

## I INTRODUCTION

CSX Transportation, Inc. (CSX) has proposed the Virginia Avenue Tunnel Reconstruction Project (the Project). The Virginia Avenue Tunnel is owned by CSX, the project sponsor, and is located in the Capitol Hill neighborhood of Washington, DC beneath eastbound Virginia Avenue SE from 2nd Street SE to 9th Street SE; Virginia Avenue Park between 9th and 11th Streets; and the 11th Street Bridge right-of-way. The tunnel is also aligned on the south side of I-695. The tunnel portals are located a short distance west of 2nd Street SE and a short distance east of 11th Street SE. The tunnel and rail lines running through Washington, DC are part of CSX's eastern seaboard freight rail corridor, which connects Mid-Atlantic and Midwest states. The Project involves complete reconstruction of the Virginia Avenue Tunnel. CSX is funding the majority of the construction cost, estimated to be approximately \$168 million, as well the cost for the required mitigation. The Commonwealth of Virginia would be contributing \$24 million towards construction. No Federal-aid funds are being used for the Project.

The Federal Highway Administration (FHWA) is being asked to approve the short-term closure of I-695 ramps located at 6th and 8th Streets SE and the occupancy of a portion of the 11th Street Bridge right-of-way located on Interstate 695 (I-695) to accommodate the construction of the Project.<sup>1</sup> The temporary ramp closures are required in order to install and dismantle temporary bridges that would be located at 5th/6th Streets SE and 8th Streets SE. These bridges are meant to help maintain mobility throughout the neighborhood during the construction of the Project. Occupancy of a portion of 11th Street Bridge right-of-way at I-695 would accommodate the proposed modification of the Virginia Avenue Tunnel alignment underneath the 11th Street Bridges, which is part of I-695.

This document is FHWA's Record of Decision (ROD) regarding approval for the temporary closure of interstate highway access points (ramps) to I-695 located at 6th and 8th Streets SE in the District of Columbia (DC) and the occupancy of a portion of the 11th Street Bridge right-of-way (I-695) in Southeast DC. While CSX is also seeking permits and approvals from the District Department of Transportation (DDOT) for the Project, those permits and approvals are subject to separate permitting processes between CSX and DDOT and are governed by District statutes, regulations, and requirements. This ROD only pertains to FHWA's final decisions concerning temporary I 695 ramp closures and occupancy of a portion of 11th Street Bridge right-of-way (I-695).

FHWA's policy concerning Interstate access states that it is in the national interest to preserve and enhance the Interstate System in order to provide the highest level of service in terms of safety and mobility (74 Fed. Reg. 165). Adequate control of access is critical to providing such

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<sup>1</sup> Both the Draft Environmental Impact Statement (DEIS) and the Final Environmental Impact Statement (FEIS) stated that DDOT need to obtain FHWA approval pertaining to the occupancy of Interstate "airspace". This was a mischaracterization of the approval being sought. The actual FHWA approval being sought is related to the occupancy of a portion of Interstate "right-of-way," and not Interstate "airspace" as noted in the EIS.

service. As stewards of the Federal-aid Highway Program, the FHWA is accountable to the users of the system. To assure the Interstate System provides the “highest level of service in terms of safety and mobility...” and to protect the integrity and the extensive investment associated with it, the FHWA has retained all approval rights for the control of access to the Interstate System. FHWA approval is necessary for all new or modified permanent and temporary access points to the Interstate System or its Right-of-Way, regardless of funding and project oversight. In addition, FHWA’s regulations (23 CFR § 1.23(c)) state that the temporary or permanent occupancy or use of right-of-way for non-highway purposes may be approved by FHWA, if it determines that such occupancy, use or reservation is in the public interest and will not impair the highway or interfere with the free and safe flow of traffic thereon.

The approvals noted constitute a Federal action which requires FHWA compliance with the requirements of the National Environmental Policy Act (NEPA). NEPA requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. In compliance with the requirements of NEPA, FHWA prepared a detailed EIS, which disclosed information on the environmental impacts that would result as a consequence of the Project. FHWA also sought input from the public and various agency stakeholders, including DDOT, the owner of Virginia Avenue and other adjacent streets that will be affected by the Project. DDOT was invited to serve as the joint lead agency.

The Purpose and Need for the Project is to preserve, over the long-term, the continued ability to provide efficient freight transportation services in the District of Columbia, the Washington Metropolitan Area and the eastern seaboard. These services will continue if the structural and operational deficiencies of the Virginia Avenue Tunnel are addressed, capacity is added in preparation for expected increases in freight transportation demand, and commerce remains uninterrupted while functions of the existing tunnel are replaced with a new facility.

The following information sets forth the basis for the selection of the alternative described as the Preferred Alternative (Alternative 3) in the FEIS and referred to here as the Selected Alternative. After consideration of the agency and public comments received on the DEIS, as well as updated environmental data and further coordination with the public, a Preferred Alternative was identified in the FEIS. A complete description of the Preferred Alternative is provided in detail in the FEIS. The Preferred Alternative is selected for implementation based upon its ability to meet the needs for and purpose of the Project; respond to public and agency input; minimize and/or avoid impacts to environmental resources and the human environment; and a consideration of both indirect and cumulative impacts.

The basis for this ROD is supported by the information presented in the FEIS (see Section IV), supporting technical documents, the associated project record, and input received from the public and interested District of Columbia and federal agencies. The FHWA considered the impacts of the Project and alternative courses of action under NEPA while balancing the needs of CSX, the project sponsor, to reconstruct its tunnel facility located under Virginia Avenue SE

with public and agency concerns regarding the Project. This approval constitutes FHWA's approval of the Selected Alternative for the Project and completes the environmental process. As set forth in this ROD, the Selected Alternative best serves the need for and purpose of the Project.

This ROD is executed in accordance with both FHWA's and the Council on Environmental Quality's (CEQ) regulations implementing NEPA and documents FHWA's compliance with NEPA and all other applicable federal statutes, regulations, and requirements. The sections that follow state the decision and provide information that has been essential in the decision-making process.

## II DECISION

After a consideration of the effects of the FHWA approval action on the natural, human and built environments and reasonable alternatives to those actions based on information presented in the FEIS (see Section IV), the FHWA decision is to approve the short-term closure of I-695 ramps located at 6th and 8th Streets SE. In addition, FHWA approves the occupancy of a portion of the 11th Street Bridge right-of-way located on I-695 as requested by DDOT (see Appendix A – DDOT request letter to FHWA dated October 16, 2014). This ROD selects the Preferred Alternative (Alternative 3) for implementation.

The decision is based upon full consideration of all information contained in the DEIS approved on July 2, 2013, and the FEIS approved on June 5, 2014, all technical reports, and the project file. The decision was also based on the DEIS public hearing held on July 31, 2013; public meetings held on September 14, 2011, November 30, 2011, May 21, 2012, September 27, 2012, July 1, 2014 and July 31, 2014; and public and agency comments. The environmental review process is in full compliance with NEPA, Section 4(f), Section 106, and all other applicable federal regulations. FHWA did not consider occupancy permits issued by DDOT and agreement memoranda between DDOT and CSX in reaching this decision.

The approval of the Selected Alternative (Alternative 3) is based upon its ability to minimize, to the extent practicable, the environmental effects and consequences resulting from the Project, meet the purpose and need of the Project, and be responsive to public and agency input. Implementation of the Selected Alternative will involve replacing the existing Virginia Avenue Tunnel with two new permanent tunnels constructed sequentially. The south side tunnel will be constructed first as train traffic will continue to use the existing tunnel. Once completed, train traffic will shift to the new south side tunnel, and the existing tunnel will be demolished. Most of the north wall of the existing tunnel will remain in place so that the structural integrity of the I-695 viaduct will not be affected. Following demolition, the north side tunnel will be constructed. At the end of construction, each new tunnel will have a single railroad track with enough vertical clearance to allow double-stack intermodal container freight trains. Information on the alternatives development process, including early project concepts, is

provided in Section III. More detailed information about alternatives development, which includes the specific criteria used for the screening, is provided in Chapter 3 of the FEIS.

The FEIS considered the direct, indirect, and cumulative impacts of the Project and alternative courses of action under NEPA. The alternatives analysis process included efforts to not have disproportionate effects on any single area being impacted by the Project. In some instances, the human, natural and built environments will unavoidably be affected by the Project. However, where practicable, every effort has been made to avoid and minimize impacts, and to provide compensation as mitigation for unavoidable impacts. Many of the mitigation measures are intended to address the impacts of construction as identified in Section IV. Mitigation measures are also provided in the Memorandum of Agreement that was prepared in accordance with Section 106 of the National Historic Preservation Act. In addition, CSX will establish a claims process to provide reimbursement to residents for specific loss and damage to their property that is attributable to the construction of the Selected Alternative. CSX is also providing a Residential Property Mitigation (RPM) program, which includes monetary compensation to specific residents identified by CSX (i.e., "front row residences") and the surrounding community for the inconvenience caused by construction (Section VII provides additional information). The RPM also includes hardship compensation if a "front row" homeowner is required to sell the residence during construction for unforeseen reasons. The mitigation measures were developed in conjunction with the public and agency coordination. As no Federal-aid dollars are being utilized for this Project, these mitigation measures are funded entirely by CSX.

### III ALTERNATIVES CONSIDERED

Alternatives were addressed in the DEIS and FEIS. The No Build Alternative (Alternative 1) was carried through both documents. The Build Alternatives retained for detailed consideration, all of which meet the project's purpose and need, include Alternatives 2, 3 and 4. The Build Alternatives all involve reconstruction of the existing Virginia Avenue Tunnel at its current location. The Preferred Alternative identified in the FEIS was Alternative 3, Two New Tunnels. Alternatives that involve rerouting were considered early in the review process but were dismissed from consideration as explained below.

#### A Early Alternative Concepts Considered

The Early Alternative Concepts were developed from three design concepts, which were among a wider range of design concepts for the Project. The design concepts included both "rebuild" (i.e., rebuild the tunnel at its current location) and "reroute" concepts that would shift the mainline freight rail line to either a new nine-mile long tunnel through Washington, DC or establish a new rail line outside of Washington, DC.

Following a detailed screening process, some of the concepts were eliminated from further consideration including all of the "reroute" concepts. Concepts 2, 5 and 6 were carried forward

and renamed Alternatives 2, 3 and 4, respectively. Subsequent to the series of public meetings leading up to the release of the DEIS, additional engineering evaluations were performed on the Build Alternatives retained for detailed study. The notable engineering modifications of the alternatives from their original concepts were incorporated mainly to avoid risking the structural integrity of the adjacent I-695. In order to ensure that the structural integrity of I 695 and associated infrastructure remains intact, most of the north wall of the existing tunnel (the wall nearest to I-695) will remain in place under all three Build Alternatives.

## B Common Features of the Build Alternatives

Each Build Alternative will require the partial demolition of the existing tunnel (see above) and the construction of a new Virginia Avenue Tunnel that has two railroad tracks that will accommodate double-stack intermodal container freight trains. The existing tunnel has a single set of tracks despite the rail line having two sets of track located immediately east and west of the tunnel portals, which creates a bottleneck in the rail network. The existing tunnel also cannot accommodate double-stack intermodal container freight trains, which is increasingly becoming the industry norm in the freight transportation of this type of cargo (i.e., containerization of goods and equipment).

Regardless of Build Alternative, the total length of the rebuilt Virginia Avenue Tunnel will be extended by approximately 330 feet on the east end. The new east tunnel portal will be located northeast of the existing M Street SE / 12th Street SE T-intersection. Also under each of the Build Alternatives, the need to provide proper grading of the existing tracks west of the new rebuilt tunnel will mean that the vertical clearance underneath New Jersey Avenue SE will allow the transit of double-stack intermodal container freight trains.

Upon completion of tunnel reconstruction, the street and other affected areas, such as Virginia Avenue Park and the Marine Corps Recreation Facility, will be restored. The rebuilding of Virginia Avenue Tunnel provides the opportunity to construct a new streetscape for Virginia Avenue SE subject to further coordination with DDOT and input from the community.

## C Alternatives Considered But Rejected

As noted above, Alternatives 1, 2 and 4 were evaluated in the DEIS and FEIS. None of them is being selected for implementation. Brief descriptions of these alternatives and the reason for their non-selection are provided below.

### No-Build Alternative (Alternative 1)

This Alternative was not selected because it would not meet the purpose and need of the Project. Under the No Build, the existing single-track tunnel would remain the same and still in use. It would continue to be part of the mainline eastern seaboard freight rail corridor for commercial freight traffic. However, modern freight rail operations, which use double-stack intermodal container freight trains, would not be possible along the increasingly busy eastern

seaboard freight rail corridor. Virginia Avenue Tunnel would also remain a bottleneck in the network with its single-track configuration, and along with the inability to accommodate double-stack intermodal container trains, this single, relatively small segment of the I-95 corridor would become a limiting factor in preventing substantial improvements to the freight carrying capacity of the entire network in the Mid-Atlantic.

Alternative 1 does not include any major repairs or rehabilitation of the tunnel in the near future. However, given its 100-year plus age, the tunnel could require emergency or unplanned repairs at some point in the future to maintain commercial freight movements and protect the safety of railroad personnel and the public. Such a repair may require closure of at least part of Virginia Avenue SE in order for CSX to make the necessary repairs similar to what occurred in 1985 when a 150-foot section of the tunnel roof collapsed and had to be repaired under emergency conditions. In addition, the tunnel would eventually require rehabilitation or replacement, which may occur under an unplanned condition, and possibly at a time when the surrounding neighborhood is more developed and with increased traffic associated with the greater development. Unplanned repair or rehabilitation would not only inconvenience the surrounding community, but would severely affect commercial freight rail operations with wide implications to regional and/or national freight movements.

#### Alternative 2

The Alternative 2 would maintain freight traffic during construction of the new tunnel by providing a temporary runaround track placed inside a protected trench constructed immediately south of the existing tunnel alignment. However, within the section located approximately between 9th Street SE and the east end of the tunnel, a wider separation between the temporary runaround track and the existing tunnel alignment would be provided to avoid the columns associated with the rebuilt 11th Street Bridges. While train traffic is shifted to the runaround track, the existing tunnel is demolished and a new double track tunnel would be constructed in its place. Upon completion of the rebuilt Virginia Avenue Tunnel under Alternative 2, the runaround track would be removed and the protected trench would be backfilled.

The centerline of the rebuilt two-track tunnel would be aligned approximately seven feet south of the existing tunnel centerline. The shift is smallest at the west portal and is approximately ten feet east of 3rd Street SE. Nevertheless, the cross section configuration of the rebuilt tunnel would remain the same from portal to portal.

Alternative 2 meets the purpose and need of the Project. However, Alternative 2 was not selected due to the increased impacts associated with operating freight rail traffic on a temporary runaround track placed inside a protected trench along the entire length of the alignment during construction.

#### Alternative 4

Alternative 4 would involve construction of a new permanent tunnel in short segments while maintaining freight rail traffic in one half of the tunnel or construction trench at all times. Demolition of the old tunnel and construction of the new tunnel would occur in numerous stages with regularly shifting track alignments and all work occurring in very close proximity to live train traffic. This alternative would allow trains to continue to use the tunnel through the construction work area on a daily basis.

A single large trench would be needed for both maintaining freight rail operations and rebuilding the tunnel. Unlike the other Build Alternatives, Alternative 4 would require removal of the north tunnel wall along the east end of the tunnel in order for this alignment to fit within the 11th Street Bridges support columns currently being completed by DDOT.

From the west portal to the general vicinity of 3rd Street SE, the rebuilt Virginia Avenue Tunnel under Alternative 4 would be the same as under Alternative 2. Between 3rd Street SE and the east portal, the tunnel would consist of two single-track tunnels separated by a center partition wall. The centerline of the rebuilt tunnel along most of the tunnel length, represented by the center partition wall, would be aligned approximately 17 feet south of the existing tunnel centerline.

Alternative 4 meets the purpose and need of the Project. However, Alternative 4 was not selected due to the increased impacts associated with operating freight rail traffic on a temporary runaround track placed inside a protected trench along the entire length of the alignment during construction. In addition, the construction duration for Alternative 4 would be 50 to 66 months compared to 30 to 42 months for Alternative 2 and the Selected Alternative (Alternative 3).

#### D Description of Selected Alternative (Alternative 3)

The Selected Alternative (Alternative 3) avoids the construction of temporary facilities to maintain freight operations during construction, with the exception of 230-foot section as described below. The south side tunnel will be constructed first, and during this construction, freight traffic will continue to use the existing Virginia Avenue Tunnel. After the new south side tunnel is completed, train traffic will move over to this new tunnel and the existing, older tunnel will be reconstructed and converted into a new single-track/double-stack tunnel.

Within a 230-foot section starting from the west portal at 2nd Street SE to approximately mid-block between 2nd and 3rd Streets SE, a single two-track tunnel will be provided because of insufficient space between the piers of the I-695 viaduct to allow separate tunnels. During construction, freight trains will operate in a protected open trench within this section. Within the remainder of the tunnel limits, freight trains will operate in an enclosed tunnel throughout the construction duration.

From approximately midway between 2nd and 3rd Streets SE to just east of 9th Streets SE at Virginia Avenue Park, the two single-track tunnels will be separated by a center wall. The centerline of the two tunnels, represented by the center wall, will be aligned approximately 25 feet south of the existing tunnel centerline.

From just east of 9th Street SE to the east portal at 12th Street SE, the tunnels will be separated, resulting in two single-track tunnels. This is due to the locations of new concrete columns associated with the rebuilt 11th Street Bridges. The separation between the tunnels will be widest at the east tunnel portal where it will be approximately 65 feet centerline to centerline.

Conceptual plans for the Selected Alternative are provided in Exhibit A.

## E Summary of Features of the Selected Alternative

The Selected Alternative satisfies the Purpose and Need for the Project to a higher degree than the other two Build Alternatives while minimizing environmental impacts and addressing community concerns. This alternative reduces the construction duration for the Project to the greatest extent possible. Once completed, the safety of the tunnel and railroad operations will be enhanced by providing a center wall in the new tunnel separating the two sets of tracks, which will provide the benefit of isolating any derailment within the tunnel. The wall will also provide maintenance flexibility if an operational shutdown is required.

The Selected Alternative was developed in direct response to community concerns about trains temporarily operating in an open trench during construction near neighborhoods. These concerns were repeated and further elaborated by a number of residents who live near the proposed construction area during the DEIS comment period. The comments expressed concern regarding air quality, safety, noise, vibration, and general quality of life. The Selected Alternative will operate within an enclosed tunnel throughout construction, except for a 230-foot section located on the west end of the tunnel where there are no adjacent residences.

Although the centerline of the new Virginia Avenue Tunnel under Selected Alternative will be 25 feet south of the existing tunnel centerline, the additional design features, such as the new enclosed structure, track ballast/bed and concrete floor, will serve to prevent proximity effects from train-related vibration to nearby buildings. The vibration analysis indicates there will not be building damage or human annoyance as a result of trains passing through the new tunnel.

The Selected Alternative is the environmentally preferred alternative and was identified after considering the Purpose and Need for the Project and the potential environmental and community impacts that could result from the Project. With respect to the process of eliminating and minimizing environmental and community impacts, mitigation measures were identified and are explained in Section VII. These mitigation measures will be refined during the final design phase of the Project. Mitigation measures will be implemented as required during each phase of pre-construction, construction and post-construction activities.



#### IV SUMMARY OF ENVIRONMENTAL IMPACTS

The terms “effects” and “impacts” as used in the CEQ regulations are synonymous. Direct effects are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. Cumulative impacts are the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

The Tables provided on the following pages summarize the results of environmental impact studies conducted for the Project. These Tables include the entire range of environmental topics covered in the FEIS. As noted in Section III, Alternative 1 (No Build) does not include any major repairs or rehabilitation of the tunnel in the near future. However, it should be noted that the tunnel is over 100 years old; therefore, it could eventually require emergency or unplanned repairs at some point in the future. The Selected Alternative and Alternatives 2 and 4 all involve reconstruction of the Virginia Avenue Tunnel, generally in the same location and alignment as the existing tunnel. The alternatives slightly differ in their alignments and how train operations would be conducted during construction.

Following construction, freight train operations would return to pre-construction levels; however, with greater service and energy efficiencies resulting from the two tracks configuration and the minimum 21 feet of vertical clearance within the rebuilt tunnel. The direct effects of the Project would occur during construction; therefore, mitigation for those effects or construction impacts would be provided by the project sponsor as described in Section VII.

As described in Section 5.17, Indirect Effects, and Section 5.18, Cumulative Effects, of the FEIS, the Selected Alternative, when implemented, would result in a reversion of the community environment to pre-construction conditions. This is due to the nature of the project being a replacement of existing infrastructure in essentially the same corridor, underground. One notable exception would be the need to replace the street trees removed during construction of the new tunnels. The replacement trees would be smaller and would require time to reach a size commensurate with the removed trees. Temporary effects of the Selected Alternative during the construction period are also described in Section 5.18 of the FEIS as related to other foreseeable nearby construction projects. Mitigation for construction effects of the Project, as well as the noted tree loss, is included in the FEIS and Section VII of this ROD. Once implemented, the Selected Alternative would not result in indirect and cumulative effects beyond those described during the construction period for the locations noted for each resource.

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame         | No Build (Alternative 1)  | Selected Alternative (Alternative 3)   | Alternative 2  | Alternative 4   |
|--|---|--|--|---|
| <i>Land Use</i>                        |   |  |  |   |
| Construction                           | None  | The construction is within public rights-of-way or CSX property, except the Marine Corps Recreation Facility and Virginia Avenue Park. All areas affected by construction will be restored. No private property will be required.          | Same as the Selected Alternative.  | With the exception of the Marine Corps property, Alternative 4's construction area is a few feet narrower along Virginia Avenue SE, and it needs less area within Virginia Avenue Park. |
| Permanent (Post Construction)          | May result in similar impacts noted under construction for Selected Alternative if tunnel failure occurs. | Continuance of current development trends and realization of government land use plans in the general vicinity of Virginia Avenue SE. The new tunnel will be partially located within the Marine Corps property and will require approval. | Same as the Selected Alternative, except the tunnel will be located outside the Marine Corps property. | Same as the Selected Alternative, except the tunnel will be located outside the Marine Corps property.  |
| <i>Social and Community Conditions</i> |   |  |  |   |
| Construction                           | None.   | Certain residences will be in proximity to an active construction site for 30 to 42 months. All schools, and religious, social services and community facilities will be   | Same as the Selected Alternative.  | Same as the Selected Alternative, except the duration of construction would be 54 to 66 months.   |

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame | No Build (Alternative 1)   | Selected Alternative (Alternative 3)   | Alternative 2                     | Alternative 4                     |
|--------------------------------|--|--|-----------------------------------|-----------------------------------|
| Construction (cont.)           |  | accessible. Emergency response services will be unaffected. No disproportionately high and adverse impact in accordance with Executive Order 12898 on Environmental Justice.   |                                   |                                   |
| Permanent (Post Construction)  | May result in similar impacts noted under construction for Selected Alternative if tunnel failure occurs.          | Social and community conditions will revert back to pre-construction conditions.   | Same as the Selected Alternative. | Same as the Selected Alternative. |
| <i>Economic Conditions</i>     |  |  |                                   |                                   |
| Construction                   | None.  | All businesses remain accessible. Traffic detours will displace on-street parking on I Street SE, but this will not affect general business conditions. Property values of residences adjacent to the Project may be temporarily affected. | Same as the Selected Alternative. | Same as the Selected Alternative. |
| Permanent (Post Construction)  | May result in similar economic impacts noted under construction for Selected Alternative if tunnel failure occurs. | Business conditions will revert back to pre-construction conditions.   | Same as the Selected Alternative. | Same as the Selected Alternative. |

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame | No Build (Alternative 1)  | Selected Alternative (Alternative 3)   | Alternative 2                     | Alternative 4  |
|--------------------------------|---|--|-----------------------------------|--|
| <b><i>Air Quality</i></b>      |   |  |                                   |  |
| Construction                   | None.   | Not exceeding the General Conformity (GC) Rule's <i>de minimis</i> emission thresholds or the National Ambient Air Quality Standards (NAAQS).            | Same as the Selected Alternative. | Same as the Selected Alternative.  |
| Permanent (Post Construction)  | May result in similar air quality impacts noted under construction for Selected Alternative if tunnel failure occurs. | Not predicted to exceed the GC Rule's <i>de minimis</i> emission thresholds or the NAAQS.  | Same as the Selected Alternative. | Same as the Selected Alternative.  |
| <b><i>Noise</i></b>            |   |  |                                   |  |
| Construction                   | None.   | Construction activities predicted to cause noise impacts at certain noise sensitive receptors representing Capitol Quarter and Capper Senior Apartments. | Same as the Selected Alternative. | Requires sheet piling, a construction activity that is predicted to impact all noise sensitive receptors analyzed. |
| Permanent (Post Construction)  | May result in similar noise impacts noted under construction for Selected Alternative if tunnel failure occurs.       | Train operations not predicted to cause noise impacts at noise sensitive receptors.  | Same as the Selected Alternative. | Same as the Selected Alternative.  |

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame   | No Build (Alternative 1)  | Selected Alternative (Alternative 3)   | Alternative 2                     | Alternative 4                     |
|----------------------------------|---|--|-----------------------------------|-----------------------------------|
| <i>Vibration</i>                 |   |  |                                   |                                   |
| Construction                     | None.   | Certain construction activities near buildings could cause annoyance to occupants. Train operations during construction not predicted to cause human annoyance or building damage. | Same as the Selected Alternative. | Same as the Selected Alternative. |
| Permanent (Post Construction)    | May result in similar vibration impacts noted under construction for Selected Alternative if tunnel failure occurs.   | Train operations not predicted to cause human annoyance or building damage   | Same as the Selected Alternative. | Same as the Selected Alternative. |
| <i>Site Contamination - Soil</i> |   |  |                                   |                                   |
| Construction                     | None.   | Although not widespread, contaminated soil or groundwater handled during construction will be managed in accordance with applicable federal and local laws and regulations.        | Same as the Selected Alternative. | Same as the Selected Alternative. |
| Permanent (Post Construction)    | May result in similar size contamination and soil impacts noted under construction for Selected Alternative if tunnel | Any contaminated water encountered during long term dewatering of the new tunnel (to keep it dry) will be disposed of in   | Same as the Selected Alternative. | Same as the Selected Alternative. |

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame       | No Build (Alternative 1)  | Selected Alternative (Alternative 3)   | Alternative 2                     | Alternative 4  |
|--------------------------------------|---|--|-----------------------------------|--|
| Permanent (Post Construction) (cont) | failure occurs.   | accordance with applicable laws and regulations.   |                                   |  |
| <i>Water Resources</i>               |   |  |                                   |  |
| Construction                         | None.   | No impacts to the quality of nearby surface waters because of construction storm water management measures. A portion of the staging and stockpile area will be within a 500-year floodplain.            | Same as the Selected Alternative. | Same as the Selected Alternative.  |
| Permanent (Post Construction)        | May result in similar water related impacts noted under construction for Selected Alternative if tunnel failure occurs. | Restored Virginia Avenue SE will include a storm water management system.  | Same as the Selected Alternative. | Same as the Selected Alternative.  |
| <i>Vegetation and Wildlife</i>       |   |  |                                   |  |
| Construction                         | None.   | Removal of 168 street trees, 15 trees in Virginia Avenue Park, 8 trees in Marine Corps property, and trees within CSX property. Short term habitat loss for fauna species adapted to urban environments. | Same as the Selected Alternative. | Same as the Selected Alternative except 164 street trees would be removed. |

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame               | No Build (Alternative 1)  | Selected Alternative (Alternative 3)   | Alternative 2                     | Alternative 4                     |
|--|---|--|-----------------------------------|-----------------------------------|
| Permanent (Post Construction)                | May result in similar impacts noted under construction for Selected Alternative if tunnel failure occurs. | Landscaping plans, including tree replantings, will be coordinated with pertinent owners and stakeholders.   | Same as the Selected Alternative. | Same as the Selected Alternative. |
| <i>Historic and Archaeological Resources</i> |   |  |                                   |                                   |
| Construction                                 | None.   | An "adverse effect" in accordance with Section 106 of the National Historic Preservation Act (NHPA) was rendered due to proposed demolition of the existing tunnel; construction-period impacts to the L'Enfant Plan and the Capitol Hill Historic District; and construction-period proximity to St Paul AUMP Church. | Same as the Selected Alternative. | Same as the Selected Alternative. |
| Permanent (Post Construction)                | May result in at least partial demolition of the tunnel if tunnel failure occurs.                         | Restoration of Virginia Avenue SE, which includes straightening the section between 4 <sup>th</sup> and 5 <sup>th</sup> /6 <sup>th</sup> Streets SE, in keeping with the original L'Enfant Plan for the street.  | Same as the Selected Alternative. | Same as the Selected Alternative. |

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame          | No Build (Alternative 1)  | Selected Alternative (Alternative 3)   | Alternative 2   | Alternative 4   |
|---|---|--|---|---|
| <i>Parks and Recreational Resources</i> |   |  |   |   |
| Construction                            | None.   | Affect part of Virginia Avenue Park, but not the garden, and the area under I-695 at 2 <sup>nd</sup> Street SE, which will prevent public access to Garfield Park at this location, and displace ad hoc recreational activities (skateboarding) under the freeway. In Virginia Avenue Park, trains will operate in a tunnel. | Same as the Selected Alternative, except that within Virginia Avenue Park, trains would operate in a protected open trench. | Same as the Selected Alternative, except that the construction area in the park would be slightly smaller, but occupy the park up to two years longer, and trains would operate in a protected open trench. |
| Permanent (Post Construction)           | May result in similar impacts noted under construction for Selected Alternative if tunnel failure occurs. | Virginia Avenue Park restored according to the DPR direction, the Section 4(f) Evaluation and the requirements of the Section 106 MOA. The area under the freeway at 2 <sup>nd</sup> Street restored, and ad hoc recreation may continue.  | Same as the Selected Alternative.   | Same as the Selected Alternative.   |
| <i>Visual and Aesthetic Resources</i>   |   |  |   |   |
| Construction                            | None.   | Fencing, and construction equipment and activities will be visible from adjacent buildings and   | Same as the Selected Alternative.   | Same as the Selected Alternative, except that the duration would be 54 to 66 months.  |



Summary of Environmental Impact Studies

| Resource or Topic / Time Frame | No Build (Alternative 1)  | Selected Alternative (Alternative 3)   | Alternative 2                     | Alternative 4                     |
|--------------------------------|---|--|-----------------------------------|-----------------------------------|
| Construction (cont)            |   | other nearby viewpoints. The duration of this visual impact will be 30-42 months.  |                                   |                                   |
| Permanent (Post Construction)  | May result in similar visual impacts noted under construction for Selected Alternative if tunnel failure occurs.  | Aesthetic effectiveness of replanted street trees initially marginal because they will be younger with smaller canopies than the existing street trees. Over time, the re-planted street trees will grow and contribute to the visual environment. | Same as the Selected Alternative. | Same as the Selected Alternative. |
| <i>Utilities</i>               |   |  |                                   |                                   |
| Construction                   | None.   | Relocation and/or protection of dozens of water, sewer and other utilities. The Marine Corps' chiller unit temporarily or permanently repositioned.  | Same as the Selected Alternative. | Same as the Selected Alternative. |
| Permanent (Post Construction)  | May result in similar utility impacts noted under construction for Selected Alternative if tunnel failure occurs. | None.  | Same as the Selected Alternative. | Same as the Selected Alternative. |

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame | No Build (Alternative 1)  | Selected Alternative (Alternative 3)  | Alternative 2   | Alternative 4   |
|--------------------------------|---|---|---|---|
| <i>Transportation-Freight</i>  |   |   |   |   |
| Construction                   | None.   | Trains always operating inside a tunnel except for a 230 foot segment within the 200 block of Virginia Avenue SE.   | Trains operating on a runaround track inside a protected trench. Double-stack intermodal container freight trains would operate sooner. | Same as Alternative 2, except that it would pose a greater risk of service disruptions.   |
| Permanent (Post Construction)  | May result in substantial freight service disruptions if tunnel failure occurs.                                   | Provision of two tracks eliminates bottleneck. Double-stack intermodal container operations reduce the number of trains in comparison to the No Build condition.  | Same as the Selected Alternative.   | Same as the Selected Alternative.   |
| <i>Transportation-Roadways</i> |   |   |   |   |
| Construction                   | None.   | Closure of Virginia Avenue SE between 2 <sup>nd</sup> and 9 <sup>th</sup> Streets SE, but cross streets remain open. I-695 ramps closed for about one week. During MOT phase 1, single eastbound lane available between 6 <sup>th</sup> and 8 <sup>th</sup> Streets SE. | Same as the Selected Alternative.   | Same as the Selected Alternative, except that the first several months of construction would be concentrated in the area between 2 <sup>nd</sup> and 5 <sup>th</sup> /6 <sup>th</sup> Streets SE. |
| Permanent (Post Construction)  | May result in similar roadway impacts noted under construction for Selected Alternative if tunnel failure occurs. | Virginia Avenue SE will be restored to its pre-construction condition with improvements.  | Same as the Selected Alternative.   | Same as the Selected Alternative.   |

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame | No Build (Alternative 1)  | Selected Alternative (Alternative 3)  | Alternative 2                     | Alternative 4                     |
|--------------------------------|---|---|-----------------------------------|-----------------------------------|
| <i>Transportation-Traffic</i>  |   |   |                                   |                                   |
| Construction                   | None.   | MOT maintains traffic mobility in community and access to all adjacent properties. Peak hour congestion predicted at intersections along MOT phase 2 detours on the westbound Virginia Avenue SE. Traffic conditions on I-695 will not be affected. | Same as the Selected Alternative. | Same as the Selected Alternative. |
| Permanent (Post Construction)  | May result in disruptions to traffic if tunnel failure occurs.  | Traffic flow will return to previous levels.  | Same as the Selected Alternative. | Same as the Selected Alternative. |
| <i>Transportation-Parking</i>  |   |   |                                   |                                   |
| Construction                   | None.   | In MOT phase 1, 63 on-street parking spaces displaced. In phase 2, an additional 48 on-street parking spaces displaced for a total impact of 111 spaces.  | Same as the Selected Alternative. | Same as the Selected Alternative. |
| Permanent (Post Construction)  | May result in similar parking impacts noted under construction for Selected Alternative if tunnel failure occurs. | Restoration and improvements to Virginia Avenue SE results in a net reduction of 19 parking spaces.   | Same as the Selected Alternative. | Same as the Selected Alternative. |

Summary of Environmental Impact Studies

| Resource or Topic / Time Frame               | No Build (Alternative 1)  | Selected Alternative (Alternative 3)  | Alternative 2                     | Alternative 4                     |
|--|---|---|-----------------------------------|-----------------------------------|
| <i>Transportation-Pedestrian and Bicycle</i> |   |   |                                   |                                   |
| Construction                                 | None.   | Cross streets and detours accessible for pedestrians and cyclists. East-west movements limited on Virginia Avenue SE, but parallel detours will be established. Access at 2 <sup>nd</sup> Street SE prohibited due to the Tiber Creek Sewer relocation. | Same as the Selected Alternative. | Same as the Selected Alternative. |
| Permanent (Post Construction)                | May disrupt bicycle and pedestrian movements if tunnel failure occurs.                                    | Proposed improvements to Virginia Avenue SE will enhance bike and pedestrian facilities.  | Same as the Selected Alternative. | Same as the Selected Alternative. |
| <i>Transportation-Public Transit</i>         |   |   |                                   |                                   |
| Construction                                 | None.   | Metrobus and DC Circulator routes will not be affected.   | Same as the Selected Alternative. | Same as the Selected Alternative. |
| Permanent (Post Construction)                | May result in similar impacts noted under construction for Selected Alternative if tunnel failure occurs. | None.   | Same as the Selected Alternative. | Same as the Selected Alternative. |

## V SECTION 106 CONSIDERATIONS

### A HISTORIC PROPERTIES

In accordance with Section 106 of the National Historic Preservation Act, the Project's Area of Potential Effects (APE) was determined through consultation with the DC State Historic Preservation Officer (SHPO) and other consulting parties (see below). Within the APE, 18 historic properties were identified, which included Virginia Avenue Tunnel as a resource eligible for the National Register of Historic Places (National Register) and two properties also designated as National Historic Landmarks: the Washington Navy Yard and the United States Marine Corps Barracks and Commandant's House. On September 10, 2013, the FHWA rendered a Section 106 "adverse effect" due to the construction effects of the Project on five historic properties: (1) the tunnel; (2) The L'Enfant Plan of Washington, DC; (3) Capitol Hill Historic District; (4) Virginia Block Paving; and (5) St. Paul AUMP Church.

### B CONSULTATION AND RESOLUTION OF ADVERSE EFFECT

Consultation was conducted with the DC SHPO, the Advisory Council on Historic Preservation (ACHP), the U.S. Marine Corps (USMC), the National Park Service (NPS), Naval District Washington, Federal Railroad Administration, the DC Department of Parks and Recreation (DPR), and other federal and District agencies, as well as community and civic organizations and organizations interested historic preservation, such as the Capitol Hill Restoration Society and the National Railway Historical Society. This consultation covered the identification of historic properties in the APE, the assessment of effects, proposed measures to minimize harm, and mitigation measures to be incorporated into the Project to preserve the function and values of those historic properties that may be affected by the Project.

To resolve the Section 106 "adverse effect", a Memorandum of Agreement (MOA) was developed and signed by the FHWA, DC SHPO, DDOT, the USMC, NPS, DPR and CSX. The ACHP declined participation in the MOA. The MOA documented mitigation commitments to address the impacts to the five historic properties that would occur during construction. A copy of the MOA is included in Appendix B.

## VI SECTION 4(F) CONSIDERATIONS

### A Section 4(f) Properties

The Selected Alternative will require use of land from four Section 4(f) properties or resources: (1) Virginia Avenue Tunnel; (2) The L'Enfant Plan of the City of Washington, DC; (3) Capitol Hill Historic District; and (4) Virginia Avenue Park. The first three properties are listed or eligible for listing on the National Register. Virginia Avenue Park qualifies as a Section 4(f) resource as a publicly-owned, public park or recreational resource, but is also a contributing resource to both the L'Enfant Plan and Capitol Hill Historic District.

## B Section 4(f) Summary

With the exception of the Section 4(f) use by incorporation of the existing Virginia Avenue Tunnel, all other Section 4(f) uses will occur during the construction period. At the conclusion of the construction, all surface areas, including the affected Section 4(f) properties, will be restored to at least their pre-construction conditions.

### No Prudent and Feasible Alternatives

There is no feasible and prudent alternative, as defined in 23 CFR 774.17, to the use of land from the Virginia Avenue Tunnel, and the construction-period occupancy of the L'Enfant Plan, Capitol Hill Historic District, and Virginia Avenue Park.

In the initial phases of project development, 12 concepts were developed and analyzed to determine whether they would meet the Project's Purpose and Need. These 12 concepts included:

- No action or no build condition, which was later renamed as Alternative 1;
- Seven concepts, collectively referred to as the "rebuild" concepts, that would involve the reconstruction of Virginia Avenue Tunnel; and
- Four concepts, collectively referred to as the "reroute" concepts, that would involve establishing a main rail line outside of the existing Virginia Avenue SE, but the tunnel would remain to service Washington Metropolitan Area regional customers.

By definition, Alternative 1 would avoid the use of Section 4(f) properties, and in particular, it would not require the immediate demolition of Virginia Avenue Tunnel, but it would also not meet the Purpose and Need of the Project.

All seven rebuild concepts require demolishing the existing tunnel in order to reconstruct a new two-track tunnel, and require trenching and other construction activities along Virginia Avenue SE, a street identified in the L'Enfant Plan, and Virginia Avenue Park. Therefore, none of rebuild concepts would be considered an avoidance alternative. As noted above, three of the rebuild concepts were selected for further evaluation and were developed as the Selected Alternative and Alternatives 2 and 4.

The reroute concepts would avoid use of all four Section 4(f) resources. One of the concepts would involve construction of a nine-mile long tunnel. Two of the concepts would involve establishing a new freight rail line outside of Washington, DC, including a new bridge over the Potomac River. The final reroute concept would require substantial investments to expand rail corridors stretching from Georgia to Pennsylvania and Ohio. None of the reroute concepts would be a prudent avoidance alternative. Each would involve costs of extraordinary magnitude. In addition, each would not fully address the Project's Purpose and Need. In

particular, none of them would address the structural deficiencies of the existing tunnel, which will remain open for local customers under these concepts.

#### Planning to Minimize Harm

Since there is no feasible and prudent alternative that avoids the use of Section 4(f) resources, it must then be determined which of the three Build Alternatives would cause the least harm based on seven factors identified in 23 CFR 774.3(c)(1). The use of each Section 4(f) resource was evaluated separately to determine which alternative would result in the least harm to that particular resource. Use of the four Section 4(f) resources were then evaluated as a group to determine which alternative would result in the least overall harm to all four properties collectively.

The analysis to determine least harm considered proposed mitigation measures and the severity and location of the Section 4(f) use among the three Build Alternatives. Because three of the Section 4(f) resources are historic, the Section 106 consultation process was used to inform minimization planning and mitigation.

The results of the least harm analysis are summarized below:

- The ability to mitigate adverse impacts is equal for all Build Alternatives.
- The Selected Alternative will result in less severe remaining harm after mitigation on the basis that it has a shorter construction period than Alternative 4 and that it enables freight rail operations to continue within an enclosed tunnel within Virginia Avenue Park and along much of Virginia Avenue SE, unlike Alternatives 2 and 4.
- All Build Alternatives are equal in terms of the relative significance of each Section 4(f) property.
- All Build Alternatives are equal in terms of the views of the official(s) with jurisdiction over each Section 4(f) property.
- The Selected Alternative and Alternative 2 will meet the Purpose and Need of the Project to a slightly higher degree than Alternative 4 because Alternative 4 would involve the risk of disruptions to rail service during construction.
- All Build Alternatives are equal in terms of the magnitude of any adverse impacts to resources not protected by Section 4(f) after reasonable mitigation.
- Alternative 4 has a substantially higher cost than the Selected Alternative or Alternative 2.

The Selected Alternative will have the least overall harm to the affected Section 4(f) properties on the basis that: (i) it involves a substantially shorter construction period than Alternative 4; (ii) it enables freight rail operations to continue within an enclosed tunnel within Virginia Avenue Park and along much of Virginia Avenue SE, unlike Alternatives 2 and 4; and (iii) it costs substantially less than Alternative 4.

The Final Section 4(f) Evaluation's measures to minimize harm are based, in part, upon the Section 106 consultation, which concluded with a signed MOA as provided in Appendix B. Mitigation measures to address the adverse effects to the three Section 4(f) resources that are also historic properties were included in the MOA.

Once the construction of the Project is concluded, traffic (including pedestrians and bicyclists) will be restored on Virginia Avenue SE. In addition, the Project will improve the Virginia Avenue SE streetscape between 2nd and 9th Streets SE as noted above, and completely restore Virginia Avenue Park with additional amenities, such as a new dog park. Additional improvements, including landscaping, will be determined through consultation with NPS, DPR and the community.

#### Formal Coordination

The Section 106 consultation process for the Project was formally initiated on November 4, 2011, and involved four consulting parties meetings. The USMC, NPS, DPR, NCPC, the Commission on Fine Arts, District Office of Planning, the U.S. Department of Navy, the ACHP, the DC SHPO, and other interested stakeholders, such as the Capitol Hill Restoration Society and the Virginia Avenue Community Garden, participated as Section 106 consulting parties. The results of the Section 106 consultations for the Project informed the Section 4(f) evaluation by:

- Obtaining the views of the DC SHPO, the official with jurisdiction over Virginia Avenue Tunnel and the L'Enfant Plan;
- Identifying the measures to minimize harm that could preserve the historic activities, features, or attributes of Virginia Avenue Tunnel and the L'Enfant Plan in consultation with the DC SHPO and CSX in accordance with the consultation process under 36 CFR part 800; and
- Understanding whether the measures to minimize harm to Virginia Avenue Tunnel and the L'Enfant Plan would result in any impacts or benefits to the surrounding community or environmental resources outside of the Virginia Avenue Tunnel corridor.

#### C Section 4(f) Conclusion

The Selected Alternative will require use of land from four Section 4(f) resources or properties: Virginia Avenue Tunnel; The L'Enfant Plan of the City of Washington, DC; Capitol Hill Historic



District; and Virginia Avenue Park. With the exception of the Section 4(f) use by incorporation of the existing Virginia Avenue Tunnel, all other Section 4(f) "uses" will occur during the construction period. There is no feasible and prudent alternative to the use of land from these Section 4(f) resources, and the Project includes all possible planning, as defined in 23 CFR 774.17, to minimize harm resulting from such use. The project sponsor, CSX, has committed to improve the function and appearance of Virginia Avenue SE and provide additional amenities at Virginia Avenue Park as part of the Project as a community benefit, and will work with the agencies with jurisdiction over these properties (DC SHPO, NPS and DPR) to identify such measures to minimize or mitigate harm and enhance the properties, as appropriate. The Selected Alternative was found to have the least overall harm to Section 4(f) properties among the Build Alternatives.

## VII MITIGATION MEASURES – ENVIRONMENTAL COMMITMENTS

The project sponsor has agreed to a number of environmental commitments as mitigation for environmental impacts that will result from the Virginia Avenue Tunnel Reconstruction Project. The commitments are divided between those related to construction of the Project and those related to the restoration of affected areas upon project completion of the Selected Alternative. These environmental commitment measures are mitigations which avoid the impact altogether by not taking a certain action or parts of an action; minimize impacts by limiting the degree or magnitude of the action and its implementation; rectify the impact by repairing, rehabilitating, or restoring the affected environment; reduce or eliminating the impact over time by preservation and maintenance operations during the life of the action; or compensate for the impact by replacing or providing substitute resources or environments.

### A Construction-Related Commitments

#### Structural Integrity of I-695

Due to the proximity of the new rail line configuration (two tracks) immediately west of the 2nd Street portal, the existing columns supporting the I-695 viaduct near the portal shall be strengthened where applicable to meet the American Railway Engineering and Maintenance-of-Way (AREMA) requirements for pier protection, as well as CSX requirements for pier protection, which are more stringent than the AREMA requirements.

#### Safety and Security

The construction area for the Project shall be secured to prevent unintended or unauthorized intrusion, including the areas used for temporary train operations. Members of the general public will not be allowed to access construction areas or areas used for train operations unless accompanied by authorized personnel.

The following safety and security measures shall be implemented during construction:

- Secure fencing at least eight feet high shall be installed along the perimeter of the construction area, including around the areas with trains running in a protected trench, and at cross streets where vehicles, pedestrians and cyclists will be allowed to cross the construction zone.
- Security lighting shall be installed but directed away for any nearby residence.
- The construction area shall be subject to regular patrols by railroad police officers assigned to the Project.
- Tunnel safety and stability shall be monitored through a comprehensive instrumentation program with devices placed both inside and outside the tunnel.
- A full-time safety officer shall be present at all times when construction activities are taking place to oversee the safety protocols and measures.

The temporary railroad operations within the construction site shall be conducted in accordance with Federal Railroad Administration (FRA) safety procedures and regulations that apply to Class I railroad companies, such as CSX. Per FRA safety regulations, the railroad company is required to follow specific protocols to ensure the safety of trains moving through construction sites in order to protect workers involved in construction as well as the general public.

As required by the FRA regulations, all persons (CSX employees and its contractors) working on or near railroad tracks shall be required to be formally trained in "Roadway Worker Protection Training" (RWT). On an annual basis, all persons must complete the course and pass a written test to work on or near railroad tracks. In addition, all workers shall be required to take security training, and those working for contractors must undergo a criminal background check every two years under the requirements of the e-RAILSAFE System program.

A CSX employee shall be assigned as the "railroad employee-in-charge" and shall have all the requisite training, testing and qualifications to properly perform this job. The railroad employee-in-charge shall control all train movements through the work limits whenever construction activities are being performed. The work limits encompass the construction site and both approaches to the current/new tunnel.

The locomotive operator of trains approaching the work limits will be required to receive permission from the "railroad employee-in-charge" before entering or making any movement within the work limits. Before granting this permission, the employee-in-charge must check that all workers and equipment are clear from the railroad tracks at a predetermined distance of safety, and confirm that the tracks, tunnel and all supporting structures are in a condition to allow the safe passage of trains.

All CSX train crews operating on a route that includes the Project work limits will receive a computer generated message prior to departure from their originating terminal alerting them that they must receive permission from the railroad employee-in-charge for the Project before traversing through the work limits. In addition, signs will be erected no less than two miles from the work limits to provide advance warning to train crews that they are required to stop before entering the work limits unless advised by the railroad employee-in-charge that the work limits are safe for train passage. Conditional stop signs will be placed at each end of the work limits as a reminder to train crews that they must stop unless given permission to enter the work limits by the railroad employee-in-charge.

CSX radios at frequencies dedicated to railroad use shall be used for all communications between train crews and the railroad employee-in-charge. All voice communication is repeated to ensure positive identification and an understanding of the specifics with each permission granted. If for some reason the railroad employee-in-charge cannot respond to a train requesting permission to enter the work limits, the train will be required to stop and cannot enter the work limits until such time the employee-in-charge is contacted. All permissions to traverse the work area are recorded and documented.

### Traffic

The project sponsor shall finalize the maintenance of traffic (MOT) plan subject to DDOT review and approval. Once approved by DDOT, the project sponsor shall implement the plan. The MOT plan shall be subject to revisions on an as needed basis at the request of DDOT. The elements of the MOT plan, subject to DDOT review and approval, shall include:

- Provisions for all adjacent properties adjacent to the construction area to keep access open for owners, guests, customers (if a business) and other users, as well accessible to first responders, such as police, fire and ambulance vehicles. All buildings next to the construction area must be accessible by ladder trucks of the DC Fire Department.
- Keeping all cross streets from 3<sup>rd</sup> to 8<sup>th</sup> Streets SE on Virginia Avenue SE and 11<sup>th</sup> Street SE open for vehicles, pedestrians (including wheelchair dependent) and cyclists through the use of temporary bridges over Virginia Avenue SE. However, allowances shall be made for the temporary closing of cross streets to allow the installation and removal of the temporary bridges. The timing of the installations and removal of temporary bridges shall be phased so as to not severely overall traffic conditions in the surrounding neighborhood.
- A two-phased detour plan will be implemented.
  - In both phases, Virginia Avenue SE between 2nd and 5th/6th Streets and between 8th and 9th Street will be closed to traffic.
  - In Phase 1, a single eastbound lane on Virginia Avenue SE (northernmost lane) will be maintained between the I-695 off-ramp at 6th Street SE and the 8th Street SE intersections. Traffic will be allowed to make left turns at 7th and 8th Streets, but

- not right turns. For I-695 exiting traffic wishing to proceed to the south of Virginia Avenue SE, they would turn left at 6th Street SE, left on westbound Virginia Avenue SE (north side of I-695) and left on 4th Street SE. This phase will occur during the construction of the south side tunnel of the Selected Alternative.
- In Phase 2, Virginia Avenue SE between 6th and 8th Streets SE will be closed. In order to maintain access for traffic exiting I-695 at the 6th Street off-ramp to the surrounding community, Virginia Avenue SE, on the north side of I-695, will be converted from one-way westbound to two-way operations between 6th and 8th Street SE. Between 6<sup>th</sup> and 7<sup>th</sup> Streets SE, one westbound lane and two eastbound lanes will be provided throughout Phase 2. Between 7<sup>th</sup> and 8<sup>th</sup> Streets SE, one lane each direction will be provided throughout Phase 2. Phase 2 will require the installation of temporary traffic signals for eastbound traffic, which will be coordinated with existing traffic signals for westbound traffic. Modifications to pavements or curbs should not be required.
  - The special transportation needs of the Capper Senior Apartments shall be considered in the MOT plan. Among these needs include provisions for para-transit, emergency response vehicles and visitation by residents' family and friends. The DC Housing Authority shall be coordinated with in addressing the transportation needs of Capper residents.

During final design, the project sponsor shall work with DDOT to determine if traffic impacts could be improved from what was predicted in the Final Environmental Impact Statement (Final EIS). This shall include value engineering and signal optimization analysis to study if certain intersections predicted to operate poorly during peak periods can be improved. Optimized traffic signal timing schemes will be employed along the westbound Virginia Avenue SE / I Street SE during the Phase 2 MOT. These intersections shall be monitored at the beginning of the Phase 2 MOT to determine the effectiveness of the optimization schemes.

The project sponsor shall implement the following measures that may mitigate some of the traffic impacts of closing Virginia Avenue SE during construction:

- Incentivizing the use of public transportation for construction workers and providing parking preferences at the Jersey Yard for those construction workers who carpool.
- Minimizing the use of haul routes and traffic detours going through residential neighborhoods.
- Not allowing work activities within the construction work zone without first setting up approved traffic control measures in accordance with the approved MOT plan.
- In situations where traffic must be maintained through part of a construction work zone, assigning an inspector trained in traffic control to monitor the traffic and be allowed to recommend changes to the MOT plan.

- Maintaining records of the MOT management that will include when specific traffic control devices are placed and removed, inspection reports, and traffic crashes and injuries where traffic control devices are in place.
- Monitoring traffic conditions throughout construction, and if necessary, make the adjustments to the MOT (e.g., signal timing) in coordination with DDOT.
- Providing temporary wayfinding signs to assist motorists, pedestrians and cyclists who are unfamiliar with the neighborhood help in finding important gathering places, such as Barracks Row, Garfield Park and Virginia Avenue Park, and available public parking lots.
- Providing traffic control officers during certain special events. The MOT plan shall include criteria in which the project sponsor shall provide traffic control officers.

#### Land Use

The limits of disturbance (LOD) related to construction shall be limited to public rights-of-way and property owned by CSX, the United States (managed by the Marine Corps) and the District of Columbia (managed by the DC Department of Parks and Recreation (DPR)). The LOD shall not include private property other than those owned by CSX.

The Project sponsors shall continue working with DDOT, DPR, and the Marine Corps in obtaining construction-period and post-construction approvals as required for the Selected Alternative.

#### Community Outreach

The project sponsor shall establish a community outreach program during construction, which will utilize the Project website ([www.virginiaavenuetunnel.com](http://www.virginiaavenuetunnel.com)), as well as more traditional forms of outreach, such as public meetings, newsletters and flyers. The outreach program shall also include a Project email account and a telephone hotline to receive any complaints. All complaints shall be recorded, including follow-up actions by the project sponsor, construction contractors or others affiliated with the Project.

Through this outreach program, communication, which will include website postings email blasts and newsletters, will remain open to apprise the community about the status of construction, especially if something may affect daily activities or normal events, such as a disruption in utility service. For example, the community outreach program shall be used to notify nearby residents and businesses about upcoming high noise producing activities. It will also be used to establish procedures to address complaints from the public during construction.

Special outreach efforts shall be extended to the residents of Capper Senior Apartments, such as at regularly scheduled meetings with the residents. Management and residents of Capper Senior Apartments shall be informed of construction activities near the building that will cause

an increase in noise and vibration levels, and if a utility service disruption is required. Information sheets or flyers about construction activities or utility service disruption shall be produced and given to Capper management for distribution to residents.

As part of the public outreach program during construction, the project sponsor shall organize regularly scheduled community meetings as a venue for any community member to voice concerns about construction activities and for the project sponsor and/or its contractor to report how previous concerns were addressed. The frequency of the community meetings shall be determined by DDOT.

The community office at 861 New Jersey Avenue SE shall remain open throughout construction, which can be used by anyone in the community to file a complaint or apply for a claim. The community office shall also be used for small group meetings with stakeholders to supplement the planned community meetings.

#### Residential Property Mitigation

The project sponsor has voluntarily agreed to implement Residential Property Mitigation (RPM) to address two primary concerns voiced by residents living adjacent to the LOD: (1) foreseeable impacts related to construction of the tunnel; and (2) acknowledging that during construction a seller may need to accept a lower purchase price in order to sell a property within a needed marketing time. The RPM shall not include other mitigation measures identified in this section and the Section 106 Memorandum of Agreement (see Appendix B), nor shall it include claims for damages resulting from construction activities.

In addressing the first concern, the RPM shall involve compensation in the form of monetary payments to all qualifying residents and organizations. This compensation is meant to replace or provide a substitute resource for foreseeable impacts or activities related to the temporary inconvenience caused by major construction activities of the Project. For purposes of the RPM, major construction activities include installation of support of excavation elements, soil excavation activities, structural concrete work and demolition required to construct the new Virginia Avenue Tunnel. Major construction activities do not include:

- Utility work;
- Installation and maintenance of temporary ingress and egress points and driveways;
- Installation and maintenance of construction fencing;
- Installation and maintenance of sediment and erosion control measures;
- Equipment and material staging areas;
- Areas for construction and support trailers;
- Maintenance of traffic activities; and
- Vehicular construction traffic and road reconstruction/repaving activities outside of the above description for the applicable RPM area.

The temporary inconvenience compensation shall be conducted in accordance with the following three categories:

1. "Front Row" Residences: These are residential properties located between 2<sup>nd</sup> Street SE and 12<sup>th</sup> Street SE, south of I-695, and are directly adjacent to major construction activities. The locations and addresses of the "front row" residences are provided in Exhibit B. The "front row" residences include the 36 Capper apartment units facing Virginia Avenue SE and nine rental apartment units within Capitol Quarters. The resident of each "front row" property shall be offered compensation of \$500 per residence per month from the project sponsor or Administrator as defined in #3 below for 42 months (the projected maximum time of construction). The resident shall be informed about the payments by mail. Payments to a particular resident from the project sponsor shall commence within 90 days of the start of major construction activities adjacent to the subject residence. The project sponsor or Administrator defined in #3 below shall consider requests for justified advanced payments.
2. Capper Senior Apartments: The Capper Senior Apartments shall receive a one-time lump sum payment of \$250,000 from the project sponsor or Administrator defined in #3 below no sooner than 15 days prior to the start of major construction activities adjacent to the apartment building. In addition to offsetting temporary inconvenience, this payment is meant to support community enhancements of the Capper Senior Apartments.
3. Supplemental Community Mitigation Fund: The project sponsor shall provide a one-time lump sum payment of \$650,000 to an independent 3<sup>rd</sup> party Fund Administrator (Administrator) no sooner than 15 days prior to the start of major construction activities. These funds are to be used to offset temporary inconvenience or to support community enhancements. Eligible Parties are defined as a resident or a community organization that promotes community enhancements. Front Row Residences, as defined in #1, and Cappers Senior Apartments, as defined in #2, are not eligible. Responsibilities of the Administrator may include processing of requests, determining eligibility, approving requests and making payments to eligible parties.

Although the hardship acquisition provisions of 23 CFR 710.503 do not apply to the Project, the project sponsor has voluntarily elected to offer compensation for situations in which a residential seller is forced to accept a lower purchase price (i.e., below market value based on normal market conditions) in order to sell a property within a needed marketing time.

If a "front row" residential private property owner(s) is required to sell his or her home for an unforeseen reason, such as employment relocation or a change in military orders, the owner will be eligible for compensation of up to a maximum of \$75,000 at closing to offset the sale price that an owner may be required to accept in order to market the home within the needed marketing time. Payments shall be made by the project sponsor or the Administrator. The

locations and addresses of the “front row” residential properties for the purposes of this compensation program are provided in Exhibit B. In order to qualify, the owner(s) must:

1. Place his or her home on the market following the start of construction activities and sell his or her home prior to the end of construction.
2. Obtain and submit an appraisal performed by a qualified residential appraiser with a minimum of 10 years of experience in performing residential appraisals that concludes both fair market value of the home and reasonable marketing time of the home.
3. Be prevented from achieving fair market value during the reasonable marketing time set forth in the appraisal.

Prior to the start of construction, the “front row” residential property owners shall be informed by mail about this compensation program.

#### Air Quality

The project sponsor through its construction contractor shall comply with District and federal regulations for fugitive dust control and mobile source emissions during construction. District regulations (Title 20 of the District of Columbia Municipal Regulations) stipulate dust control and good housekeeping practices. Dust control measures shall be implemented during construction to prevent fugitive dust from excavation and other dust-producing activities from affecting areas beyond the construction site. At a minimum, the following mitigation measures shall be used during construction to control again fugitive dust emissions:

- Erecting windcreens between any construction site and dust sensitive land uses, such as residences.
- Spraying exposed and excavated soil with water or other dust suppressant to prevent visible dust emissions. Sprinklers, misters or hoses shall be used for wetting down demolition areas.
- Stabilizing haul roads to reduce windblown dust and dirt deposited on local roads.
- Installing stabilized construction entrances to prevent haul trucks from tracking dirt onto paved streets.
- Routinely cleaning dirt tracked on public roads by using street-sweeper machines.
- Covering all trucks during transport of fill materials or soil, wetting materials in trucks or providing adequate freeboard to minimize dust emissions during transportation.
- Covering loads of hot asphalt to minimize odors to the extent practical.



- For material stockpiles, using of temporary stabilization if inactive for greater than 14 days, and using tarps over finely-textured materials that are subject to wind borne travel.
- Removing temporary gravel or paving at the completion of construction and restoring affected areas.
- Instituting and conducting good housekeeping practices (e.g., routinely collect trash and place in the nearest receptacles or dumpsters), which will also help control against dust emissions dispersing outside the construction area.
- Checking dust conditions surrounding any construction site using visual observations and monitoring devices. The results of monitored air quality shall be posted on the Project website. It is expected that the posting of reports will be completed within a reasonable time frame from the monitoring period.

In addition, at a minimum the following emission exhaust measures shall be implemented during construction to minimize other air pollutants:

- Turning off the engines of construction vehicles if they are left idling for more than 30 minutes.
- Using appropriate emission-control devices (per EPA regulations) on all construction equipment powered by gasoline or diesel fuel to reduce CO, NOx and particulate emissions in vehicular exhaust.
- Using relatively new, well-maintained equipment to reduce CO and NOx emissions.
- Stationary equipment that has air emissions, such as compressors, shall not be placed in direct proximity to sensitive land uses, such as residences, or where people tend to congregate, such as the Virginia Avenue Community Garden, to the extent feasible.

### Noise

The project sponsor through its construction contractor shall conduct the following mitigation measures, which are deemed at this time to be reasonable (i.e., cost effective) and feasible (i.e., physically achievable), that should reduce the impacts of noise generated during construction:

- Adhere to DDOT construction noise specifications.
- Use a type of perimeter fencing (e.g., wood stockade or type of solid material) near noise sensitive receptors that could also serve as noise barriers. If necessary, noise dampening blankets shall be hanged on the inside face of the solid fencing if the effectiveness of the noise barriers need to be improved.

- Where feasible, use drilled installation methods instead of driven methods when installing bearing and temporary support piles near residences.
- Properly maintain all motorized equipment in a state of good repair to limit wear induced noise (e.g., mufflers are in good working condition).
- Consider noise impacts in selecting construction equipment that need to run over extended periods of time, such as gen sets (whisper quiet line).
- Where feasible, use demolition equipment with crush/shear technology, instead of impact technology.
- Place stationary noise generating equipment as far from residences as reasonably practical and feasible.
- Limit high noise generating activities to daytime and weekdays as reasonably practical and feasible.
- Where feasible, combine operations or activities with high noise levels to occur in the same time period.
- Route heavily loaded delivery and disposal trucks away from residential streets as reasonably practical and feasible (e.g., using the west staging area and east end of the construction area where there are fewer residences).

Additional details to these measures, including resolving where a particular measure may not be practical or feasible, shall be developed during final design when more information about construction is developed

A noise monitoring plan shall be prepared by a qualified acoustical engineer and noise monitoring shall be conducted during construction in accordance with the plan. Pre-construction noise monitoring shall be conducted to establish baseline noise levels at sensitive locations, as well as for periodic equipment and lot-line noise monitoring during the construction period. The monitoring plan shall outline the measurement and reporting methods that shall be used to demonstrate compliance with the identified noise limits. The results of the noise monitoring shall be posted on the Project website. It is expected that the posting of reports shall be completed within a reasonable time frame from the monitoring period.

The plan shall provide predicted construction noise levels at sensitive receptor locations based on the proposed construction equipment and methods. If the analysis predicts that the specified noise limits would be exceeded at certain locations, the plan would specify the mitigation measures that would reduce noise levels. The objective of this proactive approach is

to minimize the likelihood of community noise complaints by ensuring that any necessary mitigation measures are included in the construction plans.

### Vibration

The project sponsor through its construction contractor shall conduct the following mitigation measures, which are deemed at this time to be reasonable (i.e., cost effective) and feasible (i.e., physically achievable), that should reduce the impacts of vibration generated during construction:

- Properly maintain all motorized equipment in a state of good repair to limit wear induced vibration.
- Where feasible, avoid the use of pile driving near residences, and instead use drilled piles or the use of a sonic or vibratory pile driver, which cause lower vibration levels, where the geological conditions permit their use.
- High vibration equipment, such as vibratory rollers, which can cause human annoyance if located near buildings, shall only be used during weekday daytime hours when many residents are away from their homes, absent urgent and unexpected circumstances.
- Schedule multiple high vibration generating activities so that they do not occur within the same place and time period near sensitive receptors, to the extent practicable.
- Avoid routing heavily-loaded trucks through densely concentrated residences or older buildings that may be fragile, if reasonably possible. Drivers of loaded trucks shall be directed to move at slower speeds in proximity to the construction site.
- Pave or smooth the surface haul paths within the construction area.
- Where feasible, use demolition methods that do not involve impact.
- Avoid the use of vibratory rollers and packers near sensitive areas, if possible.

Additional details to these measures, including resolving where a particular measure may not be practical or feasible, shall be developed during final design when more information about construction is developed

A vibration monitoring plan shall be prepared by a qualified vibration engineer and vibration monitoring shall be conducted during construction in accordance with the plan. The plan shall include vibration monitoring procedures at predetermined vibration sensitive sites, revised calculation of vibration levels for various construction activities when better information is developed during final design, and possible mitigation measures based on the re-calculations. No construction work or the operation of vibration generating equipment at any construction

site shall start until DDOT has approved the vibration monitoring plan. The monitoring plan shall be updated if there are any major changes to the planned construction activities.

The general procedures for vibration monitoring shall be as follows:

1. The nearest sensitive receptors (e.g., residence) to the construction area will be selected. The monitor will be buried approximately 10 to 12 inches below the surface next to the building set-back line. However, if vibration levels have to be measured on a hard surface, the monitor will be placed on the surface with a sandbag over it (must be smooth, clean, and dry). If the property owner does not provide permission to bury the monitor, then it can be anchored above ground with a sandbag on top of it.
2. The monitor will have a trigger mechanism set for distinct construction activities that generate high vibration levels. Each time the instrument is triggered, it will record the highest vibration level during that vibration event.
3. The continuous measurement mode will be used for measuring vibration levels associated with certain construction activities such as roadway surfacing, or other above ground construction activities.
4. Vibration readings will be checked regularly within residential areas. If vibration levels exceed established criteria, additional vibration mitigation measures than those listed below will be started immediately, such as further limiting the times of the day high vibration-producing equipment is used.
5. The results of the vibration monitoring will be documented. The monitoring locations vis-à-vis the construction area will be identified and the vibration-producing construction activities or equipment operating during the monitoring period will be identified.
6. The results of the vibration monitoring shall be posted on the Project website. It is expected that the posting of reports will be completed within a reasonable time frame from the monitoring period.

#### Pre-Construction Inspections

Information from the vibration monitoring plan shall provide the criteria for employing procedures to avoid human annoyance or building damage from vibration. In particular, the owner of a building close enough to a construction vibration source that damage to that structure due to vibration is possible shall be entitled, at no cost to the owner, to a building inspection to document the pre-construction condition of that structure. From the a property owner's perspective, the pre-construction survey documents the existing conditions so that it would be evident that any new damage or structural settlement would likely have been caused by construction activities of the Project.

The pre-construction survey shall entail visually identifying all existing signs of exterior, interior and roof damage and any signs of structural settlement. Prior to the survey, a review of drawings for the proposed adjacent construction shall be undertaken to assist in understanding the implication of the proposed work and specific areas at the subject property that should be more closely reviewed. For each crack or anomaly noted, the survey shall document the location of the anomaly and its types, and include photography or video. If the anomaly is a crack, the documentation shall include the size of the crack, type of crack and direction of crack. Crack monitoring gauges may be installed over cracks located adjacent to the proposed new construction. The purpose of the gauges is to monitor changes over the course of the construction and post-construction.

If an owner or resident does not allow a pre-construction survey, the surveyor shall proceed with an exterior-only survey, and document that no interior survey was performed. The owner or resident will be made aware that surveying the interior of the property is preferable because it allows a more complete picture of the existing conditions of the property. It may be difficult or impossible to prove that construction activities caused interior damage unless the condition of the interior was documented prior to construction. Surveys shall be confidentially filed and only used for comparison in the event damage occurs during construction and the owner makes a claim to remedy the damage.

A post-construction survey shall be required only where damage has been observed, or agreements are in place to provide a post construction survey as a comparative tool. The purpose of the post construction survey is to document any changes to the previously identified anomalies and to identify any new cracks or anomalies in the building structure.

#### Claims Process

All residents and businesses shall have access to a dedicated Virginia Avenue Tunnel Project claims process to address unforeseen impacts on buildings, businesses or individuals. The project sponsor shall develop a claims process, and shall post this process on the Project website prior to the beginning of construction.

If building damage occurs due to construction, the CSX and its contractor shall be fully responsible to make the appropriate repairs. If it is confirmed that a building was damaged as a result of a particular construction activity, the work activity near the building shall immediately stop and measures shall be taken to ensure that no further damage occurs. The damage shall be evaluated to determine the extent of the necessary repairs, which shall be paid for by CSX or its contractor after coordinating with the property owner(s).

#### Site Contamination

The project sponsor through its construction contractor shall prepare a soil and groundwater management plan subject to DDOT approval. In addition to noting the locations of existing contaminated media (from the sampling information collected from borings conducted for the

Project), the plan shall include protocols for the unexpected discovery of contaminated media during construction.

The project sponsor through its construction contractor shall conduct excavation and dewatering activities based on the management plan. The project sponsor through its construction contractor shall be required to take all appropriate regulatory precautions to properly handle and dispose contaminated soil or groundwater encountered (expected and unexpected) during construction. Elements of the plan shall include frequent watering of excavated soil so as to not create excess dust when handling the soil, such as the loading onto trucks; coordinating with air monitoring above; and preparing and implementing a health and safety plan for situations where contamination is identified and handled.

The removal of the black felt paper, which contains asbestos, along the tunnel walls prior to the tunnel's demolition shall be conducted by a qualified firm in accordance with applicable federal and District regulations for asbestos removal.

#### Water Resources

The project sponsor through its construction contractor shall install temporary erosion control measures and stormwater management systems in accordance with DDOT construction specifications, the National Pollutant Discharge Elimination System (NPDES) permit program and DC Department of Environment (DDOE) requirements. These control measures and system shall be used as mitigation measures to reduce or eliminate contamination of surface water runoff resulting from exposure to construction sites. Adherence to DDOT and federal design criteria for the construction of roadways and bridges will eliminate the chances for long-term soil erosion from construction. In addition, appropriate spill prevention and control plans shall be prepared in accordance with DDOT and DDOE requirements and regulations.

The construction staging and stockpile area in the Jersey Rail Yard shall be designed in accordance with current drainage practices and standards to minimize the chances of increasing flood elevations. Such measures shall include a combination of silt fences and sedimentation ponds. Coordination with local agencies and the Federal Emergency Management Agency, as required, shall occur to ensure that the Jersey Rail Yard is managed in accordance with local flood hazard development permit requirements, flood conveyance capacity plans, and floodplain management programs.

#### Vegetation and Wildlife

The project sponsor through its construction contractor shall be required to prepare and implement a Rodent Control Management Plan for the project in accordance with the District health regulations, using a qualified rodent control company. The plan shall target Norway and roof rats, and other pests (e.g., cockroaches). The rodent control program shall combine elements of baiting and trapping to achieve the highest rate of success, which shall be done by

a qualified rodent control company both before and during construction. Exterior baiting, interior baiting, non-poisonous trapper glue boards, and conventional traps may be used.

Successful rodent control shall also be achieved by good housekeeping practices. Garbage and food debris shall be stored in containers with lids. Spilled food and garbage shall be cleaned up regularly. In addition, the project sponsor through its construction contractor shall be required to store wood or other similar materials at least six inches above the ground. Unorganized or cluttered debris and weedy vegetation shall not be allowed within the construction area or along the perimeter because they may provide harborage for rodents.

The effectiveness of the rodent control program shall be monitored through periodic inspections by a qualified rodent control company, and adjustments shall be made if necessary. Activity reports shall be provided after each inspection, and these reports shall be posted on the Project website.

#### Historic and Archaeological Resources

See Appendix B, Section 106 MOA.

#### Visual and Aesthetic Conditions

As noted under "Safety and Security", fencing shall be provided surrounding the construction areas. The project sponsor through its construction contractor shall coordinate with stakeholders along Virginia Avenue SE to determine the appropriate type of fencing vis-à-vis the surrounding land use. For example, in the area between 3<sup>rd</sup> and 5<sup>th</sup> Streets SE, the project sponsor through its construction contractor shall coordinate the Capitol Quarter Homeowners Association Phase 1 to determine the appearance of the fencing facing this community, notwithstanding the requirements of this fencing noted under "Noise".

The project sponsor through its construction contractor shall be required to conduct good housekeeping practices, such as making sure equipment is orderly parked when not in use, daily regular clean-up is conducted, and that soil stockpiles are stabilized as required by District regulations.

#### Utilities

Whenever possible, service disruptions shall be avoided. If a service disruption is unavoidable, public notification requirements and protocols of the affected utility company shall be followed, in addition to the Project's outreach program. If possible, a minimum of 14 days notice shall be provided to affected properties.

The project sponsor through its construction contractor shall make an attempt to conduct the utility work during non-peak usage hours. However, in comparison to a utility disruption affecting a typical residential household where a disruption during working hours (i.e., between

9 AM to 4 PM) may not be overly problematic, a utility disruption affecting Capper Senior Apartments may require special treatment. If proper approvals can be obtained, the utility disruptions may be scheduled to have the least impact to daily activities of Capper residents, such as occurring at late night to early morning. The project sponsor through its construction contractor shall provide whatever equipment and supplies necessary to maintain the health, safety and well-being of Capper residents in the event of a prolonged utility disruption (e.g., lasting more than a few hours).

### Parking

The project sponsor through its construction contractor shall conduct the following mitigation to alleviate the temporary loss of parking due to the closure of Virginia Avenue SE and the Phase 2 MOT:

- As noted under "Traffic", temporary wayfinding signs shall be provided as part of the MOT to direct motorists to available off-street parking, which include the parking lot underneath I-695 on 8th Street SE. This particular parking lot is near Barracks Row.
- A minimum of 90 parking spaces shall be provided within the west staging area (New Jersey Yard) for construction workers. Parking preferences shall be given to those construction personnel who carpool. Construction workers, including sub-contractors, shall be prohibited from parking at metered or two-hour residential spaces. Construction workers not provided with parking within the west staging area may park in off-street parking lots.
- Coordinate with the pastor of St. Paul AUMP Church to determine whether congregants are able to find on-street parking near the church to attend Sunday services, and if necessary, provide assistance in establishing special parking for Sunday services.

### Pedestrian and Bicycle Facilities

The MOT shall provide provisions to ensure the safe and convenient passage of pedestrians and cyclists through the construction area. As noted under "Traffic", provisions shall be made so that pedestrians and cyclists will be able to cross the construction area on Virginia Avenue SE at each cross street between 3<sup>rd</sup> and 8<sup>th</sup> Streets SE. Although east-west movements will be limited on Virginia Avenue SE, parallel detours shall be established, including temporary wayfinding signs.

## B Restoration Commitments

### Roadways

Upon completion of tunnel construction, the project sponsor through its construction contractor shall restore Virginia Avenue SE and other affected roadways.



The rebuilding of Virginia Avenue Tunnel provides the opportunity to construct a new streetscape for Virginia Avenue SE. The current plan for the restored Virginia Avenue SE includes:

- Between 2<sup>nd</sup> and 4<sup>th</sup> Streets, the existing two-way traffic lanes may be maintained as well as the existing on-street parking on both sides of the road. The only substantive changes may be the conversion of the south-side pedestrian way into a 10-foot wide shared use path, and the provision of a north-side pedestrian way.
- Between 4<sup>th</sup> and 5<sup>th</sup>/6<sup>th</sup> Streets, the existing two one-way (eastbound) traffic lanes and south-side pedestrian way may be maintained, but the curved alignment may be straightened to be more consistent with the L'Enfant Plan of Washington DC. The south-side on-street parking may be kept, but the north-side on-street parking may be eliminated. A south-side bike path may be provided between the pedestrian way and the street. Due to the elimination of the north-side on-street parking and the provision of a bike path, the curb to curb space may be narrower within the 400 block than under existing conditions. In addition, I Street SE, which currently curves north to intersect with Virginia Avenue SE, may be converted into a two-way cul-de-sac within the 400 block, with its only function to provide access to the Capitol Quarter driveway. The area reclaimed from roadway paving between Virginia Avenue SE and the Capitol Quarter residences within the 400 block may be converted to vegetative and/or grassy landscaping. A bike path may be provided connecting the I Street cul-de-sac with the new Virginia Avenue SE bike path.
- Between 5<sup>th</sup>/6<sup>th</sup> and 7<sup>th</sup> Streets, the number of one-way (eastbound) traffic lanes may be changed from four to three (see Figure 3-9C). Currently, no on-street parking is provided within this block and this may not change under the proposed new streetscape. The existing south-side concrete pedestrian way may remain, but converted to permeable pavers. Between this pedestrian way and the street, a bike path may be provided.
- The section between 7<sup>th</sup> and 8<sup>th</sup> Streets may be the same as the section between 5<sup>th</sup>/6<sup>th</sup> and 7<sup>th</sup> Streets, except that a pedestrian way may be provided on the north side of the street (see Figure 3-9).
- The two lanes between 8<sup>th</sup> and 9<sup>th</sup> Streets may be converted from one-way (eastbound) to two-way traffic (see Figure 3-9E). The existing south-side permeable paver pedestrian way may remain. As with other proposed sections along Virginia Avenue SE, a bike path may be provided on the south side of the street, which may make the curb to curb space narrower through the elimination of the south-side on-street parking. The north-side on-street parking may remain.

DDOT shall conduct public involvement for the streetscape restoration in accordance with its planning and public involvement procedures.

DDOT right-of-way underneath I-695 at 2<sup>nd</sup> Street SE shall be restored to at least its current conditions. Additional enhancements to this area shall be provided as described under "Pedestrian and Bicycle Facilities" below.

The asphalt pavement in the affected areas of Virginia Avenue SE on the north side of I-695, which includes the blocks between 6<sup>th</sup> and 8<sup>th</sup> Streets SE, shall be evaluated before and after implementation of the Phase 2 MOT. Any need for repaving shall be coordinated with DDOT.

The project sponsor through its construction contractor shall coordinate with the 11<sup>th</sup> Street Bridges Project to complete the portion of this project where the reconstruction of the tunnel affects 11<sup>th</sup> Street SE.

#### Land Use

Upon completion of tunnel construction, the project sponsor through its construction contractor shall restore the affected areas of the Marine Corps Recreation Facility to a condition as required by the Marine Corps, including the restoration of vegetation (see "Vegetation and Wildlife" below). In addition, the project sponsor through its construction contractor shall restore Virginia Avenue Park to at least pre-construction conditions, including the restoration of vegetation (see "Vegetation and Wildlife" below) and new park amenities (see "Parks and Recreational Resources" below).

#### Freight Rail Transportation

The project sponsor has voluntarily changed its mandatory practice of requiring every train to blow its horns while entering and exiting the tunnel. However, locomotive engineers will still have the discretion and authority to blow horns for safety reasons in accordance with industry practices and federal regulations.

CSX shall continue partnering with local first responders of the District and the surrounding jurisdictions in order to coordinate protocols for responding to train derailments. This includes continuing to provide periodic training activities.

#### Historic and Archaeological Resources

See Appendix B, Section 106 MOA.

#### Vegetation and Wildlife

The project sponsor shall be responsible for paying the tree removal fee to Urban Forestry Administration (UFA), and for developing a tree replacement plan. Prior to the development of the plan, an International Society of Arboriculture (ISA) certified tree inventory survey shall be

conducted to confirm the size and health of the street trees that will be displaced by the Project. The ISA survey will dictate the mitigation requirements used to prepare the replacement plan. The street tree replacement plan shall be coordinated with UFA during the landscaping plan development. Upon agreement with the UFA, the plan shall be implemented towards the end of the construction when the affected streets are restored. Post-planting care shall be conducted under the requirements of the UFA.

The tree replacement plan for Virginia Avenue Park and the Marine Corps Recreation Facility shall be coordinated with the National Park Service and DPR for the former and the Marine Corps for the latter. For trees with circumferences of 55 inches or more within the CSX property, compliance with the DC Urban Forestry Preservation Act shall be required, in addition to the tree removal fees to be paid to UFA.

The project sponsor through its construction contractor shall coordinate with the Capitol Quarter Homeowners Association Phase 1 determine the details of the restoration at the landscaped area fronting this neighborhood between 3<sup>rd</sup> and 4<sup>th</sup> Streets SE. The restoration can include an irrigation system if desired by the association and if allowed under DDOT regulations for the public right-of-way.

#### Parks and Recreational Resources

At the conclusion of construction and in the restoration of the affected areas of Virginia Avenue Park, the project sponsor shall include enhancements to the park that will include, at a minimum, the construction of an official dog park in accordance with current DPR conceptual plans. Other enhancements may be provided after the project sponsor consults with DPR, who has the discretion of conducting public outreach to determine other park improvements.

#### Pedestrian and Bicycle Facilities

In the restoration of the area underneath I-695, the project sponsor through its construction contractor shall make it accessible for the wheelchair dependent in accordance with the Americans with Disabilities Act in the connections between Virginia Avenue SE at 2<sup>nd</sup> Street and Garfield Park.

If the planned restoration of Virginia Avenue SE is conducted as described under "Roadway" above, the project sponsor through its construction contractor shall provide continuous bike facility between Garfield Park and Virginia Avenue Park, as well as additional pedestrian sidewalk facilities.

### VIII MONITORING OR ENFORCEMENT PROGRAM

DDOT and/or authorized representative shall provide oversight over the development of final design plans, MOT plans and plans to monitor various aspects of construction, such as air

quality, noise and vibration conditions, and the handling and management of excavated soils and groundwater removed from the construction area. DDOT and/or authorized representative shall monitor construction activities, including review of reports summarizing recorded air quality, noise and vibration conditions, as well as actions taken by CSX through its construction contractor for situations when monitored conditions exceed accepted levels.

## IX COMMENTS RECEIVED ON THE FEIS

Comments on the FEIS and responses to each are included in Appendix C of this ROD.

## X STATUTE OF LIMITATION NOTICE

FHWA intends to issue a Statute of Limitations notice in the Federal Register, pursuant to 23 U.S.C. Section 139(I), indicating that one or more Federal agencies have taken final action that grant permits, licenses, or approvals for this transportation project. This Statute of Limitations notice establishes that claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed on or before 150 days after publication of the notice in the Federal Register.

The Federal Register Notice, once published, will also be posted on the project website.

## XI CONCLUSION

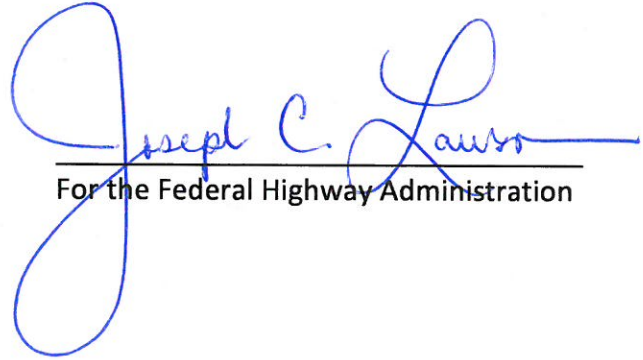
Based upon the information presented in the FEIS and supporting technical documents, the associated project record, and input received from the public and interested District and federal agencies, the FHWA decision, after its own independent review and consideration of the referenced information, is to approve the short-term closure of interstate highway access points (ramps) to I-695 located at 6<sup>th</sup> and 8<sup>th</sup> Streets SE in the District of Columbia and the occupancy of a portion of the 11<sup>th</sup> Street Bridge right-of-way on I-695 as described for the Virginia Avenue Tunnel Reconstruction Project in Washington, DC.

This decision selects Alternative 3 as described in the FEIS and in this document. The Selected Alternative satisfies the Purpose and Need for the Project while minimizing environmental impacts and addressing community concerns resulting from the effects of the Project subsequent to the FHWA decision to approve the short-term closure of interstate highway access points at 6<sup>th</sup> and 8<sup>th</sup> Streets SE in the District of Columbia and occupancy of a portion of the 11<sup>th</sup> Street Bridge right-of-way on I-695 as described. The Selected Alternative reduces the construction duration for the Project to the greatest extent possible. The Project, once completed, will enhance the safety of the tunnel and rail road operations by providing a center wall in the new tunnel, which provides a physical separation between the two sets of track that will be placed in the new tunnel. This will isolate any derailment that may occur within the

tunnel. The wall will also provide maintenance flexibility if an operational shutdown is required. The Selected Alternative was developed in direct response to community concerns about trains temporarily operating in an open trench during construction near neighborhoods. The Selected Alternative will operate within an enclosed tunnel throughout construction, except for a 230-foot section located on the west end of the tunnel where there are no adjacent residences.

11/04/14

Date

  
For the Federal Highway Administration

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