

**A. INTRODUCTION**

This chapter assesses potential public health, safety, and security impacts and benefits related to the operation of the Proposed Project. The Proposed Project’s potential public health impacts as they relate to air quality, noise and vibration, and hazardous materials are described below. The safety procedures and security systems that would be implemented to protect rail employees, passengers, marine users, freight users, and the general public during the operation of the Proposed Project are also described. All potential environmental impacts associated with the construction of the Proposed Project are described in Chapter 17, “Construction Effects.”

As discussed in Chapter 2, “Project Alternatives,” this Environmental Assessment (EA) evaluates two Build Alternatives: Alternative 9A and Alternative 9B. Alternative 9A was selected as the Preferred Alternative.

**B. REGULATORY CONTEXT AND METHODOLOGY**

This environmental review is based on the Federal Railroad Administration’s (FRA) Procedures for Considering Environmental Impacts (64 Federal Register [FR] 28545 [May 26, 1999]), and therefore considers a project’s potential to adversely impact public health and public safety, including any impacts due to hazardous materials. FRA guidance requires that environmental reviews address safety and security concerns, including the short-term construction effects and long-term operational effects on residents and other users of the study area. The review should also include potential pedestrian and traffic hazards as well as transit user and employee security issues.

**C. AFFECTED ENVIRONMENT****PUBLIC HEALTH**

Public health may be jeopardized by poor air quality, hazardous materials, significant adverse impacts related to noise or odors, solid water management practices, and/or actions that result in exceedances in state or federal standards. Federal, state, and local government entities have a variety of laws and regulations to protect public health.

**SAFETY AND SECURITY***EMPLOYEES*

The National Railroad Passenger Corporation (Amtrak) complies with all applicable federal safety regulations and industry standards. Adequate signaling and communications are currently in place to prevent any trains from entering the bridge when the movable span is open or when personnel are on site for repairs. Personnel undergo Amtrak Safety Training before they are

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permitted on site. Amtrak inspects all bridge structural components regularly and repairs them as needed.

In 2006, Amtrak instituted a System Safety Program Plan that applies to all Amtrak facilities, including the project site. The program provides guidance on hazard management, incident reporting, inspection, maintenance and repair of current facilities and stock, training and certification, emergency response, environmental management, drug and alcohol programs, and a number of security policies. One section of the System Safety Program is devoted to employee safety, with a particular focus on field safety. In August of 2009, Amtrak launched *Safe-2-Safer*, a company-wide program designed to improve employee safety and security.<sup>1</sup> This program changes at-risk behavior to safe behavior and fosters a more collaborative work environment. *Safe-2-Safer* places emphasis on reporting all potential incidents and removing barriers to performing safely in the workplace.

### *PASSENGERS*

Amtrak maintains and updates a Passenger Train Emergency Response Plan that must be approved by FRA. The plan includes train operations on the Northeast Corridor (NEC) and covers the project site. Amtrak also conducts Passenger Train Emergency Response Training. In 2014, training was conducted for more than 3,000 first responders along Amtrak routes across the U.S.<sup>2</sup> A passenger safety specialist position was created in 2014 within Amtrak's System Safety department to address passenger injuries on trains, platforms, and in stations.<sup>3</sup>

### *MARINE USERS*

To assess current conditions, Amtrak commissioned a Navigation Study in 2013.<sup>4</sup> The study focused on vessels greater than 50 feet in height. It found that the existing Susquehanna River Rail Bridge opens approximately 10 times per year to accommodate marine traffic. The Navigation Study concluded that the existing navigation channel (both height and width) addresses the needs of most mariners and vessels. The Navigation Study also determined that while the existing horizontal clearance is sufficient, further widening of the horizontal clearance could increase sight distance, reduce vessel congestion, and aid tug boat and barge navigation through the bridge opening, increasing safety and resilience against potential bridge and fender system strikes.

### *FREIGHT USERS*

Norfolk Southern (NS) operates between Harrisburg, Pennsylvania, and Baltimore, Maryland, using its "Port Road" route along the Susquehanna River between Harrisburg and Perryville, and using trackage rights along the NEC between Perryville and Baltimore. NS also provides freight service from points north of Perryville to and through Baltimore. NS has rights to conduct freight operations along the NEC in the study area, including over the Susquehanna River Rail

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<sup>1</sup> <https://www.amtrak.com/ccurl/369/338/2014-Amtrak-Sustainability-Report.pdf>. Accessed April 22, 2016.

<sup>2</sup> <https://www.amtrak.com/ccurl/259/724/Amtrak-Ink-March-April-2015.pdf>. Accessed April 22, 2016.

<sup>3</sup> <https://www.amtrak.com/ccurl/369/338/2014-Amtrak-Sustainability-Report.pdf>. Accessed April 22, 2016.

<sup>4</sup> Susquehanna River Rail Bridge Reconstruction and Expansion Project Navigation Study, dated January 21, 2014, HNTB Corporation.

Bridge. In addition, CSX Corporation operates freight service on the CSX Susquehanna River Rail Bridge approximately 0.9 mile to the northwest of the Amtrak Susquehanna River Rail Bridge, and under agreement with NS, has rights to use the Amtrak bridge in the event of failure or closure of its own bridge.

The existing bridge requires that the slow, heavy freight trains and Maryland Area Regional Commuter (MARC) trains share track with higher-speed Amtrak trains. The long, slow-moving freight trains can create congestion conflicts. For example, when the southbound NEC track is in use by an intercity or commuter train approaching the Susquehanna River Rail Bridge (in either direction), NS freight trains coming from the west must stop on the Port Road rail line and wait for an appropriate window to enter the NEC. Similarly, NS trains coming up from the south must wait in Havre de Grace, occupying one of the main tracks to wait their turn to cross the bridge. Amtrak works with these freight users to ensure safe scheduling to cross the Susquehanna River Rail Bridge.

#### *RESIDENTS ALONG THE NEC*

Due to the highly developed nature of the study area, many residents live in close proximity to the active NEC. Schools, public parks, and other publicly-accessible venues also are located near the rail right-of-way.

FRA's Office of Railroad Safety promotes and regulates safety throughout the nation's railroad industry. The office executes its regulatory and inspection responsibilities through a diverse staff of railroad safety experts.<sup>5</sup> FRA data show that 96 percent of rail-related fatalities, most of which are preventable, are the result of incidents at railway-highway crossings and by trespassers.<sup>6</sup> Railway-highway crossings are commonly referred to as “at-grade crossings” or “street-level crossings”, defined as locations where railroad tracks intersect with a roadway at the same elevation—thereby increasing the potential for conflict. 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 technology designed to match train speed to track conditions for improved safety.<sup>7</sup> 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.

## **D. NO ACTION ALTERNATIVE**

Under the No Action Alternative, the existing public health, safety, and security measures will remain unchanged. Amtrak and MDOT will continue to adhere to current regulations regarding public health and safety. The Susquehanna River Rail Bridge will remain as in existing conditions. 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; it would eventually need to be taken out of service.

In the future, FRA and Amtrak will continue to implement multiple measures to ensure public safety and minimize the potential for accidents. As described above, PTC is a control technology

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<sup>5</sup> <https://www.fra.dot.gov/Page/P0010>. Accessed December 2, 2016.

<sup>6</sup> <https://www.fra.dot.gov/eLib/Details/L17371>. Accessed December 2, 2016.

<sup>7</sup> <https://www.amtrak.com/national-facts>. Accessed December 2, 2016.

used to prevent or avoid train collisions and derailments. The purpose of PTC is to slow or stop a train that is operating at an excessive speed or operating in a manner inconsistent with the section of track that it is traversing.<sup>8</sup> In the future, railroads throughout the U.S. will likely continue to implement PTC.

## **E. POTENTIAL IMPACTS OF THE BUILD ALTERNATIVES**

The Proposed Project would be designed, built, and operated to comply with all relevant federal, state, and local regulations.

### **PUBLIC HEALTH**

Potential health effects during operation of the Proposed Project would be related to air quality, noise and vibration, and hazardous materials.

#### *AIR QUALITY*

As described in Chapter 12, “Air Quality,” the Proposed Project would not substantially affect regional air quality. Increases in local concentrations will occur near the tracks used by trains running on diesel. With the Build Alternatives 1-hour average concentrations of nitrogen dioxide (NO<sub>2</sub>) will increase up to 8.6 percent, as compared with the No Action Alternative. Like the No Action Alternative, the Build Alternatives could result in concentrations above the National Ambient Air Quality Standards (NAAQS). The maximum projected increase in 1-hour average NO<sub>2</sub> concentrations (8.6 percent) would occur in a very limited area affected by both the increase in diesel train activity and the Proposed Project changes in grade and alignment; in other areas potential increases would be much smaller, and in areas where the new track alignment would relocate tracks away from sensitive receptors concentrations would decrease. Additionally, 1-hour average NO<sub>2</sub> concentrations are projected using conservative assumptions and would likely be lower overall. While concentrations above the NAAQS in general are considered to potentially adversely affect public health, due to the limited magnitude and area affected by the small increases in concentrations, the Proposed Project itself would not cause a significant adverse impact on public health.

#### *NOISE AND VIBRATION*

Based on the information detailed in Chapter 14, “Noise and Vibration,” 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. Therefore, the Build Alternatives would not be expected to result in any significant adverse impacts related to noise or vibration.

#### *HAZARDOUS MATERIALS*

As described in Chapter 15, “Contaminated and Hazardous Materials,” construction of the Proposed Project would involve demolition, relocation or other disturbance of existing structures and excavation, relocation and potentially off-site disposal of some existing soil. The presence of contaminated materials only presents a threat to human health if exposure to these materials occurs. A health risk requires both a complete exposure pathway to the contaminants and a sufficient dose to produce adverse health effects. To prevent such exposure pathways and doses

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<sup>8</sup> [http://www.necfuture.com/pdfs/tier1\\_deis/c07\\_18.pdf](http://www.necfuture.com/pdfs/tier1_deis/c07_18.pdf). Accessed December 2, 2016.

during construction, the Proposed Project will include appropriate health and safety and investigative/remedial measures. The need for additional investigation/remediation will be determined, in consultation with Maryland Department of Environment (MDE), once the exact extent of disturbance is identified. With the implementation of these measures, no significant adverse impacts related to hazardous materials will result either during the demolition and construction activities associated with the Proposed Project or during operation of the Proposed Project.

### **SAFETY AND SECURITY**

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. The Proposed Project would provide navigational benefits by improving the reliability of the bridge and minimizing delays during bridge openings and closings.

#### *EMPLOYEES*

Amtrak will design, build, and operate the Proposed Project to comply with all relevant federal, state, and local safety regulations. The Proposed Project would improve the structural and operational reliability of the Susquehanna River Rail Bridge, increasing the safety of employees that work on and travel over the bridge.

#### *PASSENGERS*

The Proposed Project would improve the structural and operational reliability of the Susquehanna River Rail Bridge, thereby increasing the safety of passengers traveling over the bridge.

#### *MARINE USERS*

The Proposed Project would eliminate the need for bridge openings and closings by replacing the Susquehanna River Rail Bridge as two high-level fixed bridges. Under either Alternative 9A or Alternative 9B, the Proposed Project would provide a 60-foot vertical clearance and, at minimum, a 230-foot horizontal clearance. This would provide sufficient vertical clearance, while widening the horizontal clearance. A wider horizontal clearance would improve safety by reducing the potential for conflicts between the rail bridge and marine traffic.

#### *FREIGHT USERS*

The Proposed Project would eliminate bridge malfunctions resulting from the opening of the existing movable span. The Proposed Project would also provide a separate track that would be used primarily by MARC commuter rail and NS freight rail service. This would improve scheduling and help to prevent freight trains from having to wait for an appropriate window to cross the bridge. This would improve the reliability of the bridge and scheduling, resulting in a long-term benefit to the safety of freight rail service across the bridge. Amtrak will continue to coordinate with freight users of the Susquehanna River Rail Bridge to minimize any potential impacts to freight operations.

*RESIDENTS ALONG THE NEC*

Amtrak is committed to creating a safe environment for both their passengers and the communities surrounding their infrastructure. FRA continually updates passenger equipment safety standards and safety regulations. The safety provisions included in the construction and operation of the Proposed Project would comply with all Amtrak policies and Federal safety regulations. These provisions would help minimize the potential for significant adverse impacts to public safety.

**F. MINIMIZATION AND MITIGATION OF IMPACTS**

Specific impact minimization and mitigation measures pertaining to air quality and hazardous materials are presented in Chapter 12 and Chapter 15, respectively. \*