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1.0 Introduction and Purpose

Temporary traffic impacts due to the project’s construction include extended travel times, reduced speed limits, temporary elimination of on-street parking. Lane closures are also anticipated due to the replacement of the Viaduct Bridges, track construction and intersection improvements. This Maintenance of Traffic (MOT) concept plan describes key strategies and factors to facilitate traffic flow and safety through and around work zones.

As the design of the project is advanced, a more detailed MOT plan would be developed based on the construction phasing for the project. Construction phasing must be sequenced in a manner that maintains services of major transportation facilities while preserving access to adjacent developments.

The MOT plan would include details on how all modes (automobiles, transit, pedestrians, and bicycles) would be accommodated in each phase and address how access, parking, and loading/unloading operations would be provided or maintained. The MOT plan would also include a demolition plan, which would provide a basis for determining the staging areas for the contractor of the major infrastructure elements. Staging is defined as the positioning of equipment and materials during construction. Phasing is defined as the sequencing of construction activities to complete the project. The following topics are the basis of the MOT Plan:

- Phasing Plan
- Staging Areas
- Work Hour Limitations/Restrictions
- Coordination with Local Churches
- Minnesota Avenue Intersection
- Pedestrian Safety and Access
- Project Coordination
- Potential Alternative Routes
- Traffic approaching the construction areas from the north, south, east and west.

Each topic is discussed in more detail in the following sections.

1.1 Phasing Plan

Phasing of construction activities will be sequenced according to the Phasing and Staging Plan as shown in Figure 1. The plan maintains services of major transportation facilities while preserving access to adjacent developments. The demolition plan, which will provide a basis for determining the staging areas for the contractor, will influence the construction phasing of the major infrastructure elements.
Figure 1: Staging and Phasing Plan

Staging and Phasing Plan

- Staging Plan
  - Stage 1 (Intersection Improvements)
  - Stage 2 (Bridge Improvements)
  - Stage 3 (Roadway/Track Improvements)

- Phasing Plan
  - One lane of traffic in each direction for roadway/bridge work
  - Pedestrian Traffic Maintained
  - Safety Warning Signs installed
  - Message Signs/Flagmen maintain Travel
As the project is constructed, one lane of traffic would be maintained on Benning Road in each direction, whether for roadway or bridge work. The roadway work would be constructed in three major stages to accommodate two-way traffic at all times. Pedestrian access and safe mobility would also be accounted for throughout construction. Since vehicle, pedestrian and worker safety is paramount, construction warning signs must be installed to alert all users of construction activities in the area. Use of variable message boards and flagmen would be used to maintain safe travel throughout the corridor. A safety officer shall be designated for the project to ensure compliance with the phasing plan.

General staging of the Viaduct Bridges typically necessitates that the widened side of the bridge to be replaced first. This provides for one existing half of the Viaduct to remain intact maintaining a pedestrian sidewalk and one lane of traffic each way while the other half is removed and replaced. Once the new half of the Viaduct Bridge is built, pedestrian access and vehicle traffic would be moved onto it to allow for removal and replacement of the remaining half of the existing Viaduct Bridge.

There would be additional staging and brief closures at the major intersections that could be scheduled during weekend hours. This is primarily to facilitate installation of the streetcar tracks. The duration of the construction is anticipated to be 36 months.

### 2.0 Staging Areas

To minimize the disruption caused by construction vehicles and equipment, the staging areas should be close to the road or structure that is under construction. This is difficult due to the dense urban setting that the Benning Road corridor is set in. Towards Oklahoma Avenue, the south side of Benning Road has Anacostia Park Section F where the Capitol Grand Prix was held. This site could possibly be used for staging or storage. Additionally, near 42\textsuperscript{nd} Street there is open private land to the north of Benning Road that could be negotiated for temporary construction staging.

### 3.0 Work Hour Limitations/Restrictions

Although a construction schedule has not been developed, the project would likely limit night-time construction activities along certain sections of the project. The proximity of private residences may limit night-time construction activities, especially from Minnesota Avenue to the Benning Road Metrorail Station. However, night work may be necessary for girder erection and other activities that would require lane closures. For the less residential project sections, provisions to allow night work could also shorten construction duration and limit overall inconvenience to the community.
4.0 Coordination with Local Churches

On account of active religious congregations within the project area, close coordination is recommended to minimize disturbance to church activities. During initial public outreach, concern was raised that construction activities could impact several churches along Benning Road, and in particular funerals which utilize Benning Road for hearse loading and unloading. A more detailed and current assessment should be conducted after developing the construction schedule so that regular church activities and schedule disruptions are kept to a minimum.

5.0 Minnesota Avenue Intersection

Bridge reconstruction and track work installation near and through the intersection is expected to make certain turning movements temporarily inaccessible during construction. Likewise, utility relocations would also impact vehicular movements. Alternate routes should be well established and clearly marked to minimize this disruption. Alternative routes have been identified and are described in Section 9 of this document.

6.0 Pedestrian Safety and Access

Throughout construction, safe pedestrian access must be maintained. The south side of Benning Road supports a moderate amount of pedestrian traffic west of Minnesota Avenue. Both the north and south sides of Benning Road support pedestrian movement east of Minnesota Avenue. When the project moves forward to implementation, the project would need to incorporate safety and access considerations into the final design and construction requirements to prevent unmonitored pedestrian access. Safety fencing, signing, temporary curb ramps, and well-delineated, well-lit pedestrian paths would be necessary to safely accommodate pedestrian and bicycle traffic. Specifically, there is a need to maintain pedestrian access over the Benning Road Viaduct Bridge during construction so that at no time is this pedestrian movement prohibited.

7.0 Maintenance of Access Plan

Construction along Benning Road would require a Maintenance of Access (MOA) Plan to maintain pedestrian and vehicular access to residences, businesses and other properties during project construction. Bus stop accessibility would have to be maintained during construction and would need to be addressed particularly for the curb running streetcar alternative (Build Alternative 1).
8.0 Project Coordination

Project coordination has the potential to reduce mobility and safety impacts of work zone activities. Coordinating, sequencing, and scheduling of construction projects would be conducted to minimize motorist delay and impacts on potentially affected businesses and communities. Coordination with non-highway transportation facilities including transit would also be conducted.

9.0 Potential Alternative Routes

The MOT plan would not include a detour plan, i.e., the complete closure of Benning Road during construction operations. It would, however, include an alternate route plan to minimize disruptions and delays through the work zone for the duration of the project. If during design, it is determined that full closure of Benning Road in the work zone is preferred, then it may occur intermittently or during off-peak hours, nights and weekends. The following alternate routes, shown in Figure 2, have been identified for traffic during construction to help minimize disruptions and delays.
10.0 Traffic Approaching East and West

East Capitol Street between Benning Road and C Street: East Capitol Street is a principal arterial and would serve as a primary alternative route to AM and PM traffic going into downtown DC via Anacostia Freeway (DC-295). The intersection of Benning Road and East Capitol Street is a three-lane roadway in both directions separated by a median. Some segments of the median are concrete while other segments are grass. Sidewalks are provided and well-delineated on both sides of East Capitol Street to shield pedestrians from motorists. The segment of East Capitol Street where it crosses over the Anacostia River (Whitney Young Memorial Bridge) continues as a three-lane roadway in both directions with a narrow concrete median and guardrails to protect vehicles and pedestrians. West of the bridge, East Capitol Street terminates at C Street.

C Street; Oklahoma Avenue and 21st Street: C Street is classified as a minor arterial road. It is a three-lane one directional roadway with a sidewalk on the north side. It merges with 21st Street on a circular alignment with the Robert F. Kennedy Memorial Stadium at the center of the roadway. This alternative route would serve AM and PM traffic coming to and from East Capitol Street to connect to Benning Road via 21st Street and Oklahoma Avenue.

Oklahoma Avenue is classified as a collector road between 21st Street and Benning Road. It is a two lane roadway (one lane in each direction) with parking and sidewalks along both sides. It is also a marked bicycle route. The distance from C Street and Oklahoma Avenue is approximately 0.43 miles, making it a short distance for vehicles to access the west section of Benning Road.

21st Street is classified as a collector road between Oklahoma Avenue and Benning Road. It is a two lane roadway (one lane in each direction) with parking and sidewalks along both sides. 21st Street terminates at Oklahoma Avenue, making Benning Road accessible via 21st Street.

11.0 Traffic Approaching North and South

Kenilworth Avenue (DC-295) between Nannie Helen Burroughs Avenue and Benning Road On-Ramp: Kenilworth Avenue is classified as an Other Freeway and Expressway. It will serve as a primary alternate route for local traffic approaching Benning Road from local neighborhoods in close proximity to the study area via Minnesota Avenue and Nannie Helen Burroughs Avenue for both AM and PM traffic during the construction activities on the Viaduct Bridge over DC-295.

Nannie Helen Burroughs Avenue is classified as a minor arterial roadway and has a concrete median to separate vehicles in both directions of traffic flow at the interchange. It lies below the DC-295 off ramp and Kenilworth Avenue via a four-leg signalized intersection.
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