryland by

- Enhancing rail transportation infrastructure.
- Investing directly in short-term construction projects in Maryland creating 246 additional jobs, all in economically distressed areas, by 2013.
- Reducing Maryland's highway congestion and greatly improving public safety by shifting freight from trucks to the enhanced rail network, saving over $2.9 million of highway maintenance costs in Maryland.

4.1.2.3 Environmental Justice

Title VI of the Civil Rights Act of 1964, protects individuals from discrimination on the grounds of race, age, color, religion, disability, sex, and national origin. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* provides that each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations.

Demographics for populations in the vicinity of the Phase I obstruction locations were analyzed to identify minority or low-income communities. Potential minority or low-income populations were preliminarily identified through the United States Environmental Protection Agency's (U.S. EPA's) Environmental Justice Geographic Assessment Tool (EJGAT). If the results from the EJGAT suggested the potential for minority or low-income populations in the vicinity of an obstruction, additional analysis of Census data was completed. At two obstruction locations, Thornton Street and the Overhead Walkway Bridge both in Akron, Ohio, minority and/or low-income populations were identified in the obstruction vicinity. The proposed action at these two obstructions is track lowering that will be completed within the rail ROW and will not result in an adverse impact to the adjacent residents. The proposed action will improve the existing infrastructure within its existing alignment and thus will not change the cohesion of the neighborhoods and communities within the vicinity. The proposed action will not have any disproportionately high or adverse human health or environmental effects on minority and low income populations. Work will be completed during daylight hours, and the contractor will follow standard control measures that minimize fugitive dust. Additional information concerning these populations is included in Appendix D.

Demolition activities at the J&L Tunnel in Pittsburgh, Pennsylvania are limited to dates between January and May unless otherwise mutually agreed upon by CSX, the URA, the City of Pittsburgh and the Soffer Organization, Inc. Blasting of the existing structures for removal is not permitted. Work will be completed during daylight hours to avoid disrupting the nearby residents.

Information has been provided to the public regarding the proposed action on an ongoing basis through the NationalGateway.org website and a series of public informational workshops. No concerns regarding minority and/or low income populations were identified during the public informational workshops or through comments received from the website.

4.1.2.4 Public Health and Safety

New capacity, routes, or alignments are not part of the Phase I National Gateway Clearance Initiative. The current CSX infrastructure on the Phase I corridor is not equipped to accommodate double-stacked freight trains. The volume of freight is

projected to increase. Without completion of the proposed action, the line will become more congested, raising shipping costs and potentially crowding passenger rail and other services. Similarly, while the number of production jobs in the United States has decreased 13 percent in the last ten years, the population has continued to grow. This indicates fewer products are manufactured in the United States, while more consumers create an increased demand for goods, resulting in a strain on the nation's ports and freight transportation. Completion will allow more freight to be moved on any given train. Public health and safety benefits include the following:

- Providing the opportunity for reducing the number of long-haul trucks from the highway
- Reducing carbon dioxide emissions by 1.19 million tons (Appendix B)
- Promoting attainment of National Ambient Air Quality Standards

4.1.3 Traffic

Coordination has been completed for the proposed action in conjunction with the individual state Departments of Transportation (DOTs), as well as local and county officials. The Phase I National Gateway Clearance Initiative is projected to reduce highway congestion by providing the opportunity for reducing the number of long-haul trucks.

4.1.3.1 Maintenance of Traffic

The majority of work is limited to rail projects with no vehicular traffic detours or maintenance of traffic required. Two Pennsylvania obstructions will require traffic detours: 26th Street at J&L Tunnel in Pittsburgh and Church Street (SR 2037) in Garrett. Traffic plans (e.g., detours and traffic management measures) have been developed individually for each route and coordinated with local representatives. Vehicular and pedestrian traffic will be detoured during the construction of the proposed action at these locations. Details regarding the maintenance of traffic plans are included in Appendix E. The maintenance of traffic detour routes for these two facilities (26th Street and Church Street) were communicated at the Public Meetings, to which local officials including police, fire, and emergency personnel were invited. The

detour route will be directly communicated to local officials, including emergency personnel, neighborhoods and schools prior to the start of construction.

4.1.3.2 Congestion Reduction

The Phase I National Gateway Clearance Initiative will improve existing rail capability limitations that currently hinder the efficient flow of freight traffic. Modifying vertical clearances to allow for double-stacked intermodal trains will provide relief to congested rail and highway corridors by enabling trains to more efficiently carry freight. The increased capacity and improved economies of scale generated by the proposed action will provide a cost-effective solution to long-haul trucking. This will directly reduce highway congestion and reduce highway maintenance costs. Reduced maintenance costs will allow public dollars to be used for other necessary transportation projects that may not otherwise have available funding. Benefits associated with reduced truck traffic over the next 20 years include public roadway congestion cost savings of nearly $33.6 million and public roadway pavement cost savings of over $59.2 million.

4.1.4 General Conformity Analysis

4.1.4.1 Regulatory Background

Section 176(c) of the Federal Clean Air Act (CAA) provides that Federal agencies cannot engage, support, or provide financial assistance for licensing, permitting, or approving any project unless the project conforms to the applicable State Implementation Plan (SIP). A SIP is a compilation of a state's air quality control plans and rules, approved by the U.S. EPA. The State and U.S. EPA's goals are to eliminate or reduce the severity and number of violations of the National Ambient Air Quality Standards (NAAQS) and to achieve expeditious attainment of these standards.

Pursuant to CAA Section 176(c) requirements, the U.S. EPA promulgated Title 40 of the Code of Federal Regulations Part 51 (40 CFR 51) Subpart W and 40 CFR Part 93, Subpart B, "Determining Conformity of General Federal Actions to State or Federal Implementation Plans" (see 58 Federal Register [FR] 63214, [November 30, 1993], as amended, 75 FR 17253 [April 5, 2010]). These regulations, commonly referred to as the General Conformity Rule, apply to all Federal actions except for those Federal

actions which are excluded from review (e.g., stationary source emissions) or related to transportation plans, programs, and projects under Title 23 U.S. Code or the Federal Transit Act, which are subject to Transportation Conformity. The General Conformity Rule applies to all federal actions not addressed by the Transportation Conformity Rule.

40 CFR Part 51, Subpart W, applies in states where the state has an approved SIP revision adopting General Conformity regulations; 40 CFR Part 93, Subpart B, applies in states where the state does not have an approved SIP revision adopting General Conformity regulations.

The General Conformity Rule is used to determine if Federal actions meet the requirements of the CAA and the applicable SIP by ensuring that air emissions related to the action do not:

- Cause or contribute to new violations of a NAAQS;
- Increase the frequency or severity of any existing violation of a NAAQS; or
- Delay timely attainment of a NAAQS or interim emission reduction.

A conformity determination under the General Conformity Rule is required if the federal agency determines: the action will occur in a nonattainment or maintenance area; that one or more specific exemptions do not apply to the action; the action is not included in the federal agency's "presumed to conform" list, the emissions from the proposed action are not within the approved emissions budget for an applicable facility; and the total direct and indirect emissions of a pollutant (or its precursors), are at or above the *de minimis* levels established in the General Conformity regulations (75 FR 17255).

Conformity regulatory criteria are listed in 40 CFR § 93.158. An action will be determined to conform to the applicable SIP if, for each pollutant that exceeds the *de minimis* emissions level in 40 CFR § 93.153(b), or otherwise requires a conformity determination due to the total of direct and indirect emissions from the action, the action meets the requirements of 40 CFR § 93.158(c).

4.1.4.2 Evaluation

The General Conformity Rule first involves a conformity evaluation to determine if the proposed action requires a conformity determination based on the criteria listed above. Since the projects are not classified as "exempt" activities, a "presumed to conform" list does not exist for FRA, and there is no applicable facility budget, the last remaining test is the *de minimis* test. For this test, the quantity of the nonattainment or maintenance area pollutant from the project during the highest emission year is compared to the *de minimis* emissions level for that pollutant. If the emissions level is exceeded, further analysis and a conformity determination are required. The analyses must consider the construction emissions and include the total direct as well as indirect emissions as a result of the proposed action. Some of the proposed projects will be located in designated nonattainment or maintenance areas for particulate matter less than or equal to 2.5 microns in diameter (PM2.5) and ozone. A few of the proposed projects are located within a mile or less of designated maintenance areas for CO, SO2 and PM10. Because of their close proximity to those areas, they were assumed for the sake of this evaluation to be in those designated maintenance areas.

Therefore, in accordance with 40 CFR § 93.153 and 93.158, emissions of the following pollutants and precursors are assessed: ozone precursor compounds NOx and VOCs, SO2, CO, PM10, PM2.5 (direct) and PM2.5 precursor compounds (SO2 and NOx) are analyzed in a General Conformity analysis. The *de minimis* thresholds for this analysis (all areas) are as follows:

4.1.4.2.1 General Conformity De Minimis Thresholds

40 CFR § 93.153 defines DE MINIMIS levels, that is, the minimum threshold for which a conformity determination must be performed, for the criteria pollutants found for various criteria pollutants in various areas. The information for the project area is summarized here:

Table 2. General Conformity Rule De Minimis Emissions Levels Summary

Pollutant	Area Type	Tons/Year
Ozone (NOx)	Maintenance	100
Ozone (VOC)	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100
Carbon monoxide, SO2 and NO2	All nonattainment and maintenance	100
PM-10	Moderate nonattainment and maintenance	100
PM2.5 - direct, SO2, and NOx	All nonattainment and maintenance	100

4.1.4.3 Construction Emissions

Construction-related emissions are not covered by Ohio and Pennsylvania's nonattainment New Source Review (NSR) program (i.e., subject to offset requirements) and are therefore evaluated under the General Conformity Rule.

Construction-related emissions occur in calendar years prior to commencement of operations. No other project-related emissions will occur simultaneously with construction-related emissions. Specific obstructions (listed as projects below) are located in areas that are in or near nonattainment or maintenance for ozone, PM10, SO2, CO, and PM2.5, as described in Table 3.

Table 3. Obstructions Location and Associated Nonattainment/Maintenance Status

M = maintenance; NA = nonattainment

Project Name	City	State	ID	Activity	Pollutant
Thornton Street	Akron	OH	BG 131.00	Lower Track	1997 8-hr ozone (M) PM 2.5[1] (NA)

Table 3. Obstructions Location and Associated Nonattainment/Maintenance Status

M = maintenance; NA = nonattainment

Project Name	City	State	ID	Activity	Pollutant
Overhead Walkway	Akron	OH	BG 130.13	Lower Track	1997 8-hr ozone (M) PM 2.5 (NA)
W&LE Railway Bridge	Kent	OH	BG 118.20	Lower Track	1997 8-hr ozone (M) PM 2.5 (NA)
Main Street	Kent	OH	BG 117.30	Lower Track	1997 8-hr ozone (M) PM 2.5 (NA)
Recreational Trail[2]	Kent	OH	BG 115.80	Raise Bridge	1997 8-hr ozone (M) PM 2.5 (NA)
W&LE Railway Bridge	Kent	OH	BG 115.67	Raise Bridge	1997 8-hr ozone (M) PM 2.5 (NA)
NS Railroad Bridge	Ravenna	OH	BG 110.80	Lower Track	1997 8-hr ozone (M) PM 2.5 (NA)
Abandoned Railroad Bridge	Youngstown	OH	BG 76.60	Remove Bridge	1997 8-hr ozone (M)
Overhead Walkway	Coraopolis	PA	PLE 10.25	Remove Bridge	1997 8-hr ozone (NA) PM 2.5 (NA)
Ohio Central Railroad	McKees Rocks	PA	PLE 3.79	Lower Track/ Raise Bridge	1997 8-hr ozone (NA) PM 2.5 (NA)
Chartiers Creek	Pittsburgh	PA	PLE 3.36	Bridge Modification	1997 8-hr ozone (NA) PM 2.5 (NA)
Smithfield Street	Pittsburgh	PA	PLY 0.09	Lower Track	1997 8-hr ozone (NA)

Table 3. Obstructions Location and Associated Nonattainment/Maintenance Status

M = maintenance; NA = nonattainment

Project Name	City	State	ID	Activity	Pollutant
					PM 2.5 (NA) CO (M)
West End of J&L Tunnel[3]	Pittsburgh	PA	PLY 1.96	Remove Bridge	1997 8-hr ozone (NA) PM 2.5 (NA) SO2 (M)
J&L Tunnel	Pittsburgh	PA	PLY 2.00	Raise Tunnel Roof	1997 8-hr ozone (NA) PM 2.5 (NA) SO2 (M)
East End of J&L Tunnel	Pittsburgh	PA	PLY 2.37	Bridge Modification/Remove Portion of Bridge	1997 8-hr ozone (NA) PM 2.5 (NA) SO2 (M)
Walnut Street	McKeesport	PA	BF 309.70	Lower Track	1997 8-hr ozone (NA) PM10 (Mod- M) PM 2.5 (NA)

[1] All PM 2.5 areas are nonattainment under both 1997 and 2006 standards.

[2] Kent Recreational Trail and W&LE Bridge share abutments and were calculated as one construction project.

[3] West End of J&L Tunnel, J&L Tunnel, and East End of J&L Tunnel were calculated as one construction project.

The main construction activities for the projects within nonattainment (NA) and maintenance (M) areas are listed below:

- Equipment and site mobilization and demobilization
- Concrete/Asphalt activities
- Grinding, sanding, abrasive blasting activities

- Welding operations
- Open cutting activities
- Coatings usage
- Earth moving activities
- Onsite equipment
  - Generators
  - Compressors
  - Boilers
- Landscaping
- Fugitive dust
- Utility crew activities

For each of the projects, emissions from the construction activities were calculated as summarized in Table 4 and included in Appendix J of the Environmental Assessment.

Table 4. General Conformity Analysis – Total Emissions for Projects

	VOC (tons/year)	PM2.5 (tons/year)	PM10 (tons/year)	NOx (tons/year)	SO2 (tons/year)	CO (tons/year)
Akron, OH Non- Attainment Area						
Thornton Street (Akron, OH) - Lower Track	0.30	0.52	Not Applicable	4.08	Not Applicable	Not Applicable
Overhead Walkway (Akron, OH) - Lower Track	0.30	0.41	Not Applicable	4.08	Not Applicable	Not Applicable

Table 4. General Conformity Analysis – Total Emissions for Projects

	VOC (tons/year)	PM2.5 (tons/year)	PM10 (tons/year)	NOx (tons/year)	SO2 (tons/year)	CO (tons/year)
W&LE Railway Bridge (Kent, OH) - Lower Track	0.37	1.87	Not Applicable	5.22	Not Applicable	Not Applicable
Main Street (Kent, OH) - Lower Track	0.37	1.56	Not Applicable	5.22	Not Applicable	Not Applicable
Recreational Trail and W&LE Railway Bridge (Kent, OH) - Raise Bridge	0.22	1.13	Not Applicable	3.06	Not Applicable	Not Applicable
NS Railroad Bridge (Ravenna, OH)	0.25	1.23	Not Applicable	3.48	Not Applicable	Not Applicable
Pittsburgh, PA Non-Attainment Area						
Overhead Walkway (Coraopolis, PA)	0.00	0.01	Not Applicable	0.01	Not Applicable	Not Applicable
Ohio Central Railroad (McKees Rocks, PA)	0.30	6.27	Not Applicable	3.89	Not Applicable	Not Applicable
Chartiers Creek (Pittsburgh, PA)	0.00	2.07	Not Applicable	0.01	Not Applicable	Not Applicable
Smithfield Street (Pittsburgh, PA)	0.29	1.25	Not Applicable	4.00	Not Applicable	2.56
J&L Tunnel (Pittsburgh, PA)	4.36	18.54	Not Applicable	63.36	9.52	Not Applicable
Walnut Street	0.26	0.19	0.26	3.63	Not Applicable	Not Applicable

Table 4. General Conformity Analysis – Total Emissions for Projects

	VOC (tons/year)	PM2.5 (tons/year)	PM10 (tons/year)	NOx (tons/year)	SO2 (tons/year)	CO (tons/year)
(McKeesport, PA)						
General Conformity De Minimis Limits	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***

4.1.4.4 Conclusion

The worst case for emissions is expected to be the first year of operation. The estimated releases of CO, PM10, PM2.5, NOx, SO2, and VOCs are given in Appendix J. These emissions are below the general conformity *de minimis* emissions levels; therefore, no further action is required.

4.1.5 Noise and Vibration

The proposed Phase I of the National Gateway Clearance Initiative does not include new track on a new track location; significant alterations to track alignment; or changes in vehicle speed. The proposed action will not cause an increase in rail noise levels because it will not provide additional mainline tracks on a new alignment; it will not change the maximum operating speed of the track; and it will not substantially change the shielding effects of the surrounding area. At two Pennsylvania obstructions, 26th Street at the J&L Tunnel in Pittsburgh and Church Street (SR 2037) in Garrett, there will be minor changes to the alignment of the roadways. The elevation at Church Street will be raised by less than 3 feet, and 26th Street will be shifted to correct two skewed intersections with Tunnel Boulevard and South Water Street. There will be no changes to the roadway capacity. These minor changes in alignment do not meet FHWA's *Highway Traffic Noise Analysis and Abatement Policy and Guidance* (1995) Type I, project criteria. Traffic noise levels should not change as a result of the proposed improvements at these roadway locations. The proposed action at J&L Tunnel and at Church Street will not move traffic closer to receptors and is capacity neutral (train or vehicular).

Vibration from freight trains is generally dominated by the diesel locomotive, which is the prevailing weight on most trains and considerably heavier than most of the rolling stock. For example, locomotives weigh approximately 200 tons while coal or hopper cars weigh 143 tons (73 percent of the weight of the locomotive). By comparison, container stack railcars weigh approximately 73-110 tons maximum or only 56 percent of the weight of a locomotive. Although double-stacked cars could contribute to adverse vibration impacts depending on the weight and loading of the shipments, they are not likely to result in higher vibration levels than the heavier diesel locomotive, or coal cars. The locomotive engine remains the prevailing weight car and highest vibration level on most trains.

Other factors contributing to elevated vibration levels from freight train passbys, other than weight, include travel speed, stiffness of the suspension system, condition or trueness of the wheels, condition or type of rail, track type, and type of ground. Well-maintained double-stacked cars typically result in lower vibration levels than other freight railcars as their construction includes softer suspensions that dampen the load (which is intended to minimize damage during transit). Double-stacked cars are typically grouped in pods of five railcars. They have a shorter wheel base than traditional railcars, resulting in lower vibration levels because of the dispersed load. Therefore, the potential vibration effects resulting from the introduction of double-stacked container cars along the existing corridor are minimal based their construction and on the lower weight of the container cars compared to other cars or the locomotive engine.

4.1.6 Solid and Hazardous Materials

The vast majority of the individual improvements within the National Gateway Clearance Initiative are contained within the CSX ROW, and the ROW has been actively used for the movement of freight for decades. No other parties have participated or conducted business within the footprints of these proposed improvements without CSX's knowledge. Land acquisition is required for the construction of the proposed action in a few individual locations. Site visits have been completed to conduct the level of due diligence that meets state guidance and industry standards for determining the potential solid and hazardous materials outside the current ROW limits. This includes searching state and federal databases for records of spills or sites with known contamination in the vicinity of individual obstructions. CSX spill records were reviewed from 1991 to the present date. There were no documented spills reported at any of the obstructions.

Should solid and hazardous materials be encountered prior to or during the construction phase of the proposed action, any identified waste will be managed according to applicable federal, state, and local laws, ordinances, and regulations.

Furthermore, any excess materials generated during the grading/cut activities that cannot be used within the current CSX-owned property will be managed appropriately in accordance with applicable federal, state, and local laws, ordinances, and regulations. Materials excavated during construction are expected to be considered nonhazardous.

In Ohio, Environmental Site Assessment Screenings were completed in accordance with ODOT Office of Environmental Services (OES) Guidelines. Based on these assessments, no further environmental site assessments or special material management was warranted, except for Portage County, W&LE Railway Bridge, Kent and Abandoned Railroad Bridge/ ABCR Railway Railroad Bridge, and Kent Bridge Superstructure Raising. Both of these projects had stained soil. A Phase II Environmental Site Assessment, limited to soil characterization, will be conducted on the stained soils found in these projects prior to the project bid letting to determine if a plan note for special material management and proper disposal is required in the construction plans. In addition, W&LE Railway Bridge, BG118.20, Kent, Ohio will have a plan note for special management for contaminated groundwater that will be placed

in the construction plans since contaminated groundwater is located 5 feet below the surface and the project will lower the tracks 1.5 feet potentially encountering this contaminated water.

No other obstruction locations requiring additional environmental due diligence were identified for the proposed action.

4.1.7 Floodplains

Based on a review of the National Flood Insurance Program Mapping, individual obstruction work locations have portions within the 100-year flood boundary. The majority of these proposed actions are track lowering or bridge modifications; no additional fill will be added to the floodplains, and the proposed action will not result in an adverse impact to the floodplains. No fill will be placed in the regulated floodway for any of the proposed actions, including the CSX-owned properties that will be used for the placement of material removed from the tunnel modifications. All fill will be placed at least 50 feet from the regulated flood way.

4.1.8 Water Quality

Wetlands and/or Waters of the United States have been qualitatively and quantitatively assessed in the field to determine location and proximity to the Phase I National Gateway Clearance Initiative work areas. If wetlands and waterways were identified in the proposed action area, the design was modified to the extent possible to avoid these resources.

One proposed action in Phase I of the National Gateway Clearance Initiative, at CSX Railroad Bridge, Mexico, Maryland requires a U.S. ACE 404 permit, and corresponding 401 Water Quality Certification from the State of Maryland, for impacts to wetlands and jurisdictional streams. It is expected that the proposed action will permanently impact approximately 0.26 acre of wetlands, temporarily impact 0.37 acre of wetlands, and affect 1.0 to 1.5 acres of wetland buffer. Engineering designs to minimize these impacts are ongoing. Coordination regarding potential mitigation for the impacts at CSX Railroad Bridge will be completed as part of the permitting process. There are no other impacts to streams or wetlands at any of the other proposed action locations.

For those proposed improvements requiring earth disturbance over 1 acre, a SWPPP will be implemented during construction to reduce the potential for erosion and sediment runoff during construction activities. Best management practices for erosion control during construction will be implemented at all sewer outlets to minimize pollutants entering waterways. The contractors shall follow stormwater best management practices in accordance with each state's regulations (as noted in Ohio EPA Permit OHC0000003, Pennsylvania 25 State Code Chapter 102 & 102.1, Maryland Department of Environment [MDE] *et al*. 2009, MDE 1994, WVDEP 2006.).

At all improvement locations requiring a SWPPP, an NPDES construction storm water permit, verified by each state's environmental protection agency, will be included with the contract plans for adherence during construction. All conditions and terms associated with these permits will be fulfilled.

4.1.9 Biological Resources

Background state and federal databases listing threatened and endangered species have been reviewed to provide known inventories of protected populations. Field reconnaissance of the Phase I National Gateway Clearance Initiative corridor and specific improvement areas was completed by ARCADIS field biologists to determine if populations of protected species or suitable habitats are present and would possibly be affected by the proposed action. The proposed action is within the known range of the following federally listed species: Bald Eagle, Eastern Massasauga, Indiana bat, Mitchell's satyr, Northern Monkshood, Northeastern bulrush, Sheepnose Mussel, and Harperella. There will be no impact to the federally listed species or their suitable habitat.

In Ohio, there were no records for any of these species in ODNR's Natural Heritage Database within 1 mile of any of the individual obstructions, or within the same township or cities (when within an incorporated area) of any of the obstructions. There will be no impact to these species or their suitable habitat. There will be no tree removal for the obstructions in Ohio.

In Pennsylvania, Indiana bat suitable trees (living or standing dead trees or snags with exfoliating, peeling or loose bark, split trunks and/or branches, or cavities) have been identified in the proposed action area. Removal of these trees within the limits of

disturbance has been coordinated with the U.S. FWS, and completed in accordance with their guidelines. There will be no instream or wetland impacts in Pennsylvania. These stipulations are in accordance with correspondence received from the U.S. FWS Pennsylvania Field Office, dated March 4, 2010 and included in Appendix E.

There were no records of threatened and endangered species or natural trout streams for any of the obstructions in West Virginia based on correspondence from the WVDNR, Wildlife Resource Section for any of the Phase I obstructions in West Virginia. In West Virginia, trees suitable for Indiana bat summering roosts have been identified in the proposed action area. Removal of these trees within the limits of disturbance has been coordinated with the U.S. FWS. This determination is in accordance with the correspondence received from the U.S. FWS West Virginia Field Office, dated April 20, 2010, which is included in Appendix F.

According to the MDNR Wildlife and Heritage Service, there are no records for threatened or endangered species within or proximal to any of the obstructions. The U.S. FWS Chesapeake Bay Field Office determined no federally proposed or listed endangered or threatened species are within the Maryland obstruction areas, and no further consultation is required as documented in a letter dated October 27, 2009. Correspondence regarding protected species in Maryland is included in Appendix G.

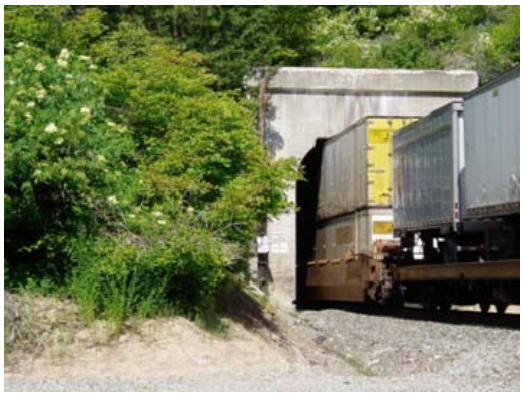
4.1.10 Visual and Aesthetics

The degree to which proposed action area aesthetics and visual character may be impacted depends upon the specific activities being undertaken. There are six main types of activities associated with the Phase I National Gateway Clearance Initiative. These include removing bridges, raising bridges; modifying bridges, modifying tunnels, open cutting tunnels, and lowering track. A brief explanation of the visual and aesthetic impacts associated with each activity follows.

Removing Bridges – There are several bridges within the Phase I corridor that no longer provide a useful function. The bridges are no longer used and are in poor condition. Such bridges will be removed. The removal of these structures will create a positive visual impact to the immediate area and the surrounding area's aesthetics. None of the four bridges in the Phase I corridor proposed for removal are historic

resources; therefore, there will be no changes to the historic aesthetics of the obstruction's surrounding area.

Raising Bridges – Bridge raising involves elevating the existing bridge superstructure and adding structural members to the bridge substructures. The activities will not substantially change the structure, appearance, or location of the bridges. Therefore, no visual impacts will occur from these activities. The change to the structure's aesthetics will be minor. During construction contractors will attempt to use materials that will blend with the existing structure.



Portal Notching

Modifying Bridges – Bridge modification involves the removal of an existing structure and construction of a new structure or modifications to existing structures that will remain in place. Modifications include removing and adding new wind bracing in different locations on undergrade truss bridges carrying CSX trains. Bridge replacements associated with the Phase I National Gateway Clearance Initiative will generally be done on the existing alignment and with similar structures. The bridges will be constructed to meet current engineering design and load standards. Because these activities will result in essentially the same view after completion, no visual or aesthetic impacts are expected.

Tunnel Notching

Modifying Tunnels – This activity involves portal or tunnel liner notching, widening the openings, removal of the existing tunnel liner and/or replacing the tunnel's structural components (total arch liner replacement). While the majority of the work associated with these activities will be within the tunnels, one evident component, the portal, will be visibly changed. The tunnel portals are an aesthetic feature to the railroad and will be substantially changed by the work. The replacement portals will result in an impact to the visual and aesthetic character of the rail corridor. These activities are proposed in remote locations that are not viewable by the general public. There is very limited opportunity for these changes to have an effect on the public.

Total Arch Liner Replacement

Open Cutting Tunnels – This activity involves removing the overburden from existing tunnels and removing all of the tunnel's structural material, resulting in an open cut for the railroad to pass through. These project areas will experience a substantial change in the visual character. A corridor of vegetation will be removed from the slope above the existing tunnel, and the tunnel will no longer exist. Although open cutting will create a change in the visual character of the area, these activities are proposed in remote locations that are not viewable by the general public. There is very limited opportunity for these changes to have an effect on the public.

Lowering track – This activity involves the removal of material (ballast, soil, and rock) beneath existing track to lower the elevation of the rails. Because the track remains in the existing location and there are limited structural changes, the visual character or aesthetics of the area does not change based on this activity.

Overall, the Phase I National Gateway Clearance Initiative will create changes to the visual and aesthetic character of the rail corridor and surrounding area. Most improvements to aesthetics will occur in areas where the public will have an opportunity to realize the improvements. Conversely, the negative effects expected from certain activities will be in areas where the general public will not be affected by them. Photographs depicting example tunnel modifications are provided in Appendix K.

4.1.11 Parks and Recreational Resources

There will be no permanent impacts to parks or recreational resources.

Portions of the proposed action are in the immediate vicinity of two bicycle/pedestrian paths (Kent Bike and Hike Path, Kent, Ohio and the Somerset County Rails to Trails Path Allegheny Highland Trail, Keystone Viaduct, Sand Patch, Pennsylvania) and a publicly owned area designated for open-space (Open Space over the J&L Tunnel, Pittsburgh, Pennsylvania). Impacts to the two bicycle/pedestrian paths and the publicly owned area designated for open space will be temporary in nature and of short duration. The resource will be fully restored at the completion of the proposed action, and these details been fully

J&L Tunnel Open Space Area

coordinated with the officials with jurisdiction over each of the three resources. MOUs are being completed with the officials with jurisdiction. All stipulations agreed upon in the MOUs will be followed. Copies of the MOUs are provided in Appendix H.

The City of Kent owns the bike path at Abandoned Railroad Bridge Superstructure Raising in Kent, Portage County, Ohio. The trail will be kept open during construction. Work will be minimal, with no permanent adverse physical impacts or interference with use of the trail, and the trail will be fully restored in accordance with the owner's stipulations.

The J&L Tunnel in Pittsburgh, Pennsylvania, is owned by CSX. The land over the J&L Tunnel is owned by the URA of Pittsburgh and is open space that the public are permitted to use for community events. The URA is a public entity organized under the Urban Redevelopment Law, 35 Pennsylvania Statutes 1701 et seq. The URA is a redevelopment organization. The land over the tunnel is open space that the public are permitted to use for community events. It has not been dedicated to the City of Pittsburgh as a public park, nor are there plans to do so. FHWA and FRA have concluded this open space is not a public park or recreation area under Section 4(f). An MOU between CSX and the URA is being completed regarding temporary impacts to the open space. The structure currently has an unknown load-bearing capacity over the tunnel. When the UR A has events on the open space over the tunnel, a section is cordoned off to protect the public. Upon completion of the proposed action, the entire open space will be available to the public, and larger events can be held. The open space will be unavailable to the public temporarily during construction. There will be no permanent adverse physical impacts. The area will be fully restored in accordance with the owner's stipulations and replaced in kind or better at the end of construction.

The Blue Lick Truss, Sand Patch, Pennsylvania is currently functioning as a bicycle/pedestrian bridge for the Somerset County rails to trails, and is part of the Potomac Heritage Trail Corridor. Coordination is ongoing with the county who owns the bike path. Based on Somerset County's request, the path will be maintained and kept open during construction. Work will be minimal, with no permanent adverse physical impacts, or interference with use of the trail, and the trail will be fully restored in accordance with the owner's stipulations.

Graham Tunnel, in the vicinity of Magnolia, West Virginia, runs through an unnamed hill in a peninsula of land bounded by the Potomac River. Graham Tunnel is located within the boundaries of the Maryland Green Ridge State Forest. It is also within the congressionally mandated boundary for the Chesapeake and Ohio Canal National Historical Park. However, according to CSX's records and those previously obtained from Green Ridge State Forest, the tunnel and the land above it are wholly contained within CSX property. No impacts to the state forest are expected. There are no state forest recreation facilities in proximity to the tunnel. Figures depicting the tunnel location, the CSX ROW, and the Green Ridge State Forest facilities are included in Attachment 6 of Appendix G. In a letter dated January 25, 2010, Green Ridge State Forest was informed of the proposed action at Graham Tunnel (see letter in Appendix G). Green Ridge State Forest responded, via email, on July 12, 2010 and this correspondence is included in Attachment 6 of Appendix G. There are no recreational features on Green Ridge State Forest that are adjacent to Graham Tunnel that warrant protection under Section 4(f). It should also be noted that NPS stated in a meeting on May 24, 2010, with FRA/FHWA, that it has no official interests in Graham Tunnel. The May 24 meeting summary is included in Attachment 3 of Appendix G.

4.1.12 Historic and Cultural Resource Coordination, Schedule and Process

All public meetings and/or media advisories have solicited public comments regarding the presence of any known cultural resources in the vicinity of the undertaking, in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (codified as 36 Code of Federal Regulations 800). Furthermore, invitations were submitted to consulting parties that were identified by the SHPO (Appendix C). When consulting parties responded, those entities have been apprised of cultural resource coordination, including receiving copies of submitted reports. As consulting parties provide comment, the team is working through their concerns with the SHPOs.

Coordination with Native American nations and tribes has been conducted as part of the Section 106 process. A list of nations and tribes contacted regarding the proposed action, as well as a summary of responses is included in Section 1.5, and the letter from FRA/FHWA is included in Appendix C.

The FRA/FHWA has coordinated with the Advisory Council on Historic Preservation (ACHP) regarding the various Adverse Effects determinations and inviting them to

participate in the consultation. In a letter dated July 9, 2010, ACHP noted that their participation in the Section 106 process is not needed. This letter is included in Appendix C.

An MOA is being developed with FRA/ FHWA, the four state SHPOs, the four state DOTs, and CSX. The MOA is included in Appendix C. Table 5 provides a summary of historic resources in each state, including their significance, effect determination, and impact to the resource.

4.1.12.1 Ohio Projects

Coordination has been conducted with the OHPO and ODOT-OES. The Portage Main Street obstruction is proximal to the NRHP boundaries of the Kent Industrial Historic District. No ROW within the NRHP boundary is required to facilitate the undertaking. Work will be temporary in nature and will not result in the removal or alteration of contributing features or elements. The OHPO concurred Kent Industrial Historic District will not be adversely affected by the undertaking. However, the OHPO will be provided an opportunity to review and comment on detailed design for the project once available.

Kent Industrial Historic District

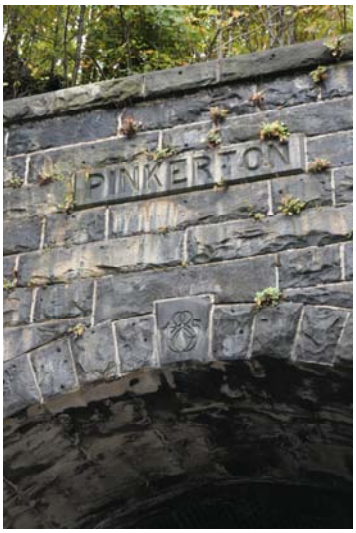
ODOT submitted a letter to the OHPO on September 29, 2009, requesting concurrence with their determination of effects under Section 106 for the proposed action. OHPO agreed with their findings on October 5, 2009. Completion of the track lowerings, two bridge raisings, and bridge removal will have No Adverse Effect to NRHP eligible resources, districts, or archeological sites. No further mitigation or coordination is required.

Kent W&LE Bridge Track Lowering Grade Adjustment

4.1.12.2 Pennsylvania

Coordination has been conducted with PHMC. An Eligibility Report and Effects Report have been completed and concurred with by the PHMC. PHMC required that the historic resources be evaluated on a corridor basis. Two historic corridors are included in the proposed action corridor, the former P&LE and B&O railroads. Both historic corridors will be preserved as a result of the proposed action. A total of eight contributing resources are within the

P&LE corridor, and nine contributing resources are within the B&O corridor. It was determined that there will be no Adverse Effect to the P&LE corridor. There is an Adverse Effect to the B&O corridor. The Adverse Effect is the result of the impact to the six tunnels within the B&O corridor.



Pinkerton Tunnel

Several meetings with PHMC have been conducted since the determination of Adverse Effect to discuss mitigation activities. Mitigation has been agreed to and will include salvaging the name and date plaques where possible, recordation of all contributing resources, and developing a web-based public outreach program.

Additionally, archaeological investigations were conducted at all locations where earth disturbance is expected. These obstruction locations primarily include the open cut tunnel locations and excess material placement areas. Background research and field investigations were conducted. Based on the studies completed, impacts to archaeological resources are not expected. Coordination of these efforts has been conducted with PHMC, and a report has been submitted for their records.

4.1.12.3 West Virginia

Coordination has been conducted with WVDCH. An Eligibility Report and Effects Report have been completed and concurred with by WVDCH. WVDCH required that the Magnolia Cutoff, which includes Carothers, Stuart, and Randolph tunnels, be evaluated on a corridor basis. While the Magnolia Cutoff will be preserved an Adverse Effect determination was made for the Magnolia Cutoff based on impacts to the three tunnels.

Stuart Tunnel View from East Portal

In their Effects concurrence letter, WVDCH outlined its intentions for mitigation of adverse effects. These include recordation of the tunnels and a public outreach program. Coordination is underway to discuss and refine the mitigation commitments.

No archaeological studies were required for the undertakings within West Virginia as construction activities are confined to the tunnel locations and the excess material placement areas where material from the West Virginia tunnels, as well as, Graham Tunnel in Maryland will be placed. WVDCH did comment that archaeology studies may

be required for the excess material placement areas. These areas are located in previously disturbed areas that were used for railroad activities, and no further studies are required. Documentation of these conditions is included in Appendix F.

4.1.12.4 Maryland

MHT required historic resources be evaluated on a per project basis. Two locations are included in Phase I, Graham Tunnel and Mexico Bridge. An Eligibility Report including these obstructions has been submitted and concurred with by MHT. Graham Tunnel is eligible for inclusion on the NRHP, and the Mexico Bridge is not eligible. MHT concurred with an Adverse Effect recommendation for Graham Tunnel. MHT's concurrence is documented in a letter dated June 15, 2010, in which MHT continued its coordination for mitigation of adverse effects and commented on the MOA.

Phase IA archaeological investigations, including background research and site walkovers, were conducted for the Mexico Bridge Siding. The areas have been found to be previously disturbed by railroad activities and industrial development, and therefore, it is recommended that no further archaeological studies are needed. Documentation for these activities is included in the Maryland Effects Report.

4.1.13 Section 4(f) Analysis Schedule and Process

The Net Benefit Programmatic Section 4(f) Evaluation has been prepared for the Phase I corridor for the Adverse Effects to the B&O Railroad Pittsburgh Division and the B&O Railroad Magnolia Cutoff, with input from the FRA/ FHWA and the states. The Section 4(f) Evaluation is included as Section 5 of this Environmental Assessment.

4.1.14 Indirect and Cumulative Effects

Indirect Impacts are caused by an action later in time or farther removed in distance but are still reasonably foreseeable. Indirect impacts may include growth-inducing effects and other effects related to induced changes in the patterns of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems [40 CFR 1508.8(b)].

The purpose of the Phase I National Gateway Clearance Initiative is to allow the use of double-stacked containers, thereby increasing the capacity of the existing rail corridor. Because the proposed action will utilize existing rail corridors, no corridor-wide changes to land use or development patterns will be created. Between the logical termini of the proposed action, no changes to rail access or support facilities are expected. Therefore, the proposed action is not expected to induce any indirect impacts to traffic flow or populations.

The logical termini for the proposed action include intermodal facilities in Northwest Ohio and Central Pennsylvania. The existing facilities are not solely associated with the Phase I National Gateway Clearance Initiative and serve the CSX rail system as a whole. Therefore, they are not considered indirect impacts of this project.

The Phase I National Gateway Clearance Initiative will create changes to both local and regional traffic patterns. The increased capacity of existing trains will have a positive effect on regional traffic by reducing long-haul trucking along routes served by the rail corridor. Although localized traffic at the intermodal facility locations will change, as a result of the projected increase in domestic and international freight traffic, these changes would occur whether the Phase I National Gateway Clearance Initiative is completed or not. Local traffic at these locations is influenced by the interaction of the overall rail system, as well as other unrelated local conditions. These traffic changes are addressed through the existing transportation programs of the local and state governments.

Cumulative Impacts are defined as impacts on the environment that result from the incremental impact of the action when added to past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions (40 CFR 1508.7).

In beginning the evaluation of potential cumulative impacts, it is necessary to define project related impacts that are at a level that have the potential to contribute to a cumulative impact. Three main categories of impacts are considered for this evaluation including natural resources, social resources, and cultural resources.

Because the limit of disturbance for the proposed action is largely located within the existing disturbed rail corridor, natural resource impacts are not extensive. Additionally,

the majority of Phase I of the National Gateway Clearance Initiative runs through a rural and often remote corridor. Therefore, the Phase I National Gateway Clearance Initiative is not expected to have cumulative impacts to natural resources.

Social resources include items such as land use, transportation systems, and community facilities. The Phase I National Gateway Clearance Initiative is being completed on an existing rail corridor, and no long-term impacts are expected to any social resources. Short-term changes to traffic patterns during construction may occur but will not be permanent. The rural and remote natures of most obstructions preclude any widespread impacts to these resources by other unrelated activities.

Cultural resources are those resources governed by Section 106 and include archaeological and historic structures. As presently proposed, the Phase I National Gateway Clearance Initiative will not impact any archaeological resources and therefore will not have a cumulative impact on them. Completion of the proposed action will allow the historic rail corridors to be preserved. If the railroad is prevented from taking actions that preserve its competitiveness and economic stability through increases in efficiency and reductions in chokepoint delays, the railroad's long term economic viability will be impaired and its ability to sustain itself for the next millennium will be highly unlikely. The loss of freight train service along the historic rail corridors would be the loss of an icon in the American story since its integrity lies in the railroad's location, feeling and associations which are rooted in this portion of the American landscape.

Construction of a new intermodal terminal is planned for the Pittsburgh, Pennsylvania area and CSX is privately funding the construction of the terminal. The intermodal terminal will complement the existing National Gateway corridor and will not be constructed until after completion of the clearance projects. This facility will be constructed in accordance with all applicable permit requirements.

4.1.15 Public Involvement

Public meetings and outreach have been coordinated through the state DOTs following their suggested guidance. Public feedback comments related to the Phase I National Gateway Clearance Initiative proposed action have been addressed to the fullest extent. The meetings were open house in nature. At each public meeting, posters depicting the National Gateway Clearance Initiative corridor were presented. Posters depicting the individual obstructions were also displayed. This allowed attendees to view clearance improvements in their area, relative to the larger National Gateway Clearance Initiative. CSX and its consultants were available to address attendee questions and concerns.

4.1.15.1 Ohio

In Ohio, a meeting was held for the ODOT District 4 projects that include all of the Ohio Federally Funded projects. The meeting was held on August 19, 2009, at Northeastern Ohio University's College of Medicine and Pharmacy's campus in Rootstown. A media advisory was submitted to nine print and eight television contacts in the area. Notification letters (105) were sent to local property owners; residents; interested parties; and local, county, state, and federal officials. The letter notified the recipient of the date, time, and location of the meeting, as well as solicited feedback for interested consulting parties under Section 106. The format of the meeting was an informal open house, and the room was arranged by county, with information on each of the obstructions. Handouts were prepared providing obstruction information. Over ten representatives from ODOT, CSX, and consulting firms were present to address questions on a one-on-one basis. A total of 12 attendees participated in the meeting.

Three public comments, related to the proposed action moving forward under the TIGER award, were received. One was a positive statement. The second comment was from the City of Kent related to its bike and hike trail at location BG 115.80 Abandoned Railroad structure. This comment led to the development of the MOU with the City of Kent for this resource. The third comment in reference to drainage in the vicinity of POR - NS Railroad Bridge, Ravenna, BG 110.80. Two additional comments

were received for one ARRA funded project; these comments were addressed separately. Copies of the comments, and comment responses made by CSX are provided in Attachment 14 of Appendix D.

4.1.15.2 Pennsylvania

Two open houses were completed in Pennsylvania, in Pittsburgh and Somerset on February 25, and March 9, 2010, respectively. A media advisory was submitted to 18 print contacts in the area. Notification letters were sent to local interested parties and local, county, state, and federal officials. The letter notified the recipient of the date, time, and location of the meeting, as well as solicited feedback for interested consulting parties under Section 106. The format of the meeting was an informal open house, and the room was arranged by county, with information on each of the obstructions. Handouts were prepared providing obstruction information. Over seven representatives from CSX and consulting firms were present to address questions on a one-on-one basis. A total of 21 participants attended the meeting in Pittsburgh, many of whom were representing construction firms interested in the work. One public comment, exclusive of requests to bid on the projects, was received. This comment was a suggestion for additional parking in the area of J&L Tunnel. A total of 31 attended the Somerset meeting. Three public comments, exclusive of requests to bid on the projects, were received. Two comments pertained to maintaining the Great Allegheny Passage, including keeping it open during construction of the Blue Lick Truss bridge raising. One of these comments was received from Ms. Linda Boxx, President of the Allegheny Trail Alliance, who maintains the Greater Allegheny Passage in the area. The third comment was for a company's product that relates to intermodal freight transport. Copies of the public comments, and responses made are provided as Attachment 14 of Appendix E.

4.1.15.3 West Virginia

Media releases and social advertisements were posted in the Martinsburg, West Virginia *Journal* requesting comments on the three tunnels and the interlocking on December 23 and 24, 2009. No comments were received.

4.1.15.4 Maryland

A public meeting was held in Harpers Ferry, West Virginia on March 3, 2010, to discuss the proposed modifications to four tunnels in Maryland: Graham, Harpers Ferry, Catoctin, and Point-of-Rocks tunnels. Harpers Ferry, Catoctin, and Point-of-Rocks tunnels are not part of Phase I. Citizens were invited to participate through a social advertisement and media release in the Martinsburg, West Virginia *Journal* and the Fredrick, Maryland *Frederick News-Post* on February 17, 2010. The meeting format was open house, allowing the approximately 20 participants to learn about the proposed action through displays, handouts, and agency and railroad representatives. Participants were also asked to provide comments about the proposed action. Four comments were received; none were specific to Graham Tunnel.

A public notice was published on May 24, 2010 in local newspapers to notify local stakeholders about the improvements proposed at CSX Railroad Bridge in Mexico Farms and to solicit comments. One comment was received which mentioned the potential historic nature of the bridge. As noted previously, MHT concurred in a letter dated June 15, 2010 that the Railroad Bridge at Mexico Farms is not eligible for inclusion on the NRHP.

4.2 State-by-State Component Impacts and Mitigation

The assessment of the individual obstructions, the proposed action, required coordination, and permits for Phase I of the National Gateway Clearance Initiative funded by the TIGER grant, Commonwealth of Pennsylvania TAP, or CSX capital funds are discussed in the individual State documents provided as Appendices D through G of this report.

4.3 Ohio Separately Funded Projects

To obtain the vertical clearance required to allow use of double-stacked trains through Ohio, seven bridges will be replaced; four will be removed; two bridges will be raised; five track lowerings will be completed; and two interlockings will be constructed (total of 18 obstructions, plus two interlockings). Ten of the clearance projects in Ohio have been separately advanced to replace or remove structurally deficient bridges and are described below.

4.3.1 Ohio State Funded Projects

Of these projects, four locations are being implemented by ODOT and CSX to move forward under a $10 million state allocation funded by Ohio Department of Development. These clearance improvement actions have been permitted in accordance with state and federal requirements and will include the following:

- Sullivan Ashland County, TR391, Bridge Replacement
- Sullivan, Ashland County, TR150, Bridge Removal
- Pawnee, Medina County, River Corners Road, Bridge Replacement
- Pawnee, Medina County, Pawnee Road, Bridge Removal

4.3.2 Ohio American Recovery and Reinvestment Act Funded Projects

Six of the obstructions and two interlockings have received a $20 million commitment of Ohio ARRA funds for the double-stacked rail clearance proposed action. These projects were separately approved as Categorical Exclusions (some included Programmatic Section 4(f) determinations by FHWA) in accordance with the Programmatic Categorical Exclusion Agreement between ODOT and FHWA on December 10, 2009, and include the following:

- Creston, Medina County, Mud Lake Road, Bridge Replacement
- Akron, Summit County, Park Street, Bridge Removal
- Kent, Portage County, Complete Interlocking, Construct Interlocking
- Ravenna, Portage County, Knapp Road Bridge Replacement
- Newton Falls, Portage County, Rock Spring Road, Bridge Replacement
- Newton Falls, Portage County, Upgrade Interlocking
- Niles, Trumbull County, Fifth Street Bridge Replacement

Fifth Street Bridge, Eligible to the NRHP

The Crain Avenue Bridge in Kent, Portage County, Ohio, (Project Identification 18466) is an ODOT-led project with a Categorical Exclusion approved by the FHWA on June 5, 2007, currently under construction.

Copies of the approved NEPA documentation for the ARRA-funded projects and Crain Avenue are provided as Appendix A.

5. Net Benefits Programmatic Section 4(f) Evaluation

5.1 Introduction

Section 4(f) of the Department of Transportation Act of 1966, as amended, stipulates that the U.S. DOT shall not approve the use of any publicly owned land from a public park, recreation area or wildlife or waterfowl refuge of national, State or local significance, or land from a historic site of national, State or local significance unless there is no feasible and prudent alternative to the use of the land and all possible planning to minimize harm resulting from such use is included. Coordination with the officials having jurisdiction over the resource has been initiated and will be ongoing through the duration of the proposed action. The FRA/FHWA will make the final 4(f) determination of use for all eligible resources.

There are two Section 4(f) resource types in Phase I of the National Gateway Clearance Initiative corridor; 1) Recreational trails, and 2) Historic properties. Following is a discussion of Section 4(f) resources associated with Phase I of the National Gateway Clearance Initiative.

5.1.1 Recreational Trails

Kent Hike and Bike Trail Bridge Raising

Two proposed actions are in the immediate vicinity of two bicycle/pedestrian paths: The Kent Hike and Bike Path, Kent, Ohio and the Somerset County Rails to Trails Path, Sand Patch, Pennsylvania. These two resources qualify for consideration under Section 4(f) as a publicly-owned, public park and/or recreation area of local and national significance, respectively. Impacts to the two bicycle/pedestrian paths will be temporary and of short duration, the resource will be fully restored at completion of the project and these stipulations have been fully coordinated with the officials having jurisdiction over each

of the resources. The MOUs with each of the two public agencies with jurisdiction for these two resources are included in Appendix H.

The Kent Hike and Bike Path is a 9.8 mile long, east-west, multi-use trail connecting the towns of Kent and Ravenna, Ohio. The Kent Hike and Bike is a rails to trails conversion and consists of an approximately 8-foot wide trail of primarily smooth crushed gravel and/or, as at the proposed action, asphalt. Northeast of Kent, Ohio, the trail crosses over the CSX mainline tracks by utilizing one bay of the 5-bay W&LE Railway bridge. The W&LE operating their Akron Barberton Cluster Railroad utilizes one bay, the Kent Hike and Bike utilizes one bay and the other three bays carry no rail or other traffic. The proposed action will elevate the two actively utilized bridge bays and remove the remaining three unused bays. Specifically in regards to the Kent Hike and Bike, a temporary run-around trail will be located approximately 34 feet south of and parallel to the existing trail and will utilize one of the adjacent unutilized bays to cross over the CSX mainline tracks. Approximately 750 feet of the trail will be closed and relocated to the temporary trail. An additional 133 feet of the spur extending to River Bend Boulevard will also be closed while that portion of the trail is re-built. The temporary trail will consist of aggregate or other material. The existing trail bridge will be raised approximately 1.78 feet and repairs will be made to the abutments. Restoration of the existing trail will consist of removal of the asphalt, regrading, placement of the asphalt overlay and grading of the adjoining fill slopes. The turf shoulders adjacent to the trail will be seeded and mulched. If limited woody vegetation removal is required the area will be replanted in kind. Construction activities are estimated to last 10 to 12 weeks but the temporary trail will only be required for 6 to 8 weeks. The temporary detour of the trail and the reconstruction has been coordinated with the City of Kent, the owner of this section of the trail.

The Blue Lick Truss is located in Somerset County, Pennsylvania. The truss and associated Keystone Viaduct, carry the Great Allegheny Passage, a 150-mile system of biking and hiking trails that connect Cumberland, Maryland and Pittsburgh, Pennsylvania, over the Flaugherty Creek and the CSX mainline. The Great Allegheny

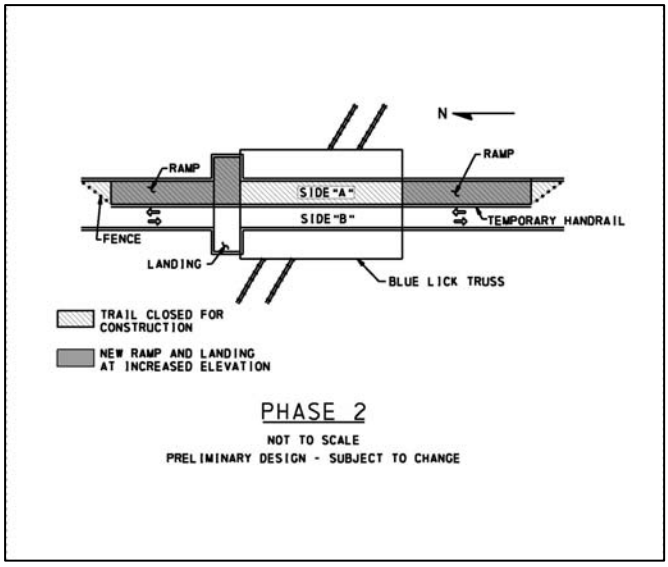
Passage is one segment of the larger Potomac Heritage National Scenic Trail. Coordination with the NPS has been initiated and will be ongoing through the duration of the proposed action.

The Great Allegheny Passage is a rails to trails conversion and consists of an approximately 10-foot wide trail of primarily smooth crushed gravel. The Blue Lick Truss and Keystone Viaduct have been refurbished for the multi-use trail and support an approximately 10-foot wide concrete path. The northern end of the truss terminates at an approximately 15-foot by 30-foot fenced landing that adjoins the gravel hiking trail. The southern end of the truss is connected to the Keystone Viaduct. The proposed action will elevate the Blue Lick Truss approximately 12 inches to provide sufficient vertical clearance for double-stacked intermodal freight trains. Construction work to elevate the Blue Lick Truss will be conducted primarily underneath the truss from the CSX ROW. The construction will be completed in roughly five phases:

- Phase 1 will consist of preliminary construction work to release the bridge from its abutments and to install the temporary hydraulic jacks that will be utilized to raise the bridge. This phase of the work will be completed primarily from the CSX ROW beneath the bridge.

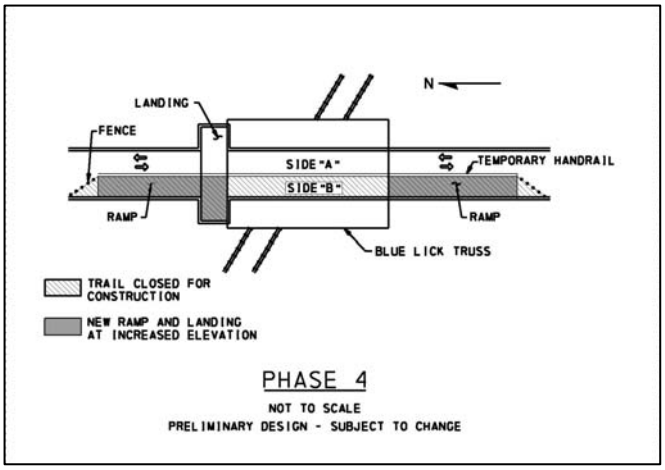
- Phase 2 will consist of closing one-half of the 10-foot wide multi-use trail (Side A). Construction fencing will be utilized to direct all trail traffic to the open side of the bridge (Side B). The trail will be signed to direct all bikers to dismount and walk their bikes through the construction zone. New concrete ramps, to the higher bridge elevation, will be constructed on the closed half of the trail (Side A).

- Phase 3 will consist of raising the bridge. It is anticipated that one overnight closure of the trail will be needed to jack the truss the necessary 12 inches. Once the bridge is at the higher elevation, bolsters will be placed at the top of the abutments and the bridge will be lowered and reattached.



- Phase 4 will consist of switching the open and closed side of the multi-use trail. Side A, with the new ramps at the higher elevation, will be opened and Side B will now be closed. Again, construction fencing will be utilized to direct all trail traffic to the open side of the bridge (Side A). The trail will be signed to direct all bikers to dismount and walk their bikes through the construction zone. New concrete ramps will be constructed on the now closed side of the trail (Side B).

- Phase 5 will consist of completion of construction and opening of the full width of the trail over the bridge.



The landing on the north end of the truss will also be renovated to meet the new elevation of the truss. The new ramps and landing will be constructed from concrete and the red coloring will match the existing concrete of the truss and viaduct trail. Construction activities are estimated to last 10 to 12 weeks but that the temporary trail constriction will be required for less than one month. It is anticipated that one overnight closure of the trail will be needed to jack the truss the necessary 12 inches. The closure and temporary constriction have been coordinated with Somerset County, the owner of this section of the trail.

Impacts to the two bicycle/pedestrian paths will be temporary and of short duration, the resources will be fully restored at completion of the project and these stipulations have been fully coordinated with the officials having jurisdiction over each of the two resources. The FRA/FHWA will make the final determination of use under Section 4(f) the Department of Transportation Act of 1966, as amended. As such there is no use of these resources under Section 4(f) the Department of Transportation Act of 1966, as amended. The MOUs with the public agencies having jurisdiction over these resources are included in Appendix H. The MOU with Somerset County has been submitted and is awaiting final signatures.

5.1.2 Historic Sites

Portions of the National Gateway Clearance Initiative – Phase I proposed action include three historic railroad corridors, which have been determined to be historic sites of national and State significance: P&LE Railroad, Pennsylvania; B&O Railroad Pittsburgh Division, Pennsylvania; and, B&O Railroad Magnolia Cutoff, West Virginia and Maryland; and are in the immediate vicinity of three historic bridges of national significance: Smithfield Street Bridge (National Engineering Landmark), Pittsburgh, Pennsylvania; Walnut Street (SR 0048) Bridge (Boston Bridge), McKeesport, Pennsylvania; and Blue Lick Truss, Sand Patch, Pennsylvania.

Smithfield Street Grade Adjustment

The Pittsburgh & Lake Erie Railroad stretched from Hazelton, Ohio, at its northwest end to 24th Street in Pittsburgh, Pennsylvania at its southeast end. The Pittsburgh, McKeesport & Youghiogheny Railroad extended the line southeast from the terminus of the original main line at 24th Street in Pittsburgh to Connellsville, Pennsylvania. These two sections form the historic P&LE Railroad corridor. The entire alignment is currently owned and operated by CSX. The following contributing resources to the P&LE Railroad are in the immediate vicinity of or will be improved by the proposed action: Chartiers Creek Bridge, Pittsburgh & Lake Erie Station, and J&L Tunnel all located in Pittsburgh, Pennsylvania. These resources all qualify for consideration under Section 4(f) as significant historic sites as they are either on, or have been determined eligible for, the NRHP. Through coordination with the Pennsylvania SHPO (PHMC) and design modifications, it has been determined that there will be no adverse affects by the proposed action on the P&LE Railroad including elements such as the railroad's vertical and horizontal alignment, tunnels and bridges, signal equipment, rock and slide fencing, drainage, stations/stops, cut and fill slopes, sidings, switches, right of way/ownership limits,

Chartiers Creek Bridge Modification

vegetation; as well as the noted contributing resources: Chartiers Creek Bridge, Pittsburgh & Lake Erie Station, and J&L Tunnel.

The B&O Railroad Pittsburgh Division stretches from McKeesport, Pennsylvania to Cumberland, Maryland. This historic railroad corridor includes the following contributing resources Wills Creek Bridge at Hyndman, six tunnels in Somerset County and the two unnamed bridges over Wills Creek which are the approaches to Falls Cut Tunnel. These contributing resources are either in the immediate vicinity of or will be improved by the proposed action. Due to proposed vertical clearance improvements at the six tunnels in Somerset County, the PHMC determined that there would be an adverse effect by the proposed action on the B&O Railroad Pittsburgh Division. The proposed alterations to these contributing resources constitute a 'use' by the proposed action under Section 4(f) the Department of Transportation Act of 1966, as amended. The Wills Creek Bridge at Hyndman, Pennsylvania is a contributing resource and is also vertical clearance obstructions for double- stacked, intermodal, freight cars. Through coordination with the PHMC and design modifications, improvements to the superstructure of this historical bridge will not adversely impact this contributing resource. There will be no impacts to, therefore no effects on many of the other B&O Railroad Pittsburgh Division elements such as the two unnamed bridges over Wills Creek which are the approaches to Falls Cut Tunnel and the railroad's vertical and horizontal alignment, various unnamed bridges, signal equipment, rock and slide fencing, drainage, stations/stops, cut and fill slopes, sidings, switches, right of way/ownership limits, and vegetation.

The B&O Railroad Magnolia Cutoff is a historic, twelve-mile-long, double-track extending southwest from Orleans Crossroads in Morgan County, West Virginia to Okonoko in Hampshire County, West Virginia, passing through Allegany County, Maryland along the way. The Cutoff includes four tunnels (Carothers, Graham, Stuart and Randolph), a long cut at Doe Gully, two bridges over the Potomac (Kessler and Magnolia bridges), and a concrete retaining wall west of Paw Paw, all of which are contributing resources. Due to the proposed vertical clearance improvements at the four tunnels it was determined that there would be an adverse effect by the proposed action on the B&O Railroad Magnolia Cutoff. The proposed alterations to these contributing resources constitute a 'use' by the proposed action under Section 4(f) the Department of Transportation Act of 1966, as amended. The proposed action will have no impact on, therefore will not affect the Kessler or Magnolia bridges, the long cut at

Doe Gully or the concrete retaining wall west of Paw Paw and the railroad's vertical and horizontal alignment, various unnamed bridges, signal equipment, rock and slide fencing, drainage, stations/stops, cut and fill slopes, sidings, switches, right of way/ownership limits, and vegetation.

The Smithfield Street Bridge in Pittsburgh, Pennsylvania and the Walnut Street Bridge in McKeesport, Pennsylvania are historic bridges of national significance. The CSX mainline tracks underneath each of these historic bridges will be lowered as part of the proposed action. Through coordination with the PHMC and design modifications, it has been determined that there will be no adverse affects by the proposed action on the Smithfield Street Bridge or the Walnut Street Bridge, nor will any property within a historic boundary be acquired. As such there is no 'use' by the proposed action of the Walnut Street Bridge or the Smithfield Street Bridge under Section 4(f).

Blue Lick Truss Trail Entrance

The Blue Lick Truss is a historic bridge of national significance located in Somerset County, Pennsylvania. This bridge will be raised approximately 12 inches as part of the proposed action, as described previously. Through coordination with the PHMC and design modifications, it has been determined that there will be no adverse affects by the proposed action on the Blue Lick Truss nor will any property within a historic boundary be acquired. As such there is no 'use' by the proposed action of the Blue Lick Truss, as a historic resource, under Section 4(f).

Figure 2 depicts the Phase I corridor and the 30 proposed clearance locations, and Figures 3 and 4 depict the two B&O railroad corridors. The P&LE corridor is depicted as Figure 5.

5.1.3 Applicability of the Net Benefits Section 4(f) Programmatic

The Net Benefit 4(f) Programmatic has been prepared by the U.S. DOT for federally funded transportation projects, which in the view of the Administration and official(s) with jurisdiction over the Section 4(f) property, the use of the Section 4(f) property will result in a net benefit to the Section 4(f) property. In order to satisfy these criteria the following requirements must be met:

1. The proposed transportation project uses a Section 4(f) park, recreation area, wildlife or waterfowl refuge, or historic site.

2. The proposed project includes all appropriate measures to minimize harm and subsequent mitigation necessary to preserve and enhance those features and values of the property that originally qualified the property for Section 4(f) protection.

3. For historic properties, the project does not require the major alteration of the characteristics that qualify the property for the NRHP such that the property would no longer retain sufficient integrity to be considered eligible for the listing. For archaeological properties, the project does not require the disturbance or removal of the archeological resources that have been determined important for the preservation in-place rather than for the information that can be obtained through data recovery. The determination of a major alteration or the importance to preserve in-place will be based on consultation consistent with 36 CFR Part 800.

4. For historic properties, consistent with 36 CFR Part 800, there must be agreement reached amongst the SHPO and or Tribal Historic Preservation Officer, as appropriate, the FHWA and the Applicant on Measures to minimize harm when there is a use of Section 4(f) property.

5. The officials with jurisdiction over the Section 4(f) property agree in writing with the assessment of the impacts; the proposed measures to minimize harm; and the mitigation necessary to preserve, rehabilitate and enhance those features and values of the Section 4(f) property; and that such measures will result in a net benefit to the Section 4(f) property.

6. The Administration determines that the project facts match those set forth in the Applicability, Alternatives, Findings, Mitigation and Measures to Minimize Harm, Coordination and Public Involvement sections of this programmatic agreement.

Any project that satisfies these criteria may make use of the Net Benefits 4(f) Programmatic and will not require an Individual Section 4(f) Evaluation, regardless of class of action under NEPA.

5.1.4 Summary

This Net Benefits Programmatic Section 4(f) Evaluation will focus on the National Gateway Clearance Initiative – Phase I proposed action, the use of the B&O Pittsburgh Division and B&O Magnolia Cutoff which are two historic, 4(f) resources and the net benefit to historic rail corridors from implementation of the proposed action. A "net benefit" is achieved when the transportation use, the measures to minimize harm, and the mitigation incorporated into the project results in an overall enhancement of the Section 4(f) property when compared to both the future do-nothing or avoidance alternatives and the present condition of the Section 4(f) property, considering the activities, features, and attributes that qualify the property for Section 4(f) protection. This is in accordance with the criteria set forth in the Final Nationwide Programmatic Section 4(f) Evaluation and Determination for Federal-Aid Transportation Projects That Have a Net Benefit to a Section 4(f) Property issued April 20, 2005 (75 FR 20618-20630).

5.2 Summary of Affected Section 4(f) Resources

5.2.1 Introduction

Two railroad corridors along the Phase I route, the former B&O Railroad Pittsburgh Division in Pennsylvania and the B&O Railroad Magnolia Cutoff in West Virginia and Maryland have been identified as eligible for the NRHP. Within these two historic railroad corridors are ten tunnels, which are contributing resources to these two historic railroad corridors and which are also vertical clearance obstructions for double-stacked, intermodal, freight cars. During coordination for this undertaking with the respective SHPOs, it has been determined that both of these historical resources will be adversely effected by the proposed action due to proposed improvements at these

corridors' tunnels. Both of these former B&O Railroad corridors are currently owned by CSX.

There are six tunnels on the B&O Railroad Pittsburgh Division. From west to east, the tunnels are:

Benford Tunnel, Confluence, Somerset County, Pennsylvania
Brook Tunnel, Confluence, Somerset County, Pennsylvania
Shoo Fly Tunnel, Confluence, Somerset County, Pennsylvania
Pinkerton Tunnel, Pinkerton, Somerset County, Pennsylvania
Sand Patch Tunnel, Sand Patch, Somerset County, Pennsylvania
Falls Cut Tunnel, Fairhope, Somerset County, Pennsylvania

There are four tunnels on the B&O Railroad Magnolia Cutoff. From west to east, the tunnels are:

Carothers Tunnel, Paw Paw, Morgan County, West Virginia
Graham Tunnel, in the vicinity of Magnolia WV, Allegany County, Maryland
Stuart Tunnel, Hansrote, Morgan County, West Virginia
Randolph Tunnel, Hansrote, Morgan County, West Virginia

As noted previously, the clearance locations are depicted in Figure 2. Additionally, Attachments 1 and 2 within Appendices E, F, and G (Documentation for Pennsylvania, West Virginia and Maryland, respectively) include maps of the tunnel locations on a smaller scale and each the project's limits of disturbance (LODs), respectively. Correspondence from the PHMC is included in Attachment 12 of Appendix E. Correspondence from the WVDCH is included as Attachment 3 of Appendix F. Correspondence from the MHT is included as Attachment 3 of Appendix G.

5.2.2 Rail Corridor History

5.2.2.1 B&O Railroad

The following discussions and descriptions of the B&O Railroad Pittsburgh Division and the Magnolia Cutoff are primarily from the eligibility determination forms completed

by A.D. Marble & Company for those two resources and submitted to the Pennsylvania and West Virginia SHPOs, respectively.

In the 1820s, the fast-growing east coast port city of Baltimore, Maryland faced economic stagnation unless it opened routes to the western states. The B&O Railroad Company was incorporated on April 24, 1827, a group of prominent Baltimore businessmen seeking to remain competitive with the cities of New York and Philadelphia. New York and Philadelphia were out pacing Baltimore as trade and exploration extended westward via canal and turnpike routes. The B&O Railroad was intended to provide not only an alternative to, but also a faster route for Midwestern goods to reach the East Coast than the seven-year-old, hugely successful, but slow Erie Canal across upstate New York. Railroad transport was limited at that time; however, the risky venture was supported because Maryland's rugged geography made a canal impractical and turnpike travel was comparably expensive and labor intensive. The first section of the line was laid out entirely in Maryland, beginning in Baltimore and following the Patapsco River, crossing Parrs Ridge, continuing through the Monocacy River Valley to the Potomac River near Harpers Ferry, and following the Potomac River to Cumberland. The first 13 miles of track were completed from the station at Pratt Street in Baltimore to Ellicott Mills in May 1830, and the B&O Railroad soon after became the first American railroad to offer scheduled passenger service. The line was completed to Harpers Ferry in December 1834. The B&O Railroad constructed a bridge over the Potomac River at Harpers Ferry in January 1837, and began construction to Cumberland along the south bank of the river in 1839. The line finally reached Cumberland in November 1842. Expansion westward from Cumberland to the Ohio River at Wheeling, Virginia (now West Virginia), began in 1850 and ended in December 1852. By the outbreak of the Civil War, the B&O Railroad included 531 miles of rail line, all located south of Pennsylvania. The B&O Railroad continued to expand steadily. As people migrated further west, the cities of Cincinnati, Ohio; St. Louis, Missouri and Chicago, Illinois became the new targets for the B&O Railroad, with the railroad finally reaching Chicago in November 1874. By the end of the nineteenth century, the railroad had achieved almost 5,800 miles of track and connected Chicago and St. Louis to Baltimore, Washington D.C., Philadelphia, and New York.

5.2.2.1.1 Baltimore & Ohio Railroad Pittsburgh Division - Pennsylvania

By the mid-nineteenth century, railroading had proven to be an efficient means of transporting large numbers of passengers and mass quantities of freight over long distances and through rough terrain. Rivalry between railroad companies increased as expansion continued westward and companies sought new markets in the Midwest. The Pennsylvania Railroad became the B&O Railroad's chief competitor during this period. The competition was typified by the companies' simultaneous attempts to reach Pittsburgh, Pennsylvania, starting in the 1840s.

The Pittsburgh Division of the B&O Railroad originated with the Pittsburgh & Connellsville Railroad, with underwriting from the B&O Railroad, and was constructed between Pittsburgh, Pennsylvania and Cumberland Maryland from 1847 to1871. The Pittsburgh & Connellsville Railroad was leased to the B&O Railroad for a term of fifty years starting January 1, 1876. The Pittsburgh & Connellsville Railroad officially merged into the B&O Railroad on September 25, 1912 and the line became known as the Pittsburgh Division.

The B&O Railroad viewed most of the route as a thoroughfare rather than a destination; however, numerous branch lines were constructed by the railroad and other entities to connect major population centers and local industries to the line. These branch lines connecting to the Pittsburgh & Connellsville Railroad formed an extensive network in Somerset County by the end of the nineteenth century, aiding in the development of the county's coal mining industry. In 1874, three years after the completion of the Pittsburgh & Connellsville Railroad, eleven small Somerset County coal companies produced 6,500 tons. By 1883, coal production in the county increased to nearly 280,000 tons per year, reflecting the enormous impact of the railroad. The railroad similarly impacted the coal industry in Fayette County. Thirty coal works were established along the Pittsburgh & Connellsville Railroad and branches by 1882. The number of coke ovens in the Connellsville region jumped from 176 in 1871, the year the Pittsburgh & Connellsville Railroad was completed, to 7,211 in 1880. In 1871, the Connellsville region produced 92 percent of the coke in the country, and as late as 1918 Fayette and Westmoreland counties still produced nearly half of the nation's coke. The Pittsburgh & Connellsville Railroad played a significant role in transporting that product to Pittsburgh, where it was used to manufacture steel, and in transporting steam coal to eastern and western markets. The line joined the B&O Railroad's original main line at Cumberland, Maryland and connected the ports in

Baltimore, the steel industry in Pittsburgh, and the Cumberland and Connellsville coal and coke regions. The Pittsburgh Division was a freight and passenger line. It carried a number of commodities; however, the majority of its tonnage consisted of coal from the 1850s through at least the first two decades of the twentieth century.

A number of improvements were made to the Pittsburgh Division between 1880 and 1920. The most significant improvements to the Pittsburgh Division were made in the late 1890s and early twentieth century as a result of an increase in traffic. The Fort Hill Low Grade, completed in 1902, was intended to provide heavy freight trains a low-grade alternative to the steep original route between Confluence and Fort Hill. In addition Falls Cut Tunnel was completed on a new alignment in 1897 to increase efficiency at Fairhope. And finally, Sand Patch Tunnel was reconstructed on a new alignment between 1911 and 1912, increasing traffic capacity with the addition of second track and reducing the grade inside the tunnel.

5.2.2.1.2 Baltimore & Ohio Railroad's Magnolia Cutoff - West Virginia and Maryland

Following construction of the B&O Railroad's Metropolitan Branch in the 1870s, the portion of the original line between Baltimore and Point of Rocks, Maryland became known as the "old line" and then the Old Main Line. The portion of the Old Main Line between Point of Rocks and Weverton, Maryland was improved and incorporated into the Metropolitan Branch, and the section west of Weverton to Cumberland, Maryland became known as the East End Subdivision of the Cumberland Division.

The terrain through which the East End Subdivision passed presented engineering and financial challenges to the B&O Railroad, including the winding Potomac River path laid astride steep mountainsides between Doe Gully, West Virginia and Paw Paw, West Virginia. The problem of maintaining traffic flow along the East End Subdivision grew in the late nineteenth century as the route became an artery for ever-increasing freight traffic flowing east and west. By the 1900s, the need to improve the facilities east of Cumberland, Maryland, was apparent as the increase of bituminous coal shipped from the coal fields of Maryland, West Virginia, and Pennsylvania, coupled with the movement of passenger and fast freight, taxed the facilities along this section of the line. With increasing density and continued lack of facilities, the portion of the line between Patterson Creek and Cherry Run came to be known as the "Neck of the Bottle." Between the years 1910 and 1913, there was a 25 percent increase in the

Carothers Tunnel East Portal

amount of tonnage traveling over the line, necessitating a change to eliminate congestion. The eastbound track between Orleans Road (Orleans Crossroads, West Virginia) and Okonoko (Little Cacapon, West Virginia) was especially problematic as it included two single-track tunnels (Paw Paw and Doe Gully) and the steepest grade remaining between Martinsburg, West Virginia and Cumberland, Maryland at Hansrote, West Virginia.

The Magnolia Cutoff, which was constructed between 1913 and 1914, was meant to expedite trains traveling along this problematic stretch of tracks that followed the Potomac River. The twelve-mile-long double-track Magnolia Cutoff extends southwest from Orleans Crossroads in Morgan County, West Virginia to Okonoko in Hampshire County, West Virginia, passing through Allegany County, Maryland along the way. The line was shaped by the rugged terrain of the heavily forested peninsulas in the Paw Paw Bends of the Potomac River, through which it passes. The Magnolia Cutoff involved the elimination of several bends around steep ridges, thereby shortening the route, as well as improvements in grade over the line. The route includes four tunnels (Carothers, Graham, Stuart and Randolph), a long cut at Doe Gully, two bridges over the Potomac, and a concrete retaining wall necessary to hold the mountainside back where space was limited along the river.

The Magnolia Cutoff provided the B&O Railroad with four tracks through the area. The B&O Railroad moved eastbound freight traffic over the High Line and used the Low Line tracks for east and westbound passenger traffic and westbound freight traffic. Thus, although it was assigned to the passage of growing levels of freight, the cutoff also facilitated passenger traffic movement along the East End of the Cumberland Division.

5.2.2.2 Rail Decline and Current Rail Renaissance

In the 1820s, the B&O Railroad started as risky "high-tech" investment and overtime it developed into a successful enterprise. The B&O Railroad and other railroads

economically linked states and cities as they moved passengers and freight. With westward expansion and innovations in engine design, the cost of freight dropped radically and travel became affordable to a larger segment of the population. Before railroads, overland transportation was unreliable and slow. The abundance of raw materials, farm products, and industrial output needed a reliable way to get them to markets. The railroad became a primary means of transporting finished goods from factories in the East to the West and agricultural products, steel, and coal from the West to the eastern cities. Goods and people moved with speed and efficiency. The railroad industry also had a tremendous impact on the development and economy of the cities it connected. It greatly influenced real estate values and spurred regional concentrations of industry.

In the 1900s the B&O Railroad continued to refine their system, focusing on reducing grades and curves, addressing bottlenecks, and converting single track to double track, instead of adding new additions. Traffic along the B&O Railroad reached its peak in 1919, and dropped off significantly during the Great Depression, with its low in 1932. Total freight tonnage was cut in half; whole coal traffic dropped 41 percent. Increased truck use, and the depletion of coal and lumber resources contributed to this decline. Passenger traffic reduced, as Americans became more dependent on personal automobile use. Rail freight picked up during World War II as the Nation required increase coal use, merchandise movement, including military supplies and troop travel, to support the war effort. Post World War II, the Interstate System was introduced caused a system wide decline in rail transportation. Changes in transport, storage and the handling of freight commodities over the next four decades resulted system wide changes, causing many facilities and rail lines to become obsolete. The B&O reached its all-time financial low in 1961. The Chesapeake and Ohio Railway took control of the railroad shortly thereafter, in 1963. The B&O Railroad was operated under the Chesapeake and Ohio Railway's new corporate structure, the Chessie System, from 1972 until 1987, when both companies formally merged into CSX Transportation, Inc. in 1987, marking the official end of B&O Railroad's corporate existence. CSX Transportation, Inc. continues to own and operate the railroad today.

Currently, freight railroads are experiencing a Rail Renaissance and are critical to the economic well-being and global competitiveness of the United States. "They move 42 percent of our nation's freight (measured in ton-miles) - everything from lumber to vegetables, and coal to orange juices…" (National Atlas, 2009). Railroads currently

move more intercity-freight than any other mode of transportation. The rail share of intercity ton-miles has been trending upward over the past 10 to 15 years. In addition, over the past ten years, intermodal traffic - the movement of truck trailers or containers by rail, has been the fastest growing rail traffic segment. Intermodal combines the door-to- door convenience of trucks with the long-haul economy of railroads. Rail intermodal transports a huge range of goods - everything from bicycles to automotive parts, lawn mowers to glassware, greeting cards to bottled water, and toys to computers. The efficiency of intermodal - and of freight railroading in general - provides our nation with a huge competitive advantage in the global economy. (National Atlas, 2009).

5.2.3 Contributing Resources

5.2.3.1 Pennsylvania - B&O Railroad Pittsburgh Division

The PHMC and the SHPO determined the B&O Pittsburgh Division rail line in Allegheny, Bedford, and Somerset Counties is eligible for the NRHP, and notified CSX of this determination in a letter dated February 26, 2010. The B&O Railroad Pittsburgh Division is eligible for listing in the National Register under Criterion A for its association with late nineteenth and early twentieth century transportation and industrial development in Pennsylvania. The Pittsburgh Division was the first major route through Bedford, Somerset, and Fayette counties. Its completion in 1871 prompted the construction of a vast network of branch lines in the counties through which it passed, stimulating economic and industrial development. The Pittsburgh Division significantly impacted the coal mining and coke production industries in the Connellsville region by providing an outlet for coke to Pittsburgh and for steam coal to eastern and western destinations. The railroad contributed to the Connellsville region's status as the nation's coke production center in the late nineteenth century.

The following six tunnels are contributing resources to the B&O Pittsburgh Division and are all located in Somerset County, Pennsylvania.

- Benford Tunnel was constructed in 1903 and is located in Lower Turkeyfoot Township. The tunnel conveys a single track. The tunnel was reconstructed as part of the Fort Hill Low Grade. The Fort Hill Low Grade was to increase efficiency between Confluence and Fort Hill, Pennsylvania by offering a lower-grade alternative route to heavy freight trains.

- Brook Tunnel is also in Lower Turkeyfoot Township and was constructed between 1883 and 1885. The tunnel carries a single-track. The structure is likely named for Chauncy Brooks, president of the B&O Railroad from 1855 to 1858.

- Shoo Fly Tunnel is located in Upper Turkeyfoot Township to the north of a sharp bend of the Casselman River. This tunnel was constructed in the 1870s or 1880s, and was altered/extended in 1897 and again in 1902 to resolve narrowing at the portals. A single track runs through the tunnel.

- Pinkerton Tunnel, located in Upper Turkeyfoot Township, was originally constructed in 1871 as a single-track tunnel. This original tunnel was destroyed by fire in November 1879. In July 1885, when the tunnel was reconstructed, operations returned to the original alignment. The tunnel carries one track through Pinkerton Point on the Casselman River.

- Sand Patch Tunnel was originally constructed between 1854 and 1871 as a single-track tunnel through Negro Mountain. In 1911, the B&O Railroad began construction of a new double-track tunnel adjacent to the original to accommodate increasing traffic and to compete with the Western Maryland Railway, which proposed a tunnel nearby. The existing tunnel was built between 1911 and1912 and with a western extension added in 1918, and it carries two tracks through the Negro Mountain.

- Falls Cut Tunnel is located in Fairhope Township. It was constructed in 1897 and carries two tracks. The original Falls Cut Tunnel was approximately 200 feet west of the current alignment. The railroad built the current tunnel in 1897 to reduce the curve of the original alignment. The realignment project was known as the Falls Cut Improvement. Falls Cut Tunnel spans the width of a peninsula created by a U-bend in Wills Creek. The railroad tracks cross Wills Creek at both ends of the tunnel on single-span plate girder bridges.

In addition, this historic railroad corridor includes the following contributing resources, Wills Creek Bridge in Hyndman and the two unnamed bridges over Wills Creek at Falls Cut Tunnel. These two resources are either in the immediate vicinity of or will be improved by the proposed action.

Correspondence from the PHMC is included in Attachment 12 of Appendix E.

5.2.3.2 West Virginia and Maryland - B&O Railroad Magnolia Cutoff

The WVDCH determined that the Magnolia Cutoff was eligible for inclusion on the NRHP on December 9, 2009 and Carothers, Stuart and Randolph Tunnels are contributing resources. Located in West Virginia, Carothers Tunnel is located just north of Paw Paw; Stuart Tunnel is located to the north of Magnolia; and Randolph Tunnel is located south of Doe Gully. The tunnels have similar configurations: all are approximately 31 feet wide and convey two tracks. The B&O Railroad Magnolia Cutoff includes the following additional structures as contributing resources: the Kessler and Magnolia Bridges over the Potomac River which are the west and east approaches to Graham Tunnel, the Doe Gully Cut, and the concrete wall west of Paw Paw. It is noted in the West Virginia Historic Property Form for the Magnolia Cutoff, that it is eligible for listing under Criterion A in the area of transportation and under Criterion C in the area of engineering. Under Criterion A, it is eligible for its association with transportation development trends of the early twentieth century. The cutoff was designed to eliminate bottlenecks and expedite service along the eastern end of the Cumberland Division. By constructing the cutoff, the B&O Railroad was able to direct eastbound freight traffic, including coal from the fields of West Virginia, Maryland, and Virginia, along this route, thereby alleviating congestion along the main line. The Magnolia Cutoff is eligible under Criterion C in the area of engineering. The twelve- mile long cutoff was one of the largest engineering efforts of the B&O Railroad. The cutoff demonstrates an effective solution developed to overcome the restraints of difficult terrain presented by the river and surrounding mountains while maintaining operations along the existing tract. Correspondence from the WVDCH is included as Attachment 3 of Appendix F.

Magnolia Bridge Over Potomac River, Part of the Magnolia Cutoff

The remaining tunnel constructed as part of the Magnolia Cutoff, Graham Tunnel, is located on a peninsula in the Paw Paw Bends of the Potomac River in Allegany County, Maryland. The tunnel spans the width of a U-bend in the Potomac River. The approaches to each side of the Graham tunnel are bridges over the Potomac River; Kessler Bridge to the south and Magnolia Bridge to the north, which are contributing resources to the Magnolia Cutoff. The MHT determined that Graham Tunnel was eligible for inclusion on the NRHP on December 16, 2009. It is noted in the Maryland

Eligibility Review Form that Graham Tunnel is eligible for listing under Criterion A in the area of transportation and under Criterion C in the area of engineering. Under Criterion A, it is eligible for its association with transportation development trends of the early twentieth century and for its association with the Magnolia Cutoff. Under Criterion C, the tunnel is part of the twelve-mile long Magnolia Cutoff, which was one of the largest engineering efforts of the B&O Railroad. Correspondence from MHT is included in Attachment 3 of Appendix G.

The Magnolia Cutoff through the states of West Virginia and Maryland was constructed as a direct response to the need to move more freight more efficiently and more rapidly along the B&O Railroad Cumberland Division. The Magnolia Cutoff removed the 'Neck of the Bottle' and increased the efficiency and the economic movement of railroad traffic through the area.

5.3 Proposed Action and Impacts to Section 4(f) Properties

CSX's National Gateway Clearance Initiative – Phase I is an effort to improve efficiency and expand capacity on the nation's transportation network. The proposed action proposes to modify existing railroad infrastructure to provide sufficient vertical clearance and operating capability to operate double-stacked, domestic-container, rail traffic cars. The proposed improvements are expected to spur economic growth throughout the region. The ability to quickly and efficiently move goods to markets throughout the country is vital to the economy. Allowing double-stacked, intermodal railcars to move freely is one way to increase capacity without exceeding the existing capacity of the infrastructure, or using new rail lines with additional trains. Completion of the proposed action will allow America's rail network to support increased freight volumes coming from the East Coast.

5.3.1 Proposed Action

The CSX rail line infrastructure on the National Gateway Clearance Initiative Phase I corridor is not currently equipped to accommodate double-stacked freight trains. The *CSX Clearance Improvement Feasibility Study between Greenwich, Ohio and Chambersburg, Pennsylvania; Baltimore, Maryland and Weldon, North Carolina* (AECOM, 2007) details obstructions in the corridor that prohibit the use of double-stacked freight trains, potential alternatives to clearing the identified obstructions and

describes a preferred alternative at each individual location. The identified goal in the feasibility study was to achieve vertical clearance improvements by providing a minimum 21-foot vertical clearance standard to allow for unimpeded passage of second generation, domestic double-stacked containers. The feasibility study reviewed available information on the obstructions, conducted field surveys that included measurements of the vertical and horizontal clearances at each quadrant of a particular location and made recommendations for the preferred method of increasing the vertical clearance at each obstruction. Consideration was given at each location to the age and state of repair of the structure, its current use and/or closure, the surrounding land use, ownership of the structure, and the distance needed to achieve a minimum 21-foot vertical clearance before recommending a method to achieve the desired vertical clearance. For tunnels, there are two general methods for increasing the vertical clearance: open-cutting the tunnel (remove the overburden over the tunnel); or, modify the tunnel liner either by complete replacement or by notching. With the exception of open-cutting a tunnel, these improvements are generally minor consisting of reconstructing existing infrastructure and generally occur within existing ROW. Photos depicting the different tunnel options are provided as Appendix K. The feasibility report made the following recommendations:

Benford Tunnel

Open-Cutting

Due to the lack of high quality overlying rock, the report recommended that all rock and soil cover be removed over three tunnels. This process is known as open-cutting (sometimes referred to as day-lighting). The following three tunnels were recommended for open-cutting:

Benford Tunnel, Somerset County, Pennsylvania
Shoo Fly Tunnel, Somerset County, Pennsylvania
Pinkerton Tunnel, Somerset County, Pennsylvania
(two alternatives being reviewed)

Pinkerton Tunnel

(At Pinkerton Tunnel, the original recommendation was a total arch liner replacement and mining of the sidewalls. However, based on subsequent geotechnical studies, which indicate that the overlying rock is

of poor quality, open-cutting is also being evaluated.)

Total Arch Liner Removal and Portal Modifications

Due to the amount of increased clearance needed to achieve a minimum of 21-feet of vertical clearance, total arch liner replacement and portal modifications were recommended for the following five tunnels:

- Brook Tunnel, Somerset County, Pennsylvania
- Falls Cut Tunnel, Somerset County, Pennsylvania
- Carothers Tunnel, Morgan County, West Virginia
- Graham Tunnel, Allegany County, Maryland
- Randolph Tunnel, Morgan County, West Virginia

Falls Cut Tunnel

The new liner and modified portal will be reconstructed and/or stabilized, as needed, with rock bolts and shotcrete.

Arch Liner and Portal Notching

Due to the minimal amount of increased clearance needed to achieve a minimum of 21-feet of vertical clearance, liner and portal notching was recommended for the following two tunnels:

- Sand Patch Tunnel, Somerset County, Pennsylvania
- Stuart Tunnel, Morgan County, West Virginia

The notched liner and modified portal will be reconstructed and/or stabilized, as needed, with rock bolts and shotcrete.

5.3.2 Impacts to Section 4(f) Properties

As a result of coordination in accordance with the regulations implementing Section 106 of the NHPA, the following determinations were made:

- Portions of the proposed action are located within the P&LE Railroad corridor, a significant historic resource. The following contributing resources to the P&LE Railroad are also either in the immediate vicinity of or will be improved by the proposed action: Chartiers Creek Bridge, Pittsburgh & Lake Erie Station, and J&L Tunnel all located in Pittsburgh, Pennsylvania. Through coordination with the PHMC and design modifications, it has been determined that there will be no adverse affects by the proposed action on the P&LE Railroad which includes the Chartiers Creek Bridge, Pittsburgh & Lake Erie Station, and J&L Tunnel as contributing resources.

- The PHMC stated in a letter dated February 26, 2010, that the proposed vertical clearance improvements to the 6 tunnels, which are contributing resources to the B&O Railroad Pittsburgh Division, will adversely affect the eligible rail corridor. The B&O Railroad Pittsburgh Division also includes Wills Creek Bridge, Hyndman, Pennsylvania which is a contributing resource and which is also vertical clearance obstructions for double- stacked, intermodal, freight cars. Through coordination with the PHMC and design modifications, improvements to the superstructure of this historical bridge will not adversely impact this contributing resource. No improvements are proposed for the two unnamed bridges over Wills Creek which are the approaches to Falls Cut Tunnel; thus, they will not be affected by this undertaking.

- The WVDCH indicated in correspondence dated March 22, 2010, that the impacts from the proposed project to increase the vertical clearance through the three West Virginia tunnels will have an adverse effect on the B&O Railroad Magnolia Cutoff.

- The MHT stated in correspondence dated June 15, 2010, that the impacts from the proposed project to increase the vertical clearance through Graham Tunnel will have an adverse effect on this resource, which is a contributing resource to the Magnolia Cutoff. The B&O Railroad Magnolia Cutoff includes the following additional contributing resources: the Kessler and Magnolia Bridges over the Potomac River which are the west and east approaches to Graham Tunnel, the Doe Gully Cut, and the concrete wall west of Paw Paw. The proposed action, as designed, will not impact any of these additional contributing resources to the B&O Railroad Magnolia Cutoff.

- The Smithfield Street Bridge in Pittsburgh, Pennsylvania and the Walnut Street Bridge in McKeesport, Pennsylvania are significant historic resources. The CSX mainline tracks underneath each bridge will be lowered as part of the proposed action. Through coordination with the PHMC and design modifications, it has been determined that there will be no adverse affects by the proposed action on the Smithfield Street Bridge or the Walnut Street Bridge, nor will any property within a historic boundary be acquired.

- The Blue Lick Truss is a historic bridge located in Somerset County, Pennsylvania. This bridge will be raised approximately 12 inches as part of the proposed action. Through coordination with the PHMC and design modifications, it has been determined that there will be no adverse affects by the proposed action on the Blue Lick Truss, as a historic resource, nor will any property within a historic boundary be acquired.

Based on the determinations of eligibility for the NRHP and adverse effects determination for impacts to eligible resources, the proposed clearance project is subject to Section 4(f) of the United States Transportation Act of 1966, as amended.

5.4 Alternatives Analysis

To demonstrate that there is no feasible and prudent alternatives to the use of Section 4(f) property, the Net Benefits programmatic evaluation analysis must address the following alternatives:

- Do nothing;

- Improve the transportation facility in a manner that addresses the project's purpose and need without a use of the Section 4(f) property; and

- Build the transportation facility at a location that does not require use of the Section 4(f) property.

This list is intended to be all-inclusive. The Net Benefits programmatic evaluation does not apply if a feasible and prudent alternative is identified that is not discussed in this document.

5.4.1 Do Nothing/No Build Alternative

This alternative has been studied and it does not meet the project's purpose and need.

The Do Nothing/ No Build Alternative will not result in an improvement to highway congestion and public safety by shifting freight from trucks to the enhanced rail network. The Do Nothing Alternative fails to correct the situations that create chokepoints to the efficient movement of double-stacked freight containers through the corridor. These chokepoints will increasingly cause delays to the movement of freight, as the estimated increasing volume of freight is forced to move on a rail system with insufficient capacity. Delays in the movement of freight will also cause delays in the movement of passenger trains along this corridor, in that they utilize the same tracks. Amtrak provides 2 passenger trains per day through these locations. The delays to passenger rail service will adversely impact the financial operations of Amtrak and cause undue hardship to the train passengers who rely on this service. The Do Nothing Alternative will also cause adverse economic impacts to CSX as the delays in moving freight, CSX's primary business, will likely cause a reduction in competitiveness and a subsequent decline in the financial status of CSX. The Do Nothing Alternative does not recognize that improvements and up-grades are necessary to allow this railroad to continue to serve the freight transportation needs of the nation, and support passenger rail service, in an economically viable manner.

If CSX loses economic viability along this corridor due to its inability to resolve capacity issues by correcting chokepoint such that it can utilize double-stacked intermodal cars, the company will likely need to reduce operations along this line and possibly abandon it entirely. If CSX is forced for economic competitiveness reasons to abandon operations along these historic railroad corridors, they will cease to function in their historic role as significant freight transportation routes. If abandoned, the infrastructure will eventually degrade and collapse from lack of maintenance and repair. Such a degradation and collapse would constitute a more significant impact on Section 4(f) resources by the Do Nothing Alternative than the use from the proposed action.

5.4.2 Improve the Transportation Facility in a Manner that Addresses the Project's Purpose and Need Without a Use of the Section 4(f) Property

Improving the facility by lowering the tracks was an Alternative that was considered and was not recommended in the Feasibility Study. Due to horizontal and vertical alignment limitations associated with freight train movement, lowering the track by up to 3 feet to gain the minimum 21-foot vertical clearance at these tunnels would require extensive vertical realignment of the approaches at each tunnel. Approximately 1,000 to 2,000 feet of track would need to be vertically realigned outside of each portal to tie to the existing line, depending on the existing grade, the controlling grade and the curvature. This construction on new vertical alignment would cause increased impacts to the natural and/or human environment. These impacts include the loss of agricultural lands and/or forested habitats, impacts to wetlands and streams, and impacts to community infrastructure. The associated need for engineering design and acquisition of new right-of-way would result in considerable additional costs.

Lowering the tracks, while preserving the tunnels, would not avoid use of Section 4(f) resources which contribute to the B&O Railroad Pittsburgh Division and the B&O Railroad Magnolia Cutoff. Lowering the tracks would require the demolition and replacement of several historic bridges, which are contributing resources to their respective railroad corridors, immediately adjacent to tunnels along the route, due to the need to also adjust their vertical alignment. These bridges include two historic bridges over Wills Creek which function as approaches to Falls Cut Tunnel, and the historic Kessler and Magnolia Bridges over the Potomac River which function as approaches to Graham Tunnel.

Extensive rehabilitation would be required on each tunnels' foundation to maintain a track profile at a lower elevation within the tunnels. In order to retain the historic integrity of the tunnels during track lowering operations, it would be necessary to remove existing portions of the foundation, temporarily brace the existing linear and then remove bedrock below the existing tracks. A new foundation would need to be constructed to support the retained liner and portals. The repairs to the arch liner and portals to maintain structural integrity at a lower elevation will be so extensive that the historic integrity of the tunnels is likely to be compromised. This potential loss of historic integrity at the tunnels is use of 4(f) resources of similar magnitude as to the use of 4(f) resources from the proposed action.

In addition, in order to complete the track lowering the line would have to be taken out of service and a detour route utilized, due to the extensive work on the foundations and removal of bedrock beneath the tracks. Reconstruction of the foundations at each tunnel and work to remove bedrock to lower the tracks will take one to several months, depending on the length of the tunnel, composition of the bedrock, the fabric of the tunnel liners and portals, and the engineering design to tie back into the existing track. This would lead to a severe disruption of train operations to a level that could result in adverse economic impacts to CSX and the shipping industry. CSX transports 28 to 30 freight trains per day on this line with an annual gross weight of 74 million tons of cargo. In addition, Amtrak provides 2 passenger trains per day at these locations. The potential line closures associated with track lowering would create considerable hardship for passenger travel. Finally, a detour during construction could involve the use of another railroad's track, at significant cost to CSX with potential for creating delays; thus, incurring costs, on the competitors system as well. The need to remove the tracks from service during the potential tunnel rehabilitation suggested under this Alternative does not meet the purpose and need of the proposed action which is to maintain service along the route during the improvements for increasing vertical clearance. The preferred action, although adversely affecting some contributing resources to the Pittsburgh Division and the Magnolia Cutoff, properties eligible for the NRHP, maintains the operations and economic viability of the CSX Railroad which in turn leads to the proper maintenance and upkeep of the remaining resources.

5.4.3 Build the Transportation Facility at a Location that Does Not Require Use of the Section 4(f) Property

Investigations have been conducted to construct rail line with tunnels on new alignment; however, due to the mountainous terrain and proximity of rivers and streams, such as Wills Creek, Casselman River and Potomac River, construction on a new location is not prudent. The existing rail alignments, with their tunnels, were constructed in the most prudent locations through the area. The locations were selected based on an engineering evaluation of quality and quantity of rock to bore through, steepness of grade, minimization of tunnel length and minimization of overall track length. Due to horizontal and vertical alignment limitations associated with freight train movement, construction of new tunnels on new alignments would result in extraordinary impacts in the realignment of the existing tracks. Approximately 1,000 to 2,000 feet of track would be needed to be realigned outside of each portal to tie the

existing line into the new tunnel. This construction on new alignment would cause increased impacts to the natural and/or human environment. These impacts include the loss of agricultural lands and forested habitats, impacts to wetlands and streams, and potential impacts to residences and community infrastructure. The associated need for engineering design, acquisition of new right-of-way and boring new double-track tunnels would result in considerable additional costs.

For the B&O Railroad Pittsburgh Division, replacing the tunnels on new alignment would cause the abandonment of 6 tunnels and two bridges over Wills Creek, which are contributing resources to the eligible Pittsburgh Division, and the abandonment of approximately 12,000 to 24,000 feet of track. For the B&O Railroad Magnolia Cutoff, replacing the tunnels on new alignment would cause the abandonment of 4 tunnels and two bridges (Kessler Bridge and Magnolia) over the Potomac River, which are contributing resources to the eligible Magnolia Cutoff, and the abandonment of approximately 8,000 to 16,000 feet of track. If this new alignment alternative was utilized, over time these abandoned resources will degrade and eventually collapse from lack of maintenance and repair. The degradation and collapse of contributing resources to the Pittsburgh Division and to the Magnolia Cutoff constitutes a greater adverse impact to Section 4(f) resources than the use from the proposed action. The proposed action, although adversely affecting some of the contributing resources to properties eligible for the NRHP, maintains the operations and economic viability of the CSX Railroad which in turn leads to the proper maintenance and upkeep of the many remaining resources. The remaining resources will retain sufficient number of contributing elements that define the P&LE, B&O Pittsburgh Division and B&O Magnolia Cutoff as historic resources.

5.5 Net Benefit Analysis and Finding

Following is the data to support a finding that the Do-Nothing and Avoidance Alternative are not feasible and prudent, a discussion of measures to minimize harm, and, an evaluation of the Net Benefit to Section 4(f) resources.

5.5.1 Net Benefit Finding and Applicability

None of the avoidance alternatives analyzed for this Net Benefit Analysis are feasible or prudent. The Do Nothing Alternative does not meet the purpose and need or the

proposed action. In addition, the lack of action in this alternative would likely lead to loss of competitiveness and thus loss of economic viability for CSX along this route. The foreseeable outcome for the Do Nothing Alternative is the abandonment of a historic railroad corridor which would be a greater impact on Section 4(f) resources than the proposed action. The Avoidance Alternatives both lead to increased natural and human environment impacts, substantially increased cost, and substantial economic impacts. In addition, these Avoidance Alternatives do not avoid use of Section 4(f) resources.

5.5.2 Measures to Minimize Harm

5.5.2.1 Project Design Coordination

Portions of the proposed action are located within the P&LE Railroad corridor, a significant historic resource. The following contributing resources to the P&LE Railroad are in the immediate vicinity of or will be improved by the proposed action: Chartiers Creek Bridge, Pittsburgh & Lake Erie Station, and J&L Tunnel all located in Pittsburgh, Pennsylvania. Through coordination with the Pennsylvania SHPO and design modifications, it has been determined that there will be no adverse affects by the proposed action on the P&LE Railroad which includes the Chartiers Creek Bridge, Pittsburgh & Lake Erie Station, and J&L Tunnel as contributing resources.

The B&O Railroad Pittsburgh Division includes Wills Creek Bridge, Hyndman, Pennsylvania which is a contributing resource and which is also vertical clearance obstructions for double- stacked, intermodal, freight cars. Through coordination with the SHPO and design modifications, improvements to the superstructure of this historical bridge will not adversely impact this contributing resource.

The B&O Railroad Magnolia Cutoff includes the following additional contributing resources: the Kessler and Magnolia Bridges over the Potomac River which are the west and east approaches to Graham Tunnel, the Doe Gully Cut, and the concrete wall west of Paw Paw. The proposed action, as designed, will not impact any of these additional contributing resources to the B&O Railroad Magnolia Cutoff.

The CSX mainline tracks underneath the Smithfield Street Bridge in Pittsburgh, Pennsylvania and the Walnut Street Bridge in McKeesport, Pennsylvania will be

lowered as part of the proposed action. Through coordination with the Pennsylvania SHPO and design modifications, it has been determined that there will be no adverse affects by the proposed action on the Smithfield Street Bridge or the Walnut Street Bridge, nor will any property within a historic boundary be acquired.

Finally, the Blue Lick Truss is a historic bridge located in Somerset County, Pennsylvania. This bridge will be raised approximately 12 inches as part of the proposed action. Through coordination with the PHMC and design modifications, it has been determined that there will be no adverse affects by the proposed action on the Blue Lick Truss, as a historic resource, nor will any property within a historic boundary be acquired.

5.5.2.2 Arch Liner and Portal Notching

Sand Patch Tunnel Liner Notching

In two clearance locations, Sand Patch Tunnel in Pennsylvania and Stuart Tunnel in West Virginia, it was determined feasible to notch the arch liner and portal. This process will grind a squared corner into the curved arches of these two tunnels to create increased clearance. The remaining historic fabric at these tunnels will be stabilized with rockbolts and shotcrete. This process will preserve some of the historic fabric at these two tunnels which is a minimization of impacts; however, their visual appearance will be altered. In all other cases, notching of the tunnel liner to achieve additional clearance is not feasible, due to the potential of compromising the structural integrity of the arch from the depth of the notch required. However, CSX is continuing to refine their designs at each tunnel in an attempt to save as much of the portal fabric as possible.

5.5.2.3 Memorandum of Agreement

The FRA/FHWA; the Ohio, Pennsylvania, West Virginia, and Maryland SHPOs; and the Ohio, Pennsylvania, West Virginia, and Maryland State Departments of Transportation along with CSX have agreed to the following methods to minimize and mitigate impacts to the Section 4(f) properties. The following stipulations are included in a MOA developed for the projects:

5.5.2.3.1 Pennsylvania

1. Prior to the start of construction that could adversely affect them, the Brook, Benford, Shoo Fly, Pinkerton, Sand Patch, and Falls Cut tunnels, contributing features to the Baltimore & Ohio Railroad, Pittsburgh Division, will be documented by CSX to State-level standards established by the Pennsylvania SHPO. The documentation of each tunnel will include photographic recordation, a brief description, and a historical narrative. The photographic documentation will include archival quality, 35 millimeter (mm) black-and-white photographs printed in a 5-inch by 7-inch format, with each print labeled in pencil with the name and location of the resource, date of photograph, and view shown. The photographic documentation will also include digital photographs prepared to National Register standards. The photographs will be keyed to site plan/maps. The historical narrative of each tunnel will include a discussion of the significance of the tunnel as part of the Baltimore & Ohio, Pittsburgh Division. The documentation package will also include archival copies of previous documentation and historic photographs. A copy of the approved documentation will be made available to the Pennsylvania SHPO and the consulting parties in digital and hard copy formats.

   The Pennsylvania SHPO and consulting parties shall have thirty (30) calendar days upon receipt of the documentation packages in which to comment. If the Pennsylvania SHPO and the consulting parties do not comment within the 30 days, the FHWA shall assume concurrence and proceed.

2. CSX shall explore, to the extent feasible using customary engineering practices and standards, opportunities to notch the Brook, Sand Patch, and Falls Cut tunnels so that the Date Plaques and identification markers may be preserved in place.

3. If notching described in I.A.2 above is not feasible, the date plaques or identification markers of the adversely affected tunnels, as outlined in Attachment 2, will be salvaged and offered for reuse to appropriate organizations by CSX. Every effort will be made to remove the materials in a manner that is sensitive to the historic fabric. The organizations listed in Attachment 2 shall be contacted to determine their interest in receipt of the materials. In the case that more than one entity responds that they would accept receipt of the materials, the hierarchy of distribution will follow the order outlined in Attachment 2. Should any of the organizations accept the salvageable materials, the FHWA shall ensure the recipient shall accept full responsibility for the removed materials. If a recipient for the salvaged materials cannot be identified within nine months of the start of the solicitations of interest, then the FHWA shall notify CSX that they (CSX) shall assume ownership of the materials.

4. CSX shall develop materials for a website on the history of the National Gateway initiative corridor through Pennsylvania for the information of the general public. The website will include a brief history and discussion of the technology of the Baltimore & Ohio Railroad, Pittsburgh Division, and the Pittsburgh & Lake Erie Railroad, those historic lines that make up the National Gateway initiative corridor. The history will highlight the impacts of the rail lines on local communities, industries, and regional and State transportation routes. The website will include a summary of the National Gateway initiative corridor improvements. The website will be illustrated using historic and current photographs and short video clips. The website will be developed in coordination with, hosted by, and maintained by the Pennsylvania SHPO. An article to be published in a popular historical publication will present the history of the National Gateway initiative corridor and publicize the release of the website.

   The Pennsylvania SHPO shall have thirty (30) calendar days upon receipt of the first and second drafts of the website materials and article in which to comment. If the Pennsylvania SHPO does not comment within the 30 days, the FHWA shall assume concurrence and proceed.

5.5.2.3.2 West Virginia

1. Carothers, Stuart, and Randolph tunnels, contributing features of the Magnolia Cutoff of the Baltimore and Ohio Railroad, will be documented by CSX prior to the start of the proposed action. The documentation will include digital photographic recordation to National Park Service standards. The photographic documentation will be accompanied by updated Historic Preservation Inventory (HPI) forms. A digital copy of the approved documentation will be made available to the West Virginia SHPO, the West Virginia State Archives, West Virginia University, Morgantown, and the Historic Landmarks Commission of Morgan County.

   The West Virginia SHPO shall have thirty (30) calendar days upon receipt of the documentation packages in which to comment. If the West Virginia SHPO does not comment on the documentation within the 30 days, the FHWA shall assume concurrence and proceed.

2. A brief (approximately 10-page) history of the Baltimore and Ohio Railroad's Magnolia Cutoff will be prepared by CSX. The history will be used to provide information on the historic and engineering significance of the line and the Magnolia Cutoff to the general public. CSX will research the archives of the B&O Railroad Museum, West Virginia University West Virginia and Regional History Collection, and CSX holdings in an attempt to locate and copy any original photos, construction plans or "as-built" plans for the Magnolia Cutoff. The history will be developed in coordination with the West Virginia SHPO and will reuse information presented in the HPI form previously prepared for the Magnolia Cutoff. CSX shall provide the West Virginia SHPO with one initial and one final draft of the text, graphics, and layout of the history for comment. CSX shall develop materials for a website on the history of the Magnolia Cutoff for the information of the general public, which will include any copies of archival photographs of the cutoff under construction and original tunnel plans. The website will be determined in coordination with the West Virginia SHPO. CSX will provide a hard copy of the history to the West Virginia SHPO, the West Virginia State Archives, West Virginia University, Morgantown, and the Historic Landmarks Commission of Morgan County.

The West Virginia SHPO shall have thirty (30) calendar days upon receipt of the history in which to comment. If the West Virginia SHPO does not comment within the 30 days, the FHWA shall assume concurrence and proceed.

3. CSX shall explore, to the extent feasible using customary engineering practices and standards, opportunities to notch the Carothers, Stuart and Randolph tunnels so that the date and identification markers may be preserved in place.

5.5.2.3.3 Maryland

1. CSX shall document the Graham Tunnel prior to any demolition activities and provide the documentation to the Maryland SHPO. The documentation shall include black-and-white photographs sufficient to portray the tunnel's interior arch liner, exterior portals, its architectural details, and its surrounding context to provide an accurate record of the tunnel and its setting. The recordation shall follow the MHT's Standards and Guidelines for Architectural and Historical Investigations in Maryland (MHT 2000). The FHWA shall assure that CSX shall submit the documentation to the Maryland SHPO for review and comment.

   The FHWA shall assure that CSX make a good faith effort to locate and copy original construction plans or "as-built" plans for the Graham Tunnel. Multiple repositories, including the CSX archives, shall be examined. If located, CSX shall produce 8½-inch by 11-inch black-and-white copies or photographs of the plans and submit the documentation to the Maryland SHPO for review and comment. If historic plans for the Graham Tunnel are not located, CSX shall inform the Maryland SHPO in writing of the methodology used to conduct the research and a list of repositories consulted. The Maryland SHPO shall determine if a good-faith effort was made and if any additional research is warranted.

   The Maryland SHPO shall have a thirty (30) day review period to respond with comments. If the Maryland SHPO does not respond within a 30 day review period, then it can be assumed that the recordation package has been accepted by the Maryland SHPO.

2. CSX shall explore, to the extent feasible using customary engineering practices and standards, opportunities to notch the Graham Tunnel so that the date and identification markers may be preserved in place.

3. Per Coordination with the Maryland Historical Trust Act of 1985: The Maryland SHPO agrees that the fulfillment of the terms of this MOA will satisfy the responsibilities of the Maryland DOT and any other Maryland State agency under the requirements of Maryland State historic preservation law (§§ 5A-325 and 5A-326 of the State Finance and Procurement Article, Annotated Code of Maryland) for the components of the proposed action that require licensing, permitting, and/or funding actions from Maryland State agencies.

   A copy of the fully executed MOA is included in Appendix C.

5.5.3 Net Benefit to Section 4(f) Resources

The proposed action will increase the vertical clearance along the National Gateway Clearance Initiative – Phase I to allow for the more efficient movement of freight through the use of double-stacked, intermodal, freight cars. The integrity of this historic railroad system depends on continuing maintenance and upgrades so it can continue to efficiently move freight across great distances, the purpose for which it was created. The proposed action to increase the vertical clearance, may alter some segments of this system, but the railroad corridor will retain its value as a functioning and vital part of the U.S. transportation system. The resources will benefit through regular maintenance and upkeep as vital part of that transportation network. If the railroad is prevented from taking actions that preserve its competitiveness and economic stability through increases in efficiency and reductions in chokepoint delays, it will be forced to ultimately abandon a historic railroad route that is no longer efficient to utilize and an economic drain on the company. The loss of freight train service along these historic B&O Railroad corridors would be the loss of an icon in the American story since its integrity lies in the railroad's location, feeling and associations which are rooted in this portion of the American landscape.

Allowing CSX to maintain and upgrade its system will benefit the system and continue the historic use for which it was created. The ability to more efficiently move freight through utilization of double-stacked freight cars will also benefit the region by creating

jobs. It will reduce roadway congestion and air pollution by reducing the regions dependency on long-haul trucking. A reduction in the number of trucks on the roadways will create safer driving conditions and, in turn, will also reduce the highway maintenance costs.

5.5.4 Summary

The Section 4(f) Evaluation and Approval for Transportation Projects That Have a Net Benefit to a Section 4(f) Property is appropriate as all of the avoidance alternatives require the use of Section 4(f) property. The project is a rail infrastructure enhancement project. Completion of the proposed action will directly improve and maintain the long term viability of the historic rail corridors. Completion of Phase I of the National Gateway Clearance Initiative is being developed to enhance the historic rail corridors, resulting in a net benefit to these resources from implementation of the proposed action. A "net benefit" is achieved when the transportation use, the measures to minimize harm, and the mitigation incorporated into the project results in an overall enhancement of the Section 4(f) property when compared to both the future do-nothing or avoidance alternatives and the present condition of the Section 4(f) property, considering the activities, features, and attributes that qualify the property for Section 4(f) protection.

5.6 Coordination

Coordination has been ongoing with the respective State SHPOs since the project's inception. The coordination has resulted in the designation of the rail corridors as eligible to the NRHP, determination of eligibility of contributing resources along the corridors, effects determination of the resources, and a project specific MOA for mitigation to minimize the effects to the resources. Attachment 12 within Appendix E (Documentation for Pennsylvania) and Attachment 3 within Appendices F and G (Documentation for West Virginia and Maryland, respectively) includes cultural resources coordination and correspondence.

A coordination meeting was held on September 11, 2009, with the PHMC to introduce the National Gateway Clearance Initiative in Pennsylvania and to discuss a proposed schedule. Historic Resource Survey Forms were submitted for the undertaking in Pennsylvania, on November 23, 2009 by A.D. Marble & Company on behalf of CSX. A second coordination

meeting was conducted on November 25, 2009 with PHMC. In a letter dated December 14, 2009, the PHMC stated the B&O Railroad Pittsburgh Division in Allegheny, Bedford, and Somerset Counties; and the P&LE's Pittsburgh, McKeesport & Youghiogheny Railroad, in Lawrence, Beaver, Allegheny, Westmoreland and Fayette counties are eligible for inclusion on the NRHP. An additional coordination meeting with PHMC was held on December 23, 2009. Effects reports for these resources, detailing the corridors, and contributing resources that are part of the National Gateway Clearance Initiative were submitted to the PHMC and Consulting Parties on February 17, 2010, by A.D. Marble & Company on behalf of CSX. The PHMC concurred with the Effects Reports findings, and stated a finding 'no effect' to the former P&LE line based on the National Gateway Clearance Initiative. However, the six mountain tunnels that are contributing resources to the B&O Railroad Pittsburgh Division would be adversely affected by the proposed action. Public informational meetings were held in Pittsburgh and Somerset on February 25, and March 9, 2010, respectfully, to introduce the clearance projects and request comments from the public. No public comments were received regarding the B&O Railroad Pittsburgh Division or the planned improvements to its tunnels. Meetings were held with PHMC on March 17, and April 16, 2010, to discuss mitigation for the affected resources. Coordination for archeology has been concurrent. A Phase I Archeological Report was submitted to the PHMC, who concurred in a letter dated June 10, 2010, that no further archeology work is necessary.

A coordination meeting was held on September 18, 2009 with the WCDCH and West Virginia Division of Highways to introduce the National Gateway Clearance Initiative in West Virginia and to discuss a proposed schedule. Based on the outcome these discussions with WVDCH, eligibility determination forms were submitted by on November 30, 2009 by A.D. Marble & Company on behalf of CSX. A second coordination meeting was held with WVDCH on December 3, 2009. The WVDCH determined that the Magnolia Cutoff was eligible for inclusion on the NRHP on December 9, 2009 and that the three tunnels (Carothers, Stuart and Randolph) are contributing resources. Media releases and social advertisements requesting comments on the proposed clearance improvements were published in local newspapers on December 23 and 24, 2009. No comments were received. On February 19, 2010, A.D. Marble & Company, on behalf of CSX, submitted an effects recommendation to WVDCH for the Magnolia Cutoff and the three contributing tunnels. WVDCH determined on March 22, 2010, that the impacts from the proposed project to increase the vertical clearance through the tunnels will have an adverse effect on the Magnolia Cutoff.

A coordination meeting was held on August 26, 2009 with the MHT and Maryland State Highway Administration to introduce the National Gateway Clearance Initiative in Maryland and to discuss a proposed schedule. In addition due to Graham Tunnels proximity of the Chesapeake and Ohio Canal National Historical Park (and due to proposed impacts at other clearance locations which are no longer part of this action), a similar coordination meeting was held with the NPS on August 26, 2009. Based on the outcome of discussions during the August 26,2009 MHT meeting, eligibility determination forms were submitted by on October 28, 2009 by A.D. Marble & Company on behalf of CSX. Additional coordination meetings were conducted with NPS and MHT on November 19, 2009 (NPS only) and December 17, 2009. MHT determined that Graham Tunnel was eligible for inclusion on the NRHP in correspondence dated December 16, 2009. An additional coordination meeting was conducted with NPS and MHT on January 21, 2010. A public informational meeting was held in Harpers Ferry, West Virginia on March 3, 2010 to introduce the clearance projects and request comments from the public. No comments were received as on outcome of that public meeting that relate to Graham Tunnel. A phone conference call was held on March 9, 2010 with MHT and NPS to review the comments from the public workshop and to discuss the process for moving forward. A final coordination meeting was held with NPS on May 24, 2010 at which time CSX notified NPS of the February 17, 2010 TIGER grant award and the clearance locations included in that grant. NPS stated during this May meeting that they have no official interests in Graham Tunnel. On May 27, 2010, A.D. Marble & Company, on behalf of CSX, submitted an effects recommendation to MHT for Graham Tunnel. MHT determined in correspondence dated June 15, 2010 that the impacts from the proposed project to increase the vertical clearance through Graham Tunnel will have an adverse effect on this resource.

Coordination will continue with the respective SHPOs and other interested parties in accordance with the provisions of the MOA.

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7. Acronyms

ABCR	Akron Barberton Cluster Railway
ACHP	Advisory Council on Historic Preservation
ARRA	American Recovery and Reinvestment Act
B&O	Baltimore and Ohio Railroad
CAA	Clean Air Act
CE	Categorical Exclusion
CFR	Code of Federal Regulations
CSX	CSX Transportation, Inc.
DOT	Department of Transportation
EJGAT	Environmental Justice Geographic Assessment Tool
FHWA	Federal Highway Administration
FR	Federal Register
FRA	Federal Railroad Administration
GHG	Greenhouse Gas
HPI	Historic Preservation Inventory
LOD	Limits of Disturbance
M	Maintenance Area
MDE	Maryland Department of Environment
MDNR	Maryland Department of Natural Resources
MHT	Maryland Historical Trust
mm	Millimeter
MOU	Memorandum of Understanding

NA	Nonattainment
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NOx	Nitrogen Oxide
NRHP	National Register of Historic Places
NS	Norfolk Southern Corporation
NSR	New Source Review
ODNR	Ohio Department of Natural Resources
ODOT	Ohio Department of Transportation
OES	Office of Environmental Services
OHPO	Ohio Historic Preservation Office
Penn DOT	Pennsylvania Department of Transportation
PHMC	Pennsylvania Historical and Museum Commission
P&LE	Pittsburgh and Lake Erie Railroad
PM	Particulate Matter
ROW	Right of Way
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO2	Sulfur Dioxide
SWPPP	Storm Water Pollution Prevention Plan
TAP	Transportation Assistance Program

TIGER	Transportation Investment Generating Economic Recovery
URA	Urban Redevelopment Authority of Pittsburgh
U.S.ACE	United States Army Corps of Engineers
U.S. DOT	United States Department of Transportation
U.S.EPA	United States Environmental Protection Agency
U.S. FWS	United States Fish and Wildlife Service
VOCs	Volatile Organic Compounds
W&LE	Wheeling and Lake Erie Railroad
WVDCH	West Virginia Division of Culture and History
WVDNR	West Virginia Division of Natural Resources