

## 1 18.0 Safety and Security

### 2 18.1. Introduction

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

### 8 18.2. Regulatory Context and Methodology

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

#### 14 18.2.1. Regulatory Context

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

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

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<sup>1</sup> 49 USC 201

<sup>2</sup> Public Law 110-432

<sup>3</sup> USDOT, FRA. 2009. High-Speed Passenger Rail Safety Strategy. Accessed from <https://www.fra.dot.gov/eLib/Details/L03624>. Accessed June 7, 2017.

<sup>4</sup> 49 CFR 1580

<sup>5</sup> 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](https://www.oig.dhs.gov/assets/Mgmt/OIG_10-68_Mar10.pdf). Accessed June 7, 2017.

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

#### 40 **18.2.2. Methodology**

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

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

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

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

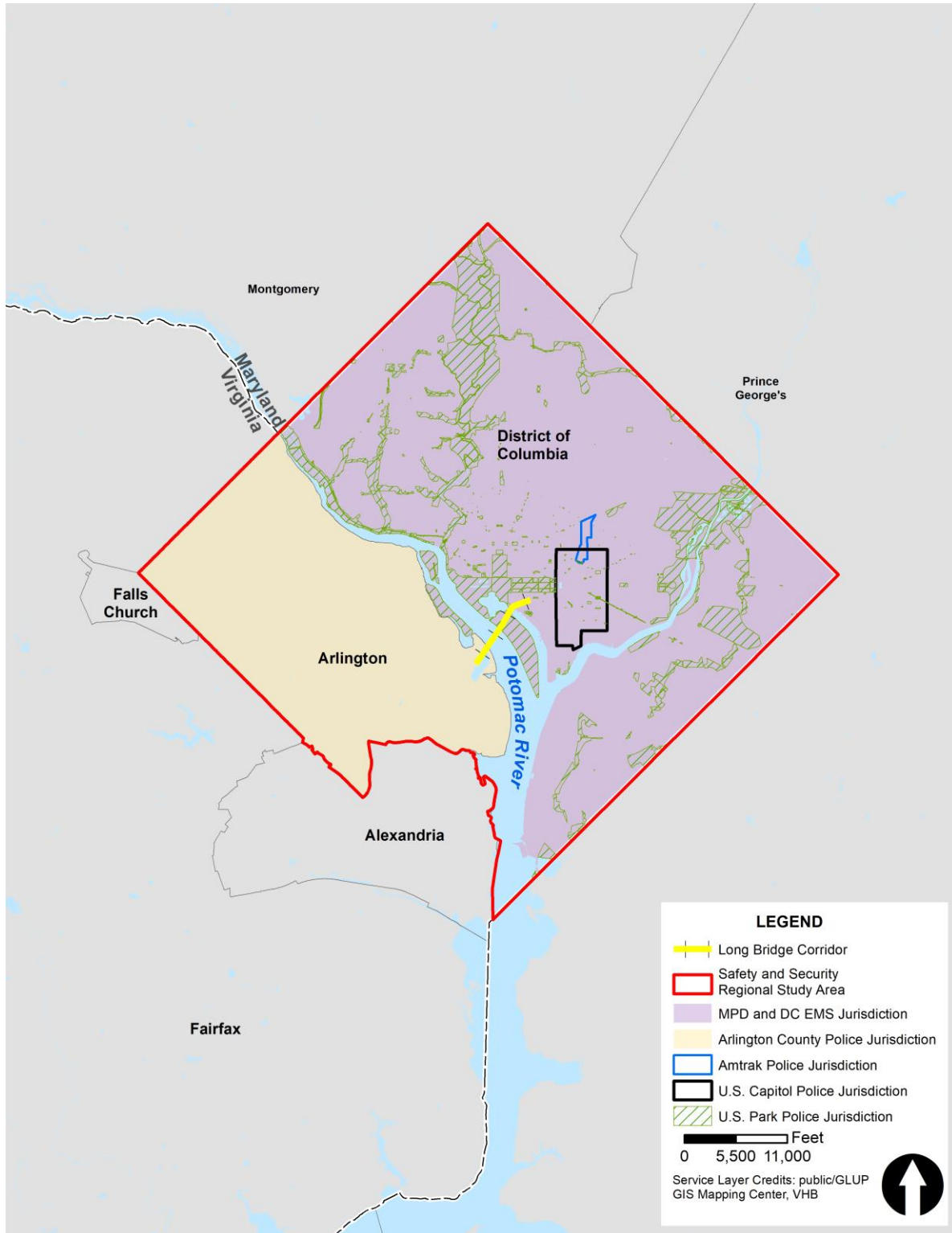
63 The evaluation of potential impacts to security resources identified any direct impacts due to project  
64 elements requiring the permanent or temporary physical use of property occupied by security facilities.  
65 The analysis also assessed hazards that could affect future operations; potential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

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



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



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### 73 **18.3. Affected Environment**

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

#### 76 **18.3.1. Railroad Safety**

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

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

#### 90 **18.3.2. Emergency Response**

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

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

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<sup>6</sup> Due to a lack of granularity in the data, it is unknown how many of these crashes happened in the Local Study Area.

<sup>7</sup> 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.

<sup>8</sup> FHWA and DDOT Virginia Avenue Tunnel Final Environmental Impact Statement (FEIS). Accessed from <http://www.virginiaavenuetunnel.com/nepa-archive>. Accessed January 5, 2018.

<sup>9</sup> CSXT Online Training Materials for Emergency Responders. Accessed from <http://csxhazmat.kor-tx.com/>. Accessed December 21, 2018.

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

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

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

### 125 **18.3.3. Crime**

126 In 2017, eight violent crimes, and 74 total crimes, occurred within the Local Study Area in the District.  
127 MPD has several ongoing practices and initiatives intended to reduce crime, particularly violent crime,  
128 and improve relations and increase cooperation between the police force and community members.  
129 MPD uses a citywide closed-circuit television (CCTV) system, with 144 neighborhood-based cameras  
130 across all seven MPD districts, to more efficiently direct and deploy resources. MPD has installed  
131 cameras at six locations in the Local Study Area. The closest CCTV camera, CCTV camera-25, is located  
132 on the 14th Street Bridge, approximately 0.2 miles from the Long Bridge. Due to the distance between  
133 the CCTV camera-25 and Long Bridge, it is unlikely this camera captures activities on Long Bridge. In  
134 2017, one violent crime, and nine total crimes, occurred within the Local Study Area in Arlington.

### 135 **18.3.4. Schools**

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

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<sup>10</sup> FHWA and DDOT. 2014. Virginia Avenue FEIS.

<sup>11</sup> National Capital Region Transportation Planning Board. Item 11: Passenger Rail Safety and Preparedness Initiatives. July 22, 2015. Accessed from <http://www1.mwco.org/uploads/committee-documents/l1xfVxf20150722085945.pdf>. Accessed August 17, 2018.

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

143 In Arlington, two schools are located within the Local Study Area: Sparkles! Child Care Facility (1235  
144 South Clark Street) and the Everbrook Academy Preschool (201 12th Street S), approximately 0.15 and  
145 0.13 miles from the Long Bridge Corridor. In Arlington, the right-of-way is separated from commercial  
146 and school buildings by a combination of fencing, barriers, and dense vegetation, which inhibit the  
147 incursions of children on tracks.

### 148 **18.3.5. Security**

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

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

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

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

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

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<sup>12</sup> FHWA and DDOT. 2014. Virginia Avenue FEIS. Accessed from <http://www.virginiaavenuetunnel.com/nepa-archive>. Accessed January 5, 2018.

<sup>13</sup> 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](http://www.virginiaavenuetunnel.com/sites/default/files/Appendix_L_-_Draft_EIS_Comments_Responses.pdf). Accessed January 3, 2018.

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

## 184 **18.4. Permanent or Long-Term Effects**

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

### 191 **18.4.1. Railroad Safety**

#### 192 **18.4.1.1. No Action Alternative**

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

#### 198 **18.4.1.2. Action Alternative A (Preferred Alternative)**

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

206 Action Alternative A would have a minor permanent direct beneficial impact to railroad safety. The  
207 existing track configuration throughout the 1.8-mile-long Corridor maintains 13-foot track spacing with  
208 8.5 feet of lateral clearance, which would be upgraded to meet the current CSXT design criteria of 15-  
209 foot track spacing with 9 feet or greater lateral clearance through the majority of the Corridor. As  
210 explained in **Chapter 3.3.1, Maryland Avenue SW to L'Enfant Interlocking,** the existing conditions at the  
211 Maryland Avenue SW overbuild, 12th Street SW bridge, 12th Street Expressway bridge, and surrounding  
212 retaining walls between Maine Avenue SW and the L'Enfant (LE) Interlocking present challenges to  
213 meeting the current design criteria. The infrastructure through this section of the Corridor would require  
214 extensive structural modifications to obtain the same 15-foot track spacing and 9-foot lateral clearance,  
215 resulting in major impacts to local roads, businesses, and private properties. Through discussions with



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

#### 220 **18.4.1.3. Action Alternative B**

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

### 223 **18.4.2. Public Safety**

#### 224 **18.4.2.1. No Action Alternative**

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

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

#### 231 **18.4.2.2. Action Alternative A (Preferred Alternative)**

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

#### 238 **18.4.2.3. Action Alternative B**

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

### 241 **18.4.3. Security**

#### 242 **18.4.3.1. No Action Alternative**

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

#### 246 **18.4.3.2. Action Alternative A (Preferred Alternative)**

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

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

#### 255 **18.4.3.3. Action Alternative B**

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

### 258 **18.5. Temporary Effects**

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

#### 263 **18.5.1. Railroad Safety**

##### 264 **18.5.1.1. No Action Alternative**

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

##### 268 **18.5.1.2. Action Alternative A (Preferred Alternative)**

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

##### 274 **18.5.1.3. Action Alternative B**

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

#### 280 **18.5.2. Public Safety**

##### 281 **18.5.2.1. No Action Alternative**

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

285 **18.5.2.2. Action Alternative A (Preferred Alternative)**

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

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

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

297 **18.5.2.3. Action Alternative B**

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

303 **18.5.3. Security**

304 **18.5.3.1. No Action Alternative**

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

309 **18.5.3.2. Action Alternative A (Preferred Alternative)**

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

319 **18.5.3.3. Action Alternative B**

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

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

## 325 **18.6. Avoidance, Minimization, and Mitigation**

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

### 327 **18.6.1. Railroad Safety**

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

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

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

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

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

356                    **18.6.2. Public Safety**

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

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

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

372                    **18.6.3. Security**

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

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