

A. INTRODUCTION

The Federal Railroad Administration (FRA) and the Maryland Department of Transportation (MDOT) are preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts for the Susquehanna River Rail Bridge Project (“the Proposed Project”). MDOT, the project sponsor, is proposing to improve rail connectivity along the Northeast Corridor (NEC) by replacing or improving the Susquehanna River Rail Bridge between the City of Havre de Grace in Harford County, Maryland and the Town of Perryville in Cecil County, Maryland (see **Figure ES-1**). FRA is the lead federal agency and the National Railroad Passenger Corporation (Amtrak), as the bridge owner and operator, is providing conceptual and preliminary engineering designs and is acting in coordination with MDOT and FRA.

The existing two-track Susquehanna River Rail Bridge is located on Amtrak’s NEC at Milepost (MP) 60. It is 110 years old, which is beyond the 100-year design lifespan typical for steel railroad bridges. This rail bridge is a critical link along one of the U.S. Department of Transportation’s (USDOT) designated high-speed rail corridors. Amtrak, the Maryland Area Regional Commuter (MARC), and Norfolk Southern Railway (NS) use the bridge to carry intercity, commuter, and freight trains across the Susquehanna River. The existing two-track bridge creates a capacity and speed bottleneck along this segment of the NEC, resulting in conflicts between Amtrak’s passenger service, MARC trains, and freight trains operated by NS.

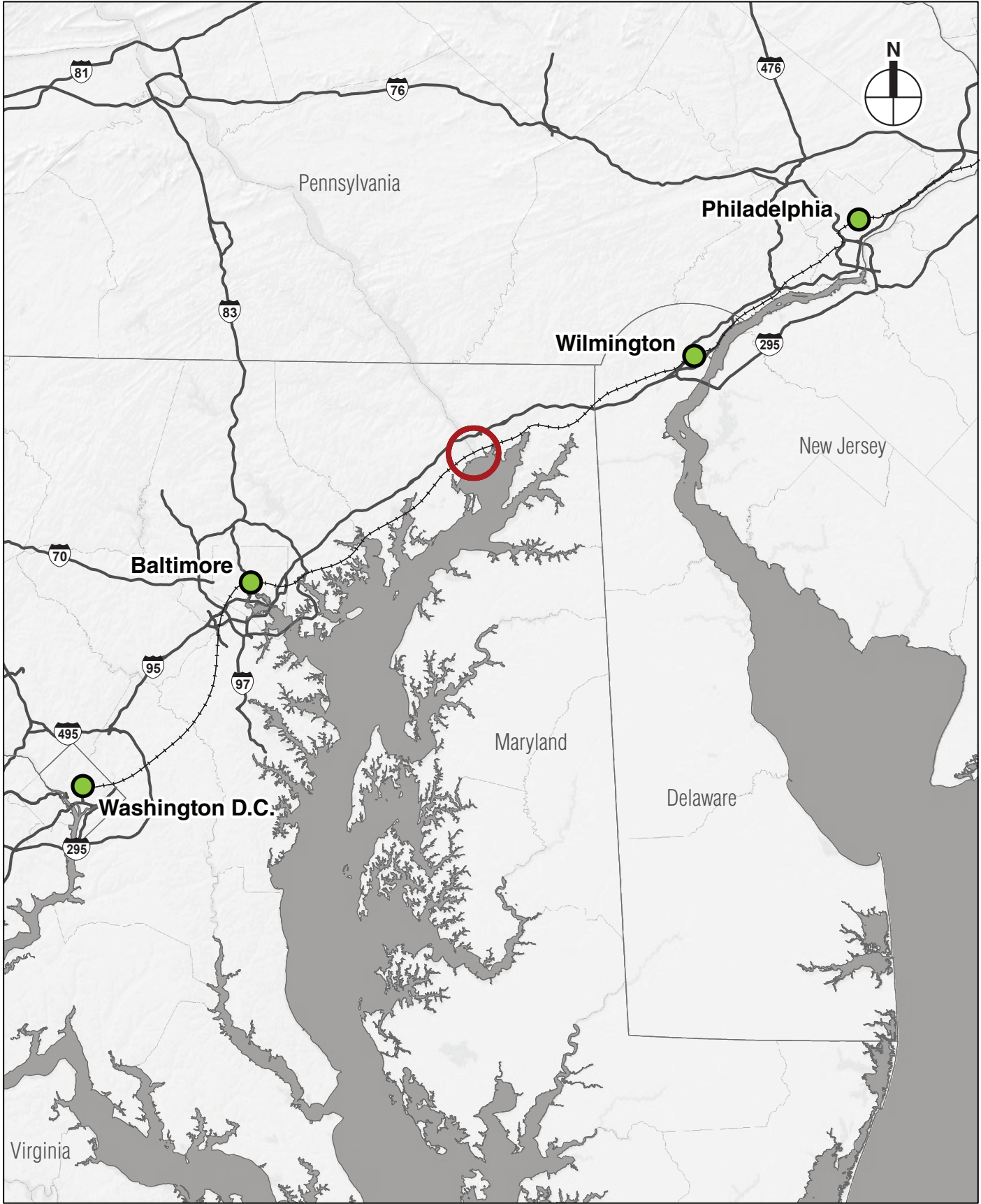
This EA examines two Build Alternatives (Alternative 9A and Alternative 9B) and the No Action Alternative. FRA selected Alternative 9A as the Preferred Alternative.



B. PURPOSE AND NEED

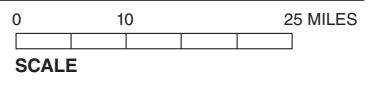
The age of the bridge, its structural condition, and its two tracks curtail speeds and capacity on the bridge. This situation inhibits the rail operators’ goals to provide reliable service, MDOT’s plans to increase MARC commuter rail service, and Amtrak’s plans to increase high-speed passenger rail service on the NEC. **The bridge’s functionally-obsolete design and age require increasing major rehabilitation and repairs, which result in increasing maintenance costs and conflicts with the need to maintain continuous rail operations. The primary purpose of the Susquehanna River Rail Bridge Project is to provide continued rail connectivity along the NEC.** The goals of the Susquehanna River Rail Bridge Project include:

- Improve rail service reliability and safety;
- Improve operational flexibility and accommodate reduced trip times;
- Optimize existing and planned infrastructure and accommodate future freight, commuter, intercity, and high-speed rail operations; and
- Maintain adequate navigation and improve safety along the Susquehanna River.

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-  *Susquehanna River Bridge*
-  *Northeast Corridor*



C. PROJECT ALTERNATIVES

The Build Alternatives were identified through a rigorous alternatives development and screening process. This process considered both alignment alternatives as well as bridge type alternatives. The Project Team prepared a detailed report describing the development of alternatives; input solicited from the public, agencies, and other stakeholders; and the methodology used to screen alternatives and selected those retained for detailed study (see **Appendix A**, “Alternatives Screening Report and Bridge Types”).

NO ACTION ALTERNATIVE

The No Action Alternative assumes the Susquehanna River Rail Bridge would remain in service as-is, with no intervention besides minimal repairs and continuation of the current maintenance regime. Service over the bridge would worsen in the future under the No Action Alternative. The bridge would continue to age, problems would occur more frequently, and the bridge would remain as a bottleneck. Major planned transportation projects within the study area—Amtrak’s State of Good Repair and Service Improvements and MARC Fleet Plan—are expected to be completed by 2025, the Susquehanna River Rail Bridge Project build year.

BUILD ALTERNATIVES

Based on the alternatives development and screening process, Alternative 9A and Alternative 9B were retained for detailed study. Alternative 9A, selected as the Preferred Alternative, would construct a new two-track 90 mph bridge to the west of the existing bridge and a second new two-track 160 mph bridge on the existing bridge alignment. The bridge to the west of the existing bridge would be constructed first, including the river spans, approach structures, railroad systems, and embankment. The use of conventional ballasted track is anticipated for the fixed bridge portion of this project. Under normal operations, this bridge would be used primarily by MARC commuter rail and NS freight rail service.

Once the new bridge to the west is completed, the existing bridge would be taken out of service, demolished, and replaced. A new high-speed passenger bridge would be built in the center of the right-of-way of the existing bridge alignment. Alternative 9A design would allow for 160 mph speeds. Since the west bridge will be built first, freight, MARC and Amtrak operations can be maintained throughout construction of both bridges.

Like Alternative 9A, Alternative 9B would result in a new two-track 90 mph bridge west of the existing bridge and a second new two-track bridge replacing the existing bridge. The difference between Alternative 9A and Alternative 9B occurs in Havre de Grace along the east side of the corridor from Lewis Lane to the Susquehanna River and the curve in Havre de Grace, which limits the speed to a maximum of 150 mph with Alternative 9B. This lower speed, as compared to Alternative 9A, reduces the amount of property acquisitions required, including the avoidance of the Havre de Grace Middle/High School athletic fields.

D. TRANSPORTATION

The Proposed Project would eliminate bridge malfunctions resulting from the opening of the existing movable span. This would improve the reliability of the Susquehanna River Rail Bridge and increase speed and capacity over the river. The Proposed Project would remove the bottleneck caused by the existing bridge and would reduce unscheduled train delays. No adverse impacts to intercity rail, freight, or MARC operations will result from the Proposed Project.

There will be no adverse impacts to the local street network upon which bus service or paratransit service relies. The Proposed Project will not affect any bus depots, bus stations, or any depots where paratransit vehicles are stored or maintained. Under both Alternative 9A and Alternative 9B, the Proposed Project will provide a 60-foot vertical clearance over mean high water and, at minimum, a 230-foot horizontal clearance. This will improve safety by reducing the potential for conflicts between the rail and marine traffic. The Proposed Project would also eliminate the need for bridge openings and closings by replacing the Susquehanna River Rail Bridge as two high-level fixed bridges. This would constitute an improvement to navigation along this segment of the Susquehanna River.

The Proposed Project will reduce future vehicle miles traveled (VMT) regionally when compared with the No Action Alternative, which would constitute a benefit to regional highways by lowering congestion levels and resulting in less wear and tear on road surfaces. No adverse impacts to regional highways would result from the Proposed Project.

Alternative 9A would require a slight realignment of Warren Street between N. Adams Street and N. Stokes Street in Havre de Grace. In Perryville, a slight realignment of Avenue A may be necessary under both Alternative 9A and Alternative 9B to accommodate the enlarged bridge abutment. These minor roadway realignments will not have any adverse impacts on local roadway traffic. With Alternative 9A and Alternative 9B, seven local roadway crossings beneath the NEC would require modification. Extension of these crossings would not have any negative impacts on local roadway traffic.

The Project Team designed the Proposed Project to accommodate traffic improvements and provide for a more open gateway to the downtown Havre de Grace commercial district, as requested at public meetings. The Proposed Project under both Alternative 9A and Alternative 9B would not result in a significant adverse impact on transportation. Together with other planned projects along the NEC, the Proposed Project would result in transportation benefits, including state of good repair, better performance, and reliability. Overall, the Proposed Project would not result in significant adverse impacts to Transportation.

E. LAND USE AND COMMUNITY FACILITIES

Either Build Alternative would require the acquisition of all or a portion of several properties located immediately adjacent to the existing right-of-way. Where full property acquisition is required, the owners of properties will be fully compensated for the land acquired and businesses will be provided relocation assistance to facilitate their reestablishment elsewhere, should this be necessary. The total anticipated property acquisition is 2.84 acres for Alternative 9A and 0.35 acres for Alternative 9B.

The Build Alternatives would be located on or just beyond the existing right-of-way. Therefore, the Proposed Project will not substantially change current land uses within the study area and would not result in a significant adverse impact to land use.

MDOT and Amtrak are not subject to local zoning regulations and no zoning designations are mapped on the existing rail right-of-way through the study area. The properties that would be acquired for each of the Build Alternatives have designated zoning under the City of Havre de Grace or the Town of Perryville that would be removed from the affected portions of the property where the land acquisitions are required. This would not result in a significant adverse impact on zoning on the project site or in the study area. Alternative 9A would require the acquisition of a narrow strip of the Havre de Grace Middle/High School athletic fields. Measures

to minimize the impact to this community facility have been identified, in cooperation with the Harford County Public Schools (HCPS). The Proposed Project would be compatible and consistent with current policies that govern the project site and study area. Overall, there would be no long-term significant adverse impacts to land use, zoning, public policy, or community facilities from the Proposed Project.

F. SOCIOECONOMIC CONDITIONS AND ENVIRONMENTAL JUSTICE

The socioeconomic conditions analysis uses the guidance set forth in the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR §§ 1500-1508). Alternative 9A would require the full acquisition of one commercial use associated with the National Tire & Glass Sales Inc., in Havre de Grace. The owners of this property would be fully compensated and the business would be provided relocation assistance to facilitate their reestablishment elsewhere. Since the business would be relocated, it is not expected that any jobs will be lost as a result of Alternative 9A. Based on the design to date, no other commercial or residential properties will be fully displaced within the study area by either Alternative 9A or Alternative 9B. The Build Alternatives would not affect the population or housing supply of the area and would not spur rapid development. Overall, the Proposed Project would not adversely affect socioeconomic conditions, employment, or community cohesion.

The environmental justice analysis for the Proposed Project follows the guidance and methodologies recommended in the U.S. Department of Transportation's Final Order on Environmental Justice (updated May 2, 2012), Federal Transit Administration's (FTA) Circular 4703.1 *Environmental Justice Policy Guidance For Federal Transit Administration Recipients*, and principles set forth in Title VI of the Civil Rights Act of 1964 (Title VI). Existing population, employment, age, gender, income, and racial and ethnic characteristics were compiled for Harford and Cecil counties as a whole, as well as within the City of Havre de Grace and Town of Perryville limits. The predominant race within Harford County, Cecil County, the City of Havre de Grace, the Town of Perryville, and the project study area is White. The study area is 75.3 percent White and 24.8 percent minority, of which the largest portion is Black or African American (17.4 percent). The study area median household income is \$63,790, which is similar to the median household income of Cecil County, the City of Havre de Grace, and the Town of Perryville, but lower than the State of Maryland and Harford County. Based on the analysis described in Chapter 5, "Socioeconomic Conditions and Environmental Justice", the Proposed Project would not result in any disproportionately high and adverse effects on minority or low-income populations.

G. PARKS, TRAILS, AND RECREATIONAL RESOURCES

Alternative 9A and Alternative 9B both require the permanent use of the entire 0.26-acre, Amtrak-owned portion of Jean S. Roberts Memorial Park as well as the acquisition of 0.01 acre of the City-owned portion of the park. Alternative 9A and Alternative 9B will both construct a new bridge that will cross above the park on an elevated structure that will require the modification of the existing lease agreement and the modification of the park infrastructure. This will prohibit public access within the Amtrak right-of-way and require the taking of the boat ramp area and a portion of the pier located at Jean S. Roberts Memorial Park.

Alternative 9A requires the acquisition of 1.5 acres of the Havre de Grace Middle/High School athletic fields immediately adjacent to the existing rail right-of-way. Alternative 9A will result in minor reconfigurations of the existing and proposed ballfields on the Harford County School property. Alternative 9A will also result in permanent changes to the athletic track just behind the starting block and require that the high jump facility and associated equipment shed be relocated on the site. The project includes provisions for measures minimizing the effects on the Havre de Grace Middle/High School.

Several local bicycle and pedestrian trails exist within the study area. The Proposed Project would not alter or adversely affect the trail routes. Several historic trails highlighting sites of historic importance are also within the study area, including the Maryland Civil War Trail, the Mason Dixon Trail, the Captain John Smith Chesapeake National Historic Trail, Washington-Rochambeau Revolutionary Route National Historic Trail, and the Star-Spangled Banner National Historic Trail. Measures to avoid, minimize, or mitigate any adverse impacts to historic and archaeological resources important to the themes of these trails have been identified and will be further developed in coordination with the Maryland Historical Trust and Section 106 consulting parties. The Proposed Project would not affect public use, enjoyment, or educational value of the trails within the study area. Therefore, no significant adverse impacts to trails or greenways would result from the Proposed Project. Overall, the Proposed Project would not have a significant adverse impact on parks, trails, or recreational resources.

H. VISUAL RESOURCES

The proposed design for the two new bridges will be traditional in character to allow greater views under the bridge and to minimize or avoid the adverse visual effect on resources. To further minimize visual adverse effects, any new physical structures that could adversely affect views of concern would be designed in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. In addition, to minimize the visual adverse effects due to the alterations to eight historic undergrade bridges, including four bridges within the Havre de Grace Historic District, any bridge extensions would be designed using a form liner that emulates stone and is stained to be compatible with the color of the existing stone. To minimize the visual adverse effect to the historic Rodgers Tavern from the widening of the bridge approach and the need to construct a retaining wall to run along the embankment, the Project Team will work with the community to determine the appropriate aesthetically-pleasing treatment. With the proposed measures to minimize adverse effects, there would be no potential for significant adverse impacts on visual resources with the Proposed Project, under Alternative 9A or Alternative 9B.

I. CULTURAL RESOURCES

Current and previous studies identified 13 historic resources within the Area of Potential Effect (APE), including three historic districts containing numerous contributing resources. The Build Alternatives (both Alternative 9A and Alternative 9B) would result in an adverse effect on: Susquehanna River Rail Bridge and bridge overpasses; Havre de Grace Historic District; Rogers Tavern; and Perryville Railroad Station. Measures were developed to avoid, minimize, and mitigate these adverse effects. A Phase IA Archaeological Study for the Proposed Project has identified archaeologically sensitive areas in the APE. Additional archaeological studies will be conducted to identify and evaluate archaeological resources that may be affected by the Proposed Project. Measures to avoid, minimize or mitigate effects on any significant

archaeological resources will be developed in accordance with the draft Programmatic Agreement (PA) (see **Appendix D**, “Cultural Resources”). With these measures in place, there would be no potential for a significant adverse impact on cultural resources with the Proposed Project, under Alternative 9A or Alternative 9B.

J. DRAFT SECTION 4(F) EVALUATION

A draft Section 4(f) Evaluation is included in this EA, pursuant to the requirements of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966.¹ Based on this Evaluation, there are no feasible and prudent alternatives that would avoid use of all Section 4(f) properties. Therefore, the Evaluation includes a determination of which of the alternatives using a Section 4(f) property will result in the least overall harm in light of the statute’s preservation purposes, and identifies appropriate measures to minimize harm. Alternative 9A and 9B would result in the “use” of the following three Section 4(f) properties:

- The removal of the existing NR-eligible Susquehanna River Rail Bridge and alteration of eight of its nine associated rail undergrade bridges;
- The removal of the Perry Interlocking Tower and the alteration of the Access Road Undergrade Bridge 59.39 (also known as the Perryville Train Station Undergrade Bridge), which are contributing elements of the NR-eligible Perryville Railroad Station;
- The acquisition of a small amount of property within the NR-listed Havre de Grace Historic District and visual and aesthetic effects on the Historic District;

In addition, FRA intends to determine that Alternative 9A and Alternative 9B would result in the *de minimis* use of Jean S. Roberts Memorial Park (acquisition of a narrow strip of the park owned by City of Havre de Grace). For Alternative 9A only, the Proposed Project would require the acquisition of a part of the Havre de Grace Middle/High School athletic fields. FRA intends to determine that the uses would be *de minimis*, based on coordination with property owners. FRA will base the final *de minimis* impact determinations after providing an opportunity for public review. Measures to minimize harm will be implemented.

K. SECTION 6(F)

Harford County Department of Parks and Recreation has confirmed that the Havre de Grace Middle School and Havre de Grace High School received Land and Water Conservation Fund (LWCF) monies for development, thereby making them Section 6(f) resources. Properties that received LWCF Act funding, referred to as Section 6(f) resources, are evaluated within a 1,000-foot buffer study area surrounding the existing rail right-of-way, with the Proposed Project. This Evaluation prepared as part of this EA satisfies the requirements of the LWCF Act (16 U.S.C. 4601–4 through 11), which prescribe the conditions that must be satisfied for the use or transfer of parklands or open spaces that have been improved with funds received through the LWCF.

Alternative 9A would require the permanent acquisition of a small portion of the school’s athletic fields—approximately 1.6 acres of fee simple right-of-way. Alternative 9A would also require a 30-foot-wide maintenance easement for the Harford County Department of Public Works. Ten feet of that maintenance easement will be within the proposed acquisition. The

¹ In 1983, Section 4(f) of the USDOT Act was codified as 49 USC §303(c), but this law is still commonly referred to as Section 4(f).

remaining 20 feet of the needed maintenance easement (1.13 acres) will be within the school property. The precise boundaries of Section 6(f) resources within the Havre de Grace Middle School-High School complex are the subject of ongoing discussions between National Parks Service (NPS), DNR, and Harford County. Through coordination with NPS and DNR, a draft LWCF boundary has been established for this EA. Based on this draft boundary, Alternative 9A would require approximately 0.55 acre of land for which LWCF monies were used. FRA and MDOT will continue to coordinate with HCPS to submit an application for land conversion to the NPS Regional Administrator through DNR. A suitable replacement property will be identified, in consultation with NPS, DNR and HCPS, once the project transitions into detailed design and as construction funds become available. For this Environmental Assessment, the Project Team identified three potential replacement sites. FRA and the MDOT have worked with HCPS to minimize and mitigate the impacts that would result from Alternative 9A. Alternative 9B does not extend beyond the existing right-of-way at the Harford County School property, and therefore would not affect this Section 6(f) resource.

With measures to minimize and mitigate the impacts to the school property and with suitable replacement land for the Section 6(f) area (to be further evaluated in the future), the Proposed Project would not result in a significant adverse impact on Section 6(f) resources.

L. NATURAL RESOURCES

Table ES-1 summarizes the total potential effects on natural resources from the Susquehanna River Rail Bridge Project.

Table ES-1
Effects on Natural Resources and Floodplains

Resource Type	Resource Category	Alternative 9A	Alternative 9B
FEMA Floodplain (acres)	100-Year	2.72	2.15
	500-Year	4.83	4.24
Wetlands (acres)	Tidal	0.06	0.06
	Nontidal	0.83	0.71
Streams (linear feet)	Relatively Permanent Waterways	3,190	2,943
	Ephemeral	19	19
Wetland Buffers (acres)	Tidal	0.27	0.27
	Nontidal	2.16	1.72
Forest Resources (acres)	----	2.92	2.08
Chesapeake Bay Critical Area (acres)	----	6.4	6.1
Susquehanna Riverbed / Aquatic Biota (acres)	Permanent Impacts	0.37	0.37
	Construction (Temporary Impacts, including finger piers)	0.23	0.23
Submerged Aquatic Vegetation – SAV (acres)	Permanent Impacts	0.61	0.61

TOPOGRAPHY, GEOLOGY, AND SOILS

Both Alternative 9A and Alternative 9B would affect Prime Farmland Soils and Soils of Statewide Importance. However, on February 8, 2016, the NRCS, using the Farmland Conversion Impact Rating Form (NRCS-CPA-106) for corridor type projects pursuant to FPPA, determined that the Proposed Project is not subject to the provisions of the Policy Act and therefore exempt.

FLOODPLAINS AND WETLANDS/WATERS OF THE U.S.

Based on the current design of the two Build Alternatives and current guidelines, an increase in the base flood elevation (greater than one foot) in the two regulated floodways is not anticipated. The two Build Alternatives would have relatively minor effects on wetlands and somewhat greater effects on streams. Impacts to wetlands, wetland buffers, and streams for each of the Build Alternatives are summarized in **Table ES-1**. Mitigation for floodplain impacts would be addressed in final project design and mitigation for wetlands/waterways impacts would be completed in accordance with United States Army Corps of Engineers (USACE) and Maryland Department of the Environment (MDE) recommendations.

TERRESTRIAL RESOURCES

Neither of the Build Alternatives would affect areas known to support terrestrial state-listed threatened or endangered species or areas that are designated as a Wetland of Special State Concern (WSSC). Because the permanent impacts to forests would be relatively small and the absence of documented northern long-eared bat (NLEB) within the area, neither alternative would likely adversely affect the species. Other than transient species, no other federally proposed or listed threatened or endangered species are known to occur within the project area. No construction-related, short-term impacts to terrestrial federally or state-listed endangered or threatened species are anticipated.

The two Build Alternatives would have minor permanent impacts to forest resources, primarily to narrow forest strips immediately adjacent to the existing tracks and over a mile east of the largest, contiguous forest area (summarized in **Table ES-1**). Mitigation would include reforestation and afforestation in accordance with a Forest Conservation Plan (FCP) approved by the Maryland Department of Natural Resources.

Few wildlife impacts are anticipated, as both alternatives would be constructed immediately adjacent to the existing tracks and would only replace relatively thin and disturbed forest that likely only supports common resident species. These birds, small mammals and a few reptiles and amphibians would be displaced or minimally affected.

The Proposed Project would cross a known historic waterfowl staging area within the Susquehanna River along the Cecil County side. Waterfowl would not be permanently affected by either Build Alternative, but may be temporarily displaced from the active construction area.

AQUATIC RESOURCES

The two Build Alternatives would not affect groundwater and would only minimally change the hydrology through a shift in the arrangement of piers. Potential short-term and long-term impacts to water quality from construction would be minimized through strict adherence to an effective Erosion and Sediment Control Plan and implementation of stormwater best management practices (BMPs). Construction of the proposed temporary finger piers would

eliminate the need for dredging and its resulting disturbance to river sediments. Impacts to aquatic resources for each of the Build Alternatives are summarized in **Table ES-1**.

Both bridges would have a height-to-width ratio large enough to preclude significant shading effects. Shading from the relatively narrow temporary finger piers would also not have the potential to result in significant adverse effects to benthic organisms, but would result in adverse effects to submerged aquatic vegetation (SAV) of approximately 0.61 acre. Mitigation for this temporal loss of SAV would include replanting the area at a 3:1 ratio.

Following demolition of the existing bridge and remnant piers, the river bottom would return to benthic habitat, thereby more than offsetting losses from the construction of the replacement bridges, and resulting in a potential net gain of populations of benthic organisms and their predators.

Fish would likely avoid the area of activity during the drilling of the large-diameter piles for the replacement bridges piers. Should pile installation cause any fish to temporarily avoid the portion of the Susquehanna River in the vicinity of the activity, the extent of the area that would be affected at any one time would be negligible relative to the amount of suitable habitat that would remain available nearby, and no significant adverse effects to these individuals would be expected to occur.

Impact pile driving for the finger piers would be attenuated by the use of wooden cushion blocks to levels where they are likely to be discountable according to the National Marine Fisheries Service (NMFS) assessment protocol. Potential impacts of possible demolition activities to remove existing bridge piers on the threatened and endangered Atlantic and short-nosed sturgeon would be minimized by implementing the protective measures such as bubble curtains. Any blasting activities would be scheduled to occur within a work window that corresponds to the time period of the year when sturgeon are least likely to occur in the project area.

Threatened and endangered sea turtles and the freshwater logperch are not expected to occur in the project area, and no impacts are anticipated. DNR Wildlife and Heritage Service may require restrictions on construction projects in order to protect map turtles known to occur within the project area, including nesting surveys, in-stream time-of-year restrictions, and/or removal of turtles from the work zone.

CHESAPEAKE BAY CRITICAL AREA

Alternative 9A involves approximately 6.4 acres of the Chesapeake Bay Critical Area, defined by state statute as “all land within 1,000 feet of Maryland’s tidal waters and tidal wetlands.” Alternative 9B affects approximately 6.1 acres of Critical Area.

Permanent impacts to the Critical Area are expected to result from earth disturbance, removal of vegetation, placement of fill, and increased impervious area. Coordination with the Critical Area Commission would continue during the design phase of the Proposed Project.

COASTAL ZONE MANAGEMENT

The Susquehanna Rail Bridge is located in the state-designated Coastal Zone, but the Proposed Project will be designed in a manner consistent with the Maryland Coastal Zone Plan. Consistency review commences after the submittal of the MDE Joint Permit Application (JPA). The MDE permit authorization, received at subsequent phases of the Proposed Project, would constitute the federal consistency decision.

Overall, with the mitigation measures that will be implemented as part of the Proposed Project, there would be no potential for a significant adverse impact on natural resources.

M. AIR QUALITY

Regulations under the Clean Air Act (“conformity regulations”) require that federal agencies, when taking action to assist, fund, permit, or approve projects in areas with a non-attainment or maintenance status regarding any of the National Ambient Air Quality Standards (NAAQS), ensure that the projects conform to the applicable State Implementation Plans (SIPs) for attaining those standards, so as not to interfere with the state’s ability to attain and maintain the NAAQS. Cecil County and Harford County are within a nonattainment area for ozone. In addition, Harford County is within a maintenance area for PM_{2.5}. The total projected emissions in each Air Quality Control Region represent a small fraction of the *de minimis* levels defined in the conformity regulations. This demonstrates that the operation of the Build Alternatives (Alternative 9A and Alternative 9B) would not require a conformity determination and would not interfere with SIPs for attainment of the ozone NAAQS or maintenance of the PM_{2.5}. Overall, the Proposed Project would not substantially affect regional air quality. Emissions would increase as a result of increase in rail traffic and during construction. The Proposed Project would also reduce vehicle miles traveled (from cars and trucks) by improving passenger rail service and freight operations. The Proposed Project (both Alternative 9A and Alternative 9B) would not interfere with SIPs for attainment of the ozone or maintenance of the PM_{2.5} NAAQS.

At the local level, the maximum projected PM_{2.5} (24-hour and annual average), PM₁₀ (24-hour average), and annual average NO₂ concentrations with the No Action Alternative and with both Build Alternatives would be lower than the respective NAAQS. With the Build Alternatives local 1-hour average NO₂ concentrations could increase up to 8.6 percent near the proposed bridge. This increase may occur in areas where concentrations exceeding the NAAQS are also predicted to occur with the No Action Alternative. Overall, air quality with and without the Proposed Project is likely to be very similar. Considering the low probability of NAAQS exceedance, the small potential increment, and the limited area potentially affected, these conditions do not represent a significant adverse impact on air quality.

N. GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

The Proposed Project would be consistent with state, regional, and federal policies for greenhouse gas emissions reduction. The Proposed Project would be designed to accommodate any reasonably foreseeable potential future changes in climate and sea levels, and would, therefore, be consistent with state and federal policies requiring climate change resiliency. Amtrak service is 33 percent more energy efficient per passenger-mile than average highway travel (nationwide), and is likely more efficient than that along the NEC where ridership is high. The Build Alternatives are a component of the larger sustained effort to enhance passenger rail and freight rail for the long term, benefitting air quality and reducing pollutant emissions overall.

O. NOISE AND VIBRATION

Based on the general noise analysis, conducted according to FTA and FRA guidance, there would be the potential for a moderate noise impact at five of the sensitive receptors analyzed. Incremental noise level changes would range from imperceptible to readily noticeable. However, considering the total noise levels with the Build Alternatives (which were in the range that is

typically considered acceptable for residential or open spaces use and comparable to existing levels in the area), the Project Team estimates low likelihood for these receptors to experience significant adverse impacts.

The Build Alternatives would not have the potential to result in significant adverse impacts relating to airborne noise, vibration, or ground-borne noise at any of the analyzed receptor sites. These receptor sites represent the sites closest to the railway having the greatest potential to experience noise and vibration impacts as a result of the Build Alternatives. Therefore, the Build Alternatives would not result in significant adverse impacts related to noise or vibration.

P. CONTAMINATED AND HAZARDOUS MATERIALS

Construction of the Proposed Project (both Alternative 9A and Alternative 9B) would involve demolition, relocation or other disturbance of existing structures and excavation, relocation and potentially off-site disposal of some existing soil. The exact extent of disturbance associated with the Proposed Project will not be determined until final engineering. The Proposed Project would include appropriate health and safety and investigative/remedial measures. The need for additional investigation/remediation will be determined, in consultation with MDE, once the exact extent of disturbance is identified.

The Proposed Project documents and construction specifications will address procedures for stockpiling, testing, loading, transporting (including truck routes), and properly disposing of all excavated materials requiring off-site disposal. Excavated materials will be characterized to classify the materials. Where dewatering is required, it is possible that the water will require treatment prior to its discharge to surface water or existing sewers. Prior to any such discharge, the water will be tested.

With the implementation of these measures, no significant adverse impacts related to hazardous materials will result from the demolition and construction activities associated with the Proposed Project.

In terms of daily operation with the proposed new bridge structures, the threat of hazardous material impacts and accidents diminishes with better designed infrastructure. Since the current bridge is functionally-obsolete and prone to maintenance issues, a new structure would significantly reduce the risk of mishandling contaminated and/or hazardous materials.

Q. PUBLIC HEALTH, SAFETY, AND SECURITY

The Build Alternatives will not result in a significant adverse impact on air quality, noise, or hazardous materials and will not cause a significant adverse impact on public health. The Proposed Project would improve the reliability of traveling across the Susquehanna River and increase the safety of passengers and freight users traveling along the NEC. Due to the highly developed nature of the study area, many residences, schools, public parks, and other publicly-accessible venues are located near the rail right-of-way. FRA data show that 96 percent of rail-related fatalities, most of which are preventable, are the result of incidents at railway-highway crossings (locations where railroad tracks intersect with a roadway at the same elevation) and by trespassers.¹ There are no at-grade crossings within the Susquehanna River Rail Bridge Project's study area. Amtrak is a leader in the installation of Positive Train Control (PTC), a safety

¹ <https://www.fra.dot.gov/eLib/Details/L17371>. Accessed December 2, 2016.

technology designed to match train speed to track conditions for improved safety.¹ PTC provides an added layer of safety on top of the cab signal and Automatic Train Control safety systems already in place. In December 2015, Amtrak activated PTC on track between New York and Washington, DC, completing installation on most Amtrak-owned infrastructure on the NEC spine. The Proposed Project would improve the structural and operational reliability, increasing the safety of employees who work on and travel over the bridge. The Proposed Project would eliminate bridge malfunctions resulting from the opening of the existing movable span. Overall, the Proposed Project would not result in a significant adverse impact on public health, safety, or security.

R. INDIRECT AND CUMULATIVE EFFECTS

The Proposed Project would contribute both positively and negatively to the overall cumulative effects of past and future actions on each of the resources considered. While the Build Alternatives may result in minor amounts of conversion of land use and potential displacement of some commercial uses, existing land use policies and development regulations support the Proposed Project, which would provide a substantial improvement to an established, overburdened rail transportation corridor. The Proposed Project is anticipated to have an overall positive impact on the regional economy by improving railroad mobility and connectivity. Further positive cumulative effects include improvements to regional air quality and a reduction in highway and airport congestion and VMT due to improved rail service. Overall, the Proposed Project would not significantly contribute to significant adverse cumulative effects or result in significant adverse indirect effects.

S. COORDINATION AND CONSULTATION

The Project Team has undertaken public and community outreach efforts for the Proposed Project, along with federal, state, and local agency coordination. Numerous meetings informed the public, stakeholders and agencies about the Proposed Project milestones and sought public and agency input. The Project Team created a website for the Proposed Project: www.susrailbridge.com. Postcards, email blasts, press releases, and public meeting announcements have been sent prior to public outreach information sessions. *

¹ <https://www.amtrak.com/national-facts>. Accessed December 2, 2016.