U.S. Department of Transportation

Federal Highway Administration

Maryland Division

RECORD OF DECISION

I-495 & I-270 Managed Lanes Study
Montgomery and Prince George's Counties, Maryland
and Fairfax County, Virginia

Federal Highway Administration, Maryland Division

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I. Decision

This Record of Decision (ROD) was prepared in accordance with National Environmental Policy Act (NEPA) (42 USC § 4321 et seq.), the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500 to 1508), and the Federal Highway Administration (FHWA) Environmental Impact and Related Procedures (23 CFR Part 771).This ROD announces selection of the Preferred Alternative, Alternative 9 – Phase 1 South, as the Selected Alternative for the I-495 and I-270 Managed Lanes Study (Study) located in Montgomery and Prince George's Counties, Maryland, and Fairfax County, Virginia. The FHWA hereby approves the Selected Alternative which includes adding two high-occupancy toll (HOT) managed lanes in each direction along I-495 and the conversion of the existing high-occupancy vehicle (HOV) lane to a HOT managed lane and adding one, new HOT managed lane in each direction on I-270 within the Phase 1 South limits (hereafter "the Project"). The Selected Alternative is fully described in **Section V.2** of this ROD and in the Final Environmental Impact Statement (FEIS), Chapter 3[1].

This decision relies on the Project administrative record, including information and analysis described in the Draft Environmental Impact Statement (DEIS), Supplemental DEIS (SDEIS), FEIS, all supporting technical reports, public and agency comments received during official review periods, and input received throughout the review process from the public and interested local, state, and federal agencies. In making this decision, the FHWA considered the Project's potential impacts and a reasonable range of alternatives under the National Environmental Policy Act (NEPA), Section 4(f) of the US Department of Transportation Act of 1966, 49 USC 303 (c), and many other laws. The final decision balances the need for safe, fast and efficient transportation and public services with the goal of avoiding, minimizing, or mitigating adverse environmental and community effects.

II. Project Location

The 48-mile study corridor or study area limits have remained unchanged throughout the Study: I-495 from south of the George Washington Memorial Parkway in Fairfax County, Virginia, to west of MD 5 and along I-270 from I-495 to north of I-370, including the east and west I-270 spurs in Montgomery and Prince George's Counties, Maryland. The Selected Alternative, Alternative 9 - Phase 1 South (shown in **dark blue** in **Figure 1**), includes build improvements within the limits of Phase 1 South only totaling approximately 15 miles of proposed improvements. The Phase 1 South limits extend from I-495 from the George Washington Memorial Parkway in Virginia to west of MD 187 and along I-270 from I-495 to north of I-370

[1] https://oplanesmd.com/wp-content/uploads/2022/06/MLS_FEIS_03_Preferred-Alternative_June-2022p-1.pdf

and on the I-270 east and west spurs as shown in **dark blue** in **Figure 1**. There is no action, or no improvements, included at this time on I-495 east of the I-270 east spur to MD 5 (shown in **light blue** in **Figure 1**).

Figure 1: I-495 & I-270 Managed Lanes Study Corridors – Selected Alternative

III. Project Background

Congestion has plagued the National Capital Region for decades. The National Capital Region is the most congested region in the nation based on annual delay and congestion per auto commuter. I-495 and I-270 in Maryland are the two most heavily traveled freeways in the National Capital Region and the state of Maryland experiences the second longest commuting times in the nation[2]. Concerns with congestion on I-495 and I-270 and planning to accommodate anticipated future growth have been the subject of numerous studies conducted by the Maryland Department of Transportation State Highway Administration (MDOT SHA), Virginia Department of Transportation (VDOT), and regional planning agencies for many years. (https://oplanesmd.com/environmental/resources/). These studies reflect how the Washington metropolitan area has continued to experience considerable growth, including a population increase of 20.1 percent in Montgomery County and 14.6 percent in Prince George's County between 2000 and 2020. Continued growth is anticipated as the Metropolitan Washington Council of Governments (MWCOG) estimates that between 2020 and 2045, the population of these counties will further increase approximately 16.3 percent and 7.9 percent, respectively.

[2] Specifically, I-495 west of I-270 had an Average Annual Daily Traffic (AADT) of 255,000 vehicles per day and I-270 had an AADT volume over 265,000 vehicles per day in 2019 (MDOT SHA, 2020), FEIS, Chapter 1 (https://oplanesmd.com/wp-content/uploads/2022/06/MLS_FEIS_01_PurposeNeed_June-2022p-1.pdf)

The area adjacent to the study corridors is one of the most intensive employment, residential and transportation corridors in the State. A series of past planning studies[3] (dating back almost 20 years) considered a wide breath of congestion relief solutions within the study corridors. As detailed in the Purpose and Need statement, these studies demonstrated the need in the National Capital Region for a synergistic system of transportation solutions. None of the various analyses supported the principle that any individual highway or transit option could alleviate traffic congestion or accommodate anticipated future demand and is best summarized in the conclusion of the 2002 Capital Beltway/Purple Line Study[4] (2002 Study) which analyzed circumferential rail corridors (approximately 42 miles) along the Capital Beltway Corridor. This analysis concluded: "Congestion on the Beltway itself as well as demand on the other transportation facilities is so great that no single highway or transit improvement will provide significant relief to the long-term demand" (2002 Study, page S-17). It was also recommended that studies of the highway and transit alternatives be conducted separately because transit operates more efficiently if it serves areas where people live and work.

Importantly, these studies considered various transit, highway, and traffic management improvements. For example, the Purple Line was identified as the major transit option. The State opted to move forward with the Purple Line which is currently under construction. These studies evaluated various options of building managed lanes along these highways and means to connect to other regional transportation facilities.

At the same time as Maryland, VDOT proceeded with its own studies and the 495 Express Lanes Northern Extension (495 NEXT[5]) project, which would extend the existing Express Lanes on I-495 in Virginia by approximately three miles from the I-495 and Dulles Toll Road interchange to the vicinity of the ALB. (Refer to **Section V.2** for additional information on this project and MDOT SHA and VDOT's coordination.)

In 2017, the MWCOG's Transportation Planning Board (TPB) evaluated and approved a set of 10 regional initiatives[6] for further study. MWCOG, is an independent, nonprofit association where area leaders address regional issues affecting the District of Columbia, suburban Maryland, and northern Virginia. This group analyzed managed lanes on the portions of I-495 and I-270 included in the Study. For example, Initiative 1. Regional Express Transit Network: Express toll lanes network (free to HOV and transit) with added lanes where feasible on existing limited access highways (including remaining portion of Capital Beltway, I-270, Dulles Toll Road, US 50); includes expanded American Legion Bridge (page 8, https://www.mwcog.org/assets/1/28/07192017_-_Item_8_-_LRPTF_Resolution_R1-2018_and_Memo.pdf). Then, in October 2018, the TPB approved the "Visualize 2045" plan which included a variety of financially constrained projects related to potential toll lanes on I-495 and I-270. The National Capital Region Transportation Planning Board (NCRTPB) updated the Visualize 2045 Long Range Transportation Plan Update and Transportation Sector Greenhouse Gas reduction Goals and Strategies in June of this year.

[3] https://oplanesmd.com/wp-content/uploads/2020/07/DEIS_AppA_PN_web.pdf and https://oplanesmd.com/environmental/resources/

[4] https://oplanesmd.com/wp-content/uploads/2019/07/Capital_Beltway_Purple_Line_Study_2002.pdf

[5] http://www.495northernextension.org/

[6] https://www.mwcog.org/assets/1/28/07192017_-_Item_8_-_LRPTF_Resolution_R1-2018_and_Memo.pdf

In March of 2018, FHWA issued a Notice of Intent to prepare an EIS followed by Scoping Public Workshops in April 2018. The alternatives development phase, described in greater detail in **Section VI** of this ROD and **DEIS, Chapter 2** and **DEIS, Appendix B**, included coordination with and input from federal, state, and local agencies and public outreach. Public input included presentations of the current thinking at relevant times: Preliminary Alternatives in July 2018 and Alternatives Retained for Detailed Study (ARDS) in April to May 2019.

Throughout the Study, the FHWA and MDOT SHA met with and considered input from federal, state, and local agencies as well as the public. The DEIS was published in July 2020 and was made available for formal public and agency review and comment for a 123-day comment period. The SDEIS was published on October 1, 2021 and was prepared to consider new information relative to the Preferred Alternative, Alternative 9 - Phase 1 South. The SDEIS was available for review to the public and agencies for a 60-day comment period.

The FEIS was published on June 17, 2022, and presented the final analyses completed for the Preferred Alternative, design refinements since the SDEIS, as well as responses to comments on the DEIS and SDEIS. The FEIS responds to the over 5,000 public and agency comments received on the DEIS and SDEIS. The FEIS was available for a 30-day review period between the publication of the FEIS and the ROD. During this 30-day period, public comments were received and considered by FHWA and MDOT SHA. New and substantive comments received during the FEIS review period are summarized in **Section XI** and **Appendix D** of this ROD.

The advancement of conceptual mitigation for unavoidable effects to environmental resources from the Selected Alternative has occurred during each of the NEPA Document milestones for the Study: the DEIS, SDEIS and FEIS. The final mitigation was based on priorities identified by the Officials with Jurisdiction (OWJ) and regulatory agencies over the resource to achieve no net loss, with a goal of net benefit. FHWA will require the MDOT SHA, as part of this approval, to implement the extensive mitigation and commitments planned for this Project and described in **Appendix A** of this ROD, and stipulations negotiated as part of an approved Programmatic Agreement concerning adverse effects to cultural and historic resources, **Appendix C** of this ROD. The mitigation and commitments address the full range of resources discussed in the EIS documents: water resources (wetlands, floodplains, groundwater hydrology, watershed and surface waters); forests (including vegetation and terrestrial habitat); rare, threatened, and endangered species; terrestrial wildlife; aquatic biota; parks and recreational facilities; unique and sensitive areas; historical, architectural, and archaeological resources; noise; air quality; property acquisitions; hazardous materials; topography, geology, and soils; community facilities; environmental justice; and visual/aesthetic resources.

The website for Op Lanes Maryland Program and the Project (https://oplanesmd.com/) has been and will continue to be maintained to provide updates, announcements and access to project documents following the ROD.

IV. Purpose and Need

As described above in **Section III**, improvements to address the severe congestion on I-495 and I-270 have been evaluated for decades, with similar consensus regarding the need for highway, transit and other transportation management measures. The congestion on these corridors also has negative effects on

access to and usage of other transportation modes. Besides enhanced performance on I-495 and I-270 themselves, improvements to provide congestion relief on these facilities will also enhance existing and proposed multimodal transportation services by improving connectivity and mobility through enhancing trip reliability and providing additional travel choices for efficient travel during times of extensive congestion. Improved direct and indirect connections to park and ride lots, Metrorail, bus and other transit facilities are anticipated to occur as a result of addressing congestion on these regional roadways, thus providing a system of systems approach to addressing overall transportation needs in the National Capital Region.

The Study Purpose and Need Statement was developed through a collaborative process with other federal, state and local agencies and the public during the NEPA scoping process that included examination of multiple transportation and regional planning studies that had been conducted over the past 20+ years, and an analysis of the environmental and socioeconomic conditions of the region. Refer to **DEIS, Appendix A** for the Purpose and Need Statement (https://oplanesmd.com/wp-content/uploads/2020/07/DEIS_AppA_PN_web.pdf).

This Study analyzed travel demand management solution(s) and reasonable alternatives that address these identified needs of the study area. The Project purpose is to address congestion, improve trip reliability on I-495 and I-270 within the study limits and enhance existing and planned multimodal mobility and connectivity.

The needs for the Study are:

- Accommodate Existing Traffic and Long-Term Traffic Growth
- Enhance Trip Reliability
- Provide Additional Roadway Travel Choices
- Improve Movement of Goods and Services
- Accommodate Homeland Security.

Two goals for the Study were identified in addition to the needs: 1) the use of alternative funding approaches for financial viability and 2) environmental responsibility.

For additional details on the Study's Purpose and Need refer to:

- DEIS, Chapter 1: Purpose and Need (https://oplanesmd.com/wp-content/uploads/2020/11/2020-06-02_DEIS_01_Purpose_and_Need.pdf)
- DEIS, Appendix A: Purpose and Need Statement (https://oplanesmd.com/wp-content/uploads/2020/07/DEIS_AppA_PN_web.pdf)
- SDEIS, Chapter 1: Purpose and Need (https://oplanesmd.com/wp-content/uploads/2021/09/SDEIS_01_PurposeNeed.pdf)
- FEIS, Chapter 1: Purpose and Need (https://oplanesmd.com/wp-content/uploads/2022/06/MLS_FEIS_01_PurposeNeed_June-2022p-1.pdf)

V. Alternatives Considered

A. No Build Alternative

The No Build Alternative, often called the base case, includes all other projects in Visualize 2045 adopted by the MWCOG, TPB in 2018, except improvements considered under this Study. Specifically, the Visualize 2045 reflects the extension of the I-495 express lanes in Virginia from the Dulles Toll Road interchange to the George Washington Memorial Parkway. The No Build Alternative also includes the I-270 Innovative Congestion Management (ICM) project, which is providing a series of improvements to address mobility and safety at key points along I-270 targeted to reduce congestion at key bottlenecks along the corridor. All ICM improvements are anticipated to be completed by the end of 2022. While the ICM improvements will improve mobility and safety, they will not address the long-term capacity need for the I-270 corridor.

The No Build Alternative also includes the Visualize 2045 transit improvement projects including the Purple Line, improvements to MARC, and the construction of a BRT network. The MDOT Maryland Transit Administration (MTA) and Montgomery County have Bus Rapid Transit (BRT) studies underway to provide additional travel choices and relieve congestion on the adjacent roadway networks.

Routine maintenance and safety improvements along I-495 and I-270 are included in the No Build Alternative. However, it does not include new capacity improvements to I-495 and I-270. The No Build Alternative does not meet the Study's Purpose and Need and is only retained for the purposes of comparison with the Build Alternatives in accordance with the regulations for implementing NEPA (40 CFR §1502.14(d)).

B. Alternative 9 – Phase 1 South (Selected Alternative)

As outlined in the FEIS, the Selected Alternative is anticipated to address the Study's Purpose and Need concerning existing and future congestion in at least the following ways.

Reduce system-wide delay for the entire study area by 13% during the AM peak period and by 38% during the PM peak period compared to 2045 No Build conditions. [FEIS, page 4-10]

Improve travel speeds and provide the option for a free flow trip in the HOT managed lanes with an average speed of 60 mph, see Table 4-6 [FEIS, page 4-12], and provide benefits to the existing lanes by improving average speeds in the general purpose lanes by four mph on average throughout the study corridors during peak periods compared to the No Build condition. Detailed corridor travel speed results by peak hour and direction for the general purpose lanes and the managed lanes are provided in Table 4-7. [FEIS, page 4-13]

Provide increased throughput by 2,000 vehicles per hour compared to the No Build Alternative, from an average of 15,700 vehicles per hour to an average of 17,700 vehicles across the ALB and on I-270 north to I-370 while reducing congestion. [FEIS, page 4-15]

Reduce delay on surrounding local roadways, including a 4.8% reduction in daily delay on the arterials in Montgomery County, with some localized increases in arterial traffic near the managed lane access interchanges. [FEIS, page 4-17]

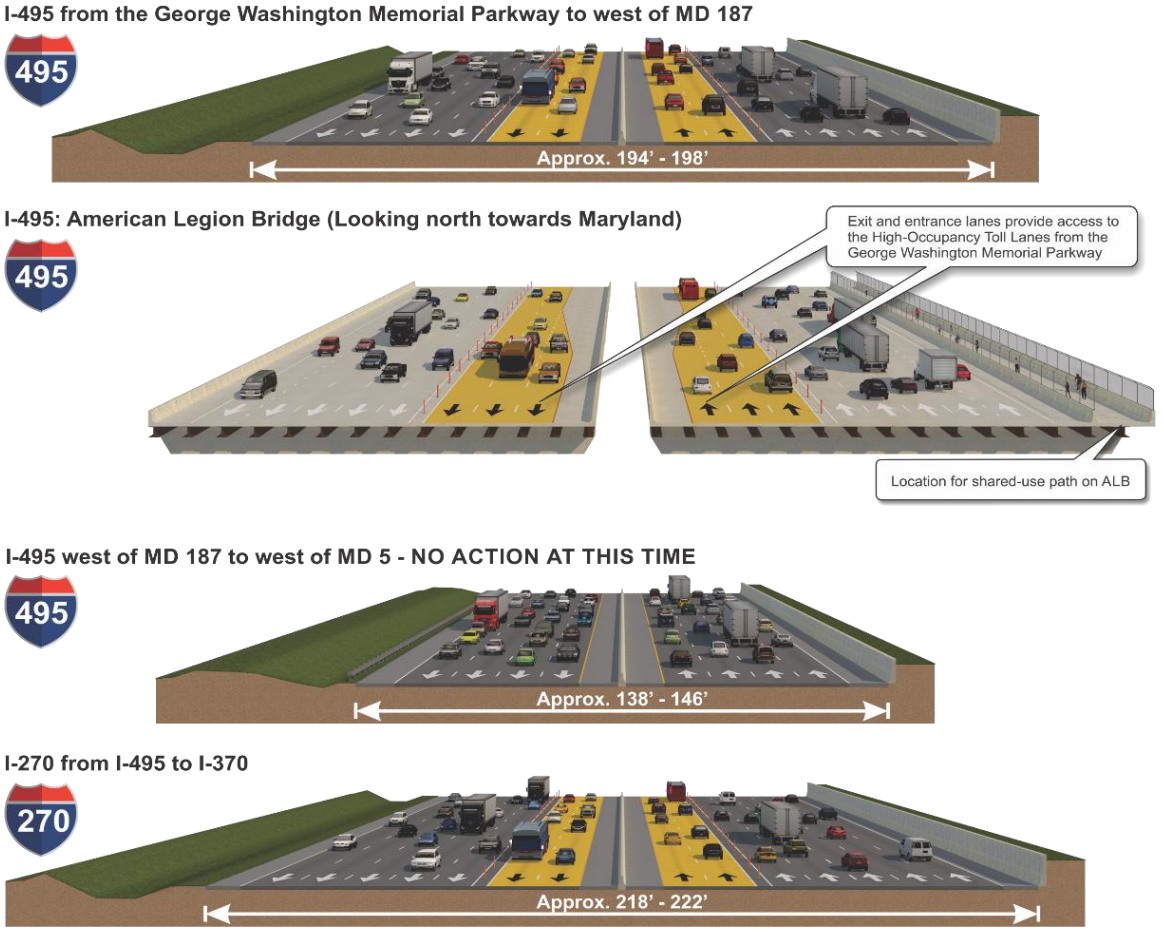
Some congestion would still be present during the PM peak period on I-270 northbound and the I-495 inner loop in the design year of 2045 due to downstream bottlenecks outside of the Selected Alternative limits, but travelers on most corridors would experience significantly faster, more reliable trips.

The Selected Alternative reflects no action or improvements on I-495 east of the I-270 east spur to MD 5 (Figure 1). The elements of the Selected Alternative are described in the following sections and include: alignment and cost, interchanges and HOT managed lanes, transit-related elements, pedestrian and bicycle facilities, stormwater management, cross culverts, and tolling.

Alignment and Cost

On I-495, the Selected Alternative consists of adding two new, HOT managed lanes in each direction from the George Washington Memorial Parkway to west of MD 187. The extent of work along I-495 between the I-270 west and east spurs is limited to west of MD 187. On I-270, the Selected Alternative consists of converting the one existing HOV lane in each direction to a HOT managed lane and adding one new HOT managed lane in each direction from I-495 to just north of I-370 and on the I-270 east and west spurs. The proposed typical sections for the Selected Alternative along I-495 and I-270 are shown in **Figure 2**. The HOT managed lanes will be separated from the general purpose lanes using flexible delineators placed within a buffer, as shown in **Figure 2**. Transit buses and HOV 3+ vehicles will be allowed free passage in the HOT managed lanes.

Figure 2: Alternative 9 - Phase 1 South Typical Sections (HOT Managed Lanes Shown in Yellow)



Along I-270, the existing collector-distributor (C-D) lane separation from Montrose Road to I-370 will be removed as part of the proposed improvements. MDOT SHA included this proposed lane reconfiguration and repurposing of pavement on I-270 for the Build Alternatives in the DEIS to address the current imbalanced traffic utilization along the C-D Road segment and in response to public comments to keep the improvements within the existing pavement footprint. The proposed improvements will tie into the existing C-D road segment that would remain along northbound I-270 north of I-370. As a result, the amount of roadway widening along I-270 needed for the Selected Alternative is minimized.

Virginia's 495 Express Lanes Northern Extension (495 NEXT) project would extend the existing Express Lanes on I-495 in Virginia by approximately three miles from the I-495 and Dulles Toll Road interchange to the vicinity of the ALB. The project needs[7] are reduce congestion and improve roadway safety, provide additional travel choices, and improve travel reliability. The 495 NEXT will provide new and improved express lanes connections at the Dulles Corridor and George Washington Memorial Parkway interchanges. The Selected Alternative will overlap and tie-in with the 495 NEXT improvements on I-495 at the George Washington Memorial Parkway interchange. MDOT has coordinated closely with the Virginia Department of Transportation (VDOT), a Cooperating Agency on the Study, to refine the preliminary design concept to consolidate and provide compatible movements at the interchange. Specifically, design concepts at the George Washington Memorial Parkway interchange, along I-495 in Virginia south of the ALB, consolidates movements and provides coordinated movements with the recently approved 495 NEXT in Virginia. Other than buses, vehicles with greater than two axles are not currently permitted to use the Express Lanes in Virginia. The HOT lanes in Maryland will not prohibit vehicles that are permitted to use the HOT lanes. The interchange at the George Washington Memorial Parkway has been designed to accommodate this difference in the Virginia Express Lanes and Maryland HOT lanes. The Selected Alternative also adds a pair of exchange ramps to provide vehicles the opportunity to exit the managed lanes along the I-270 west spur north of I-495 in Maryland.

Additionally, MDOT SHA's ongoing I-270 ICM project is providing a series of improvements to address mobility and safety at key points along I-270 targeted to reduce congestion at bottlenecks along the corridor in the short-term. Elements of the ICM that will be maintained within the Selected Alternative limits include ramp metering; the additional auxiliary lane added in both directions along the I-270 west spur and I-270 mainline up to Montrose Road; and auxiliary lanes in both directions along I-270 between the MD 189 and MD 28 interchanges.

The limit of disturbance (LOD) is the proposed boundary within which all mainline construction, construction access, staging, materials storage, grading, clearing, erosion and sediment control, landscaping, drainage, stormwater management, noise barrier replacement/construction, and related activities would occur. The LOD for the Selected Alternative was determined from the proposed roadway typical section, interchange configuration, and roadside design elements and is shown on the *Environmental Resource Mapping* (**FEIS, Appendix E**).

The preliminary, estimated capital cost for the Selected Alternative in 2022 dollars ranges between $3.75 and $4.25 billion. The cost range in year or expenditure (YOE) dollars, which accounts for inflation between now and when the project is anticipated to be constructed (2026), is between $4.5 and $5.0 billion. The methodology, assumptions, and components of the cost estimate have been refined since the

[7] http://www.495northernextension.org/about_the_study/default.asp

SDEIS based on the level of information available and the preliminary design concept presented in the FEIS. This estimate includes costs for preliminary and final design, construction, property acquisition, and environmental mitigation commitments. The cost estimate was prepared using major quantities in accordance with the MDOT SHA Highway Construction Cost Estimating Manual with additional construction elements quantified and appropriate contingencies added based on past construction experience and engineering judgment to reflect the increased level of detail available at this time. The cost estimate also includes costs for design and construction risks determined through a cost and schedule risk assessment (CSRA) workshop completed with FHWA in spring 2022.

Interchanges and HOT Managed Lanes

There are a total of 34 existing interchanges within the study limits, with 14 existing interchanges within the limits of Phase 1 South of the Selected Alternative. All 14 interchanges within Phase 1 South will be modified as needed to accommodate the managed lanes. The HOT managed lanes traveling in the same direction as the general purpose lanes would be separated from the general purpose lanes by a buffer and flexible delineators as shown in the typical sections (**Figure 2**). Access to and from the HOT managed lanes would be provided via direct access ramps at select existing interchanges; direct access ramps at two new interchanges; exchange ramps between Virginia and Maryland where ingress to the Maryland HOT managed lanes from the general purpose lanes along the inner loop and egress from the Maryland HOT managed lanes to the general purpose lanes along the outer loop would be provided; exchange ramps providing ingress to and egress from the HOT managed lanes in both directions along the I-270 West Spur; and at the limits of the build improvements for the Selected Alternative.

In total, access to and from the HOT managed lanes is proposed at nine locations (five existing interchanges, two new interchanges, and two exchange ramp locations), as well as at the termini of the HOT managed lanes along I-495 west of MD 187, along the I-270 east spur south of MD 187, and along I-270 north of I-370. The interchanges that will be modified as part of the Selected Alternative are listed in **Table 1**.

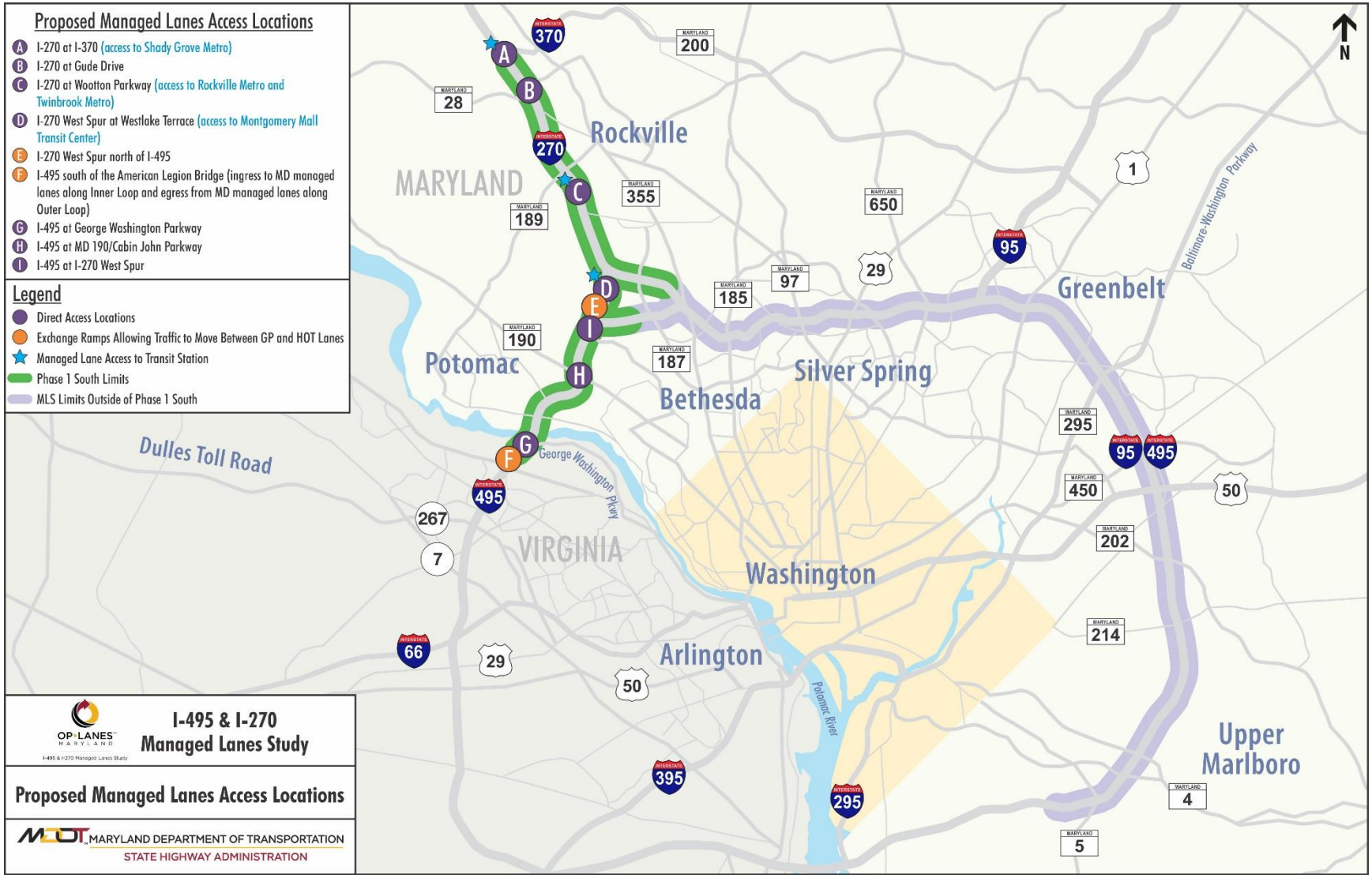
Table 1: Interchange Improvements/HOT Managed Lane Access Locations under Selected Alternative

Location	Modification
Interface with Virginia I-495 HOT Lanes south of the ALB (see location 'F' on Figure 3)	• Exchange ramp from Maryland HOT managed lanes to Virginia general purpose lanes (outer loop only) • Exchange ramp from the Virginia general purpose lanes to Maryland HOT managed lanes (inner loop only)
I-495/George Washington Memorial Parkway Interchange (see location 'G' on Figure 3)	• Direct access to HOT managed lanes in Maryland • Adjusted interchange ramps to accommodate widened mainline
I-495/Clara Barton Parkway Interchange	• Adjusted interchange ramps to accommodate widened mainline
I-495/MD 190/Cabin John Parkway Interchange (see location 'H' on Figure 3)	• HOT managed lanes direct access interchange • Adjusted interchange ramps to accommodate widened mainline
I-495/I-270 west spur Interchange (see location 'I' on Figure 3)	• HOT managed lanes direct access interchange • Reconstructed interchange to accommodate HOT managed lanes
I-495/MD 187 Interchange	• No proposed interchange improvements

Location	Modification
I-495/I-270 east spur/MD 355 Interchange	• No proposed interchange improvements
I-495/MD 185 Interchange	• No proposed interchange improvements
I-495/MD 97 Interchange	• No proposed interchange improvements
I-495/US 29 Interchange	• No proposed interchange improvements
I-495/MD 193 Interchange	• No proposed interchange improvements
I-495/MD 650 Interchange	• No proposed interchange improvements
I-495/ I-95 Interchange	• No proposed interchange improvements
I-495/US 1 Interchange	• No proposed interchange improvements
I-495/Greenbelt Metro Interchange	• No proposed interchange improvements
I-495/MD 201 Interchange	• No proposed interchange improvements
I-495/Baltimore-Washington Parkway Interchange	• No proposed interchange improvements
I-495/MD 450 Interchange	• No proposed interchange improvements
I-495/US 50 Interchange	• No proposed interchange improvements
I-495/MD 202 Interchange	• No proposed interchange improvements
I-495/Arena Drive Interchange	• No proposed interchange improvements
I-495/MD 214 Interchange	• No proposed interchange improvements
I-495/Ritchie Marlboro Interchange	• No proposed interchange improvements
I-495/MD 4 Interchange	• No proposed interchange improvements
I-495/MD 337/Suitland Road Interchange	• No proposed interchange improvements
I-495/MD 5 Interchange	• No proposed interchange improvements
I-270 west spur north of I-495 (see location 'E' on Figure 3)	• Exchange ramps allowing ingress to and egress from the HOT managed lanes to general purpose lanes
I-270 west spur/Democracy Boulevard Interchange	• Adjusted interchange ramps to accommodate widened mainline
I-270 west spur/Westlake Terrace Interchange (see location 'D' on Figure 3)	• Repurposed existing HOV only ramps to/from north to HOT managed lanes direct access ramps • Added HOT managed lanes direct access ramps to/from south
I-270 Y-Split Interchange	• Reconstructed interchange to accommodate HOT managed lanes
I-270/Montrose Road Interchange	• Adjusted interchange ramps to accommodate widened mainline
I-270/Wootton Parkway Interchange *(new interchange)* (see location 'C' on Figure 3)	• New interchange for HOT managed lanes direct access only
I-270/MD 189 Interchange	• Reconfigured interchange ramps to accommodate widened mainline
I-270/MD 28 Interchange	• Adjusted interchange ramps to accommodate widened mainline
I-270/Gude Drive Interchange *(new interchange)* (see location 'B' on Figure 3)	• New interchange for HOT managed lanes direct access only
I-270/Shady Grove Road Interchange	• Adjusted interchange ramps to accommodate widened mainline
I-270/I-370 Interchange (see location 'A' on Figure 3)	• HOT managed lanes direct access interchange (to/from south only) • Adjusted ramps to accommodate widened mainline
I-270 east spur/MD 187/Rockledge Drive Interchange	• Adjusted interchange ramps to accommodate widened mainline

1 Note: The rows shaded in blue indicate HOT managed lanes access locations.

Figure 3: Selected Alternative HOT Managed Lanes Access Locations



Transit-Related Elements

Severe congestion on I-495 and I-270 adversely affects the regional and local roadway network, especially in and around the interchanges and arterial roads in the study area. The congestion on these corridors also has negative effects on access to and usage of other transportation modes. Besides enhanced performance on I-495 and I-270 themselves, improvements to provide congestion relief on these facilities will also enhance existing and proposed multimodal transportation services by improving connectivity and mobility through enhancing trip reliability and providing additional travel choices for efficient travel during times of extensive congestion. Improved direct and indirect connections to park and ride lots, Metrorail, bus and other transit facilities are anticipated to occur as a result of addressing congestion on these regional roadways, thus providing a system of systems approach to addressing overall transportation needs in the National Capital Region.

The Selected Alternative includes transit-related elements that provide access/connectivity and enhance mobility for transit vehicles and passengers to support the Study's purpose of enhancing existing and planned multimodal mobility and connectivity. Additionally, MDOT SHA has prepared the Transit Service Coordination Report as the initial product from the I-495 & I-270 Managed Lanes Transit Work Group to assist affected counties and transit providers in prioritizing capital and operating investments(https://oplanesmd.com/transit-service-coordination-report/).

MDOT SHA has identified opportunities to enhance transit mobility and connectivity as part of the Selected Alternative. These include the following elements, which were documented in the SDEIS and FEIS:

- Free bus transit usage of the HOT managed lanes to provide an increase in speed of travel, assurance of a reliable trip, and connection to local bus service/systems on arterials that directly connect to activity and economic centers.
- Access from the proposed HOT managed lanes to existing transit stations and planned Transit Oriented Development via direct and indirect connections. A direct connection is where the HOT managed lanes ramps connect to an arterial at or near the location of a transit facility like at the Westfield Montgomery Mall Transit Center on Westlake Terrace. A connection is considered indirect where the transit facility is not adjacent to, but in relatively close proximity to the HOT managed lanes access point, like at the Shady Grove Metro Station on I-370, and the Twinbrook and Rockville Metro Stations near Wootton Parkway. New or existing bus routes can take advantage of the relative proximity to the HOT managed lanes for express bus service or other direct connections.
- Construct new bus bays at Washington Metropolitan Area Transit Authority's Shady Grove Metrorail Station and increase parking capacity at the Westfield Montgomery Mall Transit Center.

MDOT SHA and the Public-Private Partnership (P3) Developer have committed to additional regional transit improvements and investments in transit services and projects as part of the P3 Agreement. Refer to **FEIS, Chapter 7, Section 7.3 and ROD, Appendix A, Table 2**. While these commitments are not required as part of the Project, the Study efforts identified these additional means to enhance existing and planned transit and support new opportunities for regional transit service, including:

- Construct and equip the Metropolitan Grove Operations and Maintenance Facility including the necessary bus fleet.
- After financial close of the Phase 1 South Section P3 Agreement, fund not less than $60 million from the Development Rights Fee provided by the P3 Developer for the design and permitting of high priority transit investments in Montgomery County
- Provide not less than $300 million of additional transit investment funding inclusive of the P3 Developer's proposed transit investment to implement high priority transit projects in Montgomery County over the operating term of Phase 1 South.
- Working with Montgomery, Frederick, and Prince George's Counties to expand transit fare subsidies for eligible low-income riders.
- Design and construct the ALB such that a future capital improvement project will have one or more feasible options to achieve the full design and implementation of a transit line across the ALB. These options will be enabled by designing the northbound and southbound structures to not preclude a possible future transit line including the addition of foundation and substructure elements.

Pedestrian and Bicycle Facilities

The Selected Alternative reflects a commitment to provide pedestrian and bicycle connectivity and mobility in the study area consistent with comments received throughout the NEPA process. Existing pedestrian and bicycle facilities impacted by the Selected Alternative would be replaced in kind or upgraded to meet the current master plan[8] recommended facilities. Provision of these upgraded facilities would be subject to maintenance agreements between MDOT SHA and the local jurisdictions in compliance with Maryland law. The design approach for facilities along crossroads where the crossroad bridge would be reconstructed is to replace, upgrade, or provide new pedestrian/bicycle facilities (that are consistent with the current master plan), where adjacent connections on either side of the bridge currently exist. Where the I-495 and I-270 mainline or ramps cross over a roadway or pedestrian/bicycle facility and the bridge would be replaced, the mainline and ramp bridges would be lengthened to accommodate the footprint for the master plan facility under the structure. The two locations where lengthening of the mainline bridges is included in the Selected Alternative are described below and included in **Section 3.2.2** in **Chapter 3** of the **FEIS**:

- Lengthen the I-495 bridge over Seven Locks Road to accommodate pedestrian/bicycle facilities along Seven Locks Road. MDOT has committed to constructing the master plan recommended facilities along Seven Locks Road

- Lengthen the I-270 bridge over Tuckerman Lane to accommodate future pedestrian/bicycle facilities along Tuckerman Lane. Montgomery County would construct the master plan recommended facilities along Tuckerman Lane in the future.

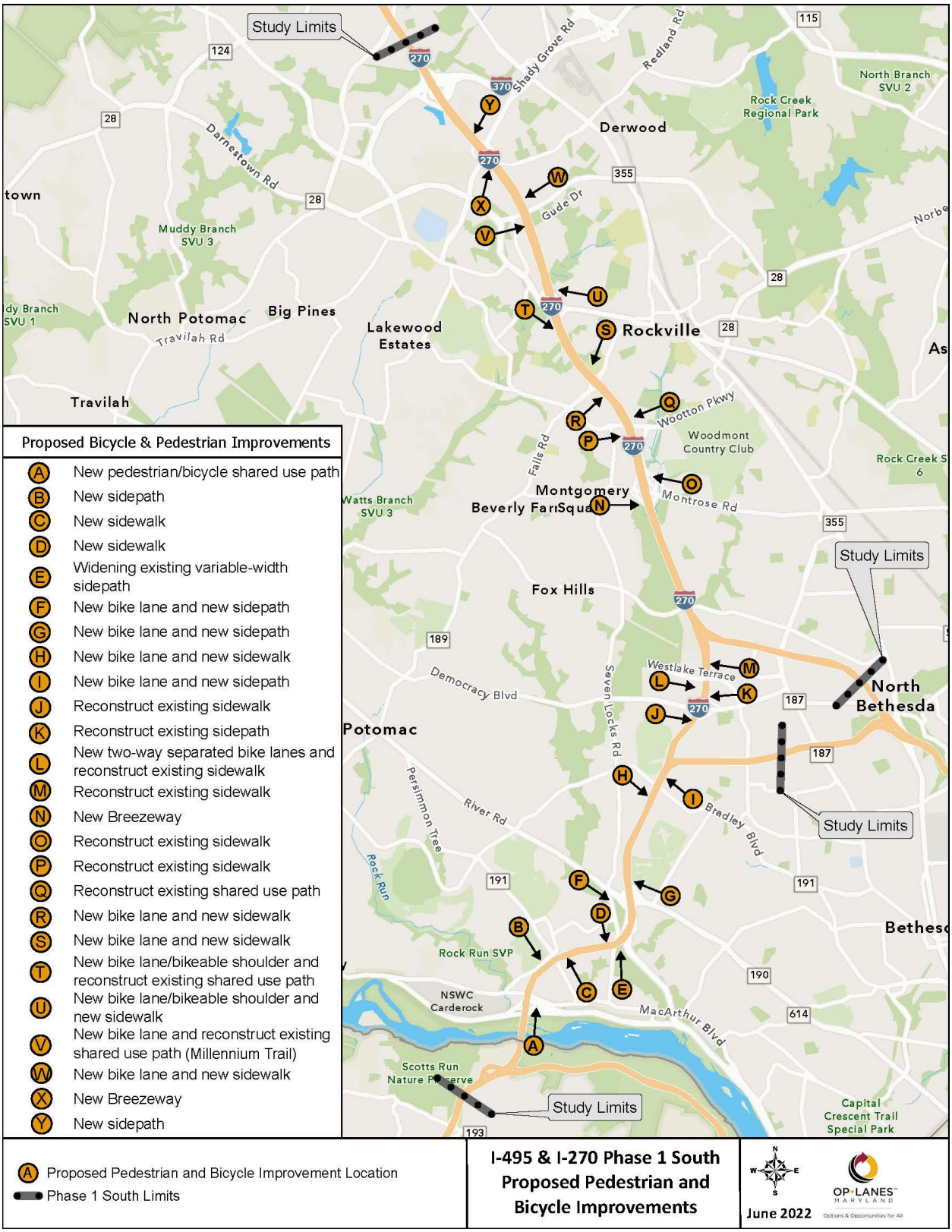
In response to public comments supporting a direct connection of the shared use path from the ALB to the Chesapeake and Ohio Canal towpath, a direct connection to the Chesapeake and Ohio Canal towpath has been incorporated into the Selected Alternative's preliminary design and final impact analysis. The

[8] MDOT SHA Bicycle Policy & Design Guidelines (January 2015), Montgomery County Planning Department's Bicycle Facility Design Toolkit (May 2018), and City of Rockville's Bikeway Master Plan (April 2017)

direct connection to the Chesapeake and Ohio Canal towpath results in fewer NPS property and natural resource impacts. MDOT SHA and the Developer will continue to coordinate with NPS to review the condition of the existing connection(s) to the east and west of the ALB between the Chesapeake and Ohio Canal towpath and the MacArthur Boulevard sidepath outside of the study area to ensure the existing connection(s) can handle any increased usage from the new shared use path connection to the Chesapeake and Ohio Canal towpath. The alignment of the proposed shared use path connection to the Chesapeake and Ohio Canal towpath is shown in the **FEIS, Appendix E**.

The proposed pedestrian and bicycle facilities that would be constructed as part of the Selected Alternative are listed in **Table 3-2** in **Chapter 3** of the **FEIS** and shown in **Figure 4** of this ROD. Identification of the proposed pedestrian and bicycle facilities was conducted during the NEPA process in coordination with the Maryland-National Capital Park and Planning Commission (M-NCPPC), the Montgomery County Department of Transportation (MCDOT), and the City of Rockville. Coordination with these key agency stakeholders will continue through final design. The new facilities or upgrades included in the Selected Alternative were designed at a planning level in accordance with MDOT SHA, Montgomery County, or City of Rockville design requirements, including consideration of the recent Montgomery County Complete Streets Design Guide.

Figure 4: Bicycle and Pedestrian Improvements



Stormwater Management

The *Maryland Stormwater Management Act of 2007* emphasizes environmental site design (ESD) and consideration of SWM early in the planning stage of a project to better balance transportation needs, right-of-way considerations, and requirements of the Act, which include both water quality (i.e., ESD) and water quantity management. Water quality management treats the first flush of rainfall to remove pollutants and improve downstream conditions. Water quantity management stores and slowly releases water to reduce downstream flooding.

The Selected Alternative will be required to meet all SWM permitting requirements for Maryland and Virginia, which includes both water quality treatment and water quantity control. In Maryland, water quality treatment must be provided onsite to the maximum extent practicable for all new impervious area and a minimum of 50 percent of reconstructed existing impervious area to mimic the runoff characteristics of woods in good conditions.

MDOT SHA reevaluated stormwater needs and locations for the overall Project management approach during the NEPA process using a more detailed volume-based analysis and developing a SWM Concept. The SWM Concept applies standard Maryland Department of the Environment (MDE) approved hydrology and hydraulic procedures, which includes a volumetric approach for calculating stormwater credit. A total of 167 Points of Investigation (POI) or Lines of Investigation (LOI), defined as locations where project-related stormwater runoff leaves the MDOT SHA right-of-way, were identified for Phase 1 South. Required and provided stormwater needs were then tabulated for each POI/LOI. A planning-level, conceptual identification of stormwater management (SWM) needs was considered throughout the Phase 1 South limits when establishing the LOD for the Selected Alternative.

The total impervious area requiring treatment (IART) was determined for the Selected Alternative and is presented in **Table 2** below. A total of approximately 116 acres of new impervious area is anticipated for Phase 1 South. All new impervious area will need to be treated for both water quality and water quantity. In addition, approximately 72 acres of existing impervious area will require water quality treatment and approximately 22 acres of existing water quality treatment is expected to be impacted by the Project and must be replaced.

Table 2: Stormwater Management Requirements for the Selected Alternative

IART from Loss of Water Quality (ac)	IART from Redevelopment (ac)	IART from New Development (ac)	Total IART (ac)
21.75	72.03	116.20	209.98

Note: Stormwater requirements are for work in Maryland only.

Proposed SWM facilities for the FEIS include wet ponds, extended detention ponds, underground quantity facilities, submerged gravel wetlands, grass swales, bioswales, micro-bioretentions, bioretentions, underground sand filters, etc. The proposed, large surface SWM features are shown on the *Environmental Resource Mapping* (**FEIS, Appendix E**). Due to existing site constraints, the estimated impervious area treated (IAT) onsite for the Selected Alternative is 207.59 acres and the estimated remaining IART must be treated off-site using compensatory SWM is 2.39 acres.

The Compensatory SWM Mitigation Plan, **FEIS, Appendix D** provides compensatory SWM sites to meet the target IART for the Selected Alternative through use of mainly environmental site design SWM facilities within the same MDE 12-digit and/or 8-digit watershed Washington Metropolitan (No. 021402). The amount of compensatory IAT identified, 27.39 acres, exceeds the need of 2.39 acres. The plan includes an excess of potential compensatory SWM sites to allow for the more detailed analysis performed during final design. Detailed design will include avoidance and minimization of impacts that may result from SWM sites. In addition, the use of alternate sites which could have fewer, or no impacts, will be considered in final design.

The Selected Alternative will also include work in Virginia, located between the George Washington Memorial Parkway and the southern bank of the Potomac River. Coordination with VDOT on the 495 NEXT project is ongoing and will continue through final design. The preliminary stormwater analysis identified a pond retrofit and expansion to meet both the water quantity and quality requirements. Preliminary calculations indicated that the retrofit would provide both two-year and ten-year management. In addition, the retrofit is estimated to provide between 75 and 90 percent of the required nutrient load reduction. Credits for the remaining required nutrient load reduction can be purchased from a Nutrient Credit Bank. The exact nutrient load credits to be purchased will be determined during final design.

Cross Culverts

All major cross culverts, defined as culverts 36 inches in diameter or greater with a drainage area greater than 25 acres, were identified and analyzed to determine if they would need additional capacity in the proposed conditions. Major culverts were identified by desktop analysis using the MDOT SHA large and small structure database; LiDAR (light detection and ranging) topographic data with one-foot contours; the MDOT SHA NPDES database; and field observations.

If an existing culvert crossing is predicted to need additional capacity in the proposed conditions, then an auxiliary culvert has been proposed to meet the need. It was assumed that the auxiliary culverts could be installed using trenchless technologies (installing the culvert underground without disturbing the existing road) so as not to disrupt traffic traveling on the existing road. The LOD of the Selected Alternative includes all areas identified for culvert augmentation and shown in the mapping in **FEIS, Appendix E**.

Detailed hydrologic and hydraulic analysis will be completed during final design to confirm that augmentation is required. The detailed design will utilize additional data, including roadway and stream topographic survey, to analyze each culvert crossing location more thoroughly and will assess the hydraulic impacts associated with augmentation to confirm that the proposed design will meet the regulatory requirements. The increased capacity from culvert augmentation can lead to increased downstream discharges and velocities, which may result in increased downstream flooding. The addition of a culvert barrel can also lead to redistribution of channel flows and sediment transport, leading to aquatic organism passage barriers. Culvert augmentations will be designed with these considerations in mind. During final design, it is possible that culvert augmentation will not be needed at some previously identified locations or will be needed at other additional locations based on the detailed design.

MDOT SHA also refined the approach to relocate, pipe, or maintain the existing alignment of Thomas Branch located along the I-270 west spur. The Selected Alternative design concept proposes to eliminate

the existing culvert crossing of the I-270 west spur north of Democracy Boulevard to reduce the total length of culvert along Thomas Branch and maintain portions in an open channel.

Tolling

The Selected Alternative includes tolling of the HOT managed lanes as a variably priced facility that will utilize dynamic pricing. The toll rates and toll rate ranges were determined through a multi-step process that is codified in Maryland law and regulation [Transportation Article §4-312 of the Annotated Code of Maryland and COMAR Title 11 Department of Transportation, Subtitle 07 Maryland Transportation Authority DTA, Chapter 05 Public Notice of Toll Schedule Revisions (11.07.05)], which provides for public input through public hearings.

Maryland law requires the establishment of toll rate ranges for variably priced facilities, including those utilizing dynamic pricing, which is a method of calculating the toll where the pricing mileage rate varies within the approved toll rate range in real time. A dynamic facility uses operational metrics to adjust the toll in real time to maintain free-flowing traffic by using pricing factors to influence the traffic flow—when lanes become more congested, the toll increases, and when the lanes become less congested, the toll decreases. The toll rates within each tolling segment could change as often as every five minutes based on real-time traffic volumes or speed in the HOT lanes to provide customers who choose to use the HOT lanes and pay a toll, a faster and more reliable trip. Customers will pay the toll rate in effect when they enter the managed lanes, regardless of toll rate changes that occur in any tolling segment during their trip.

The toll rate ranges were approved by the Maryland Transportation Authority (MDTA) Board in Fall 2021 and include minimum and maximum toll rate ranges, soft rate caps, a process for annual toll escalation, and toll discounts for certain types of vehicles. Refer to **Table 3**. The toll rate ranges are limited to only Phase 1 South. Any action to set, revise and fix tolls outside of Phase 1 South limits would require a separate toll setting process in accordance with State law.

The goal of the HOT managed lanes is to maintain free-flowing traffic by using pricing factors to influence traffic flow. The Selected Alternative was designed to maintain speeds of 45 mph or greater in the HOT managed lanes, in compliance with Title 23 United States Codes (U.S.C.) 129 and 166.

MDTA spent more than two years conducting due diligence activities on the toll rate range proposal which included traffic and revenue studies, post-model processing, and feedback from potential developers. The approved toll rate ranges are provided below in cost per mile ($/mile) for a passenger vehicle. The rate ranges for other vehicle classifications can be found on the MDTA webpage at https://mdta.maryland.gov/ALB270TollSetting/TollRateRangeSettingProcessAndApprovedTollRateRanges. The toll rate ranges will only apply to the HOT managed lanes; the existing free general purpose lanes will not be tolled. Customers will pay the toll rate in effect when they enter the managed lanes, regardless of toll rate changes that occur in any tolling segment during their trip. In addition, the approved rates include discounts for qualifying vehicles—including HOV 3+ (including carpools and vanpools), buses and motorcycles.[9]

[9] Other exemptions, such as emergency vehicles during emergency response, have been agreed upon as part of the toll operations between MDTA, MDOT SHA and the Developer.

Table 3: Approved Toll Rate Ranges, Soft Rate Caps, and Discounts[1] for Passenger Vehicle (2-axle) by Payment Type for the I-495 & I-270 Managed Lanes Study

General Purpose Lanes	HOT Managed Lanes					
	Payment Type	Approved Toll Rate Ranges for Passenger Vehicle (2-axle) (2021 $/mile)			HOV 3+ Vanpools Carpools	Buses / Motorcycles
		Minimum Toll Rate[2]	Soft Rate Cap	Maximum Toll Rate		
Free	Electronic Toll Collection (ETC) (*E-ZPass*)	$0.17	$1.50	$3.76	Free	Free
	Pay-By-Plate (Registered Video) (1.25x ETC)	$0.21	$1.88	$4.70		
	Video Tolling (Unregistered Video) (1.5x ETC)	$0.26	$2.25	$5.64		

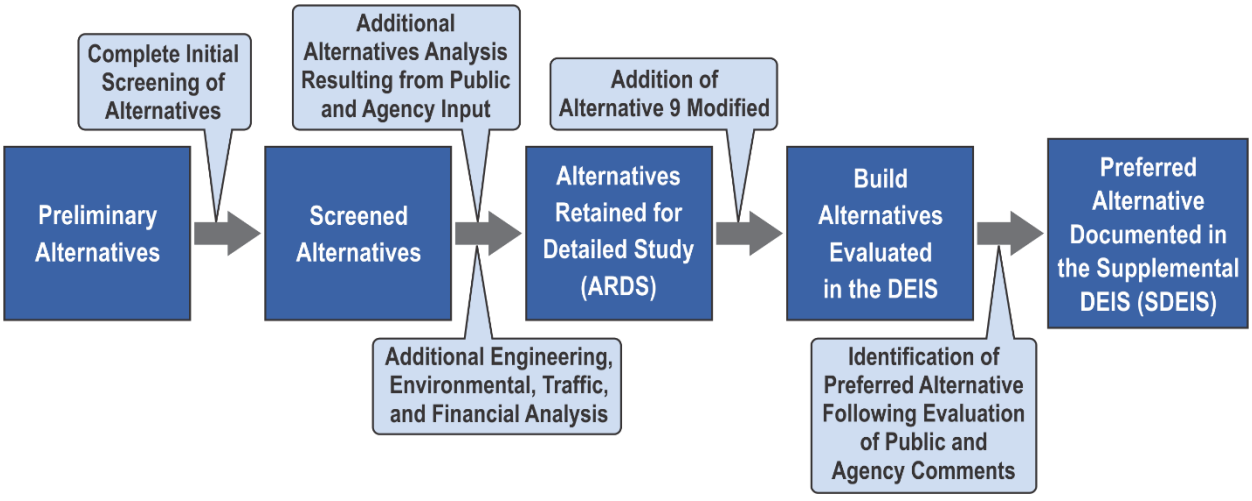
[1] MDTA uses the term discount to refer to all vehicles that could have a toll that is lower than the standard toll rate.

[2] The minimum trip toll (not per mile) by payment type for all vehicle types would be $0.50 for customers using E-ZPass®, $0.63 for customers using Pay-By-Plate (Registered Video), and $0.75 for customers using Video Tolling (Unregistered Video).

C. Alternatives Considered and Dismissed

The alternatives development and screening process for the Study followed five steps to narrow the Preliminary Range of Alternatives under consideration to the Preferred Alternative, refer to **Figure 5**. The results and documentation of the first four steps were presented in the Study's **DEIS, Chapter 2** and the last step, identification of the Preferred Alternative, was documented in the **SDEIS, Chapter 2**.

Figure 5: Alternatives Screening Process



1. Preliminary Alternatives

Fifteen Preliminary Alternatives were identified from previous studies and planning documents, and input from the public, and federal, state, and local agencies during the NEPA scoping process. The Preliminary Alternatives included the No Build Alternative as well as alternatives that included elements such as Transportation Systems Management (TSM)[10]/ Transportation Demand Management (TDM),[11] additional general purpose lanes, High-Occupancy Vehicle (HOV) lanes, priced managed lanes, collector-distributor lanes, contraflow lanes, reversible lanes, and transit. Stand-alone transit alternatives considered three transit modes: heavy rail, light rail, and bus. Additionally, options were identified for alternatives that could be applied to either I-495 or I-270 as well as different transit modes. Some of the alternatives included lettered options which reflect whether the options were exclusively applicable to I-495 or I-270 or were related to a specific transit mode. The Preliminary Alternatives were:

- Alternative 1: No Build
- Alternative 2: Transportation Systems Management/Transportation Demand Management (TSM/TDM)
- Alternative 3: Add one general purpose lane in each direction on I-495 and I-270
- Alternative 4: Add one HOV lane in each direction on I-495 and retain existing HOV lane in each direction on I-270
- Alternative 5: Add one priced managed lane in each direction on I-495 and convert one existing HOV lane in each direction to a priced managed lane on I-270
- Alternative 6: Add two general purpose lanes in each direction on I-495 and I-270
- Alternative 7: Add two HOV lanes in each direction on I-495 and retain one existing HOV lane and add one HOV lane in each direction on I-270
- Alternative 8: Add two priced managed lanes in each direction on I-495 and add one priced managed lane in each direction and retain one existing HOV lane in each direction on I-270
- Alternative 9: Add two priced managed lanes in each direction on I-495 and convert one existing HOV lane to a priced managed lane and add one priced managed lane in each direction on I-270
- Alternative 10: Add two priced managed lanes in each direction on I-495 and on I-270 and retain one existing HOV lane in each direction on I-270 only
- Alternative 11: Physically separate traffic using collector-distributor lanes, adding two general purpose lanes in each direction on I-495
- Alternative 12A: Convert existing general purpose lane on I-495 to contraflow lane during peak periods
- Alternative 12B: Convert existing HOV lane on I-270 to contraflow lane during peak periods
- Alternative 13A: Add two priced managed reversible lanes on I-495
- Alternative 13B: Convert existing HOV lanes to two priced managed reversible lanes on I-270

[10] TSM are actions that improve the operation and coordination of transportation services and facilities.

[11] TDM is a variety of strategies, techniques, or incentives aimed at providing the most efficient and effective use of existing transportation services and facilities (e.g., rideshare and telecommuting promotion, managed lanes, preferential parking, road pricing, etc.)

- Alternative 13C: Add two priced managed reversible lanes and retain one existing HOV lane in each direction on I-270
- Alternative 14A: Heavy Rail[12] transit
- Alternative 14B: Light Rail[13] transit
- Alternative 14C: Fixed guideway BRT[14] off alignment of existing roadway
- Alternative 15: Add one dedicated bus lane on I-495 and I-270

2. Screened Alternatives

The Preliminary Alternatives were evaluated by applying the screening criteria established from the Study's Purpose and Need (as described in the **FEIS, Chapter 2, Section 2.2 and in greater detail in DEIS, Appendix B**), performing assessments of readily available information. An alternative was dropped from further consideration only if the available information demonstrated it clearly did not meet the Study's Purpose and Need. Screened Alternatives were identified as those that met the screening criteria or required additional analysis to determine their ability to meet the Purpose and Need.

As a result of the initial screening, seven alternatives were recommended to be advanced for further detailed analysis and 13 alternatives were dropped from further consideration. Alternatives 1, 5, 8, 9, 10, 13B, and 13C were recommended for further analysis and environmental evaluation as the Screened Alternatives. In February 2019, the Screened Alternatives were presented to the public through the Study website via written documentation and a video.

3. Alternatives Retained for Detailed Study and Evaluated in the DEIS

Additional engineering, traffic, financial, and environmental analyses were completed for the Screened Alternatives which all were then carried forward as alternatives retained for detailed study (ARDS) and all were presented at eight, in person, Spring 2019 Public Workshops and were then further analyzed.

FHWA and MDOT SHA determined that Alternative 5 was deficient in addressing both existing traffic and long-term traffic growth and trip reliability, while only minimally less costly and impactful to property and environmental impacts and with these concerns and reduced anticipated usage it also raised concerns with the alternative's financial viability. Consequently, it was determined that Alternative 5 was not reasonable. However, the analysis of Alternative 5 was included in in **DEIS, Chapter 3** and **DEIS, Chapter 4** for comparison purposes.

Following the Spring 2019 Public Workshops and agency meetings, several Cooperating and Participating Agencies requested that MDOT SHA evaluate an alternative that would provide an alternate route for travelers to use MD 200 (Intercounty Connector) instead of the top side of I-495 between I-270 and I-95

[12] Heavy Rail is a mode of transit service (also called metro, subway, rapid transit, or rapid rail) operating on an electric railway with the capacity for a heavy volume of traffic. It is characterized by high speed and rapid acceleration passenger rail cars operating singly or in multi-car trains on fixed rails.

[13] Light Rail is a mode of transit service (also called streetcar, tramway, or trolley) operating passenger rail cars singly (or in short trains) on fixed rails. Light rail vehicles are typically driven electrically with power being drawn from an overhead electric line via a trolley or a pantograph and driven by an operator on board the vehicle.

[14] Bus Rapid Transit is a high-quality bus-based transit system that delivers fast and efficient service that may include dedicated lanes, busways, traffic signal priority, off-board fare collection, elevated platforms, and enhanced stations.

to avoid or reduce impacts to significant, regulated resources and residential relocations. This new alternative, the MD 200 Diversion Alternative, was developed and analyzed with input from the agencies. After evaluation, it was determined that the MD 200 Diversion Alternative would not address the Study's Purpose and Need of accommodating long-term traffic growth, enhancing trip reliability, or improving the movement of goods and services. A summary of the MD 200 Diversion Alternative analysis was included in the **DEIS, Chapter 2** and **DEIS, Appendix B**, *Alternatives Technical Report*.

In response to public and agency input, MDOT SHA and FHWA evaluated another alternative, called Alternative 9 Modified (Alternative 9M). Alternative 9M consisted of a blend of Alternatives 5 and 9 with the primary difference on the top side of I-495 between I-270 and I-95 being the addition of one managed lane per direction instead of two managed lanes. Alternative 9M was evaluated and determined to be a reasonable alternative, and thus was included as a Build Alternative in the DEIS.

The following Cooperating Agencies provided concurrence[15] on the ARDS: US Environmental Protection Agency (USEPA), US Army of Engineers (USACE), NPS, MDE, Maryland Department of Natural Resources, and VDOT.

The **DEIS, Chapter 3**, **DEIS, Chapter 4,** and **DEIS, Appendix B**, *Alternatives Technical Report* presented the additional analysis and comparison of impacts between the Build Alternatives (Alternatives 8, 9, 9M, 10, 13B, 13C) and the No Build Alternative, plus Alternative 5 for comparison purposes.

4. Identification of the Preferred Alternative

In January 2021, Alternative 9 was announced as the MDOT SHA Recommended Preferred Alternative based on the results of traffic, engineering, financial, and environmental analyses, as well as public comment. However, after several months of further coordinating with and listening to agencies and stakeholders and reviewing public comments FHWA and MDOT SHA identified a new Preferred Alternative in the SDEIS: Alternative 9 – Phase 1 South and a No-Build for the balance of Alternative 9.

The FHWA and MDOT SHA's selection of the Preferred Alternative was based on currently available information and consideration of comments received on the DEIS. The agencies received many comments supporting the need to address improvements to the ALB, a major regional traffic bottleneck; to avoid property displacements, avoid and minimize public parkland impacts to the maximum extent practicable in compliance with Section 4(f) regulations; to coordinate with planned managed lane projects in Northern Virginia to provide a seamless regional managed lanes system; and to increase multi-modal transportation options in the study area.

Many of these key concerns and comments raised by the agencies and public through review of the DEIS were common among the Build Alternatives retained including, but not limited to, stormwater management, direct managed lanes access, transit elements, noise, property impacts, and proposed relocations. The efforts to further address comments, avoid and minimize impacts, and determine mitigation for unavoidable impacts continued through the development of the FEIS. The specific elements of the Selected Alternative are described in **Section V.2** of this document and **FEIS, Chapter 3**.

[15] NCPC abstained from concurring on the ARDS; M-NCPPC did not concur on the ARDS.

5. Environmentally Preferred Alternative

According to CEQ regulations implementing NEPA (40 CFR 1502.2(2)), the agency shall "identify all alternatives considered by the agency in reaching its decision, specifically the alternative or alternatives which were considered to be environmentally preferable." The environmentally preferred alternative is one that meets the project purpose and need and causes the least harm to natural and physical environment. Based on the analyses and evaluations conducted during the EIS process, specifically **Section VII.C** of this ROD and **FEIS, Chapter 5**, the Selected Alternative, as described in **Section V.2**, is deemed the environmentally preferred alternative.

VI. Factors in the Decision-Making Process, Including Measures to Minimize Harm

The DEIS, SDEIS, and FEIS detailed the extensive alternatives analysis conducted for this Study during the NEPA process. Consideration of input from partner agencies, stakeholders, and the public was an integral part of the alternatives development process and was a major factor in the identification of the Selected Alternative. Many comments received on the DEIS centered around the need to find an alternative that would avoid residential and business displacements and impacts to significant parkland on the topside and eastside of I-495. While other comments focused on providing support for alternatives that would include replacement of the aging and severely congested ALB. FHWA weighed the benefits and impacts and also considered a No Build Alternative in the decision of the Selected Alternative in this ROD.

The notable benefits of the Selected Alternative are that it will:

- Further align with the phased delivery and permitting approach
- Focus improvements on Phase 1 South, including the ALB, the biggest traffic chokepoint in the region. Replacement of the bridge is part of a bi-state effort to improve mobility and would provide a seamless regional system of managed lanes by connecting to Virginia over the ALB.
- Expedite replacement of the ALB with a private funding source.
- Provide options for travel by keeping all existing general purpose lanes free.
- Reduce reliance on single occupancy vehicles and permitting buses, carpool, vanpool, and personal vehicles with three or more people to travel faster and more reliably in the new HOT lanes free of charge any time of the day.
- Avoid all residential and commercial displacements.
- Minimize impacts by over 50% to National Parks near the ALB (George Washington Memorial Parkway, Clara Barton Parkway, and Chesapeake & Ohio Canal National Historical Park) and completely avoid three other National Parks: Baltimore Washington Parkway, Greenbelt Park, and Suitland Parkway.
- Avoid approximately 22 acres of Maryland-National Capital Park and Planning Commission parkland including Rock Creek, Sligo Creek, and Northwest Branch Stream Valley Parks.

As described in greater detail in **SDEIS, Chapter 3** and **FEIS, Chapter 4**, the Selected Alternative is projected to provide meaningful operational benefits to the regional system even though it includes no action for a large portion of the study area in an effort to avoid and minimize impacts. The Selected Alternative will significantly increase throughput across the ALB and on the southern section of I-270 while reducing congestion. It will also increase speeds, improve reliability, and reduce travel times and delays along I-

495, I-270, and the surrounding roadway network compared to the No Build Alternative, albeit to a lesser degree than the Build Alternatives presented in the DEIS that provided managed lanes throughout the full study area limits. Projected daily traffic volumes served would increase with development of the Selected Alternative when compared to the No Build Alternative because the freeways would be able to accommodate latent demand that would otherwise use the local roadway network to avoid congestion. Congestion would be present in the general purpose lanes during the PM peak period on I-270 northbound and the I-495 inner loop in the design year of 2045 due to downstream bottlenecks outside of the Selected Alternative limits, but overall operations would be significantly better than the No Build.

The key factors considered in deciding to approve the Preferred Alternative as the Selected Alternative are discussed below and include a summary of the planning process, NEPA process, Purpose and Need, alternatives considered, environmental impacts and measures to avoid and minimize impacts, and lastly a summary of the public outreach opportunities.

A. Planning Process

As noted in **Section III** of this ROD, MDOT SHA, MDOT MTA VDOT have performed numerous studies[16] to evaluate a myriad of transportation solutions to address the regional congestion. Those solutions have demonstrated the need in this region to make use of all the tools in the transportation toolbox. MDOT SHA and other regional transportation partners have studied and, in many cases, already constructed and improved elements of the transportation system of systems needed to serve this important region. The various transportation facilities consist of interstate, circumferential and arterial highways, bus rapid transit, local bus services, commuter and freight rail, one of the world's most extensive metro rail, and light rail systems that move people and goods throughout the region.

Historically improvements to the severe congestion have been evaluated, with similar consensus regarding the need for all tools in the transportation toolbox. That is, they include the need for highway, transit and other transportation management measures. For example, in 2002, a combined highway and transit study, the Capital Beltway/Purple Line Study[16], was initiated by MDOT SHA and MDOT MTA, which identified adding HOV lanes to I-495 and constructing the Purple Line, a transit alignment inside the Beltway. This combined study concluded that fixed guideway transit was not recommended wholly along the Capital Beltway itself. In 2003, the transit and highway portions of the Capital Beltway/Purple Line Study were separated into two independent studies, the Purple Line Project and the Capital Beltway Study (MDOT SHA et al., 2013), with the justification that both projects were needed to meet the demands of the corridor. The Purple Line Project Final Environmental Impact Statement (FEIS) and Draft Section 4(f) Evaluation was signed in 2013 and a Record of Decision (ROD) was issued in 2014. This transit solution is currently under construction on a 16-mile, two-track light rail system from Bethesda to New Carrollton.

To promote effective transportation system connectivity, the role of each specific transportation project to the larger transportation network, is critical. One of the objectives of any major investment study is to identify facility improvements that also improve the linkage of the regional transportation system. As noted, I-495 and I-270 are critical elements of the National Highway System and the local transportation network. These highways have interregional connections to many radial routes in Maryland and Virginia that provide access to and from Washington, DC. Residential and employment activity centers and

[16] https://oplanesmd.com/environmental/resources/

recreational facilities are located along I-495 and I-270. I-270 provides the highway link from I-495 to I-370/ MD 200 and to I-70. For long distance travelers, a portion of I-495 is also I-95 which serves as a critical link in the Maine to Florida interstate route. I-95 is designated as a portion of the National Highway System, a key element of the multimodal National Transportation System.

Given the highly constrained area surrounding the interstates in the study area, the natural, cultural, historical, and recreational amenities that exist along this alignment are finite resources that cannot be easily replaced or replenished. From the initiation of this Study, MDOT SHA committed to avoid and minimize community, cultural, environmental, and parkland impacts, and mitigate for unavoidable impacts at an equal or greater value. MDOT SHA has worked with FHWA and with federal, state, and local resource agencies in a collaborative process to address all regulatory requirements and to ensure the protection of significant environmental and community resources.

In planning mitigation, MDOT SHA, worked with FHWA, federal, state and local agencies and the public to provide meaningful benefits to adjacent resources and improve the values, services, attributes, and functions which may be compromised. Innovative, creative solutions, including modern urban stormwater management and environmentally sensitive design techniques, will be utilized to mitigate for unavoidable impacts resulting from the project. Mitigation commitments are identified and included in this Record of Decision, refer to **Appendix A** of this document.

The Study's alternatives development process[17] was informed by numerous previous studies and planning documents[18]. The initial screening of the Preliminary Alternatives considered initiatives and projects outlined in Visualize 2045, the latest financially Constrained Long-Range Plan (CLRP) that was approved by the National Capital Region Transportation Planning Board on October 17, 2018. An update to this plan was approved by the National Capital Region Transportation Planning Board on June 15, 2022. Visualize 2045 identified Seven Aspirational Initiatives for a Better Future. One of the seven initiatives is "Expand Express Highway Network," which includes congestion-free toll roads, building on an emerging toll road network to encourage carpooling and new opportunities for transit and express buses to travel in the toll lanes. For more information on this initiative refer to:

http://mwcog.maps.arcgis.com/apps/Cascade/index.html?appid=debc2550777b4cc2bae2364c7712a151

Three specific, financially constrained projects in the approved 2018 *Visualize2045* Plan that relate to this Study are:

- CLRP-constrained element ID-1182: I-95/I-495 component of Traffic Relief Plan to include two managed lanes in each direction, between the Baltimore Washington Parkway and the Virginia State Line/Potomac River at the Woodrow Wilson Bridge.
- CLRP-constrained element ID-3281: I-95/I-495 component of Traffic Relief Plan to include two managed lanes in each direction, between the Baltimore Washington Parkway and the Virginia State Line/Potomac River at the ALB.
- CLRP-constrained element ID-1186: I-270 component of Traffic Relief Plan, to include two managed lanes in each direction, between I-495 and I-70/US 40.

[17] Refer to DEIS, Appendix B (https://oplanesmd.com/wp-content/uploads/2020/07/DEIS_AppB_Alts_web.pdf\).
[18] https://oplanesmd.com/environmental/resources/

For more information about these three projects, refer to *Appendix B – Summary of Projects in the Financially Constrained Element*: https://www.mwcog.org/documents/2018/10/17/visualize-2045-a-long-range-transportation-plan-for-the-national-capital-region-featured-publications-tpb-visualize-2045/.

B. NEPA Process

The Study was initiated in early 2018 with the publication of a Notice of Intent to develop an EIS followed by a formal scoping period to determine the range of issues to be addressed by the Study. During the Scoping process, potential Cooperating, Participating, and Notified Agencies at the federal, state, local, and regional levels were initially identified by FHWA and MDOT SHA, in accordance with 40 CFR 1501.6 and 23 U.S.C. § 139. The list of two Lead (Federal Agency and Local Project Sponsor), eight Cooperating, 18 Participating, and seven Notified agencies is provided in **DEIS, Chapter 7, Table 7-1**.

The entire NEPA process has been dedicated to obtaining, considering and responding to public and agency input. Along with FHWA, the MDOT SHA in evaluating the need for congestion relief along the 48-mile corridor, listened to public and agency input regarding alternative solutions, delayed the Study to add and consider new alternatives along through the process, carefully evaluated alternatives, screened a wide range into a set of 15 preliminary alternatives that were then studied in detail and presented in the DEIS. In an innovative manner, FHWA and MDOT SHA presented the DEIS to the public during the COVID-19 Pandemic with in-person and virtual opportunities that may have reached even more people than even traditional methods. FHWA and MDOT SHA also embarked on an evaluation of the long term and short term potential impacts of the pandemic on the region's traffic. MDOT SHA heard the concerns of the public, community and interest groups, and environmental resource agencies and developed a Preferred Alternative with shorter limits, Phase 1 South, which would satisfy the need for congestion relief set forth in the Study's Purpose and Need. The Preferred Alternative, with build improvements only within the limits of Phase 1 South, avoids over 100 acres of parkland and hundreds of wetland and stream features. The impacts associated with the Preferred Alternative were avoided and minimized to the greatest extent practicable in all areas at this preliminary stage of the Study, and avoidance and minimization techniques were specifically refined in some areas of sensitive or recreationally valuable resources, such as the NPS park properties around the ALB. The results were published in the SDEIS in October 2021.

As preliminary design advanced on the Preferred Alternative in coordination with the Developer, minor modifications occurred, which resulted in further avoidance and minimization of environmental resources and documented in the FEIS. In addition, coordination with the resource agencies on avoidance, minimization, and conceptual mitigation continued. The FEIS was published in June 2022 and included a comprehensive list of the mitigation and commitments to be carried forward into final design.

As summarized below, the NEPA Process for the Study documented in the DEIS, SDEIS, and FEIS, the substantial traffic, engineering, and environmental analyses for public review and comment.

The DEIS was published on July 10, 2020 and was made available for public and agency review for a 123-day comment period. The DEIS and supporting documents summarized the entire alternatives development process, including the analysis and screening of 15 Preliminary Alternatives, full consideration of two additional alternatives raised during the comment process, and a detailed

comparison of six Build Alternatives. The DEIS presented the results of draft analyses and the comparison of potential effects to social, cultural and natural environmental resources between the No Build and the six Build Alternatives.

The SDEIS was published on October 1, 2021 and was prepared to consider new information relative to the Preferred Alternative, Alternative 9 - Phase 1 South. Building on the analysis in the existing DEIS, the SDEIS disclosed information relevant to the Preferred Alternative focusing on new information, while referencing the DEIS for information that remained valid. The SDEIS also described the background and context in which the Preferred Alternative was identified. The SDEIS presented updated information on draft analyses that were presented in the DEIS. The SDEIS was available for review to the public and agencies for a 60-day comment period, including an extension of 15 days based on public and stakeholder requests.

The FEIS was published on June 17, 2022, and presented the final analyses completed for the Preferred Alternative, design refinements since the SDEIS, as well as responses to comments on the DEIS and SDEIS. The FEIS responds to the over 5,000 public and agency comments received on the DEIS and SDEIS. The FEIS includes the results of the final analyses of environmental impacts based on extensive avoidance and minimization efforts and presents final mitigation and commitments for unavoidable impacts. The FEIS was available for a 30-day review through the Project website (https://oplanesmd.com/feis/), the USEPA EIS Database and at 17 public libraries along or near the study corridors.

C. Environmental Impacts and Measures to Avoid and Minimize

The Selected Alternative is a resource avoidance and minimization alternative based in part on extensive coordination with and input from agencies and stakeholders, including the Officials with Jurisdiction (OWJs) for Section 4(f) properties. Comments received on the DEIS and Draft Section 4(f) Evaluation from agencies and stakeholders specifically requested avoidance of significant parkland and historic resources within the study area. The Selected Alternative is responsive to comments received and aligns the Study to be consistent with the previously determined phased delivery and permitting approach by limiting the build improvements to the area of Phase 1 South only while avoiding improvements on I-495 east of the I-270 East Spur. The result is complete avoidance of significant stream valley parks, including Rock Creek, Northwest Branch, Sligo Creek, Southwest Branch, and Henson Creek Stream Valley Parks, as well as historic parks of national significance including the Baltimore-Washington Parkway, Greenbelt Park and Suitland Parkway.

The impacts associated with the Selected Alternative were avoided and minimized to the greatest extent practicable in all areas at this preliminary stage of the Study, and avoidance and minimization techniques were specifically refined in some areas of sensitive or recreationally valuable resources. **Table 4** illustrates the avoidance and minimization that has occurred at each NEPA document milestone.

Table 4: Example Environmental Resource Impact Avoidance and Minimization Efforts at each NEPA Document Milestone

Resource	DEIS (Alt 9)	SDEIS (Pref Alt)	FEIS (Pref Alt)
Residential Displacements	**34**	**0**	**0**
Business Displacements	**4**	**0**	**0**
Park impacts (total acres)	**133.1**	**36.1**	**30.2**
NPS Park Property impacts (total acres)	**29.4**	**17.0**	**16.2**
M-NCPPC Park Property impacts (total acres)	**29.0**	**9.2**	**8.2**
Wetlands (total acres)	**16.3**	**4.3**	**3.9**
Waterways (total linear feet)	**155,922**	**46,553**	**42,286**
100-Year Floodplain (total acres)	**119.5**	**48.8**	**31.6**
Forest Canopy (total acres)	**1,497.0**	**500.1**	**455.0**

Under the Selected Alternative, impacts to Morningstar Tabernacle No. 88 Moses Hall and Cemetery boundary are avoided. In the DEIS, Alternative 9 would have impacted 0.3 acre of the Morningstar Cemetery. Based on further investigations of the property since the DEIS, the Preferred Alternative as presented in the SDEIS and FEIS avoids impacts to the historic Morningstar Tabernacle No. 88 Moses Hall and Cemetery boundary. Despite the avoidance efforts, MDOT SHA has committed in the ROD to the following (refer to **Appendix A, Table 1**):

- Construct a new sidewalk along the west side of Seven Locks Road under I-495 to re-establish a connection between Morningstar Tabernacle No. 88 Moses Hall and Cemetery and First Agape AME Zion Church (Gibson Grove Church) in the historically African American community of Gibson Grove.

- Convey a portion of existing MDOT SHA owned right-of-way located adjacent to the boundary of Morningstar Tabernacle No. 88 Moses Hall and Cemetery with an identified potential for unmarked graves to the Trustees of the Morningstar Tabernacle No. 88 Moses Hall and Cemetery.

As noted in **Table 4**, the minimization efforts to NPS park properties resulted in 12 acres avoided under the Selected Alternative. However, the Selected Alternative still impacts 16.2 acres to three NPS park properties: George Washington Memorial Parkway, Chesapeake and Ohio Canal National Historical Park and Clara Barton Parkway. In addition, impacts to Plummers Island, part of the Chesapeake and Ohio Canal National Historical Park, could not be avoided completely, but impacts have been reduced by 1.7 acres. In the DEIS, the Build Alternatives had 1.9 acres of impacts to Plummers Island. Under the Selected Alternative, there would be approximately 0.28 acres of impact, of which less than 0.1 acres would be permanent impact and 0.27 acres would be temporary impact. Impacts to Plummers Island are required for the ALB substructure, including permanent use for three, discrete, approximately 10-foot diameter pier foundations and temporary, construction activities. Temporary construction activities may include efforts such as excavation, access for demolition of existing bridge foundation and piers adjacent to the island, and slope protection. Access to the existing and proposed piers is required for these activities. In addition, MDOT SHA has made a commitment to evaluate additional options for the ALB during final design that would further minimize or avoid physical impact to Plummers Island, refer to **Appendix A, Table 1**.

A summary of the permanent and temporary effects associated with the Selected Alternative are shown in **Table 5.** The impacts presented are associated with the build improvements of the Selected Alternative. For additional details on the environmental impacts and efforts to avoid and minimize impact by resource refer to **FEIS, Chapter 5**. Specific mitigation and commitments are presented in **Appendix A** of this document.

Table 5: Summary of Impacts and Findings of the Selected Alternative

Summary of Selected Alternative Permanent and Temporary Impacts
Land Use and Zoning
• Conversion of 78.2 acres of existing land uses to transportation right-of-way • Located entirely within Priority Funding Areas and is consistent with the Maryland Smart Growth Priority Funding Areas Act
Communities and Community Facilities
• No residential or business displacements • Partial property impacts are dispersed throughout seven communities adjacent to I-495 and I-270 in the Phase 1- South area only. • Divisions or isolation of properties, persons, or groups would not occur due to the generally parallel nature of the LOD along I-495 and I-270 and the fact that no properties would be displaced. • Reduction in total traffic on all network local roads by 3.5%, which would lead to better access to facilities and improved emergency response times along local roadways • Benefits to the quality of life due to reduced congestion along the study corridors and improved trip reliability and travel choices to destination points within the region • Partial property acquisitions from: 1 correctional facility, 2 healthcare facilities, 4 places of worship, 1 recreation center, 2 schools, and 1 historic cemetery (refer to FEIS, Table 5-4)
Parks and Recreation Facilities
• 30.2 acres of right-of-way needed from park properties (refer to FEIS, Table 5-5) ○ 16.2 acres of impacts at 3 NPS properties: 2.7 acres of permanent and 13.5 acres of temporary impacts ○ 8.2 acres of impacts at 5 M-NCPPC properties: 7.5 acres of permanent and 0.7 acres of temporary impacts ○ 5.4 acres of impacts at 4 City of Rockville park properties: 5.2 acres of permanent and 0.2 acres of temporary impacts ○ 0.5 acres of impacts at 1 City of Gaithersburg park property: 0.4 acres of permanent and <0.1 acres of temporary impacts
Property Acquisitions
• No residential of business displacements • 92.8 acres of total property outside of the existing highway right-of-way is needed: 78.2 acres for permanent use and 14.7 acres for temporary use • 361 properties impacted: 255 residential and 106 business/other properties
Visual and Aesthetic Resources
• Construction of the Selected Alternative would not introduce new elements incompatible with the existing visual character or qualities along the study corridors or that experienced by neighbors • Vegetation removal will be mitigated based on state and local agency requirements and standards to maintain the visual quality of the key locations • Aesthetic and landscaping guidelines of all highway elements will be established in consultation with local jurisdiction, private interest groups, local community and business associations, and local, state, and federal agencies

• Construction will result in the removal of vegetation along the study corridors and the addition of construction equipment into existing viewsheds
Historic Architectural and Archeological Resources
• Adverse effects to 4 historical architectural properties and 6 archeological properties • Additional archaeological delineation and treatment at the Poor Farm Cemetery is needed and is a commitment documented in the Programmatic Agreement • Avoids impacts to the historic Morningstar Tabernacle No. 88 Moses Hall and Cemetery boundary; determination of effects deferred until further investigations are completed as documented in the Programmatic Agreement • The signed Section 106 Programmatic Agreement is included in **Appendix B** of this document.
Air Quality
• In an attainment area for particulate matter (PM2.5) • Project would not be an exceedance of the carbon monoxide (CO) National Ambient Air Quality Standards (NAAQS) • Mobile Source Air Toxics (MSATs) pollutant emissions are expected to increase slightly with the Selected Alternative when compared to the No Build condition for 2025 and 2045, but all MSAT pollutant emissions are expected to significantly decline in the Opening (2025) and Design years (2045) when compared to existing conditions (2016) • Greenhouse gases (GHG) emissions with the Selected Alternative are expected to decline in the Opening (2025) and Design (2045) years for all GHG pollutants when compared to existing conditions. • Temporary air quality impacts are expected during construction, but measures will be implemented during construction to minimize emissions from construction vehicles
Noise
• 3 noise sensitive areas (NSA) in Virginia are predicted to have noise impacts • 45 NSAs in Maryland are predicted to have noise impacts • Noise impacts during construction are anticipated • Noise abatement for impacts is included in the Selected Alternative
Hazardous Materials

• 255 sites of concern were assigned a risk classification based on potential environmental impacts and proximity to the Selected Alternative LOD
  ○ 11 sites of high risk concern
  ○ 41 sites of moderate risk concern
  ○ 83 sites of low risk concern
  ○ 120 de minimis sites - unlikely for potential contamination

Topography, Geology and Soils
• Topography would be altered from construction of the Selected Alternative by surficial excavation and grading, thereby changing the relative ground elevation, but this work is not anticipated to have a substantial effect on underlying sediments • Soil removal or alterations to the soil profile and structure due to construction activities is expected • Measures to protect soils from erosion would be implemented based on approved Erosion and Sediment Control Plans (E&S Plans) prepared in accordance with Maryland and Virginia regulations.
Waters of the US and Waters of the State, Including Wetlands
• 3.9 acres of wetland impacts • 6.5 acres to impacts to wetland buffers • 42,286 linear feet of impacts to waterways

• Concurrent with the NEPA process, MDOT SHA has prepared a Joint Federal/State Permit Application for the Alteration of Any Floodplain, Waterway, Tidal or Non-Tidal Wetland (refer to **FEIS, Appendix P**)
Watersheds and Surface Water Quality
• Surface waters, surface water quality, and watershed characteristics within the Selected Alternative LOD are directly and indirectly impacted to intermittent and perennial stream channels and increases in impervious surface in their watersheds • The impacts to jurisdictional surface waters by USGS HUC8, Maryland 8-digit, and Maryland 12-digit watersheds are provided in *Appendix A* of the *Final Natural Resources Technical Report* (**FEIS, Appendix M**) and in **Table 5-29 to 5-33 in Chapter 5 of the FEIS**.
Groundwater Hydrology
• Selected Alternative may affect groundwater and hydrology, mainly due to highway runoff impacts from stormwater infiltration • Impacts to drinking water from groundwater resources are not anticipated
Floodplain
• 31.6 acres of impacts to FEMA 100-year floodplains • USACE determined that the Washington Aqueduct, the one Section 408 in the study limits, would not result in an adverse effect to this resource and further coordination is not needed • Detailed hydrologic and hydraulic (H&H) study will be prepared during final design to identify the existing storm discharge and floodplain extent • All construction occurring within the FEMA designated floodplains will comply with FEMA-approved local floodplain construction requirements
Vegetation and Terrestrial Habitat
• Removal and disturbance of vegetated areas, including forests, within the LOD due to clearing and grading of land needed for construction • 455 acres of forest canopy impacts ○ 11.1 acres of Forest Conservation Easements ○ 0.9 acres TMDL Reforestation Sites ○ 2.8 ICC Reforestation Sites • Approximately 1.0 acre of impacts to forest areas and seven specimen trees would be impacted by the off-site compensatory stormwater quality treatment sites
Terrestrial Wildlife
• No bald eagle nests have been identified by USFWS within the study corridor boundary • The Selected Alternative is not within the Critical Area • 11.2 acres of potential impacts to Forest Interior Dwelling Species (FIDS) habitat
Aquatic Biota
• May affect aquatic biota due to direct and indirect impacts to perennial and intermittent stream channels • Impacts to aquatic biota may include mortality of aquatic organisms during construction of culvert extensions and loss of natural habitat from the placement of culvert pipes and other in-stream structures, or from more gradual changes in stream conditions
Rare, Threatened and Endangered (RTE) Species
• Extensive surveys in the corridor study boundary did not detect any federally listed bat species of the Northern Long-eared Bat or the Indiana Bat. • 6 RTE plant species would be impacted near the Potomac River • No Virginia state-listed wood turtle were found during field surveys

Unique and Sensitive Areas

• No impacts to special protection areas or Virginia Natural Area Preserves and Conservation Sites
• 163.1 acres of impacts to Unique and Sensitive Areas
  ○ 55.9 acres of impact to Targeted Ecological Areas
  ○ 23.8 acres of impacts to Green Infrastructure Hubs
  ○ 83.4 acres of impacts to Green Infrastructure Corridors

Environmental Justice
• The Selected Alternative will not cause disproportionately high and adverse effects on any minority and/or low-income populations in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23A.

D. Public Outreach and Opportunities for Comment

From the outset of the Study's NEPA process, FHWA and MDOT SHA developed a comprehensive public involvement and engagement strategy designed to obtain input from stakeholders around the entire study area. This strategy combined traditional opportunities for commenting on the DEIS and SDEIS in addition to wide-ranging outreach to community organizations (e.g., church groups, homeowners' associations, public interest groups, and governmental entities), with particular sensitivity and outreach to identified environmental justice (EJ) communities. The public involvement and engagement process, starting in early 2018 and continuing to the present, considered the vast diversity of community resources. The lead agencies strategy also changed over time to reflect the realities of conducting the NEPA process in part during the COVID-19 Pandemic. Prior to and after pandemic restrictions were eased, there were both in person and virtual public and community meetings, presentations at community events and in public spaces. The efforts during the Study to engage with the public in a safe manner during the pandemic became nationally recognized based on its strategy of ensuring safety while still providing similar opportunities for meaningful participation by the public in the NEPA process. MDOT SHA and FHWA were able to make the DEIS available and accessible both in person and virtually and by holding public hearings in recognition of evolving social gathering and public health restrictions. The public involvement conducted throughout the Study has gone above and beyond and has been documented in the following reports: **DEIS, Chapter 7 and Appendix P; SDEIS, Chapter 7;** and **FEIS Chapter 8 and Appendix R**.

The Study's public involvement efforts began immediately after the publication of the Notice of Intent (NOI) in the *Federal Register* on March 16, 2018, to announce the initiation of the Study. Following the NOI, public involvement efforts were organized by subsequent engagement stages: Scoping, Preliminary Alternatives, and Alternatives Retained for Detailed Study (ARDS). Since publication of the NOI, 16 Public Workshops with over 2,100 attendees were held along the study corridors in Montgomery and Prince George's Counties.

The DEIS was published on July 10, 2020 and was made available on the I-495 & I-270 P3 Program webpage (https://oplanesmd.com/deis/), on the USEPA EIS Database webpage and at multiple public locations in hard copy in Montgomery and Prince George's Counties, Maryland; Fairfax County, Virginia; and Washington, DC. Following publication of the DEIS, FHWA and MDOT SHA provided a 90-day comment period, which is twice the minimum time required by the CEQ regulations. Based on input from the general public, community partners, stakeholders, and local and federal officials, however, MDOT SHA supported extending the DEIS comment period and made a formal request to FHWA, which has authority to grant any extension. FHWA approved this request and granted a 30-day extension of the public comment period

for the DEIS. All in all, the DEIS was made available for comment and review from July 10, 2020, through and including November 9, 2020, a total of four months. During this extended comment period, the agencies received close to 3,000 comments.

The SDEIS published on October 1, 2021, was prepared to consider new information relative to the Preferred Alternative, Alternative 9 - Phase 1 South. Building off the analysis in the existing DEIS, the SDEIS disclosed new information relevant to the Preferred Alternative while referencing the DEIS for information that remained valid. The SDEIS also described the background and context in which the Preferred Alternative, Alternative 9 – Phase 1 South was identified. The SDEIS was available for the public to review and comment on the Preferred Alternative during a 45-day comment period, which was later extended an additional 15 days in response to public comments and requests. The SDEIS was also made available on the I-495 & I-270 P3 Program webpage (https://oplanesmd.com/sdeis/), on the USEPA EIS Database webpage and at multiple public locations in hard copy in Montgomery and Prince George's counties; Maryland, Fairfax County, Virginia; and Washington, D.C.

The FEIS was published on June 17, 2022 and was made available for a 30-day review on the I-495 & I-270 P3 Program webpage (https://oplanesmd.com/feis/), on the US EPA EIS Database webpage and at multiple public locations in hard copy in Montgomery and Prince George's Counties, Maryland; Fairfax County, Virginia; and Washington, DC.

Involvement by the public has been a critical part of a NEPA study. To-date, 16 public workshops and 7 public hearings were held, with distinct public comment periods. Additionally, over 200 individual stakeholder, community, elected official and business meetings were held to present Study information and hear concerns and feedback on a variety of topics.

The public participation elements of the NEPA process were an opportunity to promote equity and EJ concerns by ensuring minority and low-income communities (EJ populations) have access to and receive information concerning the proposed action and the potential impacts on those communities. With even more concentrated outreach, project efforts effectively identified community concerns and informed agency decision-makers regarding project elements and potential enhancements specifically geared to protected communities. In this regard, MDOT SHA implemented a robust plan to meet and exceed federal policies and best practices for outreach to and engagement with EJ populations within and adjacent to the study area.

In addition, in the Fall of 2021, MDOT SHA developed an online survey to seek additional feedback from EJ populations on existing community concerns and strategies that could be implemented to address those concerns. The survey was distributed in a variety of ways including through multiple community "pop-up" events hosted by MDOT SHA at local specialty markets in areas noted as having high percentages of low-income and/or minority populations. These events allowed MDOT SHA to answer Study-related questions and to engage face-to-face to hear community concerns and potential solutions. The results of this survey helped identify priorities of these communities for improved sidewalks and bicycle facilities, better lighting, and traffic calming measures. These elements have been incorporated into the Selected Alternative or as mitigation for potential impacts and commitments; refer to **Appendix A** of this document for the comprehensive list of mitigation and commitments.

E. Consideration of Agency and Public Comments

From the outset of the NEPA review, the project proponent, MDOT SHA, and FHWA committed to a transparent process that would inform all aspects of the agencies' decision-making. As described in detail in this ROD, the Project reflects substantial engineering modifications (refer to **FEIS, Chapter 3, Section 3.1**) that directly responded to over 5,000 comments from a wide spectrum of stakeholders, community groups, and governmental entities. MDOT SHA and FHWA have modified analysis methodologies, conducted revised analyses, studied new or modified existing alternatives, refined design to avoid and minimize environmental and community impacts, and identified meaningful mitigation to address unavoidable impacts.

MDOT SHA incorporated public input into every phase of the NEPA process, including development of the Study's Purpose and Need. Community input obtained during the scoping phase reflected a concern that any proposed highway improvements should complement the region's broader mobility and transportation objectives. As a result, the agencies amended its Purpose and Need to include enhancements to multi-modal mobility connectivity and transit accessibility (refer to DEIS, Chapter 1 and FEIS, Chapter 1). The agencies also expanded the range of alternatives considered during the NEPA analysis to include suggestions received from Cooperating and Participating agencies and the public (refer to DEIS Chapter 2, and DEIS Appendix B, Alternatives Technical Report). These additional alternatives assisted with the public's ability to compare potential Project impacts and transportation benefits.

Most importantly, following publication of the DEIS, MDOT SHA and FHWA considered concerns raised from a variety of stakeholders that the originally proposed Preferred Alternative, that recommended improvements across almost the entire span of the Capital Beltway in Maryland, would have resulted in a numerous adverse environmental and community impacts. Public and agency comments focused in particular on the number of potential residential and/or business displacements, the use of public parkland (owned by local, state, and federal agencies), water resources impacts, and community impacts, including environmental justice issues.

In response to this input, and traffic operational concerns across the ALB and southern section of I-270, MDOT SHA and FHWA published a SDEIS which announced changes to the Preferred Alternative that substantially reduced Project impacts, while also providing relief from existing and future traffic issues along some of the most congested sections of the Beltway and I-270 and reconstructing of one of the region's most severe bottlenecks, the ALB. Among other highlights, this revised Preferred Alternative eliminated all residential and business displacements, reduced permanent parkland impacts by almost 70 percent, avoided all impacts to the boundary of the Morningstar Tabernacle No. 88 Moses Hall and Cemetery, significantly reduced impacts to sensitive lands around the ALB, and substantially reduced the amount of potential water and stream impacts.

The process by which the agencies sought and obtained public input was also extraordinary in its scope and intensity. The mandatory official public comment periods were extended to more than a total of six months. As the NEPA process was conducted during the COVID Pandemic, the agencies employed numerous public participation methods to ensure the broadest opportunities to provide input, and to do so in a safe environment. MDOT SHA conducted 16 public workshops and 7 public hearings, all with separate public comment periods. For a summary of the individual stakeholder, community, elected official and business meetings held during the course of the Study refer to FEIS, Chapter 8.

MDOT SHA also engaged in rigorous coordination with local, state, and federal agency Cooperating and Participating agencies. For instance, the agencies created an "American Legion Bridge Strike Team" aimed specifically at reducing impacts to federally-owned parkland adjacent to the existing and proposed reconstructed bridge. The engineering changes as a result of those efforts resulted in modifications to the constructability plan for the ALB by removing construction vehicle access in three of the four quadrants to avoid and minimize impacts to sensitive NPS property. Another example of additional public outreach was formation of the EJ Working Group and EJ Outreach and Engagement Plan implementation in the Fall of 2021 to provide opportunities for meaningful engagement with underserved communities directly or indirectly affected (refer to **FEIS, Chapter 8, Section 8.2.3** for additional details).

Demonstrating the agencies' commitment to all aspects of the Study's Purpose and Need, the Selected Alternative described in this ROD includes a wide range of non-highway elements reflective of the public's recommendations. These include the ability for bus transit and car/vanpools to use the new managed lanes free of charge, the construction of new or improved bicycle and pedestrian paths, and enhancements to public transit facilities that will provide improved access to Washington Metropolitan Area Transit Authority (WMATA) bus and rail service. Other projects commitments that are part of MDOT SHA's agreement with the Public-Private Partnership (P3) Developer ("Developer"), further expand the commitment to multi-modal transportation investments in the study area. These commitments are documented in the **FEIS, Chapter 7, Section 7.3**. The MDOT SHA P3 Agreement is available on the program website here: https://oplanesmd.com/p3-information/phase-1-agreement/.

Among the many other highlights of how the agencies' incorporated community and agency concerns into the Selected Alternative include:

- Aligning the Selected Alternative and environmental permitting process with the phased project delivery/construction approach focusing on addressing the severe congestion at the ALB as priority.
- Committing to constructing a shared use path on the east side of the ALB to support regional pedestrian and bicycle connectivity.
- Identifying appropriate on-site and off-site SWM to meet regulatory requirements and removed or relocated SWM facilities from sensitive resources including parks, where feasible, and NPS property.
- Monitoring and analyzing traffic impacts associated with the COVID-19 Pandemic to understand any impacts on existing and future travel and to the Study.
- Including toll-free travel under the Selected Alternative for high-occupancy vehicles (HOV) with three (3) or more occupants, transit buses, carpool/vanpool and motorcyclists to reduce the reliance on single occupancy vehicles and provide equitable travel options.
- Avoiding and minimizing environmental and property impacts by eliminating the concrete barrier separation and repurposing the pavement on I-270 between the Collector-Distributor system and the general purpose lanes to provide a new lane and largely stay within the existing roadway footprint on I-270.

- Modifying direct access ramps to the managed lanes in consideration of local land use and the potential for community, property, and environmental impacts. For example, the preliminary direct access interchange at Montrose Road was relocated to Wootton Parkway to minimize stream, park and property impacts.

- Establishing a Transit Work Group to further explore opportunities for new or expanded transit service on managed lanes.

- Establishing an Economic Work Group to determine the economic impacts of the project to the National Capital Region.

- Establishing an Environmental Justice (EJ) Working Group to support the EJ analysis and engagement efforts.

- Incorporating closed roadway sections with retaining walls where feasible to avoid and minimize environmental and property impacts.

- Including underground SWM vaults to avoid and minimize environmental and property impacts.

- Eliminating all ramps crossing over the general purpose lanes of I-495 at the MD 190/River Road interchange by adjusting the location of the high-occupancy toll (HOT) lane direct access ramps between I-495 and MD 190. All HOT lanes direct access ramps within this interchange are now proposed to connect at a new intersection on the MD 190 bridge over I-495 without the use of ramps crossing over the general purpose lanes of I-495.

In sum, Selected Alternative in this ROD reflects the wide breadth of changes made to the Preferred Alternative and the no action or improvements on a portion of the proposed action contemplated at the beginning of the NEPA process, as well as the range of permitting mitigation and other related P3 commitments. The details presented as part of the Selected Alternative represent the culmination of over four years of coordination with the public, stakeholders, and government agencies.

VII. Determination of Findings Regarding Other Laws

A. Air Quality Conformity

The Study is currently included in the National Capital Region Transportation Planning Board (TPB) Fiscal Year (FY) 2019 – 2024 Transportation Improvement Program (TIP) [TIP ID 6432 and Agency ID AW0731 (planning activities)] and the TPB Visualize 2045 Long Range Plan (CEID 1182, CEID 3281, and Appendix B page 56). This Study is included in the Air Quality Conformity Determination that accompanies the Visualize 2045 Plan. The Visualize2045 Air Quality Analysis is based upon the latest planning assumptions available for the Washington region. The analysis used MOVES2014a, the latest emission factor model specified by USEPA for use in preparation of state implementation plans and conformity assessments at the time of analysis.

As part of the conformity requirements, consultation with affected agencies such as the USEPA, FHWA, Federal Transit Administration (FTA), and the Metropolitan Washington Air Quality Committee (MWAQC), as well as with the public was completed. 23 CFR 450.324(c) requires that the Metropolitan Planning Organization (MPO) review and update the transportation plan at least every four years in air quality

nonattainment and maintenance areas to confirm the transportation plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to at least a 20-year planning horizon. The TPB approved an update to Visualize 2045 on June 15, 2022. The design concept and scope for the Preferred Alternative is included in the Air Quality Conformity analysis accompanying the update to Visualize 2045. As the Study is included in the conforming long-range plan, it is not anticipated that the Selected Alternative, which is included in the updated Air Quality Conformity analysis, would cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant NAAQS.

The Air Quality Analysis study area (i.e., Montgomery County and Fairfax County) is in an attainment area for $PM_{2.5}$, therefore, transportation conformity requirements pertaining to $PM_{2.5}$ do not apply for this Project and no further analysis of $PM_{2.5}$ was required. The Maryland counties were redesignated from a nonattainment area to attainment and entered a 20-year maintenance period for CO in March 1996. The area was considered a maintenance area for the 20 years following until March 2016 when the counties completed the maintenance period. Since the Maryland counties have completed the maintenance period, transportation conformity no longer applies for CO. Similarly, Fairfax County is designated attainment for CO, and is also considered attainment for the 1997 $PM_{2.5}$ NAAQS per the USEPA 2016 ruling.

B. Section 4(f) Determination

Section 4(f) of the US Department of Transportation Act of 1966 as amended (49 U.S.C. 303(c) and 23 U.S.C. 138) is a federal law that protects properties defined in 23 CFR 774.17 as "publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance." Section 4(f) applies to all transportation projects that require funding or other approvals by the USDOT. As a USDOT agency, FHWA must comply with Section 4(f) and its implementing regulations at 23 CFR 774.

Regulations at 23 CFR 774.11(c) state Section 4(f) applies to a park, recreation area, or wildlife and waterfowl refuge determined to be significant. For properties where no determination exists, "the Section 4(f) property will be presumed to be significant." 23 CFR 774.17 further defines "Historic site" to include any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP).

FHWA will not approve a transportation project that uses any Section 4(f) property, unless:

- FHWA determines that there is no feasible and prudent avoidance alternative to the use of land from the property, and the action includes all possible planning to minimize harm to the property resulting from such use (23 CFR 774.3(a)); or
- FHWA determines that the use of Section 4(f) property, including any measures to minimize harm (such as avoidance, minimization, mitigation, or enhancements measures) committed to by the applicant, will have a de minimis impact on the property (23 CFR 774.3(b)).

An impact to a public park, recreation area, or wildlife and waterfowl refuge may be determined to be *de minimis* if the transportation use of the Section 4(f) property, including incorporation of any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures), does not

adversely affect the activities, features, or attributes that qualify the resource for protection under Section 4(f) (23 CFR 774.17). For historic sites, a *de minimis* impact means that FHWA has determined (in accordance with 36 CFR 800) that either no historic property is affected by the project or that the project will have "no adverse effect" on the historic property. A *de minimis* impact determination does not require analysis to determine if avoidance alternatives are feasible and prudent, but consideration of avoidance, minimization, mitigation or enhancement measures should occur.

The Selected Alternative considered significant coordination with and listening to agencies and stakeholders, including the OWJs for Section 4(f) properties. The Selected Alternative would avoid the use of 40 Section 4(f) properties with a net reduction of approximately 113.6 acres of Section 4(f) properties, including both parks and historic resources, compared to the DEIS Alternative 9. The Selected Alternative would require use of a total of 33.2 acres from 20 Section 4(f) properties (including temporary and permanent use), compared to a total of 146.8 acres for the DEIS Alternative 9. Refer to **Table 6** for a summary of the Use of Section 4(f) Property from the Selected Alternative.

A *de minimis* impact finding has been made on 13 of the 20 impacted properties listed in **Table 6**. The public was afforded the opportunity to comment on the *de minimis* impact finding during the SDEIS comment period as well as a separate notice on the Project website and the respective OWJ websites. Written concurrence from the OWJs and FHWA is included in the appendices in the FEIS. For letters from M-NCPPC, City of Gaithersburg and City of Rockville, refer to **FEIS, Appendix S**. For the concurrence from the Maryland Historical Trust (MHT) refer to **FEIS, Appendix I**. A full description and analysis of the 13 Section 4(f) properties that would experience a *de minimis* impact is found in **FEIS, Appendix G, Section 2.**

In addition to OWJs, the Section 4(f) Evaluation must be made available to the US Department of the Interior (USDOI) and as needed, to the US Department of Agriculture (USDA) and the Department of Housing and Urban Development (HUD) (23 CFR §774.5). In accordance with 23 CFR §774.5, USDOI has been provided an opportunity to review and comment on the Draft Section 4(f) and Updated Section 4(f), and Final Section 4(f) Evaluation in coordination with the FEIS. In a letter dated July 12, 2022, USDOI responded with no further comments on the FEIS and agreed that there is no feasible and prudent use of Section 4(f) properties in the study area, the proposed action includes all possible planning to minimize harm to resources and that the Preferred Alternative is the alternative with the lease overall harm. (Refer to Appendix B of this ROD for a copy of this letter.) The Selected Alternative would not affect resources requiring coordination with USDA and HUD and, therefore, consultation with these agencies is not necessary.

The DEIS, SDEIS, and FEIS presented measures that had been identified to ensure all possible planning to minimize harm and mitigate for adverse impacts and effects. These measures are presented in **Section 4 of the Draft Section 4(f) Evaluation** (**DEIS, Appendix F**), **Chapter 5 of the SDEIS, Chapter 6 of the FEIS, and Section 4 of FEIS, Appendix G**.

Pursuant to Section 106, MDOT SHA has prepared a Programmatic Agreement to resolve adverse effects to historic properties (**FEIS, Appendix J and Appendix C of the ROD**). In general, mitigation measures agreed upon as part of the Section 106 process satisfy the requirement to include all possible planning to minimize harm for historic properties under Section 4(f) (refer to **Appendix A** of this document).

With regard to public parks, all possible planning involves the minimization activities described herein as well as mitigation coordinated with the OWJs over public parks and recreation areas, as described in **Chapters 6 and 7** of the FEIS, and **FEIS, Appendix G.** All possible planning to minimize harm will additionally involve an agreement document that outlines the process to continue coordination with the OWJs over Section 4(f) properties through the design phase of the Project.

Based on the information presented in the Draft Section 4(f) Evaluation, Updated Draft Section 4(f) Evaluation, and the Final Section 4(f) Evaluation, FHWA has concluded that there is no feasible and prudent alternative to the use of land from the Section 4(f) properties identified in **Table 6**, and the proposed action includes all possible planning to minimize harm, and the Selected Alternative is the alternative with the least overall harm.

Table 6: Use of Section 4(f) Property for the Selected Alternative

Section 4(f) Property	Official(s) with Jurisdiction[1]	Property Type	Section 4(f) Approval	Permanent (acres)[2]	Temporary (acres)[2]	Total (acres)[2]
George Washington Memorial Parkway	Advisory Council on Historic Preservation (ACHP), NPS, Virginia Department of Historic Resources (VDHR)	Public Park and Historic Property	Individual Evaluation	0.6	3.8	**4.4**
Chesapeake and Ohio Canal National Historical Park[3]	ACHP, MHT, NPS	Public Park and Historic Property	Individual Evaluation	1.0	9.1	**10.1**
Clara Barton Parkway[3]	ACHP, MHT, NPS	Public Park and Historic Property	Individual Evaluation	1.1	0.6	**1.7**
Washington Biologists' Field Club on Plummers Island	MHT, NPS	Historic Property	Individual Evaluation	<0.1	0.27	**0.28**
Carderock Springs Historic District	MHT	Historic Property	*De minimis*	< 0.1	< 0.1	**< 0.1**
Gibson Grove AME Church	MHT	Historic Property	Individual Evaluation	0.6	0.0	**0.6**
Cabin John Stream Valley Park Unit 2	Maryland-National Capital Park and Planning Commission (M-NCPPC) Montgomery County	Public Park	*De minimis*	0.6	< 0.1	**0.6**
Burning Tree Club	MHT	Historic Property	*De minimis*	1.3	0.0	**1.3**
Academy Woods	MHT	Historic Property	*De minimis*	0.2	0.0	**0.2**
Cabin John Regional Park	M-NCPPC Montgomery County	Public Park	Individual Evaluation	5.7	0.6	**6.3**
Tilden Woods Stream Valley Park	M-NCPPC Montgomery County	Public Park	*De minimis*	0.3	0.1	**0.4**
Old Farm Neighborhood Conservation Area	M-NCPPC Montgomery County	Public Park	*De minimis*	0.1	0.0	**0.1**
Cabin John Stream Valley Park Unit 6	M-NCPPC Montgomery County	Public Park	*De minimis*	0.8	<0.1	**0.8**
Bullards Park and Rose Hill Stream Valley Park	City of Rockville Department of Recreation and Parks	Public Park	Individual Evaluation	3.3	0.0	**3.3**
Rockmead Park	City of Rockville Department of Recreation and Parks	Public Park	*De minimis*	0.2	0.1	**0.3**
Woottons Mill Park	City of Rockville Department of Recreation and Parks	Public Park	*De minimis*	0.7	0.0	**0.7**

Section 4(f) Property	Official(s) with Jurisdiction[1]	Property Type	Section 4(f) Approval	Permanent (acres)[2]	Temporary (acres)[2]	Total (acres)[2]
Woodley Gardens	MHT	Historic Property	*De minimis*	1.2	0.1	**1.3**
Rockville Senior Center and Park	City of Rockville Department of Recreation and Parks, MHT	Public Park and Historic Property	*De minimis*	1.0	0.1	**1.1**
Ward Building	MHT	Historic Property	*De minimis*	0.2	0.0	**0.2**
Malcolm King Park	City of Gaithersburg Department of Parks, Recreation and Culture	Public Park	*De minimis*	0.4	<0.1	**0.5**

Note: 1. Virginia Department of Historic Resources (VDHR) serves as the Virginia State Historic Preservation Office; Maryland Historical Trust (MHT) serves as the Maryland State Historic Preservation Office.

2. All impacts quantities rounded to the tenths of an acre. For purposes of determining Section 4(f) use, temporary impacts are considered short-term, construction related activities that do not require permanent incorporation of a Section 4(f) resource into a transportation facility. Short-term, construction related work includes but is not limited to construction staging, material and equipment storage, construction access easements, and other areas needed to support the construction, but not part of the long-term improvement.

3. Section 4(f) impacts to Chesapeake and Ohio Canal National Historical Park and Clara Barton Parkway as currently noted in Chapter 5 exclude the area that currently has an existing transportation use. The area within NPS property defined as transportation use includes existing I-495 at-grade roadway sections to the toe of slope, Clara Barton Parkway Interchange ramp sections to the toe of slope, existing pier locations for the structure over the Chesapeake and Ohio Canal and eastbound Clara Barton Parkway, and existing pier locations for the ALB.

C. Section 106 Determination

Due to the complexity and wide scope of the Study, the Section 106 process has concluded through a Programmatic Agreement (PA), as described at 36 CFR Part 800.14[b]. (Refer to **Appendix C**.) FHWA notified the Advisory Council on Historic Preservation (ACHP) of this anticipated PA in March 2018, and ACHP notified MDOT SHA and FHWA in May 2018 of their participation in consultation for this undertaking (36 CFR Part 800.6[a][1][iii]). The PA provides protocols for additional consultation, historic properties identification, effects assessment, and adverse effects resolution as design advances. MDOT SHA will oversee implementation of the PA as the Project continues following the ROD.

Subsequent to the SDEIS, MDOT SHA completed its review of consulting parties' comments on the first draft of the PA and provided a second draft to consulting parties on December 6, 2021. MDOT SHA received consulting parties' comments on the second draft on January 3, 2022. MDOT SHA provided a third draft to consulting parties for comment on March 31, 2022 and received consulting parties' comment on the third draft to consulting parties for comment on April 14, 2022. MDOT SHA provided a final PA to consulting parties for signature on May 17, 2022. The PA has been signed and was executed prior to the issuance of the ROD. (Refer to **Appendix C** of this document.)

D. Environmental Justice

All federal agencies have certain obligations under EO 12898: Federal Actions to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations (EJ Order). EO 12898 states that "…each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

The Study completed an EJ analysis as part of the NEPA process and has been documented in the following reports: **DEIS, Chapter 4 and Appendix E; SDEIS, Chapter 4;** and **FEIS Chapter 5 and Appendix F**. As a result of this analysis, the Selected Alternative will not cause disproportionately high and adverse effects on any minority and/or low-income populations in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23A.

During the outreach and engagement efforts, community priorities were identified for improved sidewalks and bicycle facilities, better lighting, and traffic calming measures. MDOT SHA commits to working with the City of Rockville, the City of Gaithersburg, and Montgomery County to:

- Identify locations where safer pedestrian crossings on major state roadways are needed.
- Identify locations where additional pedestrian improvements including adding or upgrading sidewalk, restriping for bicycle lanes, adding or upgrading ADA ramps are needed.
- Identify locations along state roads with existing pedestrian facilities where more or improved lighting is needed.

MDOT SHA has also committed to certain improvements within the historically African American community of Gibson Grove either as mitigation for direct impacts or as commitments for further enhancement. MDOT SHA will construct or fund a new parking lot for the Gibson Grove Church in coordination with their restoration plans, provide stormwater improvements to the property, and provide

a new sidewalk along the west side of Seven Locks Road under I-495 to reestablish the historic connection between Gibson Grove Church and Morningstar Tabernacle No. 88 Moses Hall and Cemetery. Refer to **Chapter 5, Section 5.7** and **FEIS, Appendix J** for details. MDOT SHA has also committed to convey a portion of existing MDOT SHA owned right-of-way located adjacent to the boundary of Morningstar Tabernacle No. 88 Moses Hall and Cemetery with an identified potential for unmarked graves to the Trustees of the Morningstar Tabernacle No. 88 Moses Hall and Cemetery.

Additionally, the Developer is committed to community and transit enhancements as referenced in the **FEIS, Chapter 7, Section 7.3**.

E. Wetlands and Waterways Finding

The Selected Alternative impacts wetlands and waterways located entirely within the Middle Potomac-Catoctin HUC-8 watershed. Impacts were analyzed and quantified within the LOD for each regulatory jurisdiction and were documented in **Chapter 5 of the FEIS, and FEIS Appendices M, N, O and P**. In Maryland, MDE impacts include 152,934 square feet (3.51 acres) of permanent wetland impacts and 28,594 linear feet of non-culverted stream impacts; and USACE impacts include 148,598 square feet (3.41 acres) of permanent wetland impacts and 29,769 linear feet of non-culverted stream impacts. In Virginia, VDEQ and USACE impacts include 944 linear feet of non-culverted streams.

Based on the direct and indirect impacts of the Selected Alternative, the nontidal wetlands and waterways mitigation requirement estimate in Maryland includes 4.38 acres of wetland mitigation credits and 7,511 functional feet (FF) of stream credits. No mitigation bank credits within an appropriate service area, or in-lieu fee programs were identified in Maryland; therefore, MDOT SHA committed to meeting the USACE and MDE nontidal wetlands and waterways mitigation requirement through the permittee-responsible mitigation. Off-site compensatory nontidal wetlands and waterways mitigation in Maryland consists of two permittee-provided mitigation sites, including a total of 4.61 acres of potential wetland mitigation credits and 6,304 FF of potential stream mitigation credits. The remaining required stream mitigation credits will be provided by purchasing credits from a mitigation bank that will have an initial credit release in the fall of 2022. Further details on the Selected Alternative impacts, mitigation requirements, proposed mitigation sites, and Phase II Mitigation Plans is included in the *Final Compensatory Wetlands and Waterways Mitigation Plan (CMP)* (**FEIS, Appendix O**).

In Virginia, wetland mitigation requirements were determined based on replacement ratios in the Virginia Administrative Code (9VAC25-680-70), and stream mitigation requirements were developed based on the USACE's Unified Stream Methodology for use in Virginia, January 2007. MDOT SHA commits to meeting Virginia stream mitigation requirements through purchase of privately-owned mitigation bank credits. These credits will fulfill the current mitigation requirement estimate of 472 riverine mitigation credits in the Fairfax County Middle Potomac-Catoctin watershed. MDOT SHA has identified specific mitigation bankers and confirmed credit availability in the Final CMP (**FEIS, Appendix O**).

Concurrent with the NEPA process, MDOT SHA has prepared a Joint Federal/State Permit Application for the Alteration of Any Floodplain, Waterway, Tidal or Non-Tidal Wetland (refer to **FEIS, Appendix P**). The USACE plans to issue a Clean Water Act, Section 404 and Section 10 Permit. The MDE and VDEQ plan to issue Section 401 Water Quality Certifications, and MDE will also issue a Maryland Nontidal Wetlands and Waterways Permit.

F. Floodplain Finding

The Selected Alternative will result in 31.6 acres of impacts to FEMA 100-Year Floodplain, which represent the estimated footprint of fill areas associated with construction of the Selected Alternative. Actual analysis of potential study related changes to hydraulic function and elevation of floodplains would be determined using hydraulic and hydrologic (H&H) floodplain modeling as part of the engineering process for each structure in final design. Roadway expansion and augmented culverts associated with the Selected Alternative may increase the size of existing floodplain encroachments but would not result in new significant encroachments into the floodplain as defined in CFR §650.105(q). The proposed expansion of the roadway would increase the size of existing floodplain encroachments but would not result in new significant floodplain encroachments.

If H&H studies find that the flood elevation would change, mitigation or other actions will be required in accordance with floodplain regulations. MDOT SHA will submit project plans to MDE for approval of structural evaluations, fill volumes, proposed grading evaluations, structural flood-proofing, and flood protection measures in compliance with FEMA requirements, US Department of Transportation (USDOT) Order 5650.2, *Floodplain Management and Protection*, and EO 11988. Improvements at existing culverts are required to maintain existing 100-year flood high water elevations. Culvert improvements and new culvert design will ensure that flood risk to adjacent properties is not increased, a requirement of COMAR 26.17.04.11. 23 CFR § 650.115(a) will be consulted when determining design standards for flood control measures. In addition, per FHWA memorandum HIBT-20 every effort will be made during final design to avoid classification of the roadway embankment as a flood control structure. The requirement set forth in 23 CFR § 650.111 to complete location hydraulic studies for floodplain encroachment areas will be complied with at later stages of design.

G. Section 7 of the Endangered Species Act

Section 7 of the Endangered Species Act (ESA) of 1973 (16 U.S.C. Sections 1531-1544) requires all federal agencies to use their authorities to conserve endangered and threatened species in consultation with the USFWS and/or National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). Section 7(a)(2) (16 U.S.C. § 1536) establishes substantive requirements for federal agencies to insure, in consultation with the USFWS, any action authorized, funded, or carried out is not likely to jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify designated critical habitat. The Section 7 implementing regulations (50 CFR Part 402) specify how federal agencies must fulfill their Section 7(a)(2) consultation requirements. Section 9 of the ESA (16 U.S.C. § 1538) prohibits any action that causes a “take” of species listed as endangered or threatened. “Take” is further defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt any of these.

The USFWS administers the ESA for all terrestrial and nontidal freshwater species, while the NMFS administers the ESA for marine and anadromous species or critical habitat. While there are no tidal areas within the limits of the Selected Alternative, the NMFS also regulates effects to other trust resources such as anadromous fish species, estuaries, and EFH. A response was received on August 9, 2018, from NMFS, included in *Appendix N* of the *Final Natural Resources Technical Report* (**FEIS, Appendix M**), stating the corridor study boundary lies outside the limits of potential direct or indirect effects to federally-listed or proposed threatened or endangered species under the jurisdiction of NMFS.

The USFWS also indicated that the Project is covered by the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the NLEB and Activities Excepted from Take Prohibitions since the area where forest clearing would occur does not have known maternity roost trees or hibernacula. In their letter, the USFWS stated that the Project was "not likely to adversely affect" the NLEB. MDOT SHA coordinated closely with USFWS and MDNR regarding NLEB and Indiana bat, and ESA Section 7 consultation has concluded.

VIII. Mitigation and Commitments

The Selected Alternative, with build improvements only within the limits of Phase 1 South, avoids over 100 acres of parkland and hundreds of wetland and stream features. The Selected Alternative was developed as a resource avoidance and minimization alternative based in part on extensive coordination with and input from agencies and stakeholders, including the OWJs for Section 4(f) properties. Comments received on the DEIS and Draft Section 4(f) Evaluation from agencies and stakeholders specifically requested avoidance of significant parkland and historic resources within the study area. The Selected Alternative is responsive to comments received and aligns the Study to be consistent with the previously determined phased delivery and permitting approach by limiting the build improvements to the area of Phase 1 South only. The final decision results in complete avoidance of significant stream valley parks, including Rock Creek, Northwest Branch, Sligo Creek, Southwest Branch, and Henson Creek Stream Valley Parks, as well as historic parks of national significance including the Baltimore-Washington Parkway, Greenbelt Park and Suitland Parkway.

Mitigation developed for this Study was identified to reduce and offset resource impacts resulting from the Selected Alternative. In planning for mitigation, MDOT SHA has strived to provide meaningful benefits to resources and improve their values, services, attributes, and functions that may be compromised. The lead agencies have worked in good faith to plan worthwhile mitigation based on identified priorities that would, at a minimum, result in no net loss with a goal of a net benefit. The detailed comprehensive mitigation package is included in **Appendix A** of this document.

A comprehensive mitigation package was developed in close coordination with local, state and federal agency partners for the Study and includes:

- Acquisition of parkland replacement property totaling approximately 94.50 acres
- Parkland amenities, such as improved access to parks
- Stream restoration totaling approximately 6,300 functional feet
- Wetland creation/restoration totaling approximately 6.10 acres
- Forest and terrestrial vegetation restoration
- Rare, threatened and endangered species restoration
- Cultural landscape report; historic resource condition assessments and restoration; and Phase III data recovery
- Noise barriers

Beyond mitigation for unavoidable impacts identified in the EIS documents, additional transit, bicycle and pedestrian and/or environmental priorities have been committed to by MDOT SHA. These priorities,

identified through stakeholder coordination, have been included as part of the Selected Alternative and are summarized in **Appendix A, Table 1**.

Additional commitments have been made by the Developer (Accelerate Maryland Partners) or MDOT SHA if the project is delivered as a P3 with a Section Developer controlled by AMP using private funding. These commitments are captured separately throughout the FEIS including in **Appendix A, Table 2** of this ROD. These commitments are included to disclose the efforts the Developer and MDOT SHA have made to advance the project in an environmentally responsible manner taking into account input received from the public, stakeholders and local governments related to transit, community enhancements, water quality, and equity. These commitments are not mitigation for direct environmental impacts, are in addition to the NEPA-related commitments captured in **Appendix A, Table 1**, and are tied to project delivery under a P3 contractual agreement.

Commitments listed in **Appendix A, Table 2** are the responsibility of MDOT SHA and the P3 Developer to implement as part of the Phase 1 South Section P3 Agreement, which will be the contractual agreement outlining the terms and conditions for final design, construction, financing, operations, and maintenance and/or Memoranda of Understanding with applicable third parties such as local governments. MDOT SHA will provide quarterly status update reports for items listed in **Appendix A, Table 1** to FHWA following issuing a notice to proceed for final design and construction.

IX. Permits, Approvals and Next Steps

In addition to NEPA compliance, several permits and approvals are being coordinated concurrently with the NEPA Process. **Table 7** summarizes the federal, state, and local permits, authorizations and approvals that are required for the Selected Alternative based on the current Study design assumptions and associated impacts.

Table 7: Permits and Approvals

Permit/ Approval	Responsible/Permitting Agency	Anticipated Timeframe
Interstate Access Point Approval	Federal Highway Administration	Fall 2022
Mandatory Referral	Maryland-National Capital Park and Planning Commission	Fall 2022/Early 2023
Record of Decision	National Park Service	Fall 2022
Archaeological Resource Protection Act (ARPA) permit for Maryland and Virginia resources	National Park Service	Early 2023
Least Environmentally Damaging and Practicable Alternative (LEDPA)	US Army Corps of Engineers	Spring 2023
Clean Water Act Section 404 and Section 10	US Army Corps of Engineers	Spring 2023
Maryland/Virginia State Waters (Section 401)	Maryland Department of Environment / Virginia Department of Environmental Quality	Spring 2023
Maryland Nontidal Wetlands and Waterways Permit	Maryland Department of Environment	Spring 2023

Permit/ Approval	Responsible/Permitting Agency	Anticipated Timeframe
Virginia Wetland Protection Permit	Virginia Department of Environmental Quality	Spring 2023
Special Use Permit - Construction in Maryland	National Park Service	Early 2023
Special Use Permit - Construction in Virginia	National Park Service	Early 2023
Highway Deed Easement in Maryland	National Park Service/FHWA	Spring 2023
Park Construction Permit	Maryland-National Capital Park and Planning Commission	Early 2023
Maryland Reforestation Law Approval	Maryland Department of Natural Resources	Early 2023
State and County Forest Conservation Easement Revision Approvals	Maryland Department of Natural Resources / Maryland-National Capital Park and Planning Commission	Summer 2023
General Permit for Stormwater Associated with Construction Activity - Maryland	US Environmental Protection Agency / Maryland Department of the Environment	Spring 2023
General Permit for Stormwater Associated with Construction Activity - Virginia	US Environmental Protection Agency / Virginia Department of Environmental Quality	Late 2023
Stormwater Management/Erosion and Sediment Control	Maryland Department of Transportation - State Highway Administration Plan Review Division / Maryland Department of the Environment	Late 2023
Stormwater Management/Erosion and Sediment Control	US Environmental Protection Agency / Maryland Department of the Environment / Virginia Department of Environmental Quality	Late 2023
Clean Water Act Section 402 (MS4)	Maryland Department of the Environment	Spring 2023
Water Appropriation and Use Permit	Maryland Department of the Environment	Spring 2023

Following the ROD, MDOT SHA anticipates proceeding with the remaining steps of project development using the Progressive P3 approach. The Developer is working collaboratively with MDOT SHA, MDTA, and the stakeholders on predevelopment work for Phase 1 South. This effort focuses on advancing the preliminary design and due-diligence activities by involving all stakeholders – including Montgomery County, VDOT, municipalities, property owners, utility owners, and citizens.

As part of the predevelopment work, the Developer has advanced a procurement process to select the Design-Build contractors that will subcontract with them to perform final design and construction of Phase 1 South. The Developer will be responsible to MDOT SHA for the final design, construction, financing, operations, and maintenance of Phase 1 South.

The Developer will continue to further avoid and minimize impacts throughout the remainder of the design process to the greatest extent practicable. Monetary incentives have been added to the Developer's Technical Provisions to encourage further avoidance and minimization of impacts to wetlands, waterways, forest, and parkland. MDOT SHA and the Developer will develop an Environmental Management Plan and an Environmental Compliance Plan to track the mitigation and commitment documented in the FEIS and ROD, as included in **Appendix A** of this document. MDOT SHA and the Developer will coordinate closely on any future design changes and will consult with FHWA to consider if

such changes trigger the need to reevaluate the NEPA analysis and to determine if the NEPA decision remains valid. Any additional environmental studies beyond a reevaluation would be coordinated with the appropriate stakeholders and agencies.

X. Comments on FEIS

A. Overview

As described in Section VII, the FEIS was available for a 30-day review through the Project website (https://oplanesmd.com/feis/), the USEPA EIS Database and at 17 public libraries along the study corridors including in Montgomery and Prince George's Counties, Maryland, Washington DC and Fairfax County, Virginia. During the FEIS availability period, from June 17, 2022 through July 18, 2022, a total of 33 comments were received via email or letter transmitted via email. The breakdown of comments received by commenting entity is:

- Cooperating Agencies: 3
- Other Agencies/ Stakeholders: 3
- Elected Officials: 2
- Community Organizations: 9
- Businesses: 0
- Individuals: 16

In addition to the 33 comments, form letter comments were also received via email from 514 individuals; in many cases an individual submitted multiple entries of the same email/letter to different government officials, but they were only counted once. Form letter comments are comments that were submitted by individuals containing mostly the same language or content. There were two form letter comments received on the FEIS. However, all of the form letter comments submitted included a request to extend the FEIS comment period.

As with comments received on the DEIS and SDEIS, the FEIS comments were reviewed, considered, and uploaded into a database used as a repository for all comments received. MDOT SHA and FHWA reviewed and considered each comment and substantive comments requiring a technical review were assigned to the appropriate technical staff.

All substantive comments received during the FEIS availability period have been responded to in **Appendix D** of the ROD. Comments received, before or after the availability period, were considered in the decision-making process and reflected in the project record but are not included in this Appendix. The responses to substantive comments in **ROD, Appendix D** include responses to:

- Montgomery County Department of Transportation
- Maryland Transit Opportunities Coalition
- Peter James (2 comments)
- Friends of Moses Hall
- Office of the County Executive, Montgomery County
- Sierra Club (2 comments)
- The Maryland General Assembly
- National Capital Region Transportation Planning Board

B. Common Themes

A few common themes emerged during review of the comments received. Request for an extension of the FEIS availability period and request for a formal FEIS comment period were noted as a top common theme mainly through the form comment letters. Other common themes included opposition to the program or project and concerns over environmental impact including environmental justice and analysis of greenhouse gas emissions. There were also several comments questioning the results and validity of the final traffic analysis and the need to consider teleworking. Responses to these common themes follow.

1. Extend FEIS Availability Period and Formal FEIS Comment Period

FEIS comments questioned whether a 30-day availability period was adequate to meaningfully review and comment on the material in the FEIS including supporting appendices. Based on the Council on Environmental Quality (CEQ) regulations, no formal comment period on a FEIS is required and no final decision can be made sooner than 30 days after the FEIS is published in the Federal Register. An extension of the FEIS availability period was not granted by FHWA as there has been extensive opportunity for the public to review and comment on the Project documents including the DEIS and SDEIS over a four-year period. The FEIS was prepared in support of the normal progress of a NEPA Study. That is, after reviewing and considering the many comments received on the DEIS and SDEIS the agencies took another hard look at its prior analyses, evaluated accumulated data, refined design to further address operational considerations and most notably to further efforts to avoid and minimize impacts. The FEIS outlined the changes made since the SDEIS to aid in review of new or updated information. Supporting technical reports appended to the FEIS were analyses presented with the DEIS, updated with the SDEIS and finalized for the FEIS.

From the outset of the Study's NEPA process, the FHWA and MDOT SHA, developed a comprehensive public involvement and engagement strategy designed to obtain input from stakeholders around the entire MLS study area. The public involvement and engagement process, starting in early 2018 and continuing for over four years, considered the vast diversity of community resources. The MDOT SHA's public involvement strategy ensured the safety of the public during the pandemic, while still providing the same opportunities for meaningful participation by the public in the NEPA process and even expanding opportunities using new technologies and alternative methods.

In addition to a combined six-month public comment review period for the DEIS and SDEIS, MDOT SHA held 16 large public workshops, 7 public hearings including virtual and in-person, and over 200 citizen, elected official, community, stakeholder, and business owner meetings. Refer to **DEIS, Chapter 7 and Appendix P; SDEIS, Chapter 7; FEIS Chapter 8; and FEIS, Appendix R** for detailed information on public involvement.

As a result of this continued public involvement and engagement effort, and with input from federal, state, and local agencies, the lead agencies refined and presented the following in the FEIS: the Preferred Alternative, potential impacts of the Preferred Alternative, and responses to more than 5,000 comments received on the DEIS and SDEIS. Importantly, this Preferred Alternative reflected project refinements that address many comments, including design modifications and adjustments, finalizing technical analyses,

continued application of avoidance and minimization efforts, and finalizing mitigation for unavoidable impacts. This is precisely what the NEPA process envisions. Refer to **FEIS, Executive Summary** for more detailed explanation.

The FEIS was made available for a 30-day Notice of Availability through various and widely accessible means. Public involvement and engagement will continue as the Project advances to final design and construction. The MDOT SHA will be responsible for implementing strategies, such as public meetings and community events, with the goal of maintaining an open dialogue with stakeholders. For the more detailed response to comments related to the request to extend the FEIS availability period, refer to Montgomery County Executive, Marc Erich and Sierra Club comment letters and response in **ROD, Appendix D**.

2. Environmental Justice (EJ) Analysis

FEIS comments stated that the EJ analysis had not been previously released to the public for review and comment. This is not accurate. The DEIS, SDEIS, and FEIS all documented the EJ analysis completed for the Project; refer to **DEIS, Chapter 4, Section 4.21; DEIS Appendix E; SDEIS, Chapter 4, Section 4.21; FEIS, Chapter 5, Section 5.21; and FEIS, Appendix F**. The EJ analysis and methodology is discussed in **DEIS, Chapter 4, Section 4.21.2** and **FEIS, Chapter 5, Section 5.21.2**.

As stated in the DEIS, SDEIS, and FEIS, the strategies developed under EO 12898, USDOT Order 5610.2C, FHWA Order 6640.23A, and FHWA memorandum Guidance on Environmental Justice and NEPA (2011) set forth the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal transportation projects on minority and low-income populations. Based on these strategies, the first four steps, below, were documented in the DEIS EJ analysis, updated in the SDEIS EJ analysis and updated and enhanced where necessary for the FEIS EJ analysis:

1. The identification of minority race and ethnicity populations and low-income populations (EJ populations) along the 48-mile study corridor for the **DEIS, Chapter 4, Sections 4.21.2.A-B** and then an update on the identification of EJ populations for the Preferred Alternative, Alternative 9 - Phase 1 South limits in the **SDEIS**, **Chapter 4, Section 4.21.2.B**;

2. The review of demographic data to determine the existing environmental and community conditions of the EJ populations, documented in the **DEIS, Chapter 4, Section 4.21.3** and enhanced in the **SDEIS**, **Chapter 4, Section 4.21.2.C**;

3. The documentation of public outreach as planned, conducted and refined throughout the study in consideration of the demographic and community data to ensure meaningful involvement in EJ populations, documented in the **DEIS, Chapter 4, 4.Section 21.4** and updated in the **SDEIS**, **Chapter 4, Section 4.21.2.D**; and

4. The identification of potential beneficial and/or adverse impacts to EJ populations under the No Build and Screened Alternatives in the **DEIS, Chapter 4, Section 4.21.5**, and the identification of potential beneficial and/or adverse impacts to EJ populations under the No Build and Preferred Alternative, Alternative 9 - Phase 1 South updated in the **SDEIS**, **Chapter 4, Section 4.21.3.**

Steps #2, 3, and 4 are updated and Steps #5 through #8, below, are documented in this FEIS EJ Analysis in consideration of the Preferred Alternative[19]:

5. The consideration of mitigation or community enhancement measures if unavoidable adverse effects are expected to occur under the Preferred Alternative **(throughout FEIS, Section 5.21.5)**;
6. A comparison of adverse effects to all EJ populations under the Preferred Alternative versus adverse effects to a non-EJ population reference community **(FEIS, Chapter 5, Table 5-51)**;
7. A determination of whether disproportionately high and adverse impacts would occur to EJ populations under the Preferred Alternative **(FEIS, Chapter 5, Table 5-51)**; and
8. A final conclusion of whether disproportionately high and adverse effects would occur to EJ populations, based on unmitigated adverse effects and whether public feedback has been addressed **(FEIS, Chapter 5, Section 5.21.7)**.

The public had sufficient opportunity to review and comment on the EJ analysis conducted for the Project. As previously described in **Section VIII.D** of this document, MDOT SHA also implemented additional EJ outreach efforts before the FEIS to engage meaningfully and directly with underserved communities to identify improvements needed in their communities. These commitments are described in **Section VII.D** and documented in the **ROD, Appendix A, Table 1, numbers 114-117.**

3. Greenhouse Gas Analysis

FEIS comments stated that the greenhouse gas (GHG) analysis was not previously released to the public for review and comment. This is not accurate. The DEIS, SDEIS, and FEIS all documented the GHG analysis as part of the air quality analysis for the Project; refer to **DEIS, Chapter 4, Section 4.8; DEIS Appendix I; SDEIS, Chapter 4, Section 4.8; FEIS, Chapter 5, Section 5.8.B; and FEIS, Appendix K**.

As documented in the FEIS, to date, no national standards for GHG emissions have been established by the USEPA under the Clean Air Act and there is no regulatory requirement that has been established to analyze these emissions at a project level for transportation projects. Consistent with the 2016 CEQ Final GHG NEPA guidance,[20] a quantitative GHG analysis was conducted on the six Build Alternatives and the Preferred Alternatives as documented in the DEIS and FEIS, respectively. Since there is no approved methodology for conducting a project-level quantitative GHG emissions analysis, there are numerous parameters that could be applied to conduct such a review. Consistent with FHWA guidance on developing an affected network to analyze project-related pollutants, such as MSATs, MDOT SHA analyzed GHG emissions using the same affected network as the MSAT analysis. Refer to **FEIS, Appendix K, Section 3.4.1** for the GHG results. While no significant increase in GHG emissions from the Preferred Alternative was noted, MDOT SHA has committed to implementing a Greenhouse Gas Reduction Program to reduce emissions during construction. Refer to **ROD, Appendix A, Table 1, number 130**.

4. Consideration of Teleworking

FEIS comments noted that more workers are teleworking or telecommuting than pre-pandemic times. The Project considered the effects to the COVID-19 pandemic and the impacts on teleworking or remote

[19]Steps #4 and 5 plus Steps #6 and 7 are combined in this FEIS EJ Analysis.

[20] https://www.federalregister.gov/documents/2016/08/05/2016-18620/final-guidance-for-federal-departments-and-agencies-on-consideration-of-greenhouse-gas-emissions-and

working on the region. Refer to **FEIS, Chapter 4, Section 4.5** and **FEIS, Appendix C** for the COVID-19 Travel Analysis and Monitoring Plan.

As documented in the FEIS, the traffic results show statewide traffic volumes are back to pre-pandemic levels, while transit ridership has remained down. In addition, the sensitivity analysis of the Preferred Alternative in the FEIS concluded that: "the results of the MWCOG and VISSIM sensitivity analyses confirm that the capacity improvements proposed under the Preferred Alternative would be needed and effective even if future demand changes from the pre-pandemic forecasts based on potential long-term impacts to teleworking, e-commerce, and transit use that are not formally accounted for in the current regional forecasting models", **FEIS, page 4-25**. MDOT SHA also responded to teleworking comments in the **FEIS, Chapter 9, pages 9-7 and 9-8**.

5. Traffic Forecasts and Modeling Results

FEIS comments questioned the Study's final traffic forecasts and modeling results. These comments are not based in fact and appear to be based on a misunderstanding of how data was updated and refined between publication of the SDEIS and publication of the FEIS and its supporting documents. FHWA and MDOT followed accepted practice and processes for considering how or if project design refinements or other relevant new information would impact traffic forecasts. As explained below, the analysis reflected in the FEIS is sound. Any changes to the traffic forecast results in the FEIS properly reflect appropriate and relatively minor updates to modeling inputs based on information available to MDOT SHA following completion of the SDEIS.

The FEIS document acknowledges several changes that were made to the traffic forecasts and analysis between the time the SDEIS and FEIS were published. Refer to **FEIS, Chapter 4, Section 4.1** and **4.2** and **FEIS Appendix A, Section 2**. The changes that were made are typical of the standard process of updating the information presented in a draft environmental document (DEIS and SDEIS) in response to comments received following public review of the document, and also to reflect refinements to the design that occurred after the SDEIS was published. This is a typical process which occurs as the lead agencies meet with affected agencies and stakeholders throughout the NEPA process and make refinements to the design, as needed, to avoid or minimize impacts and/or costs. For the more detailed response to comments related to the results of the traffic analysis, refer to the Maryland Transit Opportunities Coalition comment and response in **ROD, Appendix D**.

6. Traffic Results in General Purpose Lanes

FEIS comments stated that the general purpose lanes in the future build conditions would be worse than the No Build condition. As noted earlier in the ROD, on page 6, the Selected Alternative provides benefits to the existing lanes by improving average speeds in the general purpose lanes by four mph on average throughout the study corridors during peak periods compared to the No Build condition. However, the results in the FEIS do show that the travel times for some inner loop trips are "longer" in the Build general purpose lanes than No Build (for example, the trip from River Road to I-370 takes 26.6 minutes under Build conditions versus 17.0 minutes in the No Build). The reason is that the backups would be so bad in Virginia under the No Build condition that fewer vehicles would actually get across the ALB during the peak hour. This makes some trips in Maryland under the No Build look better than they are. A similar analogy is that the No Build condition is like having an incident on the ALB every day. The Build condition

serves much more throughput during the peak hour and there is naturally some increase in travel time during the peak when looking at that segment. While this affects some trip pairs, 76% of the trip pairs show a benefit from traveling in the general purpose lanes under Build versus No Build, and the average PM travel time change between No Build and Build is 8 minutes of savings.

XI. Statute of Limitations

Pursuant to 23 USC Section 139(l), FHWA will publish a statute of limitation (SOL) notice in the Federal Register upon issuance of this ROD. A claim arising under federal law seeking judicial review of the Federal agency actions on the I-495 and I-270 Managed Lanes Study will be barred unless the claim is filed within 150 days of publication of the SOL notice in the Federal Register.

XII. Conclusion

FHWA has considered all of the alternatives, information, analyses, and objections submitted by federal, state, tribal, and local governments and public commenters for consideration by the lead and cooperating agencies in developing this ROD. Having considered this information, FHWA has determined that:

1. Adequate opportunity was afforded for the presentation of views by all parties with a substantive economic, social, and or environmental interest;

2. Fair consideration has been given to the preservation and enhancement of the environment and to the interests of the communities in which the Selected Alternative is located; and

3. All practicable measures to avoid or minimize environmental harm have been incorporated into this decision, and where adverse effects remain, there exists no reasonable alternative to avoid and further mitigate such effects.

Based on a balanced consideration of the need for safe and efficient transportation, the social, economic and environmental effects of the proposed transportation improvements, and national, state, and local environmental protection goals, as well as the FEIS and comments submitted by the public and agencies, FHWA has determined in accordance with 23 CFR 771 that:

- The requirements of 23 CFR 771 have been met;
- Consistent with social, economic and other essential consideration, to the maximum extent practicable, adverse environmental effects revealed in the environmental impact statement process will be minimized or avoided;
- Consistent with social, economic, or other essential considerations, from among reasonable alternatives, thereto, the action to be directly undertaken by MDOT SHA, is an alternative that minimizes or avoids adverse environmental effects to the maximum extent practicable, including the effects disclosed in the environmental impact statement;
- The action to the fullest extent practicable, incorporates the environmental investigations, reviews, and consultations in a single coordinated process;

- Compliance with all applicable environmental requirements is reflected in the environmental document required under NEPA; and

- Public involvement and a systematic interdisciplinary approach were essential parts of the development process for the action.

Approved:

Gregory Murrill
Division Administrator
Maryland Division
Federal Highway Administration

8/25/2022
Date