18.0 Safety and Security

18.1. Introduction

This chapter defines the safety and security resources pertinent to the Long Bridge Project (the Project), and defines the regulatory context, methodology, and Affected Environment. For each Action Alternative and the No Action Alternative, this chapter assesses the potential short-term and long-term impacts on safety and security. This chapter also discusses proposed avoidance, minimization, and mitigation measures to reduce adverse impacts of the Project.

18.2. Regulatory Context and Methodology

This section describes the most pertinent regulatory context for evaluating impacts to safety and security resources and summarizes the methodology for evaluating current conditions and the probable consequences of the alternatives. This section also includes a description of the Study Area. **Appendix D1, Methodology Report**, provides the complete list of laws, regulations, and other guidance considered and a full description of the analysis methodology**.**

18.2.1. Regulatory Context

The Federal Railroad Administration (FRA) is the key agency with regulatory jurisdiction on intercity passenger, commuter, and freight railroad safety. FRA has jurisdiction over all aspects of the physical railroad system including railroad infrastructure (for example, tracks, bridges, and tunnels), equipment (for example, locomotives, and railcars), freight, and passengers.[1] The Virginia State Corporation Commission (SCC) is tasked with rail safety oversight in Virginia in cooperation with FRA. Other key agencies in the safety and security of railroad infrastructure, material transport, and passenger safety are the United States Department of Transportation (USDOT) Pipeline and Hazardous Materials Safety Administration, the United States Department of Homeland Security (DHS), and the Transportation Security Agency (TSA), an agency within DHS.

FRA is responsible for the administration of the Rail Safety Improvement Act of 2008 and the High-Speed Passenger Rail Safety Strategy.[2,3] The DHS and TSA play a role in monitoring and securing freight across the country; this includes the transport of hazardous materials, as well as mass transit and passenger rail security and preparedness.[4,5] The Pipeline and Hazardous Materials Safety Administration also plays an oversight role in the transportation of hazardous materials by rail. The National Fire Protection Association (NFPA), a trade organization, is also responsible for publishing guidance, codes and standards intended to eliminate death, injury, property and economic loss due to fire and related hazards. The United States Coast Guard (USCG) has overall responsibility for safety and security on all

[1] 49 USC 201
[2] Public Law 110-432
[3] USDOT, FRA. 2009. High-Speed Passenger Rail Safety Strategy. Accessed from https://www.fra.dot.gov/eLib/Details/L03624. Accessed June 7, 2017.
[4] 49 CFR 1580
[5] DHS, Office of the Inspector General. 2010. TSA's Preparedness for Mass Transit and Passenger Rail Emergencies. Accessed from https://www.oig.dhs.gov/assets/Mgmt/OIG_10-68_Mar10.pdf. Accessed June 7, 2017.

waterways including those in the Local and Regional Study Areas. The District of Columbia (the District) and Arlington County, Virginia, enforce safety and security through local code requirements, laws, ordinances, and regulations within their jurisdictional boundaries. The Project Area is serviced in the District by the District of Columbia Fire and Emergency Medical Services Department (DC FEMS), the Metropolitan Police Department (MPD), and the Homeland Security and Emergency Management Agency (HSEMA). In Virginia, the Arlington County Police, Sheriff's Office, and Fire Department are the local agencies responsible for safety, security, and emergency response. Details regarding public safety and emergency response will vary depending on location.

18.2.2. Methodology

As shown in **Figure 18-1**, the Local Study Area for safety and security resources includes the footprint of the Project Area and the areas immediately adjacent to the Project Area within approximately 0.5 miles. The Local Study Area includes the tracks, interlockings, bridges, and related railroad infrastructure being modified by the Project.

The Regional Study Area for safety and security encompasses the District and Arlington County, Virginia. **Figure 18-2** illustrates the service boundaries for fire, law enforcement, and emergency services in the District and Arlington County, as well as service boundaries of specific forces in the area including Amtrak Police, MPD, Arlington County Police, Metro Transit Police, United States Park Police (USPP), and United States Capitol Police (USCP).

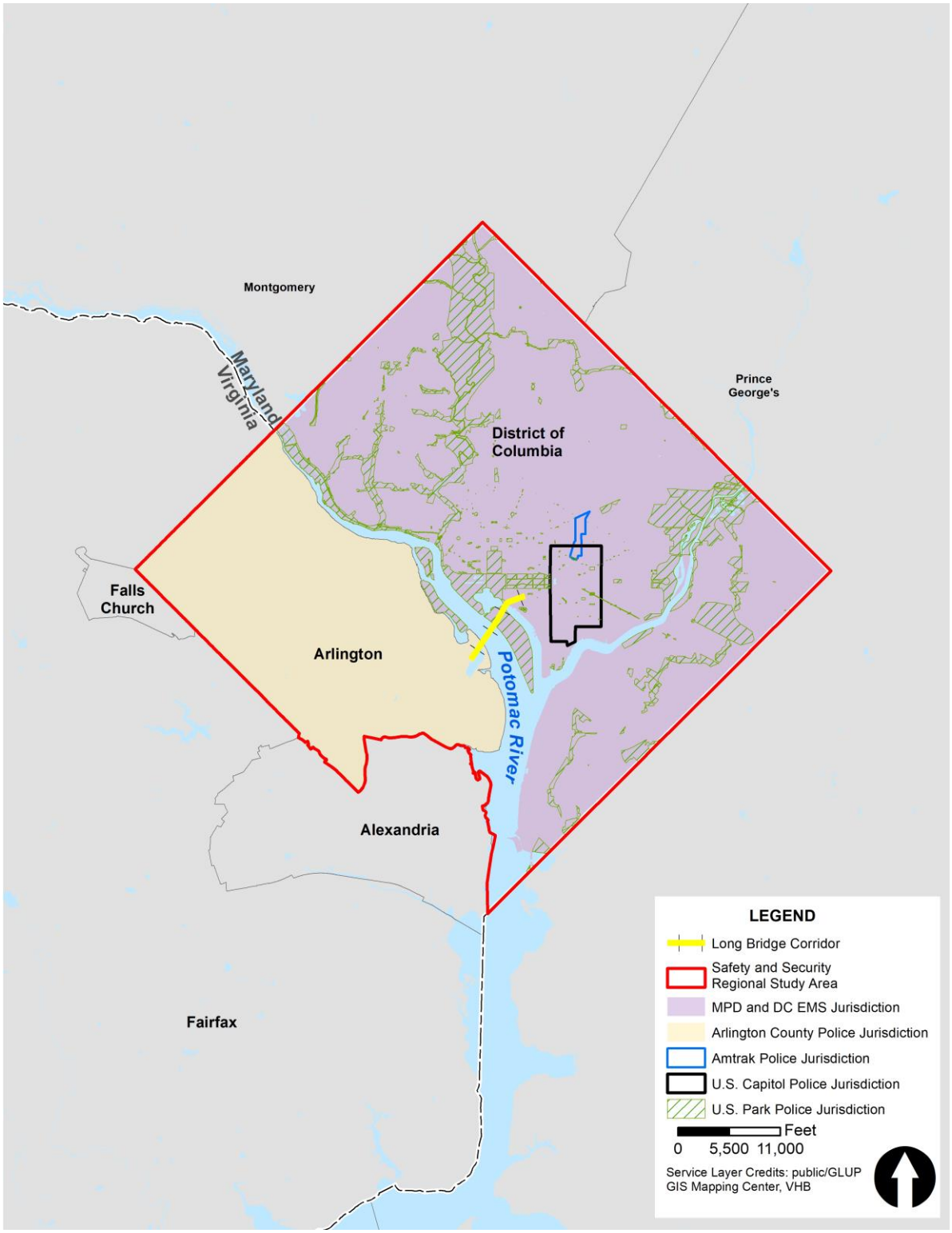
The Affected Environment documented existing emergency services, law enforcement, emergency response plans, and community safety features, such as vehicular safety, railroad, pedestrian and bicycle safety, and schools in the Local Study Area, and identified high-risk facilities, accessibility barriers, and fall hazards in the Local Study Area.

The evaluation of potential impacts to safety identified potential impacts (beneficial or adverse) to access for emergency services and first responders, including any changes in access to public safety facilities. The analyses examined safety impacts to residences, schools, and other sensitive facilities, as well as the potential for dangerous conditions around the railroad facilities that could lead to an increase in vehicle, pedestrian, or cyclist accidents. In addition, the analysis evaluated the potential for workers or passengers to be exposed to hazards resulting from the alternatives. This safety analysis considers the location of schools or childcare facilities because children are a highly vulnerable population and may be at-risk from railroad operations, including incursion onto the tracks in the Local Project Area.

The evaluation of potential impacts to security resources identified any direct impacts due to project elements requiring the permanent or temporary physical use of property occupied by security facilities. The analysis also assessed hazards that could affect future operations; potential vulnerabilities related to terrorist acts and criminal activity; and the potential for increased hazards to people or structures because of new features. In addition, the analysis identified potential changes to security practices in the Local Study Area because of the Project.

Figure 18-1 | Local Study Area for Safety and Security

Figure 18-2 | Regional Study Area for Safety and Security



18.3. Affected Environment

This section summarizes the existing conditions of the safety and security resources. For a complete description of the Affected Environment, see **Appendix D2, Affected Environment Report.**

18.3.1. Railroad Safety

The railroads that operate in the Local and Regional Study area, including Amtrak, Virginia Railway Express (VRE), Maryland Area Regional Commuter (MARC), CSX Transportation (CSXT), and Norfolk Southern, are responsible for the safe operations of their trains while adhering to Federal safety regulations. Of those railroads, those that routinely operate in the Local Study Area include Amtrak, VRE, and CSXT.

FRA safety data showed that, since 2012, two derailments occurred on CSXT-owned tracks in the District and no other incidents occurred.[6] In that same period, the data showed $927,086 in reported damages. At-grade crossings create risks to railroad safety; however, there are no at-grade crossings within the Local Study Area. Pedestrians illegally trespassing on railroad infrastructure (that is, tracks, yards, and bridges) can cause serious health and railroad safety impacts. The FRA Office of Safety tracks the number of incidents involving trespassers; for incidents occurring in the last 10 years (2008–2018), 13 incidents (including seven fatalities) occurred in the District and two incidents (including one fatality) occurred in Arlington.[7]

18.3.2. Emergency Response

In the District, MPD and DC FEMS are responsible for emergency response to all railroad incidents in the Local Study Area. The Local Study Area is located within the MPD's First and Second Districts and encompasses portions of the 105th and 207th Police Service Areas. The Special Operations Division and Bomb Squad of MPD respond to incidents on the railroad that may involve suspicious materials, bombs, or related threats. As the Potomac River and other bodies of water within the Local Study Area fall within the District, the MPD's Harbor Patrol Unit provides police and rescue services in the Potomac and adjoining waterways. DC FEMS provides emergency medical response, supplemented by private ambulance firms. The DC FEMS system coordinates among these various entities to provide service to local hospitals. The District of Columbia Fire Department Fire Boat and Engine Companies 7 and 13 also serve the Local Study Area. The Fire Boat and Company 7 are part of Battalion 6; Company 13 is part of Battalion 2.

CSXT meets with local first responders regarding freight railroad transportation issues including response procedures, coordination and communications during incident response, and training.[8] CSXT also provides online training programs for emergency response personnel on how to respond to safety incidents on or adjacent to railroad property and equipment.[9] CSXT and District emergency responders

[6] Due to a lack of granularity in the data, it is unknown how many of these crashes happened in the Local Study Area.
[7] For FRA accident/incident reporting purposes under 49 CFR Part 225, in the FRA Guide for Preparing Accident/Incident Reports, FRA defines TRESPASSER (CLASS E) as persons who are on the part of railroad property used in railroad operation and whose presence is prohibited, forbidden, or unlawful.
[8] FHWA and DDOT Virginia Avenue Tunnel Final Environmental Impact Statement (FEIS). Accessed from http://www.virginiaavenuetunnel.com/nepa-archive. Accessed January 5, 2018.
[9] CSXT Online Training Materials for Emergency Responders. Accessed from http://csxhazmat.kor-tx.com/. Accessed December 21, 2018.

participate in tabletop drills, crisis management exercises, and other coursework designed to meet the needs of the DC FEMS. Since 2007, CSXT has sponsored 13 DC FEMS hazmat team members to attend a week-long training session at the Association of American Railroads Security and Emergency Response Training Center in Pueblo, Colorado.[10] Amtrak and VRE also regularly provide passenger train emergency response training for emergency responders in the jurisdictions they travel through.[11]

In Arlington County, the Police Department, Fire Department, and Sherriff's Office are responsible for emergency response to all railroad incidents in the Local Study Area. As the Potomac River is under MPD jurisdiction, Arlington Water Resource Units respond to incidents on the Potomac River when requested. Emergency response or incidents occurring on the railroad that may involve suspicious materials, bombs, or related threats would include the Special Operations Section of the Arlington Police Department. The Local Study Area is located within the Second Police District and encompasses portions of Police Beat 49. Arlington County Fire Department provides emergency medical response, including ambulance transportation, coordinated through the Virginia Department of Health Office of Emergency Medical Services.

The Federal entities of the USPP and the USCP also have jurisdiction over portions of the Local Study Area in both the District and Virginia, including the National Mall and the George Washington Memorial Parkway (GWMP). Due to the extensive overlap in state, local, and Federal entities, the Local Study Area is well equipped to deal with emergency situations. Because there are no at-grade railroad crossings in the Local Study Area, the volume of train traffic does not affect emergency response times.

18.3.3. Crime

In 2017, eight violent crimes, and 74 total crimes, occurred within the Local Study Area in the District. MPD has several ongoing practices and initiatives intended to reduce crime, particularly violent crime, and improve relations and increase cooperation between the police force and community members. MPD uses a citywide closed-circuit television (CCTV) system, with 144 neighborhood-based cameras across all seven MPD districts, to more efficiently direct and deploy resources. MPD has installed cameras at six locations in the Local Study Area. The closest CCTV camera, CCTV camera-25, is located on the 14th Street Bridge, approximately 0.2 miles from the Long Bridge. Due to the distance between the CCTV camera-25 and Long Bridge, it is unlikely this camera captures activities on Long Bridge. In 2017, one violent crime, and nine total crimes, occurred within the Local Study Area in Arlington.

18.3.4. Schools

This safety analysis considers the location of schools and childcare facilities because children are a highly vulnerable population and may be at risk from railroad operations, including incursion onto the tracks in the Project Area. In the District, schools within the Local Study Area include Apple Tree Early Learning Public Charter School (680 I Street SW), Jefferson Middle School (801 7th Street SW), and Washington Global Public Charter School (525 School Street SW). In the District, the schools are located

[10] FHWA and DDOT. 2014. Virginia Avenue FEIS.
[11] National Capital Region Transportation Planning Board. Item 11: Passenger Rail Safety and Preparedness Initiatives. July 22, 2015. Accessed from http://www1.mwcog.org/uploads/committee-documents/l1xfXVxf20150722085945.pdf. Accessed August 17, 2018.

approximately 0.56, 0.48, and 0.15 miles, respectively, from the right-of-way; the track is not at-grade, so the safety measures currently prevent the incursions of vulnerable populations or children on tracks.

In Arlington, two schools are located within the Local Study Area: Sparkles! Child Care Facility (1235 South Clark Street) and the Everbrook Academy Preschool (201 12th Street S), approximately 0.15 and 0.13 miles from the Long Bridge Corridor. In Arlington, the right-of-way is separated from commercial and school buildings by a combination of fencing, barriers, and dense vegetation, which inhibit the incursions of children on tracks.

18.3.5. Security

TSA has overall security jurisdiction involving railroad operations and infrastructure in the Local and Regional Study Areas. Locally, MPD, the Arlington County Police Department, and the Arlington County Sheriff's Office have responsibility for security. CSXT Police has jurisdiction on the Long Bridge structure and along CSXT's right-of-way, while Amtrak Police have jurisdiction on their trains. In preparing the *Virginia Avenue Tunnel Environmental Impact Statement*, the District Department of Transportation (DDOT) and the Federal Highway Administration extensively documented the ongoing procedures related to security in the Project Area. According to the *Virginia Avenue Tunnel Environmental Impact Statement*, "the CSXT railroad route is managed and monitored by CSXT in conjunction with DHS."[12]

Security concerns related to Long Bridge and other critical transportation assets are the subject of a multi-agency planning initiative within the District. As the nation's capital and home to numerous critical functions of the Federal government, the District features a robust security apparatus across a variety of agencies, including MPD, USCP, USPP, and the United States Secret Service, among others. The District HSEMA coordinates preparedness and response in the event of an emergency. The Federal government and the District have developed multiple contingency plans targeted at securing critical infrastructure and ensuring the safety of citizens should an emergency arise.

The FRA regulates the safe transportation of hazardous materials. The TSA determines the routes for shipment of certain hazardous materials. CSXT does not transport explosive, toxic by inhalation, or poisonous by inhalation materials through the District. For security reasons, CSXT does not publicly disclose information about the materials it transports. However, CSXT regularly provides a list of the top 25 hazardous materials (by railroad car count) shipped through the District to the District HSEMA, DC FEMS, MPD, and DHS.

FRA statutory requirements dictate that all railroad workers, including CSXT employees and its contractors that work on or near railroad tracks, be formally trained and undergo what is called "Roadway Worker Protection Training." This training must be completed on an annual basis. In addition, each roadway worker must undergo security training. All railroad contractors undergo a criminal background check every 2 years under the requirements of the industry's e-RAILSAFE program.[13]

Incursions onto the tracks are security and operational concerns for railroads generally. Within the District portion of the Local Study Area, the railroad tracks are generally at a different elevation from

[12] FHWA and DDOT. 2014. Virginia Avenue FEIS. Accessed from http://www.virginiaavenuetunnel.com/nepa-archive. Accessed January 5, 2018.
[13] FHWA and DDOT. 2014. Virginia Avenue FEIS: Appendix L. Page L-107. Accessed from http://www.virginiaavenuetunnel.com/sites/default/files/Appendix_L_-_Draft_EIS_Comments_Responses.pdf. Accessed January 3, 2018.

roadways and walkways. Along the Maryland Avenue corridor, fencing above barriers prevents incursions into the tracks in some areas. In other areas, there are only high barriers without fences. In the approach to the bridge, some areas of the tracks are potentially accessible from National Park Service areas, but trees and other greenery provide a barrier. On the Virginia side, the tracks can be accessed from a service road just north of Long Bridge Park. That road does not appear to be blocked by a gate or guard. Individuals could also access the tracks at the southern end of the Local Study Area from the VRE Crystal City station.

18.4. Permanent or Long-Term Effects

This section discusses the permanent or long-term effects following the construction of the No Action Alternative and Action Alternatives on safety and security resources within the Local and Regional Study Areas. For a complete description of the permanent or long-term effects, see **Appendix D3, Environmental Consequences Report**. For discussions on the impacts associated with the transport and use of hazardous materials on public safety and transportation see **Chapter 8, Solid Waste Disposal and Hazardous Materials**.

18.4.1. Railroad Safety

18.4.1.1. No Action Alternative

The No Action Alternative would have beneficial direct impacts due to the implementation of Positive Train Control (PTC), which is an automatic collision avoidance system that stops or slows a train in case of operator error or incapacitation, and prior to the violation of a speed or signal restriction. Beyond the implementation of PTC, current operators CSXT, VRE, and Amtrak would continue their existing safety management practices under the No Action Alternative.

18.4.1.2. Action Alternative A (Preferred Alternative)

Action Alternative A would have minor permanent direct beneficial impacts to railroad safety, and no indirect impacts. Action Alternative A would have a standard two-track bridge design and would pose no unique design or operational challenges to the host railroad or any of the third-party operators. Thus, there would be no additional risk to railroad safety. The design of Action Alternative A would meet all current and related NFPA and American Railway Engineering and Maintenance-of-Way Association design standards. The right-of-way would be secured with fencing within the full project limits, so no additional threats of right-of-way incursion is expected.

Action Alternative A would have a minor permanent direct beneficial impact to railroad safety. The existing track configuration throughout the 1.8-mile-long Corridor maintains 13-foot track spacing with 8.5 feet of lateral clearance, which would be upgraded to meet the current CSXT design criteria of 15-foot track spacing with 9 feet or greater lateral clearance through the majority of the Corridor. As explained in **Chapter 3.3.1, Maryland Avenue SW to L'Enfant Interlocking**, the existing conditions at the Maryland Avenue SW overbuild, 12th Street SW bridge, 12th Street Expressway bridge, and surrounding retaining walls between Maine Avenue SW and the L'Enfant (LE) Interlocking present challenges to meeting the current design criteria. The infrastructure through this section of the Corridor would require extensive structural modifications to obtain the same 15-foot track spacing and 9-foot lateral clearance, resulting in major impacts to local roads, businesses, and private properties. Through discussions with

CSXT and railroad operators (Amtrak, VRE, and DRPT), the project stakeholders have selected a configuration of 14-foot track spacing with a minimum of 7.5 feet of lateral clearance as the preferred option. With the additional mitigation identified in **Section 18.6.1, Railroad Safety**, this option would meet the operational and safety requirements of the railroads.

18.4.1.3. Action Alternative B

Permanent impacts to railroad safety resulting from Action Alternative B would be the same as the impacts described for Action Alternative A.

18.4.2. Public Safety

18.4.2.1. No Action Alternative

The No Action Alternative would not have permanent or long-term effects on public safety in the Local Study Area, including emergency response or emergency services. Public and private emergency response services, dependent on jurisdiction (the District or Arlington), would continue to serve the Local Study Area.

CSXT would continue existing practices to secure its right-of-way from the risk of the public accessing the tracks. There are no grade-crossings and limited access points in the Local Study Area.

18.4.2.2. Action Alternative A (Preferred Alternative)

Action Alternative A would have no permanent or long-term direct or indirect impacts to public safety, including effects on emergency response, emergency services, crime, or other components of public safety in the Local Study Area. Public and private emergency response services, depending on the jurisdiction, would continue to serve the Local Study Area. The new two-track system would not create additional impacts. Currently, there are no at-grade crossings and Action Alternative A would not add any; therefore, the increase in train traffic would not affect emergency response times.

18.4.2.3. Action Alternative B

Permanent impacts to public safety resulting from Action Alternative B would be the same as the impacts described for Action Alternative A.

18.4.3. Security

18.4.3.1. No Action Alternative

The No Action Alternative would have no permanent or long-term effects on security in the Local Study Area. There would be no change to security when compared to existing conditions. Existing security practices and plans would continue to be in effect.

18.4.3.2. Action Alternative A (Preferred Alternative)

Action Alternative A would have negligible permanent direct adverse impacts to security. Construction of the new bridge would create another piece of critical infrastructure that could be the target of criminal or terrorist activity. Local, regional, and Federal agencies would need to update transportation

infrastructure safety, security, and emergency management plans to encompass the new bridge. As the agencies update these plans regularly, the anticipated impacts would be negligible. The additional infrastructure would not overburden the applicable safety and security agencies. Because Action Alternative A does not include any at-grade crossings of roadways, it would not cause any permanent impacts to roadways that serve as regional evacuation routes.

18.4.3.3. Action Alternative B

The permanent impacts resulting from Action Alternative B would be the same as the impacts described for Action Alternative A.

18.5. Temporary Effects

This section discusses the direct or indirect temporary effects of the No Action Alternative and Action Alternatives during construction, based on conceptual engineering design. For the complete technical analysis of the potential temporary impacts to safety and security resources, see **Appendix D3, Environmental Consequences Report**.

18.5.1. Railroad Safety

18.5.1.1. No Action Alternative

The No Action Alternative may have temporary direct adverse impacts to railroad safety due to construction in the vicinity of active tracks, resulting in the potential for impacts to railroad worker safety during construction.

18.5.1.2. Action Alternative A (Preferred Alternative)

Action Alternative A would have minor temporary direct adverse impacts to railroad safety. Action Alternative A would require construction in the vicinity of active tracks, resulting in the potential for impacts to railroad worker safety during construction. Construction of Action Alternative A would require the implementation of safety measures as described below in **Section 18.6, Avoidance, Minimization, and Mitigation**.

18.5.1.3. Action Alternative B

Action Alternative B would cause similar temporary impacts as Action Alternative A, except that the duration of the impacts would persist longer. The estimated duration of construction for Action Alternative B is approximately 1.5 times that of Action Alternative A (8 years and 3 months versus 5 years, respectively), resulting in additional months and years of potential impacts to railroad safety during which safety measures would be required.

18.5.2. Public Safety

18.5.2.1. No Action Alternative

The No Action Alternative may have temporary direct adverse impacts to public safety due to the location of construction sites within heavily urbanized areas. Members of the public, including children, could enter unsecured staging areas or railroad right-of-way during construction.

18.5.2.2. Action Alternative A (Preferred Alternative)

Action Alternative A would cause moderate temporary direct adverse impacts to public safety due to lane closures on Maine Avenue SW which could inhibit or cause delays for police, fire, and emergency services. The contractor would be required to coordinate with emergency services to minimize impacts to emergency response.

Constructing Action Alternative A would require temporary relocation of portions of the Mount Vernon Trail for approximately 2 years. The relocated trail would be adjacent to the GWMP and the I-395 North on-ramp. Measures would be put in place and appropriate distance maintained between pedestrians, bicyclists, and automobiles to ensure the safety of trail users.

Several Project construction sites would be located within heavily urbanized areas and thus could introduce risk to public safety. Members of the public, including children, could enter unsecured staging areas or railroad right-of-way. Therefore, all staging areas would be secured and fenced.

18.5.2.3. Action Alternative B

The temporary impacts resulting from Action Alternative B would be similar to the impacts described for Action Alternative A, except that the potential for temporary impacts resulting from Action Alternative B would last longer than Action Alterative A. The estimated duration of construction for Action Alternative B is approximately 1.5 times Action Alternative A (8 years and 3 months and 5 years, respectively), resulting in additional months and years of potential impacts to public safety.

18.5.3. Security

18.5.3.1. No Action Alternative

The No Action Alternative could have temporary direct adverse impacts to security resources due to the addition of construction staging areas and access points close to public rights-of-way. Construction staging areas or access points present additional opportunity for incursions onto the railroad right-of-way.

18.5.3.2. Action Alternative A (Preferred Alternative)

Action Alternative A would have minor temporary direct adverse impacts to security resources. Action Alternative A would temporarily add security risk due to the addition of several construction staging areas, access points and the proximity of these areas to public areas. Construction staging areas or access points present additional opportunity for incursions onto the railroad right-of-way. With Action Alternative A, these areas could be present for as long as 5 years. All construction sites would be secured through using fencing or other passive security measures (such as lighting) in addition to active security measures (such as cameras or intrusion detection), security personnel, monitoring of various activities, and adherence to strict protocols for entrance of construction workers to construction sites. The inspection of materials would also be employed at the construction sites.

18.5.3.3. Action Alternative B

The temporary impacts resulting from Action Alternative B would be similar to the impacts described for Action Alternative A, except that the potential for temporary impacts under Action Alternative B will last

longer than Action Alterative A. The estimated duration of construction for Action Alternative B is approximately 1.5 times that of Action Alternative A (8 years and 3 months versus 5 years, respectively), resulting in additional months and years of potential impacts to security.

18.6. Avoidance, Minimization, and Mitigation

This section describes proposed mitigation for the impacts to safety and security.

18.6.1. Railroad Safety

The Project would not cause permanent adverse impacts to railroad safety. Therefore, no avoidance, minimization, or mitigation measures are proposed for permanent impacts.

The Project would involve construction in the vicinity of active tracks, requiring a range of measures to ensure the safety of railroad workers. Measures would include:

- DRPT, the project sponsor for final design and construction, and the SCC would require construction contractors to meet all applicable safety and security requirements, including those specified by CSXT, Amtrak, VRE, and state and Federal agencies, including DDOT, the Virginia Department of Rail and Public Transportation, FRA, TSA, USCG, the United States Environmental Protection Agency, and the Occupational Safety and Health Administration (OSHA).
- CSXT would require that the contractors use flagmen as needed and ensure that the required railroad safety training has been completed by all workers that would be in the vicinity of the active tracks during construction.
- Before beginning work, CSXT would require contractors to develop a Safety and Security Plan for review and approval. Safety and security would be coordinated with Federal, state, and local law enforcement and safety agencies.

Because of the proposed reduced track spacing and lateral clearance between Maine Avenue SW and LE Interlocking, DRPT would be required to implement several mitigation measures:

- To accommodate the track configuration, DRPT would implement infrastructure upgrades to the crashwalls, as well as provide clearance detectors, security lighting, enhanced security fencing, and track friction modifiers.
- DRPT would modify crash walls in the reduced clearance areas to meet the design criteria.
- DRPT would also add electrical and communication connections to enable the addition of security measures.
- DRPT would continue to evaluate opportunities for further structural improvements in the overbuild area during final design to potentially increase lateral clearance.
- DRPT would continue discussions that FRA and DDOT conducted with CSXT, Amtrak, VRE, and DRPT to identify and mitigate operational impacts of the reduced track spacing and lateral clearance.

18.6.2. Public Safety

The Project would not cause permanent adverse impacts to public safety. Therefore, no avoidance, minimization, or mitigation measures are proposed for permanent impacts.

Construction zone impacts from the Project can be mitigated by following standard construction safety procedures as outlined by OSHA and industry best practices for highway, railway, and pedestrian way overbuilds. Choosing a contractor with a proven safety record and a successful work history on railway/highway projects can help to keep risk at an acceptable level. During construction, safety and security would be coordinated with Federal, state, and local first responders to ensure access and minimize delays for emergency response. Safety and security measures would be developed to address natural events (such as severe storms, flooding, earthquakes), or emergencies caused by human error, mechanical failure, or intentional human intervention.

Construction staging areas can be targets of theft or vandalism, with materials and construction equipment stored on site for extended periods of time. Throughout the construction period, DRPT would employ proper measures to prohibit trespassing, such as barriers, fences, or barricades. Entrances and exits to construction sites would be locked and areas would be well lit and equipped with automatic protective lighting systems.

18.6.3. Security

DRPT would implement measures to inhibit trespassing, incursions, and potential terrorist acts on railroad infrastructure through coordination with Federal, state, and local law enforcement. Measures would include fencing, barriers, and dense vegetation.

DRPT would secure all construction sites through using fencing or other passive security measures (such as lighting), as well as active security measures (such as cameras or intrusion detection), security personnel, monitoring of various activities, and adherence to strict protocols for entrance of construction workers to construction sites. The inspection of materials would also be employed at the construction sites.