

Executive Summary

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S.1 Proposed Action

The Federal Highway Administration (FHWA) in conjunction with the District of Columbia Department of Transportation (DDOT) is issuing this Final Environmental Impact Statement (Final EIS) in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, for the proposed reconstruction of the Virginia Avenue Tunnel (the Project). FHWA is the lead federal agency for the development of the EIS while DDOT is the joint lead agency. The Federal Railroad Administration (FRA), the National Park Service (NPS), the National Capital Planning Commission (NCPC) and the U.S. Marine Corps are cooperating agencies for the EIS. The project sponsor is CSX Transportation, Inc. (CSX). The tunnel is owned by CSX and is located in the Capitol Hill neighborhood of the District of Columbia (DC or District) 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 Interstate 695 (I-695) previously known as Interstate 295 (I-295) (see Figure S-1). 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 the District are part of CSX's eastern seaboard freight rail corridor, which connects Mid-Atlantic and Midwest states.

The reconstruction of the tunnel will require the short-term (approximately a week or less) closure of ramps of an Interstate Highway (I-695) and use of interstate highway air rights which require FHWA approval. Both approvals are federal actions. CSX is also seeking approval from DDOT to allow temporary I-695 ramp closures and interstate highway air rights. DDOT has issued an occupancy

permit relative to Virginia Avenue SE and adjacent streets, which is contingent on the selection of a build alternative. The FEIS has identified Alternative 3 as the selected build alternative, also known as the Preferred Alternative. The permit will have no force or effect until a build alternative is approved via a

Double-Stack Intermodal Container Freight Train

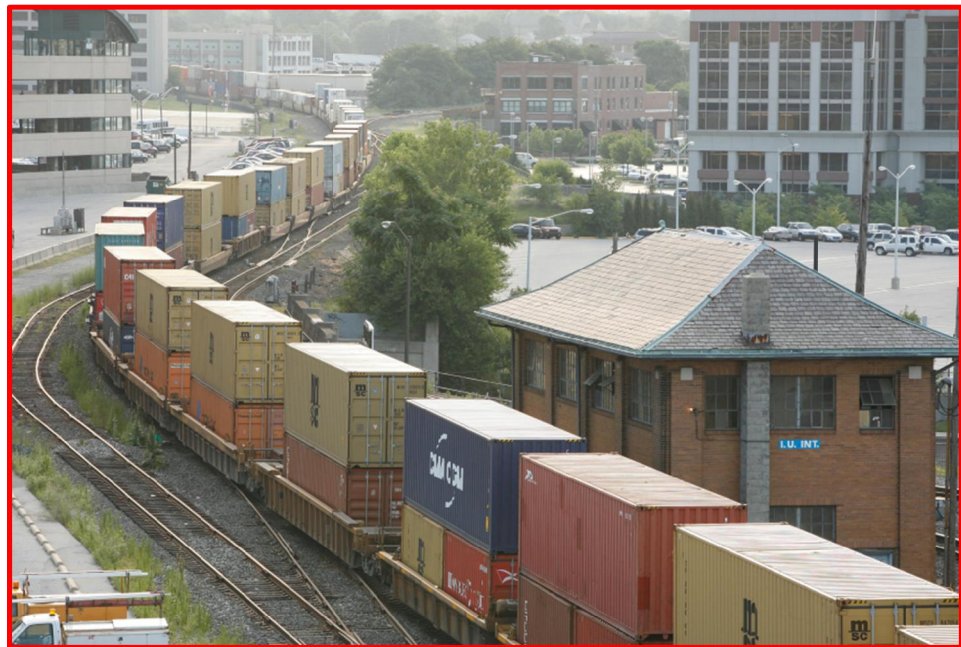
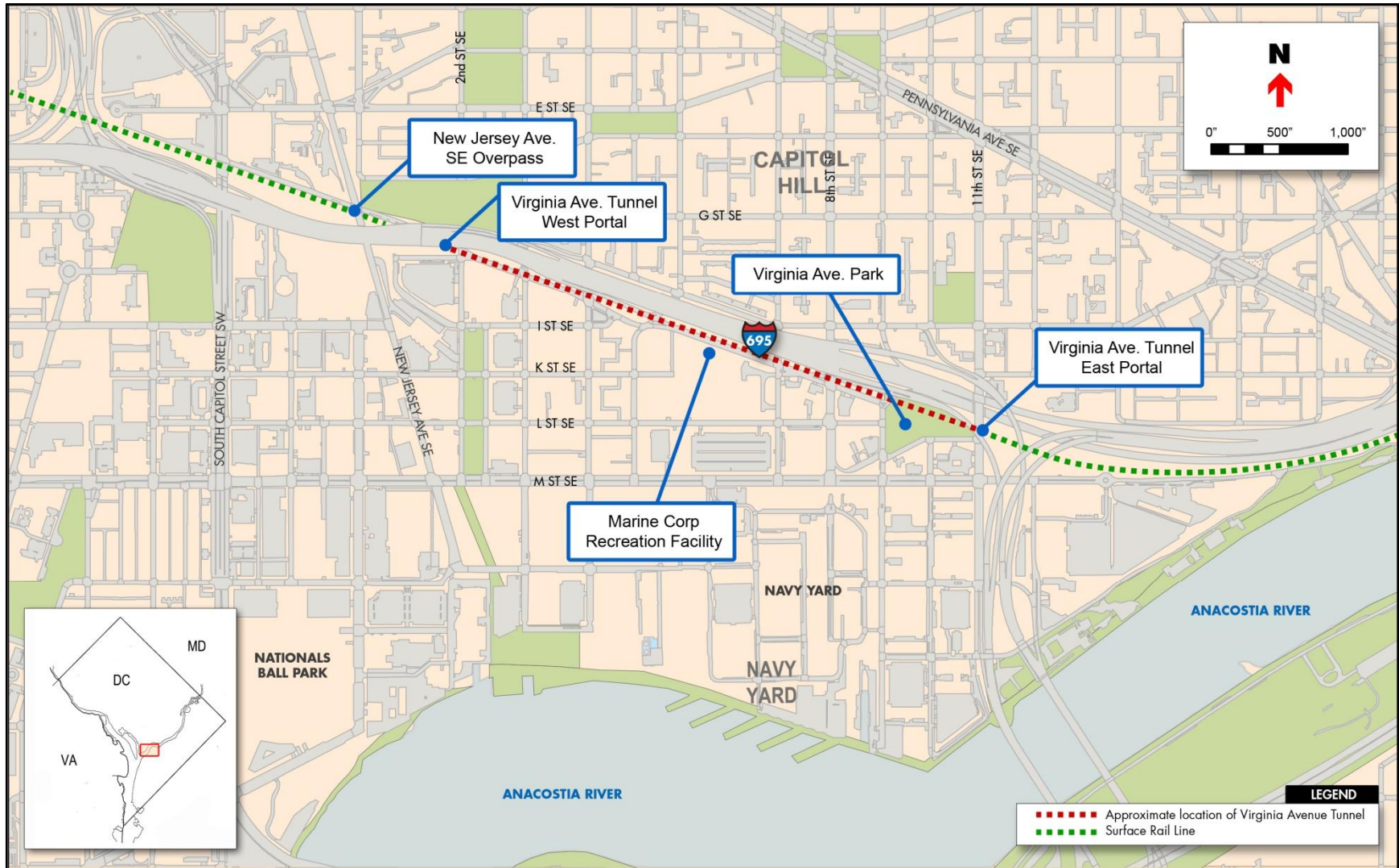


Figure S-1
Project Location



Record of Decision. The reconstruction of the tunnel will require temporary closure of Virginia Avenue SE between 2nd and 9th Streets SE, as well as other interim effects on several adjacent city streets during construction. The Project will also require sub surface use of a small portion of land in the U.S Marine Corps recreational facility located between 5th and 7th Streets SE on Virginia Avenue SE.

The CSX proposal includes the complete reconstruction of the tunnel, which was built over 100 years ago. The Project will transform the tunnel into a two-track configuration and provide the necessary vertical clearance (minimum 21 feet) to allow double-stack intermodal container freight train operations. This will allow more efficient freight movement, especially in light of expected increases in freight traffic. Reconstructing the tunnel to allow double-stack intermodal container freight trains will require the re-grading of the existing tracks west of the new rebuilt tunnel, which will mean that the vertical clearance underneath the New Jersey Avenue SE Overpass will also allow passage of double-stack intermodal container freight trains.

S.2 Purpose and Need

The purpose of the proposed action 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 following needs are met:

1. Address the structural and operational deficiencies of the century-old Virginia Avenue Tunnel;
2. Accommodate expected increases in freight transportation that, in part, would stem from the Panama Canal expansion scheduled for 2015; and
3. Ensure that during construction freight transportation services remain uninterrupted while the functions of the tunnel are being replaced with a new facility.

Structural and Operational Deficiencies of Virginia Avenue Tunnel

Virginia Avenue Tunnel's horizontal clearance only allows a single railroad track within the tunnel, which causes a bottleneck in the rail network due to the existence of two railroad tracks on both sides of the tunnel. In addition, the tunnel's vertical clearance does not allow the operation of double-stack intermodal container freight trains, a type of operation that CSX and other major railroad companies have adopted as the norm in the freight rail transportation industry where the rail network allows it. Finally, as an aging piece of infrastructure nearing the end of its useful life, the tunnel is increasingly subject to inspection and preventive maintenance for safe rail operations. These frequent inspections and preventive maintenance activities are difficult to conduct without compromising normal rail operations.

Freight Transportation Demand

Virginia Avenue Tunnel and the eastern seaboard freight rail corridor need to accommodate expected increases in freight transportation demand over the next few years, in part due to the Panama Canal expansion scheduled to occur in 2015. The projected increased demand for freight transportation requires taking steps now to modernize the freight rail network, including replacing the tunnel with a more modern facility. By accommodating double-stacked intermodal containers, CSX will be able to transport the expected increase in freight in fewer trains than would otherwise be possible.

Commerce Demands

Reconstructing an existing and vital piece of transportation infrastructure presents challenges in terms of how to maintain freight operations during the construction of the replacement tunnel. The ability to quickly and efficiently move goods to markets throughout the country is vital to the U.S. economy. As one of the nation's major freight railroad companies, CSX provides a valuable service by facilitating the shipment of goods and services to the general public.

S.3 Selection of the Preferred Alternative

After careful consideration of the Project's Purpose and Need, environmental impact analyses and public and agency input, Alternative 3 (see Section S.4) was selected as the Preferred Alternative. This alternative best meets the Project's Purpose and Need while minimizing project impacts and addressing community concerns. This alternative reduces the construction duration for the project to the greatest extent possible as well as accommodates the train operations in a closed tunnel thereby addressing community concerns about operation of trains within an open trench near residents. This alternative also enhances the safety of the tunnel and railroad operations 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. Although the outer surface of the southern wall under Alternative 3 will be located approximately 25 feet south of the existing tunnel's outer southern wall, the new enclosed structure, track ballast/bed and concrete floor will serve to prevent proximity effects from train-related vibration to nearby buildings.

Alternative 1 was not selected as the Preferred Alternative because it would not address the Project's Purpose and Need. While Alternatives 2 and 4 would meet the Project's Purpose and Need, they were not selected as the Preferred Alternative. Alternative 2 would employ runaround train operations in an open trench during construction. Although the open trench under Alternative 2 would be completely enclosed within the construction area and would not affect the health and safety of both construction workers and nearby residents, runaround operations raised concerns among residents. Although Alternative 4 also would employ runaround train operations during construction (within the same trench as the tunnel

construction), Alternative 4 was not selected as the Preferred Alternative mainly because it would require substantially longer construction duration than the other Build Alternatives.

S.4 Reasonable Alternatives Considered

Three Build Alternatives are being considered, in addition to a No Action Alternative. They were developed from among 12 preliminary concepts that were considered as candidates for the Project. These 12 concepts were developed through a preliminary assessment of the engineering and physical constraints along the alignment of the existing tunnel, as well as input from DDOT, FHWA and other government agencies, interested parties and the general public.

The 12 preliminary concepts are as follows:

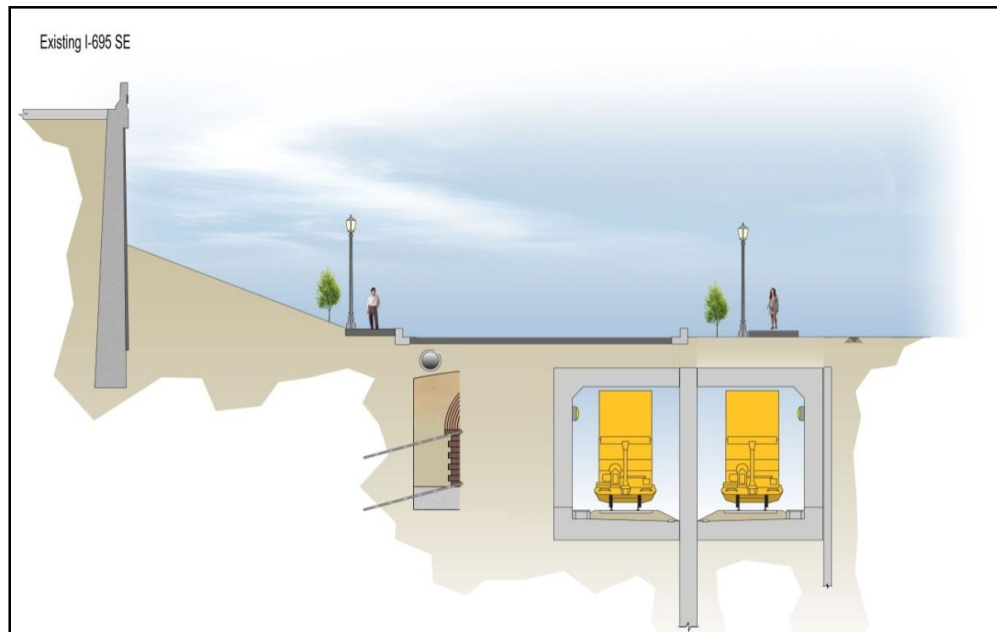
- Concept 1 is the no action or no build condition.
- Concepts 2 through 7 (includes two versions of Concept 3) involve the reconstruction of the Virginia Avenue Tunnel.
- Concepts 8 through 11 involve rerouting the main rail line outside of the existing Virginia Avenue Tunnel, but the tunnel would remain to service Washington Metropolitan Area regional customers.

Following an evaluation of these concepts based largely on their ability to meet the Project's Purpose and Need, the following alternatives were identified for this Final EIS:

Preferred Alternative - Two New Tunnels (originally Concept 5 and identified as Alternative 3 in the Draft EIS): Alternative 3 was selected as the Preferred Alternative. It involves replacing the existing Virginia Avenue Tunnel with two new permanent tunnels constructed sequentially (see Figure S-2). Each new tunnel will have a single railroad track with enough vertical clearance to allow double-stack intermodal container freight trains. A new parallel south side tunnel will be built first as trains continue operating in the existing Virginia Avenue Tunnel. After the south side tunnel is completed, train operations will switch over to the new tunnel and the existing Virginia Avenue Tunnel will be demolished and rebuilt. With the exception of operating in a protected open trench for approximately 230 feet immediately east of the 2nd Street portal (within the Virginia Avenue SE segment between 2nd and 3rd Streets SE), trains will operate in enclosed tunnels throughout construction under the Preferred Alternative. Throughout most of the length of the entire rebuilt tunnel, the two tunnels will be separated by a center wall. This center wall will be the new centerline of the two tunnels, and it will be aligned approximately 25 feet south of the existing tunnel centerline, between 2nd and 9th Streets SE. Due to new columns associated with the rebuilt 11th Street Bridge, the tunnels will be separated on the east end starting just west of Virginia Avenue Park, resulting in two separate single-track tunnels and openings at the east portal.

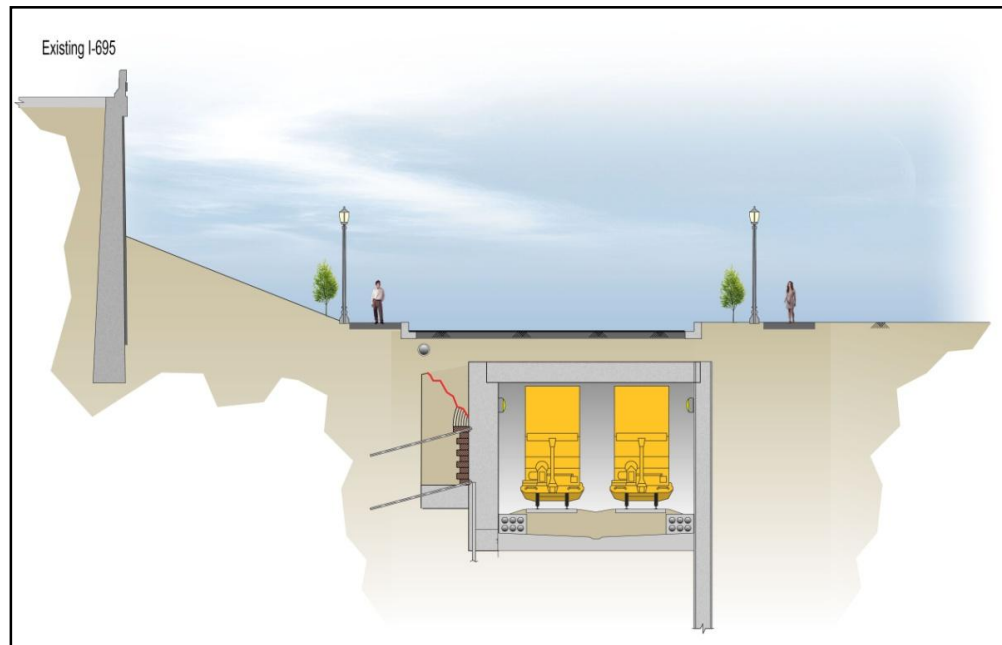
Alternative 1 - No Build (originally Concept 1): The No Build alternative is automatically carried forward into the Final EIS. The tunnel would not be rebuilt under this alternative. However, the railroad would continue to operate trains through the tunnel and at some point, emergency or unplanned major repairs or rehabilitation could be required to this critical, aging infrastructure that might prove equally disruptive to the community than the Build Alternatives.

Figure S-2
Cross Section View of Post-Construction Preferred Alternative
between 3rd and 9th Streets SE



Alternative 2 -Rebuilt Tunnel / Temporary Runaround Track (originally Concept 2): This Alternative involves rebuilding the existing Virginia Avenue Tunnel. It would be rebuilt with two tracks and enough vertical clearance to accommodate double-stack intermodal container freight trains (see Figure S-3). It would be rebuilt in generally the same location, except aligned approximately seven feet to the south of the existing tunnel center line. It would be rebuilt using protected open trench construction methods. During construction, freight trains would be temporarily routed through a protected open trench outside the existing tunnel (runaround track). The runaround track would be aligned to the south and generally parallel to the existing tunnel, and would be located below street level. Due to new columns associated with the rebuilt 11th Street Bridge, the runaround track would slightly separate from the tunnel alignment on the east end starting just west of Virginia Avenue Park. Safety measures such as securing fencing would be used to prevent pedestrians and cyclists from accessing the runaround track.

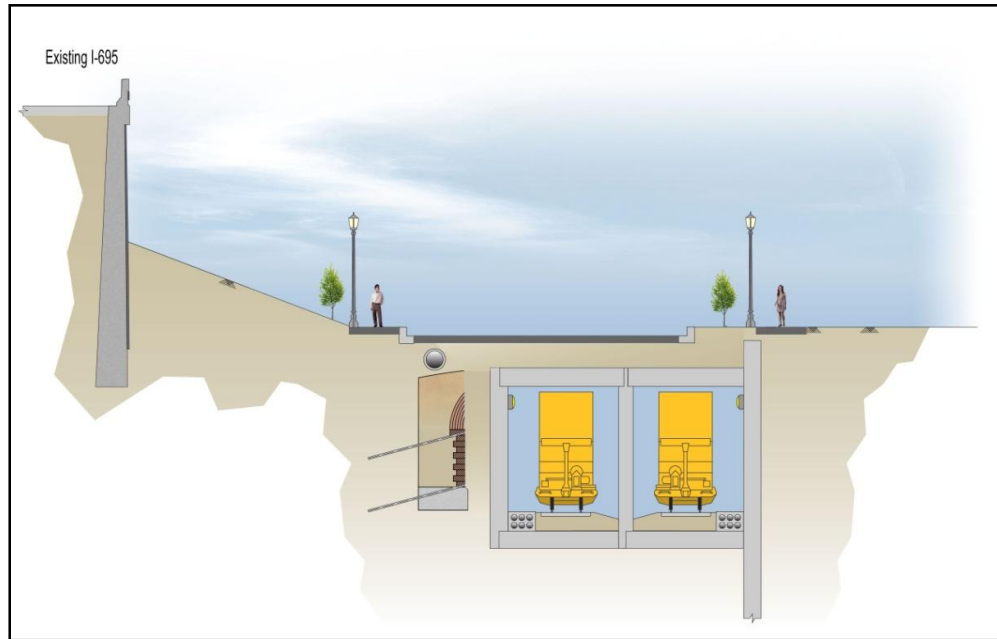
Figure S-3
Cross Section View of Post-Construction Alternative 2
between 3rd Street and 9th Streets SE



Alternative 4 - New Partitioned Tunnel / Online Rebuild (originally *Concept 6*): Alternative 4 would result in a new tunnel with two permanent tracks (see Figure S-4). Similar to the Preferred Alternative, the new tunnel would be partitioned and have enough vertical clearance to allow double-stack intermodal container freight trains. It would be aligned approximately 17 feet south of the existing tunnel's centerline. The new tunnel would be built using protected open trench construction methods. The rebuild would occur 'online' meaning that during the period of construction, the protected open trench would accommodate both construction activities and train operations. Maintaining safe and reliable temporary train operations is a more complicated endeavor under Alternative 4 than under the other two Build Alternatives because of the online rebuild approach.

Regardless of the Build Alternative, the Project would extend the east portal by approximately 330 feet to a location northeast of the 12th Street and M Street T-intersection, and the existing north tunnel wall would largely remain in place after construction as shown on Figures S-2 through S-4. However, Alternative 4 would remove most of the wall on the east end. The wall would serve as an earth retention system, which would reduce the risk of damaging I-695 structures. During final design, the earth retention system would be further evaluated, including determining if portions of the north wall could be removed during construction. In addition, safety measures, such as secured fencing, would be used to prevent unauthorized access to the work area regardless of the Build Alternative.

Figure S-4
Cross Section View of Post-Construction Alternative 4
between 3rd and 9th Streets SE



As used in this Final EIS, the term limits of disturbance (LOD) means all areas where construction will take place, including areas needed for staging, materials stockpiling, utility relocations, and temporary freight train operations. The LOD will be restricted from the general public, except Virginia Avenue's cross streets, which will remain open for public passage throughout construction by means of temporary bridges.

The Preferred Alternative or the other two Build Alternatives will include the restoration of Virginia Avenue SE, and other areas affected by construction, including Virginia Avenue Park and the Marine Corp Recreation Facility. The restoration of Virginia Avenue SE will include the following improvements:

- Improved access to Garfield Park for wheelchair dependent individuals;
- Continuous bike path between 2nd and 9th Streets, which will connect Garfield Park and Virginia Avenue Park;
- Straightened alignment on Virginia Avenue SE within the 400 block to be consistent with the original L'Enfant Plan;
- Improved lane configuration between 5th/6th and 8th Streets to provide safer and calmer traffic conditions;
- Additional landscaping; and
- Improved street lighting, traffic signals and crosswalks.

Outreach to other agencies, stakeholders and the community will be conducted to solicit input regarding the specifics of the improvements.

S.5 Other Nearby Major Governmental Proposed Actions

The following other government actions are currently taking place or would be conducted in the near future in the general vicinity of the LOD:

- 11th Street Bridges project (currently under construction), which will replace two existing bridges with three new bridges and improve the associated interchanges;
- South Capitol Street Corridor Project would include a new Frederick Douglass Memorial Bridge, transform the street into a boulevard to improve safety, multi-modal transportation and community access to support economic development;
- Clean Rivers Project, a multi-billion dollar effort by DC Water, which would include a combined sewer overflow (CSO) tunnel under the Anacostia River, but also includes diversion tunnel beneath M Street SE (currently under construction);
- Garfield-Canal Park Connector would establish a pedestrian and bicycle connection linking Garfield Park and Canal Park;
- Southeast Boulevard, which would convert the segment of the Southeast Freeway from 11th Street Bridge to Barney Circle to an urban boulevard;
- Relocation of Marine Corps Enlisted Bachelors Quarters (Building 20); and
- Other Anacostia Waterfront Initiatives, such as:
 - The Southwest Waterfront with Market Square and Civic Park,
 - Southeast Federal Center and Waterfront Park, and
 - Anacostia Riverwalk and Trail.

S.6 Summary of Environmental Impacts and Proposed Mitigation

Table S-1 summarizes the results of environmental impact studies conducted for the Project. The table includes the entire range of environmental topics covered in this Final EIS from land use to public transportation.

As stated earlier, Alternative 1 does not include any major repairs or rehabilitation of the tunnel in the near future. However, given that the tunnel is over a hundred years old, it could eventually require emergency or unplanned repairs at some point in the future. The Preferred Alternative and Alternatives 2 and 4 would all reconstruct the Virginia Avenue Tunnel in generally the same location and alignment as the existing tunnel. Their differences involve slightly different alignments and how train operations would be conducted during construction.

Following construction, freight train activities will resume back to pre-construction conditions, except for greater service and energy efficiencies due to the provision of two tracks and the minimum 21 feet of vertical clearance within the rebuilt tunnel. Due to the nature of the Project, most of the anticipated impacts of the Project will be related to or occur during

Table S-1
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 4
<i>Land Use</i>				
Construction	None	The LOD 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 Preferred Alternative.	With the exception of the Marine Corps property, Alternative 4's LOD 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 Preferred 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 Preferred Alternative, except the tunnel will be located outside the Marine Corps property.	Same as the Preferred Alternative, except the tunnel will be located outside the Marine Corps property.
Mitigation	Not Applicable.	Project sponsors will work with landowner agencies to obtain the necessary approvals to allow construction on their properties.	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 4
<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 accessible. Emergency response services will be unaffected. No disproportionately high and adverse impact in accordance with Executive Order 12898 on Environmental Justice.	Same as the Preferred Alternative.	Same as the Preferred Alternative, except the duration of construction would be 54 to 66 months.
Permanent (Post Construction)	May result in similar impacts noted under construction for Preferred Alternative if tunnel failure occurs.	Social and community conditions will revert back to pre-construction conditions.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	Project sponsor will provide "front row" residents and others with monetary compensation to offset inconveniences resulting from major construction activities.	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
<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 due to other transportation options. Property values of residences adjacent to the LOD may be temporarily affected.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Permanent (Post Construction)	May result in similar economic impacts noted under construction for Preferred Alternative if tunnel failure occurs.	Business conditions will revert back to pre-construction conditions.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	The project sponsor will provide up to \$75,000 to owners of "front row" residences if selling their homes under unforeseen circumstances during construction to offset possible loss in market value. Also, see mitigation under Transportation – Parking.	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
<i>Air Quality</i>				
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 Preferred Alternative.	Same as the Preferred Alternative.
Permanent (Post Construction)	May result in similar air quality impacts noted under construction for Preferred 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 Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	Employ dust control measures and measures to minimize other air pollutant emissions, where feasible.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
<i>Noise</i>				
Construction	None.	Construction activities predicted to cause noise impacts at certain noise sensitive receptors representing Capitol Quarter and Capper Senior Apartments.	Same as the Preferred Alternative.	Requires sheet piling, a construction activity that is predicted to impact all noise sensitive receptors analyzed.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Permanent (Post Construction)	May result in similar noise impacts noted under construction for Preferred Alternative if tunnel failure occurs.	Train operations not predicted to cause noise impacts at noise sensitive receptors.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	Employ measures to reduce construction noise generation, such noise barriers near residences, using techniques that are less noisy and noise monitoring.	Same as the Preferred Alternative.	Sheet piling would be conducted only between 8:30 AM and 4:30 PM on weekdays.
<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 Preferred Alternative.	Same as the Preferred Alternative.
Permanent (Post Construction)	May result in similar vibration impacts noted under construction for Preferred Alternative if tunnel failure occurs.	Train operations not predicted to cause human annoyance or building damage	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Mitigation	Not applicable.	Pre-construction inspections of buildings. Employ measures that reduce construction vibration, such as phasing vibration-producing activities when feasible so that they do not occur within the same time period.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
<i>Site Contamination - Soil</i>				
Construction	None.	Although not widespread, contaminated soil or groundwater handled during construction will be disposed of in accordance with applicable federal and local laws and regulations.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Permanent (Post Construction)	May result in similar size contamination and soil impacts noted under construction for Preferred Alternative if tunnel failure occurs.	Any contaminated water encountered during long term dewatering of the new tunnel (to keep it dry) will be disposed of in accordance with applicable laws and regulations.	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Mitigation	Not applicable.	All appropriate regulatory precautions will be taken to properly handle and dispose any contaminated soil or groundwater encountered during construction.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
<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 Preferred Alternative.	Same as the Preferred Alternative.
Permanent (Post Construction)	May result in similar water related impacts noted under construction for Preferred Alternative if tunnel failure occurs.	Restored Virginia Avenue SE will include a storm water management system.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	Sediment and erosion control measures installed during construction. Spill prevention and control plans prepared. Rail yard managed in accordance with local flood hazard	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Mitigation (cont.)		permit and other requirements.		
<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 Preferred Alternative.	Same as the Preferred Alternative except 164 street trees would be removed.
Permanent (Post Construction)	May result in similar impacts noted under construction for Preferred Alternative if tunnel failure occurs.	Landscaping plans, including tree replantings, will be coordinated with pertinent owners and stakeholders.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	Implementation of tree replacement plan at the end of construction.	Same as the Preferred Alternative.	Same as the Preferred 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;	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Construction (cont.)		construction-period impacts to the L'Enfant Plan and the Capitol Hill Historic District; and construction-period proximity to St Paul AUMP Church.		
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 th and 5 th /6 th Streets SE, in keeping with the original L'Enfant Plan for the street.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation		Implementation of resolution of the adverse effect identified in the signed Memorandum of Agreement (MOA).	Same as the Preferred Alternative.	Same as the Preferred Alternative.
<i>Parks and Recreational Resources</i>				
Construction	None.	The LOD includes part of Virginia Avenue Park, but not the garden, and the area under I-695 at 2 nd Street SE, which will prevent public access to Garfield Park at this location, and displace ad	Same as the Preferred Alternative, except that within Virginia Avenue Park, trains would operate in a protected open trench.	Same as the Preferred Alternative, except that the LOD 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.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Construction (cont.)		hoc recreational activities (skateboarding) under the freeway. In Virginia Avenue Park, trains will operate in a tunnel.		
Permanent (Post Construction)	May result in similar impacts noted under construction for Preferred 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 nd Street restored, and ad hoc recreation may continue.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation		The project sponsor will enhance Virginia Avenue park. Wayfinding signs provided during construction showing routes to Garfield Park.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
<i>Visual and Aesthetic Resources</i>				
Construction	None.	Fencing, and construction equipment and activities will be visible from adjacent buildings and other nearby viewpoints. The duration of this visual	Same as the Preferred Alternative.	Same as the Preferred Alternative, except that the duration would be 54 to 66 months.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Construction (cont.)		impact will be 30-42 months.		
Permanent (Post Construction)	May result in similar visual impacts noted under construction for Preferred 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 Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	Stockade construction fencing (instead of chain link) to be used in residential areas. Construction site kept orderly, such as daily regular clean-up.	Same as the Preferred Alternative.	Same as the Preferred 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 Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Permanent (Post Construction)	May result in similar utility impacts noted under construction for Preferred Alternative if tunnel failure occurs.	None.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	Coordination with utility companies to minimize service disruptions. If unavoidable, effort will be made to conduct the utility work during non-peak usage hours and to protect health.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
<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.	Same as the Preferred Alternative, except that double-stack intermodal container freight trains would operate sooner.	Same as the Preferred Alternative, except that it would pose a greater risk of service disruptions.
Permanent (Post Construction)	May potentially 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 Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	None required.	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
<i>Transportation-Roadways</i>				
Construction	None.	Closure of Virginia Avenue SE between 2 nd and 9 th 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 th and 8 th Streets SE.	Same as the Preferred Alternative.	Same as the Preferred Alternative, except that the first several months of construction would be concentrated in the area between 2 nd and 5 th /6 th Streets SE.
Permanent (Post Construction)	May result in similar roadway impacts noted under construction for Preferred Alternative if tunnel failure occurs.	Virginia Avenue SE will be restored to its pre-construction condition with improvements (see Section S.4).	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	In addition to addressing safety, the MOT plan will address the restoration and maintenance of transportation mobility.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
<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	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Construction (cont.)		phase 2 detours on the westbound Virginia Avenue SE. Traffic conditions on I-695 will not be affected.		
Permanent (Post Construction)	May result in disruptions to traffic if tunnel failure occurs.	Traffic flow will return to previous levels.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	Signal optimization used to improve intersection conditions during construction. Intersections will be monitored to determine the effectiveness of the optimization schemes.	Same as the Preferred Alternative.	Same as the Preferred 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. Applicable fees paid to DDOT for the temporary parking losses.	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
Permanent (Post Construction)	May result in similar parking impacts noted under construction for Preferred Alternative if tunnel failure occurs.	Restoration and improvements to Virginia Avenue SE results in a net reduction of 19 parking spaces.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	Construction workers provided prioritized parking (i.e., those who carpool). Workers restricted from using on-street parking used by residents. Temporary wayfinding signs provided to direct motorists to available off-street parking.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
<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 nd Street SE prohibited due to the Tiber Creek Sewer relocation.	Same as the Preferred Alternative.	Same as the Preferred Alternative.

Table S-1 (Continued)
Summary of Environmental Impact Studies and Proposed Mitigation

Resource or Topic / Time Frame	No Build (Alternative 1)	Preferred Alternative (Alternative 3)	Alternative 2	Alternative 3
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 Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	The MOT provisions provide for the safety of pedestrians and cyclists when crossing the construction area on Virginia Avenue. Temporary wayfinding signs provided for pedestrians.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
<i>Transportation-Public Transit</i>				
Construction	None.	Metrobus and DC Circulator routes will not be affected.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Permanent (Post Construction)	May result in similar impacts noted under construction for Preferred Alternative if tunnel failure occurs.	None.	Same as the Preferred Alternative.	Same as the Preferred Alternative.
Mitigation	Not applicable.	None required.	Same as the Preferred Alternative.	Same as the Preferred Alternative.

construction. The Project is not anticipated to result in indirect effects to the surrounding community. While the build alternatives would contribute to cumulative impacts to some resources during construction, such impacts would be localized within the LOD and would be temporary in nature.

S.7 Key Issues Raised by Community and Responses

A number of issues were generated from the public and agencies during the project's outreach efforts, or were communicated to the project team through other venues. These issues included:

- Access to adjacent properties;
- Air quality;
- Coordination with other construction projects;
- Damage to residences;
- Right-of-way
- Economic effects to businesses;
- Environmental Justice populations;
- Virginia Avenue Park, including the community;
- Mobility of motorists, pedestrians, cyclists and public transit users;
- Noise (including from temporary freight operations);
- Pest and rodent control;
- Property values of adjacent residences;
- Public safety and security of construction sites and temporary freight operations;
- Soil removal;
- Street tree displacements;
- Utility disruptions;
- Vibration (including from temporary freight operations); and
- Visual appearance of the construction site.

Other issues raised by the public included:

- Alternatives identification;
- CSX and DDOT rights-of-way;
- Freight rail transportation after construction;
- Freight transport of hazardous materials and refuse through the District;
- Future streetscape of Virginia Avenue SE; and
- Post-construction noise and vibration impacts from freight operations.

In order to assist the public in understanding how some of the most important issues raised were addressed, the following Q&A (questions and answers) were developed. The questions are thematic and do not reflect a particular question or comment from any one individual, agency or organization. For each question, answers or responses are provided, some of which include references to sections of the Final EIS where additional information can be obtained.

The questions and responses are categorized in the following manner: Alternatives, Construction Impacts, Freight Train Operations, Right-of-Way and Other Issues.

S.7.1 Alternatives

Q1: Why were none of the reroute alternatives advanced for detailed consideration in the Draft EIS?

A: Among the permanent reroute alternatives considered but dropped from consideration were Concepts 9 and 10, which involved constructing new freight rail routes identified by the National Capital Planning Commission (NCPC) in its 2007 Freight Railroad Realignment Feasibility Study.

Concept 9 would have developed the "Indian Head" alignment and Concept 10 would have developed the "Dahlgren" alignment. These concepts required 31 and 38 miles of new rail lines, respectively, a new bridge over the Potomac River, and would have affected diverse natural resources and several communities. NCPC estimated that constructing either of these alternative alignments would cost between \$3.2 and \$4.2 billion for the Indian Head alignment and \$3.5 and \$4.7 billion for the Dahlgren alignment. Therefore, neither alternative would have been a cost effective solution to address the deficiencies of the existing Virginia Avenue Tunnel in comparison to the Preferred Alternative, which is estimated to cost approximately \$168 million. Nevertheless, reconstructing Virginia Avenue Tunnel will not preclude establishing a new mainline freight rail route outside of the District if, at a minimum, funding were to become available.

Other reroute concepts considered but dropped from consideration include Concepts 8 and 11. Concept 8 would bore a new tunnel beneath the existing Virginia Avenue Tunnel. In order to maintain a stable foundation in the existing tunnel, the new tunnel would be about 80 feet below the surface or about 45 feet below the existing tunnel. To reach this depth and avoid existing obstructions (e.g., Metrorail tunnels and the rivers), the new tunnel would need to be about nine miles long. Concept 8 was eliminated because it would require acquisition of 14 to 16 acres at the portal locations and would cost about \$2 billion. Concept 11 would require substantial upgrades to existing CSX routes spanning several states. In addition to the high cost of upgrading facilities, it would add significant amount of mileage and travel time to major transportation markets, which would likely encourage shippers to switch to other modes of transportation, such as trucking.

Section 3.7 provides further information.

Q2: Why did the rebuild alternatives include freight rail operations through the Virginia Avenue corridor during construction?

A: Freight transportation is an integral part in maintaining the health of the U.S. economy. As one of the nation's major freight railroad companies, CSX facilitates the shipment of goods, equipment and other supplies and commodities to the general public. It is not feasible to stop

freight rail service within the mid-Atlantic region during the period of time when the Virginia Avenue Tunnel is being reconstructed, with an estimated 30 to 42 months construction duration period. Due to the condition of the freight rail network in and around the District of Columbia, closing Virginia Avenue Tunnel would effectively cut off freight transport between the mid-Atlantic and Midwestern states. There are no rail lines available within or near the Washington Metropolitan Area that could serve as an alternate route through or around the District during construction.

Except for one of the preliminary concepts, all of the rebuild concepts provide provisions to maintain freight rail operations through the Virginia Avenue corridor during construction. Concept 7 would not have included this provision. Instead, it would have utilized a combination of other CSX and Norfolk Southern rail lines in southern and western Virginia, North Carolina and Pennsylvania, and the AMTRAK rail line through Union Station. Concept 7 was eliminated from further consideration before release of the Draft EIS because none of the combination of routes identified could effectively accommodate the approximately 20 trains CSX operates through the District on a daily basis. In addition, Concept 7 would have required construction that would affect communities located outside the District.

Sections 2.3, 3.4 and 3.7 provide further information.

Q3: Why was Alternative 3 selected as the Preferred Alternative?

A: After careful consideration of the Project's Purpose and Need, environmental impact analyses and public and agency input, Alternative 3 was selected as the Preferred Alternative. This alternative best meets the Project's Purpose and Need while minimizing project impacts and addressing community concerns. This alternative reduces the construction duration for the project to the greatest extent possible as well as accommodates the train operations in a closed tunnel thereby addressing community concerns about operation of trains within an open trench near residents. This alternative also enhances the safety of the tunnel and railroad operations 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. Although the outer surface of the southern wall under Alternative 3 will be located approximately 25 feet south of the existing tunnel's outer southern wall, the new enclosed structure, track ballast/bed and concrete floor will serve to prevent proximity effects from train-related vibration to nearby buildings.

Section 3.7 provides further information.

S.7.2 Construction Impacts

Q4: How will the construction contractor control dust and other types of air pollutants so as to not affect the health and well-being of nearby residents and others who work or pass through the construction area?

A: Construction activities will comply with local and federal regulations for fugitive dust control and mobile source emissions. Dust control measures will be implemented to prevent fugitive dust from excavation and other dust-producing activities from affecting areas beyond the construction site. Such measures include erecting windscreens, using watering trucks and sprinklers for haul roads and other dirt-exposed areas, routinely cleaning public roads covering all trucks during transport of fill materials or soil and stabilizing or covering material stockpiles. In addition, measures will be used to minimize other air pollutant emissions, such as assuring proper equipment operations that will include using appropriate emission-control devices (per EPA regulations) on all construction equipment powered by gasoline or diesel fuel to reduce carbon monoxide, nitrogen oxide and particulate matter emissions in equipment exhaust, and using low or ultra-low sulfur fuels to reduce sulfur emissions. Stationary equipment that generates air emissions, such as compressors, will 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.

Section 5.5 provides further information.

Q5: How will the construction contractor control noise so as to not affect the health and well-being of nearby residents and others who work or pass through the construction area?

A: A number of measures to reduce the impacts of construction noise on nearby residents will be employed, including:

- Use of fencing (e.g., wood stockade or type of solid material) near noise sensitive receptors that could also serve as temporary noise barriers and hanging noise dampening blankets on the inside face of the fencing if the effectiveness of the noise barriers need to be improved;
- Where feasible, using drilled installation methods instead of driven methods when installing bearing and temporary support piles near residences;
- Properly maintaining all motorized equipment in a state of good repair to limit wear induced noise (e.g., mufflers are in good working condition); and
- Establishing a community outreach program to notify nearby residents and businesses about upcoming high noise producing activities as well as procedures to address noise complaints.

In addition, noise monitoring will be conducted to determine the effectiveness of these and other measures.

Section 5.6 provides further information.

Q6: What measures will the construction contractor implement to prevent construction-related vibration from damaging my home or building?

A: Vibration monitoring will be an important activity to prevent vibration-producing construction activities from affecting nearby buildings, and to evaluate the effectiveness of mitigation measures that are used to reduce the amount of vibration generated during construction. These mitigation measures will include properly maintaining all motorized equipment in a state of good repair; using drilled piles near residences where the geological conditions permit; limiting the use of high vibration activities, such as vibratory rollers, to weekday daytime hours; and paving or smoothing the surface haul paths within the construction area.

The project team will develop a noise and vibration monitoring program that will include monitoring the adjacent properties. Based on the resident/owner's approval, vibration monitors will be installed to ensure that vibration levels do not exceed established criteria. In case of exceedence, the contractor will be informed immediately and the construction activity causing the condition will be mitigated or monitored.

Section 5.7 provides further information.

Q7: Will construction vibration affect St. Paul AUMP Church?

A: Vibration levels from construction are not predicted to affect St. Paul AUMP Church. However, the church will be monitored for vibration levels during the construction period.

Q8: How will the public be kept safe from construction activities?

A: The project team is committed to keeping the general public safe from construction activities and train operations. Security fencing, barricades, signage and lighting will be used to prevent unauthorized access to construction zones and areas used for trains operations. Furthermore, CSX will be assigning dedicated community police officers specifically to the Project and the Capitol Hill community. The perimeter fencing will be at least eight feet high, and fencing will also be provided at cross streets where vehicles, pedestrians and cyclists will be allowed to cross the construction zone

Section 3.5.5 provides further information.

Q9: Who will provide oversight over the construction activities conducted by CSX's contractor?

A: DDOT will provide oversight and inspection of construction activities. DDOT inspectors will be provided office space at the construction site. Also, the affected utility companies will provide oversight over the utility relocation work.

Q10: Will people be able to cross Virginia Avenue SE throughout construction? What about those with physical disabilities, such as those in wheelchairs?

A: Yes. Throughout construction, all currently available cross streets (3rd to 8th Streets) will be open to motorists, bicyclists and pedestrians. Cross streets will only be closed when installing and removing the temporary bridges. The Project's MOT plan will provide for the needs of those who are wheelchair dependent and others with disabilities. Temporary street crossings will be accessible and usable to wheelchair dependent persons.

Section 3.5.4 provides further information.

Q11: Will the I-695 6th Street Off-Ramp be closed throughout construction?

A: No. The 6th Street Off-Ramp will be closed at most a week when the temporary bridge crossing at the 5th/6th Street intersection is installed and removed. In addition, construction will not affect the future I-695 8th Street On-Ramp currently under construction by the 11th Street Bridges project (the ramp was recently open to traffic).

Section 3.5.4 provides further information.

Q12: Will we be able to access our homes during construction? How will fire, ambulance, and other emergency service responders access our homes in times of emergency?

A: The construction MOT plan will be prepared to address motor vehicle and pedestrian use and ensure access to every residence and property along the project limits, including access to garages and alleyways. However, to ensure continuous access, some properties will require the construction of temporary driveways. Existing driveway access will be restored at the conclusion of construction. The plan will also provide continuous accessibility for local emergency services and first responders to support and protect the communities. The MOT plan will be updated as required in close coordination with DDOT and the District Fire Department and Emergency Management Services throughout the construction period.

Q13: If construction activities damage my home or building, will the damage be repaired?

A: Yes. CSX and its contractor will be responsible to protect adjacent buildings from damage. CSX and its contractor will be responsible for any damage to buildings as a direct result of construction. Owners of buildings located adjacent to the Project's limits of disturbance will be offered pre-construction inspections, which will entail visually identifying all existing signs of exterior, interior and roof damage and any signs of structural settlement. Building owners are highly recommended to allow this inspection in order to expedite the claims process if construction activities do cause damage to buildings. If damage does occur and it is determined that the damage was caused by construction activities, CSX and its contractor will be responsible to make the appropriate repairs after coordinating with the property owner(s).

Section 5.7 provides further information.

Q14: How will the construction contractor prevent pests, rats and other rodents in the tunnel from infecting my home after they have been disturbed by construction of the Project?

A: A rodent control program will be initiated prior to the start of construction and maintained during the entire duration of construction. The rodent control program will be implemented in accordance with District health regulations, using a qualified rodent control company. The program will combine elements of baiting and trapping to achieve the highest rate of success. During construction, food source removal is a key component for successful rodent control. Garbage and food debris will be stored in containers with lids. Spilled food and garbage will be cleaned up regularly. Unorganized or cluttered debris and weedy vegetation, that could provide harborage for rodents, will not be allowed within the construction area or along the perimeter.

Section 5.10 provides further information.

Q15: Will property values of homes along Virginia Avenue SE be affected by construction? What will happen if an affected resident has to sell a home, and how will he or she be compensated for any decreased home value?

A: The degree to which temporary factors, such as construction on city streets and other neighborhood construction projects, affect short-term property values can be subjective and difficult to quantify. Nevertheless, it is possible that construction of the Project can affect the willingness of buyers to enter into purchases of properties adjacent to Virginia Avenue SE, but this affect will diminish near the completion of construction. Therefore, the project sponsor has agreed to compensate up to \$75,000 to offset the loss of market value if a "front row" residential property owner must sell his or her home during construction. Appendix C provides the locations and addresses of the "front row" residences.

Section 5.4 provides further information.

Q16: What is the duration of construction?

Construction of the Preferred Alternative will take between 30 to 42 months. Alternative 2 has the same estimate construction duration. Alternative 4's estimate construction duration is between 54 and 66 months.

Section 3.5.6 provides further information.

Q17: Explain how the construction team has the expertise and experience to safely construct the Preferred Alternative in the time frame described in the EIS, and what measures will be taken to assure compliance with the construction schedule?

A: The selection process that will be used to identify the contractor team will include selection criteria covering past experience building large infrastructure projects in dense urban environments, qualifications of key personnel, financial strength, knowledge of the local construction market and past performance on similar sized complex infrastructure projects.

CSX will issue substantial monetary penalties to the selected contractor team for late performance of work. The contractor team will be required to prepare comprehensive weekly, monthly and quarterly reports for CSX and DDOT covering safety, schedule, MOT, train operations, utilities, communications with the community and stakeholders, materials status, staffing, quality, and subcontractor work. One of the main purposes of the reporting is to identify potential challenges to schedule early so they can be mitigated before adversely affecting progress of the Project. A Project office will be established at the New Jersey Yard where a co-located team consisting of staff from the contractor team, CSX, and DDOT will work together to maximize effective communications, streamline permitting and monitor and plan project progress in "real time".

S.7.3 Freight Train Operations

Q18: How will the Preferred Alternative maintain freight train operations during construction?

A: Initially for approximately 16 to 22 months, trains will continue operating within the existing tunnel while the permanent new south side single-track tunnel is being constructed. However, an approximately 230-foot section of the tunnel alignment immediately east of the 2nd Street portal (west segment) will be an open cover trench during construction in the first phase while the train traffic remains on the existing track. Once the south side tunnel is completed, train traffic will switch to the new tunnel for the remainder of the construction period. The second phase of construction will largely involve the demolition of the existing tunnel and the construction of the new north side single-track tunnel. During most of the second phase, the approximately 230-foot west segment will remain open cover even though train traffic is switched to the new south side track.

Section 3.5.2 provides further information.

Q19: What safety and security measures will be taken to protect the public from the 230-foot long open cover trench under the Preferred Alternative?

A: The 230-foot open cover trench will be located entirely within the 200 block of Virginia Avenue SE where there are no residences. Also, the trench will be located entirely within the construction area, which will include perimeter fencing and other security measures.

Safety and security are top priorities for CSX, and all CSX facilities have security plans in place. For example, the existing Virginia Avenue Tunnel is protected and secured using high technology devices, such as closed circuit cameras and motion detectors monitored 24 hours a day, seven days a week. These same measures will be employed during and after construction.

Section 3.5.5 provides further information.

Q20: Can CSX guarantee a train derailment in the trench or tunnel would not cause or threaten property damage or loss of human life?

A: Trains passing through the Virginia Avenue SE construction area will operate at lower speed and a railroad employee-in-charge who will be assigned to the Project during construction with the primary responsibility of ensuring the safe passage of trains through the work zone. The role of the railroad employee-in-charge is primarily to protect the safety of construction workers, but will also have the added benefit of protecting the general public. With the new tunnel, train derailments will be less likely to occur because of the new, more reliable tunnel concrete floor and track ballast. CSX will continue to partner 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.

Sections 3.5.5, 5.3 and 5.15.1 provide further information.

Q21: Why does CSX appear not to be open in answering questions on how and where it transports hazardous materials in and outside the District of Columbia?

A: CSX trains do not transport explosive, toxic by inhalation (TIH), or poisonous by inhalation (PIH) materials through the District due to a voluntary agreement with the Government of the District of Columbia. For national security reasons, CSX does not disclose how and where it transports these materials to the public. However, this information is provided by CSX to the District and Federal safety and security officials. Construction of a new Virginia Avenue Tunnel will not affect the materials, goods or equipment transported through the District of Columbia.

Q22: I live along the south side of Virginia Avenue SE, and understand that the new Virginia Avenue Tunnel under the Preferred Alternative will be located closer to my home. Will I hear freight trains passing through the new tunnel? Will I feel the vibration from freight trains passing through the new tunnel?

A: Based on detailed noise and vibration studies conducted for the EIS, the residents will not hear nor be able to feel trains passing through the new tunnel.

Sections 5.6 and 5.7 provide further information.

Q23: Will the project result in more freight trains passing through the new Virginia Avenue Tunnel?

A: The provision of two railroad tracks (eliminates the bottleneck) and enough vertical clearance to allow double-stack intermodal container trains (doubles the capacity for this type of freight on a single train) will lead to greater efficiencies of the freight rail network. The ability to operate double-stack intermodal container freight trains will mean that the overall number of trains may be reduced in comparison to not rebuilding the tunnel.

Section 5.15.1 provides further information.

Q24: How much crude oil does CSX transport through the District of Columbia?

A: Any crude oil shipments by CSX through the District of Columbia are individual tank cars, and they are very rare. In 2013, the crude oil shipments through the District of Columbia (Virginia Avenue Tunnel) represent less than 0.006% of all loaded rail cars shipped through the Virginia Avenue Tunnel. Each of these was a single tank car on a separate train. CSX has no current movements of crude oil unit trains through the District of Columbia.

Q25: Will the project result in additional movement of crude oil shipped through the District of Columbia?

A: No. There is no market for CSX to transport crude oil through the District of Columbia now, or in the foreseeable future.

S.7.4 Right-of-Way

Q26: Will private property be acquired, either temporarily or permanently, to construct the new tunnel?

A: No. Construction of the Preferred Alternative does not require the use or acquisition (temporary or permanent) of private property other than properties owned by CSX. All construction will occur within CSX property, DDOT right-of-way, and property within the Marine Corps Recreation Facility and Virginia Avenue Park.

See Section 3.5.1 for further information.

Q27: How was right-of-way issue between DDOT and CSX resolved?

Based on research by both DDOT and CSX, it was agreed that Congress legislated the right for CSX to construct, operate, and maintain two rail tracks beneath Virginia Avenue SE in a tunnel and determining the exact boundaries of the right-of-way is not possible due to lack of documentation. It was also agreed that the specifications of the tunnel beneath the surface should meet current railroad standards regarding vertical and horizontal widths. Therefore, in order to access this subterranean and above surface space, DDOT and CSX have agreed that CSX will seek construction and occupancy permits from DDOT for the Project. DDOT issued an occupancy permit contingent upon the completion of the NEPA process should a build alternative be selected.

Q28: Are there any past agreements between DDOT and CSX that include Virginia Avenue Tunnel?

A: Yes, DDOT and CSX have some agreements regarding a number of projects in the District of Columbia. Agreements related to the reconstruction of the Virginia Avenue Tunnel are included in Appendix A.

Q29: Will DDOT sell its right-of-way to CSX for the project?

A: No. DDOT issued an occupancy permit relative to Virginia Avenue SE and adjacent streets, which is contingent on the selection of a build alternative in the NEPA process.

Q30: What compensation to the Government of the District of Columbia will CSX provide for use of the public rights-of-way for construction?

A: CSX will pay all associated permit and inspection fees associated with the construction of the Preferred Alternative of the Project.

S.7.5 Other Issues

Q31: How will the Virginia Avenue Park, including the Community Garden, be affected by this project?

A: The Preferred Alternative will require temporary use of a portion of Virginia Avenue Park during construction. The construction area will not include the community garden. Affected areas of the park will be restored at the conclusion of construction.

Section 5.12 provides further information.

Q32: What will be the economic impacts on local businesses as a result of construction of this project?

A: The Project's MOT plan will ensure that all businesses remain accessible by auto, bike and walking throughout construction. Only one storefront is anticipated to be affected during construction. The project team has and will continue to work with this business to relocate the storefront during construction. At the conclusion of construction, operation of the new tunnel will have no effect on local businesses.

Section 5.4 provides further information.

Q33: How will I get information about construction activities that may affect my daily routine?

A: The Project website, www.virginiaavenuetunnel.com, will continue as a tool that the public can use to obtain information about the Project throughout the construction period. The website is an integral part of the overall public outreach program established to keep communication open with the community. Information about utility disruptions or activities that may disrupt travel will be disseminated through flyers to nearby residences and email blasts, in addition to having this information posted on the Project website.

Section 5.3 provides for further information.

S.8 Major Unresolved Issues

There are no major unresolved NEPA issues related to the Project.

S.9 Other Federal and Government of the District of Columbia Actions Required

Other than NEPA, the only federal action required before final Project approval in accordance with NEPA is FHWA approval of the Section 4(f) Evaluation for the use of Virginia Avenue Tunnel, L'Enfant Plan, Capitol Hill Historic District and Virginia Avenue Park.

Post-NEPA, the following federal actions will be required:

- Approval to temporarily affect I-695 ramps located at 6th and 8th Streets SE (FHWA)
- Approval associated with construction activities within Virginia Avenue Park and potentially other NPS reservations along Virginia Avenue (NPS)
- Approval associated with construction activities within the Marine Corps Recreation Facility (U.S. Marine Corps)
- Approval associated with the location of the reconstructed tunnel under the Preferred Alternative and any relocated utilities within the Marine Corps Recreation Facility (U.S. Marine Corps)
- NPDES Stormwater Permit for Construction Activities (U.S. Environmental Protection Agency, Region III)

DDOT has issued an occupancy permit relative to Virginia Avenue SE and adjacent streets, which is contingent on the selection of a build alternative in the NEPA process. Construction permits will be issued after the FHWA NEPA Record of Decision and when the design of the Project is submitted to DDOT for review. Once construction is completed, the final right-of-way area will be modified to reflect the as-built location of the reconstructed tunnel.

S.10 Environmental Commitments

Related to the mitigation measures summarized in Table S-1, the following are the commitments of the project sponsor to ensure maintenance of the environmental quality of the area surrounding Virginia Avenue Tunnel during and after construction of the Project:

Construction Related Commitments

These commitments will be conducted to mitigate construction-related impacts:

- Implementing a community outreach program using a project website, email blasts, flyers and other forms of open communication and dialogue for the purposes of informing certain stakeholders (e.g., residents of Capper Senior Apartments and Capitol Quarters) and the general public about construction status and activities that may

disrupt normal daily activities (e.g., temporary disruption of utility service), but also used to solicit any public complaints about construction activities.

- Maintaining a community office located at 861 New Jersey Avenue SE where members of the community can obtain construction information, and ask questions about the Project.
- Ensuring that the LOD will not include private property.
- Ensuring that vehicular, pedestrian and bicycling mobility is maintained throughout construction and that all properties, including those adjacent to the LOD, are accessible through the provision of temporary bridges across Virginia Avenue SE and detours that include converting the westbound Virginia Avenue SE/I Street SE between 6th and 8th Streets to two-way operations and providing the necessary traffic signals.
- Providing all properties with driveways directly adjacent to the LOD with provisions for driveway access so that these properties remain accessible for owners, users and visitors, as appropriate, as well as to fire and emergency response vehicles.
- Providing temporary wayfinding signs to Garfield Park, off-street parking lots and other important gathering places located near the LOD, such as Barracks Row, Eastern Market, and the Washington Navy Yard. The project sponsor will work with local business and civic groups to determine the important gathering places that should be identified by temporary signage.
- Providing fencing of at least eight feet high along the perimeter of the construction area, including areas used for temporary train operations and at cross streets where vehicles, pedestrians and cyclists will be allowed to cross the construction area, in order to prevent unauthorized access. The type of fencing or barrier may vary along the LOD. For those sections near residences and the park, screens will be attached to the chain link fencing or stockade fencing may be used.
- Restricting public access to the LOD to keep the general public from construction activities and temporary freight operations, which will include but not necessarily limited to fencing (as noted above), suitable lighting, and regular patrols by railroad police officers assigned to the Project.
- Using dust control measures to prevent fugitive dust from excavation and other dust-producing activities from affecting areas beyond the construction site. These practices include, but are not necessarily limited to frequent watering, material stockpile stabilization, and good housekeeping, which will also help in the appearance of the construction area.
- Using measures to limit non-dust air pollutant emissions as reasonably practical and feasible. These practices include, but are not necessarily limited to, turning off the

engines of construction vehicles if they are left idling for more than 30 minutes, and using appropriate emission-control devices per U.S. Environmental Protection Agency regulations. In addition, stationary equipment that has air emissions will not be placed in direct proximity to sensitive land uses or where people tend to congregate to the extent feasible.

- Using noise control as reasonably practical and feasible. These practices include, but are not necessarily limited to, using drilled installation methods instead of driven methods when installing support piles near residences, using demolition equipment with crush/shear technology, limiting high noise generating activities to daytime and weekdays, and properly maintaining all motorized equipment in a state of good repair to limit wear induced noise.
- Providing the owner of any building located adjacent to the LOD with pre-construction building inspections to document the condition of the structure.
- Using vibration control as reasonably practical and feasible. These practices include, but are not necessarily limited to, conducting monitoring of vibration-producing activities, maintaining all motorized equipment in a state of good repair to limit wear induced vibration, and limiting pile driving near residences to weekday daytime hours to minimize the number of people who could be annoyed by the vibration of this activity.
- Conducting a vibration monitoring program during construction to determine whether vibration-producing construction activities may be affecting nearby buildings.
- Conducting building inspections of those structures (offers will be extended to the owners) close enough to a construction vibration source that damage to that structure due to vibration may be possible in order to document the pre-construction conditions. 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. If damage does occur due to construction operations, the project sponsor and its contractor will be fully responsible to make the appropriate repairs.
- Taking all appropriate regulatory precautions to properly handle and dispose of any contaminated soil or groundwater encountered during construction. A Health and Safety Plan will be prepared and implemented where contamination is identified and handled.
- Installing erosion control measures and stormwater management systems to reduce or eliminate contamination of surface water runoff resulting from the construction site. In addition, appropriate spill prevention and control plans will be prepared.
- Implementing a rodent control program that will be initiated prior to the start of construction and maintained during the entire duration of construction.

- Preparing a Construction Protection Plan prior to construction to avoid and minimize adverse effects on known historic properties.
- Preparing historic documentation and photographic recordation of Virginia Avenue Tunnel in accordance with the guidelines set forth in Historic American Building Survey (HABS) / Historic American Engineering Record (HAER) Photographs: Specifications and Guidelines", "HABS/HAER Standards", and "HABS Historical Reports" prior to its demolition.
- Establishing a preservation fund in the amount of \$200,000.00 for the purpose of carrying out historic preservation-related projects within the District of Columbia.
- Providing interpretive signs that will describe the history of the Virginia Avenue Tunnel, Virginia Avenue SE in relation to the L'Enfant Plan and related historical topics.
- Making the original stones that form the eastern and western portals of the tunnel available to the Friends of Garfield Park, NPS National Capital Parks East, and DPR.
- Conducting exterior rehabilitation of CP Virginia, an historic railroad switching tower located near 2nd Street and Virginia Avenue SW.
- Salvaging and reusing some of the Virginia Avenue Paving (remnants of the original cut-stone block paving used for Virginia Avenue SE) as part of interpretive sign and display relating to Virginia Avenue SE.
- Investigating sections of cross streets proximate to Virginia Avenue SE between 2nd and 11th Street SE to assess the potential and verify the presence of any additional intact historic cut-stone block paving.
- Conducting utility relocation work that requires unavoidable service disruptions during non-peak usage hours. Any utility service disruptions will be announced through the community outreach program noted above.
- Providing incentives to construction workers to carpool or use public transportation for commuting.
- Providing about 90 parking spaces within the west staging area (New Jersey Yard) for construction workers. Parking preferences will be given to those construction workers who carpool. Construction workers will be prohibited from parking at metered or two-hour residential spaces.
- Coordinating with the 11th Street Bridges Project to complete the portion of this project where the reconstruction of the tunnel affects 11th Street SE.

Post-Construction Commitments

Although these commitments will be provided during construction, they will continue to provide benefits after completion of the Project:

- In the restoration of affected areas of Virginia Avenue SE, the streetscape will be improved from existing conditions by straightening the street between 4th and 5th/6th Streets; the green space will be restore and an enlarged, including the replanting of street trees; sidewalks will be widened and more will be provided, such as on the north side of Virginia Avenue between 7th and 8th Streets; new shared use bike paths connecting Garfield and Virginia Avenue Parks will be provided; the lanes between 5th/6th and 8th Streets will be reduced; and the street lighting, traffic signals and crosswalks will be improved. DDOT and the project sponsor will conduct outreach with the community and other stakeholders to plan the specifics of these enhancements.
- In the restoration of the affected areas of Virginia Avenue Park, additional amenities will be included, such as a new dog park. Additional improvements, including landscaping, will be determined through consultation with NPS, DPR and the community. DPR is expected to lead the public outreach to plan the specifics of the dog park and other park enhancements.
- Restoration of the Marine Corps Recreation Facility to at least their pre-construction conditions, including replacing trees displaced by the Project. The tree replacement plan for the Marine facility will be coordinated with the Marine Corps.
- Improving access to Garfield Park at 2nd Street SE in accordance with the Americans with Disabilities Act.
- Although not directly related to the Project, changing the mandatory practice of requiring every train to blow its horn before entering and exiting the tunnel. Engineers will still have the discretion to use the train horn for safety reasons.
- Replacing public street trees displaced by the Project on a one-to-one ratio based on total diameter at breast height impacts. A tree replacement plan will be coordinated with DDOT Urban Forestry Administration during the landscaping plan development.

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