

EXECUTIVE SUMMARY

OVERVIEW

The I-495 & I-270 Managed Lanes Study (Study) is being conducted in compliance with the National Environmental Policy Act (NEPA) with the Federal Highway Administration (FHWA) as the lead federal agency and the Maryland Department of Transportation State Highway Administration (MDOT SHA) as the co-lead agency and local project sponsor. The Study was initiated in early 2018 with the publication of a Notice of Intent to develop an Environmental Impact Statement (EIS) followed by a formal scoping period to determine the range of issues to be addressed by the Study. At the beginning of the NEPA process, MDOT SHA and FHWA invited eight (8) federal, state and local agencies to be Cooperating Agencies and twenty (20) to be Participating Agencies in the Study. While the formal status of some agencies has changed since 2018, MDOT SHA and FHWA have benefited from active participation and regular collaboration with numerous Federal, state, and local agencies from both Maryland and Virginia. This coordination included close to 300 office and field agency meetings from 2018 through early 2022.

Involvement by the public is also a critical part of a NEPA study. MDOT SHA conducted an extensive effort to involve and engage the public, stakeholders, elected officials, businesses, and communities over the course of the 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. In response to public and agency comments received over the course of the Study, MDOT SHA and FHWA have modified analysis methodologies, conducted new 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.

To document the substantial traffic, engineering, and environmental analyses for public review and comment, a Draft Environmental Impact Statement (DEIS), a Supplemental DEIS (SDEIS) and now a Final EIS (FEIS) have been prepared for the Study.

DEIS: The DEIS was published on July 10, 2020 and was made available for public and agency review and comment for an initial period of 90 days, twice the minimum time required by FHWA. Based on public and stakeholder requests, the DEIS comment period was extended for another 30+ days totaling 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.

SDEIS: 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.

FEIS: The FEIS has been prepared to present 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.

Upon publication of the FEIS and after a 30-day availability period, a Record of Decision (ROD) would be issued that identifies the Selected Alternative as a result of the Study, after considering a range of reasonable alternatives, efforts to avoid and minimize impacts, as well as final mitigation measures designed to address potential environmental impacts.

What has Changed Since the Supplemental Draft Environmental Impact Statement?

As preliminary design has advanced on the Preferred Alternative in coordination with the Developer, minor modifications have occurred. These modifications included roadway design adjustments based on traffic operations, a new trail connection option from the American Legion Bridge (ALB) to the Chesapeake and Ohio Canal towpath, revisions to noise barrier locations based on further analysis, revisions to stormwater management (SWM) and culvert augmentation sites, and continued application of avoidance and minimization efforts at sensitive resources. The specific design modifications to the Preferred Alternative that have occurred since the SDEIS are described below.

The design concept at the George Washington Memorial Parkway interchange, along I-495 in Virginia south of the ALB has been modified to consolidate movements and provide coordinated movements with the proposed improvements from the 495 NEXT Project completed by the Virginia Department of Transportation (VDOT). Additionally, a pair of exchange ramps has been added to provide vehicles the opportunity to exit the managed lanes along the I-270 west spur north of I-495 in Maryland.

Public comments supporting a direct connection of the shared use path from the ALB to the Chesapeake and Ohio Canal towpath were received by MDOT SHA, FHWA and National Park Service (NPS) during the SDEIS public comment period. To be responsive, a direct connection to the Chesapeake and Ohio Canal towpath has been incorporated into the preliminary design and is accounted for in the Preferred Alternative limits of disturbance (LOD) and impact analyses. The three shared use path options connecting to MacArthur Boulevard presented in the SDEIS are no longer under consideration in this FEIS. The 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 between the Chesapeake and Ohio Canal towpath and the MacArthur Boulevard sidepath outside of the study area. The alignment of the proposed shared use path connection to the Chesapeake and Ohio Canal towpath is shown in **FEIS, Appendix E**.

Modifications to the SWM approach for the FEIS included reevaluation of stormwater needs and locations using a more detailed volume-based analysis and the development of a SWM Concept. The concept fits within the Preferred Alternative LOD developed for the SDEIS and refined for the FEIS.

Since the SDEIS, the approach to relocate, pipe, or maintain the existing alignment of Thomas Branch located along the I-270 west spur, has been refined. The current 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.

The above design refinements as well as continued coordination and consultation with local, state, and Federal resource agencies and stakeholders since the SDEIS have resulted in further reductions to environmental resource impacts (refer to **Table ES-1**). This continued coordination coupled with previous efforts over the course of the Study have resulted in a Preferred Alternative that significantly avoids and minimizes impacts to natural, cultural, and community resources compared to the DEIS Build Alternatives.

Have the Lead Agencies Addressed the DEIS and SDEIS Comments?

The FEIS includes responses to all comments received on the DEIS and SDEIS from agencies, community organizations, elected officials, businesses, stakeholders, and individuals. **FEIS, Appendix T** includes responses to each comment received. An index has been developed to aid readers in finding both a response to their DEIS/SDEIS comments as well as the copy of the comments received. The index is organized first by the commenting entity (i.e., community organization, business, etc.) or individual, then alphabetical by the commenter's last name or organization name.

With over 5,000 comments received on the DEIS and SDEIS, common topics or themes emerged in the comments received. **Chapter 9** of this FEIS presents a compilation of responses to the common themes identified from both EIS documents and arranged by thematic topics. The main common themes include:

- Purpose and Need
- Screening of Preliminary Alternatives
- Analysis of Alternatives Retained for Detailed Study
- Resource Impacts Assessment Methodology and Level of Detail
- Public-Private Partnership (P3) Program
- Tolling
- Public Involvement
- Comments Concerning Resources Outside Phase 1 South Limits

How Have Public and Agency Comments Been Taken into Consideration?

Over the last four years, MDOT SHA has listened to, read, reviewed, and considered comments received from all stakeholders. This effort included more than 5,000 comments formally submitted via email, phone, online and hard copy comment forms, and through public testimony received on the DEIS and SDEIS at seven virtual and in-person public hearings. As a result of this continued involvement and engagement effort with agencies, stakeholders, and members of the public, comments have been incorporated into the project the following ways (not an all-inclusive list):

- Aligned the Preferred Alternative and environmental permitting process with the phased project delivery/construction approach focusing on addressing the severe congestion at the ALB as priority.
- Committed to constructing a shared use path on the east side of the ALB to support regional pedestrian and bicycle connectivity.
- Avoided and significantly reduced property, community, historic, natural resource, and parkland impacts.
- Avoided all residential and business displacements.

- Avoided impacts at the historic Morningstar Tabernacle No. 88 Moses Hall and Cemetery.
- Identified 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.
- Monitored and analyzed traffic impacts associated with the COVID-19 Pandemic to understand any impacts on existing and future travel and to the Study.
- Committed to priority bicycle, pedestrian, and transit improvements to increase affordable multimodal options for travel within the study corridors.
- Included toll-free travel under the Preferred 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.
- Avoided and minimized environmental and property impacts by eliminating the concrete barrier 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.
- Modified direct access ramps to the managed lanes in consideration of local land use and the potential for community, property, and environmental impacts.
- Established a Transit Work Group to further explore opportunities for new or expanded transit service on managed lanes.
- Established an Economic Work Group to determine the economic impacts of the project to the National Capital Region.
- Established an Environmental Justice (EJ) Working Group to support the EJ analysis and engagement efforts.
- Incorporated closed roadway sections with retaining walls where feasible to avoid and minimize environmental and property impacts.
- Included underground SWM vaults to avoid and minimize environmental and property impacts.
- Significantly revised the constructability plan for the ALB by removing construction vehicle access in three of the four quadrants to avoid and minimize impacts to NPS property.
- Eliminated 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.

FINAL ENVIRONMENTAL IMPACT STATEMENT

What is Included in the Final Environmental Impact Statement?

The FEIS presents a description of the Preferred Alternative and specific elements or components, as well as the associated final traffic, engineering, and environmental analyses results with the identified permanent and temporary impacts.

The FEIS focuses on any additional analysis and refinements of the data since the DEIS and SDEIS. The final analysis of environmental impacts is included in **Chapter 5** of the FEIS and is supported by 21 Final Technical Reports, which are listed in the adjacent text box and appended to the FEIS.

Additional analyses or final analyses that are presented in this FEIS include:

- Final Visual Impacts Assessment for the Preferred Alternative, including renderings and final mitigation.
- Final Air Quality Analysis for the Preferred Alternative including carbon monoxide, Mobile Source Air Toxics, Greenhouse Gas Emissions and construction related air quality impacts.
- Final Section 4(f) Evaluation with the final Least Overall Harm Analysis.
- Final EJ Analysis including comparison of adverse effects from the Preferred Alternative within EJ populations to adverse effects within a non-EJ population reference community and final conclusion of whether disproportionately high and adverse effects would occur.

What are the Supporting Technical Reports to the FEIS?

- A. Final Traffic Analysis Technical Report
- B. MDOT SHA's Draft Application for Interstate Access Point Approval
- C. Final COVID-19 Travel Analysis & Monitoring Plan
- D. Compensatory Stormwater Mitigation Plan
- E. Environmental Resource Mapping
- F. Final Community Effects Assessment & Environmental Justice Technical Report
- G. Final Section 4(f) Evaluation
- H. Final Visual Impact Assessment
- I. Final Cultural Resources Technical Report
- J. Section 106 Programmatic Agreement
- K. Final Air Quality Technical Report
- L. Final Noise Analysis Technical Report
- M. Final Natural Resources Technical Report
- N. Final Avoidance, Minimization and Impacts Report
- O. Final Compensatory Wetlands and Waterways Mitigation Plan
- P. Joint Federal/State Permit Application
- Q. Final Indirect and Cumulative Effects Technical Report
- R. Final Public Involvement and Agency Coordination Technical Report
- S. Select Agency Correspondence
- T. Responses to DEIS and SDEIS Comments
- U. Environmental Assessment Form

- Final Mitigation Package including all final measures to mitigate unavoidable impacts for all resources identified through coordination with jurisdictional agencies.
- Final Joint Federal/State Permit Application and supporting documentation for the Alteration of Any Floodplain, Waterway, Tidal or Nontidal Wetlands.

With the advancement of the Preferred Alternative, coordination with the resource agencies on avoidance, minimization, and conceptual mitigation has continued. **Chapter 7** of the FEIS includes a comprehensive list of the mitigation and commitments to be carried forward into final design. The final mitigation and commitments will be included with the ROD.

Lastly, the FEIS includes responses to the public comments received on the DEIS and SDEIS. **Chapter 9** presents a summary of common themed comments and responses to those comments. **FEIS, Appendix T** presents the responses to all individual, elected official, agency, community organizations, businesses, and stakeholder comments and copies of the comments received.

What is the Format of the FEIS?

The format of this FEIS follows the same format as the July 10, 2020 DEIS and October 1, 2021 SDEIS and contains twelve chapters.

- **Chapter 1** presents the Study’s Purpose and Need, which is unchanged from the DEIS, but repeated for ease of the reader. This chapter is supported by the *Purpose and Need Statement (DEIS, Appendix A)* (https://oplanesmd.com/wp-content/uploads/2020/07/DEIS_AppA_PN_web.pdf).
- **Chapter 2** presents a summary of the alternatives development and evaluation process for the Managed Lanes Study that led to the determination of the Preferred Alternative. This chapter is supported by the *Alternatives Technical Report (DEIS, Appendix B)* (https://oplanesmd.com/wp-content/uploads/2020/07/DEIS_AppB_Alts_web.pdf).
- **Chapter 3** presents a description of the Preferred Alternative. It also describes other common elements of the Preferred Alternative such as, LOD,¹ managed lanes access, SWM, culverts, construction and short-term effects, transit elements, pedestrian and bicycle considerations, and tolling.
- **Chapter 4** presents results from the traffic operational analyses conducted for the 2045 No Build Alternative and Preferred Alternative. This analysis has been updated since the SDEIS. It also discusses how the effects of the pandemic are being considered in the traffic analysis, as well as the effects to local roadway networks. This chapter is supported by the *Final Traffic Analysis Report* in **FEIS, Appendix A**.
- **Chapter 5** presents the permanent and temporary impacts associated with the Preferred Alternative. It also provides an update on the final measures to avoid, minimize, and mitigate potential environmental effects, where applicable. This chapter is supported by numerous technical reports as appended to this FEIS including **Appendices D, E, F, H, I, K, L, M, O, P, and Q**.
- **Chapter 6** presents the Final Section 4(f) Evaluation, which updates the Section 4(f) uses and mitigation associated with the Preferred Alternative to significant public parks, recreational areas, and historic properties in compliance with Section 4(f) of the US Department of Transportation (USDOT) Act of 1966. This chapter is a summary of the *Final Section 4(f) Evaluation* in **FEIS, Appendix G**.
- **Chapter 7** presents a comprehensive summary table of the mitigation measures and commitments that will be carried through to final design and construction of the Preferred Alternative.
- **Chapter 8** presents a summary of the public outreach and agency coordination for the Study that has occurred since publication of the DEIS in July 2020. This chapter is supported by the *Public Involvement and Agency Coordination Reports* in **DEIS, Appendix P** and **FEIS, Appendix R**.
- **Chapter 9** presents a summary of the common themed comments received on the DEIS and SDEIS and responses to those comments.
- **Chapter 10** presents the List of Preparers of the FEIS.
- **Chapter 11** presents the Distribution List of agencies, organizations, and persons to whom the FEIS was made available as well as information on public availability of the FEIS.
- **Chapter 12** presents the references for the FEIS.

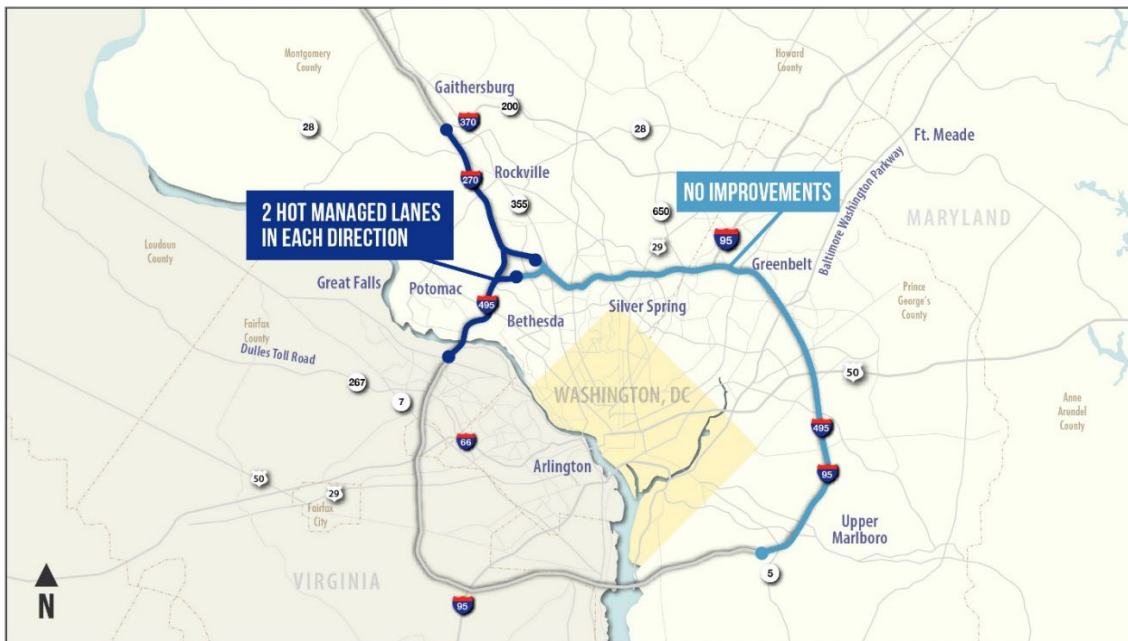
¹ The limits of disturbance (LOD) are the proposed boundary within which all construction, staging, materials storage, grading, clearing, erosion and sediment control, landscaping, drainage, stormwater management, noise barrier replacement/construction, and related activities would occur.

PREFERRED ALTERNATIVE

What is the Preferred Alternative?

The Study considered alternatives that address significant roadway congestion within the specific study limits which remain unchanged from the DEIS: I-495 from south of the George Washington Memorial Parkway in Fairfax County, Virginia, including replacement of the ALB over the Potomac River, 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 Preferred Alternative, Alternative 9 - Phase 1 South (shown in **dark blue** in **Figure ES-1**), includes build improvements within the limits of Phase 1 South only. 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 ES-1**). While the Preferred Alternative does not include improvements to the remaining parts of I-495 within the scope of the Study, improvements on the remainder of the interstate system may still be needed in the future and would advance separately, subject to additional environmental studies, analysis and collaboration with the public, stakeholders, and local agencies. The rationale for the identification of the Preferred Alternative is discussed in this FEIS in **Chapter 2, Section 2.5** and the **SDEIS, Chapter 2, Section 2.2**. Potential roadway or transit improvements on I-270 from north of I-370 to I-70 were not included as part of this Study, because that project has a demonstrated need outside of the Study and, therefore, is advancing under a separate planning study (<https://oplanesmd.com/i270-environmental/>).

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



The Preferred Alternative includes a two-lane, HOT managed lanes network on I-495 and I-270 within the limits of Phase 1 South only (**Figure ES-2**). On I-495, the Preferred Alternative consists of adding two, new HOT managed lanes in each direction from south of the George Washington Memorial Parkway to west of MD 187. On I-270, the Preferred 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 on I-270 from I-495 to north of I-370 and on the I-270 east and west spurs. There is no action, or no improvements included at this time on I-495 east of the I-270 east spur to MD 5. Along I-270, the existing collector-distributor lanes from Montrose Road to I-370 would be removed as part of the proposed improvements.

The managed lanes would be separated from the general purpose lanes using flexible delineators placed within a buffer. Transit buses and HOV 3+ vehicles would be permitted to use the managed lanes toll-free.

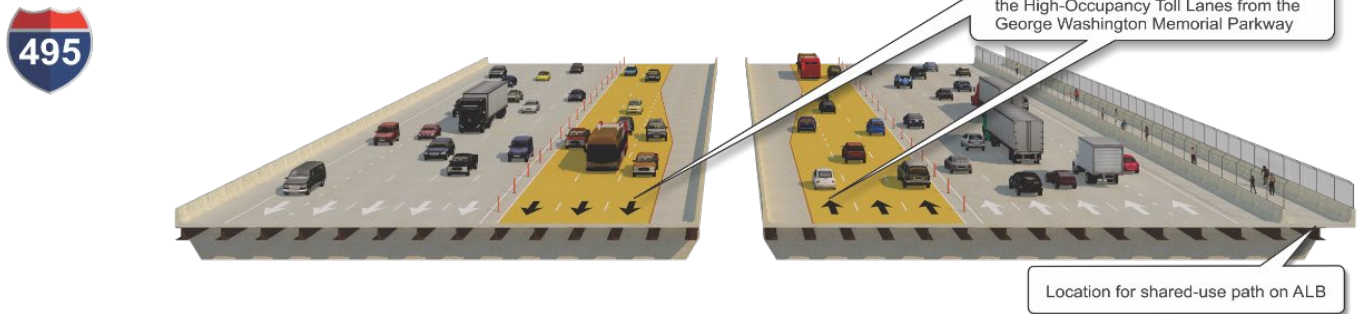
This Preferred Alternative was identified after coordination with resource agencies, the public, and stakeholders to respond directly to feedback received on the DEIS, and to align the NEPA approval with the P3 Program’s planned project phased delivery and permitting approach. FHWA and Cooperating Agencies² concurred on Alternative 9 – Phase 1 South as the Preferred Alternative in June 2021.

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

I-495 from the George Washington Memorial Parkway to west of MD 187



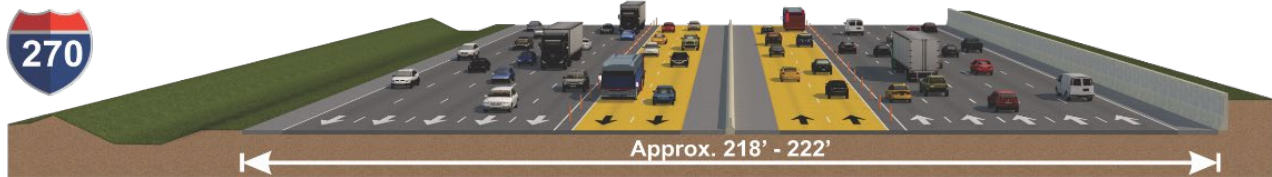
I-495: American Legion Bridge (Looking north towards Maryland)



I-495 west of MD 187 to west of MD 5 - NO ACTION AT THIS TIME



I-270 from I-495 to I-370



The Preferred Alternative includes the full replacement of the ALB with a new, wider bridge (not widening of the existing bridge) to accommodate the two HOT lanes in each direction. The existing bridge is nearly 60 years old and would need to be replaced sometime over the next decade regardless of this Study. The

² National Capital Planning Commission (NCPC) and Maryland-National Capital Park and Planning Commission (M-NCPPC) did not concur on the Preferred Alternative.

new bridge would be constructed in stages to maintain the same number of existing lanes during peak periods. The new bridge will be replaced in the same existing location.

The reconstructed ALB will include a shared use path to provide bicycle and pedestrian connection between Virginia and Maryland. Public comments supporting a direct connection of the shared use path from the ALB to the Chesapeake and Ohio Canal towpath were received by MDOT SHA, FHWA and NPS during the SDEIS public comment period. To be responsive, a direct connection to the Chesapeake and Ohio Canal towpath has been incorporated into the preliminary design and is accounted for in the Preferred Alternative LOD and impact analyses. The three shared use path options connecting to MacArthur Boulevard presented in the SDEIS are no longer under consideration in this FEIS. The 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 between the Chesapeake and Ohio Canal towpath and the MacArthur Boulevard sidepath outside of the study area. The alignment of the proposed shared use path connection to the Chesapeake and Ohio Canal towpath is shown in **FEIS, Appendix E**.

What Multimodal Components Are Included in the Preferred Alternative?

Transit Components: MDOT SHA has identified opportunities to enhance transit mobility and connectivity within the Preferred Alternative to further support the Purpose and Need and to address public and agency comments received. These include the following elements:

- Allowing bus transit usage of the HOT managed lanes toll free 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 urban and suburban activity and economic centers.
- Accommodating direct and indirect connections from the proposed HOT managed lanes to existing transit stations and planned Transit Oriented Development at the Shady Grove Metro (I-370), Twinbrook Metro (Wootton Parkway), Rockville, and Westfield Montgomery Mall Transit Center (Westlake Terrace) (refer to **Chapter 3, Section 3.1.4**).

Bicycle and Pedestrian Components: MDOT SHA has made a commitment to priority bicycle and pedestrian connections that remove existing barriers and provide connectivity for bicyclists and pedestrians consistent with the Montgomery County and City of Rockville master plans and priorities, including but not limited to:

- Replacing, upgrading, or providing new pedestrian and bicycle facilities where existing facilities would be impacted by the Preferred Alternative to meet the master plan recommended facilities.
- Constructing a new pedestrian and bicycle shared use path across the ALB to connect facilities in Maryland and Virginia.
- Lengthening the I-270 bridge over Tuckerman Lane to accommodate future pedestrian and bicycle facilities along Tuckerman Lane.
- Constructing new sidepaths³ across MD 190 over I-495.

³ Sidepath or shared use path is a paved or unpaved bikeway outside the motor vehicle traveled way providing two-way travel for pedestrians and bicycles within the highway right-of-way. Refer to **SDEIS, Chapter 2, Section 2.3.8**.

- Widening the existing variable-width sidepath along the northside of Seven Locks Road under I-495 (Cabin John Trail).
- Constructing a new sidewalk along the west side of Seven Locks Road under I-495 to reestablish the historic connection between First Agape African Methodist Episcopal Zion Church (Gibson Grove Church) and Morningstar Tabernacle No. 88 Moses Hall and Cemetery.

How is Stormwater Management Addressed under the Preferred Alternative?

In accordance with the *Maryland Stormwater Management Act of 2007*, MDOT SHA will ensure SWM water quantity and water quality requirements, and treatment will be provided to improve current conditions, as required under the Maryland Stormwater Management Act. The project intends to meet Maryland water quality standards to provide onsite treatment of all new impervious area and a minimum of 50 percent of reconstructed existing impervious area. The FEIS includes an updated preliminary, conceptual level SWM analysis for the Preferred Alternative since the SDEIS. Modifications to the SWM approach for the FEIS included reevaluation of stormwater needs and locations based on a more detailed volume-based analysis and the development of a SWM Concept to fit within the Preferred Alternative LOD developed for the SDEIS and refined for the FEIS. The update includes a reduction in off-site compensatory SWM needs compared to the SDEIS.

For water quality requirements, the Preferred Alternative will meet the environmental site design requirements to the maximum extent practicable on-site. SWM facilities that could be provided include wet ponds, extended detention ponds, underground quantity facilities, submerged gravel wetlands, grass swales, bio-swales, micro-bioretentions, bioretentions, underground sand filter, etc. However, due to the amount of impervious area requiring treatment and the existing site constraints, the full amount of required water quality could not be provided in all drainage segments. For those drainage segments where water quality could not be met on-site, the deficiency will be met using compensatory (off-site) SWM within the same watershed as defined by the MDOT SHA *Sediment and Stormwater Guidelines and Procedures*⁴, Section 5.5. Based on the results of an updated off-site compensatory SWM analysis, numerous potential water quality sites were identified to meet and exceed the full impervious area treatment required for the Preferred Alternative. Refer to **Chapter 3, Section 3.1.6** for additional details on the onsite SWM concept and the compensatory SWM plan (**FEIS, Appendix D**). The final onsite and, if necessary, off-site SWM concept will be developed during final design.

FINAL SUMMARY OF ENVIRONMENTAL RESOURCES, CONSEQUENCES, AND MITIGATION

What Avoidance and Minimization Efforts Have Occurred Over the Course of the NEPA Study?

Since the publication of the DEIS and SDEIS, avoidance and minimization opportunities to historic properties, parklands, wetlands, wetland buffers, waterways, forests, and the Federal Emergency Management Agency’s 100-year floodplain have advanced through extensive coordination with the regulatory and resource agencies.

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 identified in the DEIS. The Preferred Alternative presented was developed as a resource avoidance and minimization alternative based in part

⁴ https://www.roads.maryland.gov/OHD2/Part_A_Sediment_and_Stormwater_Guidelines.pdf

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 Preferred 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 Preferred Alternative were avoided and minimized to the greatest extent practicable in all areas at this preliminary stage of the Study. Avoidance and minimization techniques were specifically refined in some areas of sensitive or recreationally valuable resources. Examples of avoidance and minimization efforts that have occurred through the DEIS, SDEIS, and FEIS include the following.

- **Displacements Avoided:** In the DEIS, Alternative 9 had 34 residential and 4 business displacements; the Preferred Alternative in the SDEIS and FEIS avoids all residential and business displacements.
- **Right-of-Way Requirements Further Minimized:** In the DEIS, Alternative 9 had 313.4 acres of right-of-way impacts; the SDEIS Preferred Alternative design minimized the right-of-way impacts to 115.9 acres; and the FEIS Preferred Alternative impacts were further minimized to 92.8 acres, including both temporary and permanent impacts.
- **Park Impacts Further Minimized:** In the DEIS, Alternative 9 had 133.1 acres of park impacts; the SDEIS Preferred Alternative had 36.1 acres; and the FEIS Preferred Alternative further minimized impacts to 30.2 acres, including both temporary and permanent impacts.
- **NPS Park Properties Around the ALB Further Minimized:** The three NPS Park properties around the ALB impacted by the Study are the George Washington Memorial Parkway, Chesapeake and Ohio Canal National Historical Park, and Clara Barton Parkway. Efforts to minimize impacts to these park properties has been a focus of much attention by MDOT SHA. These efforts resulted in the development of a team of national and local experts in design, structures, and constructability to look for innovative ways to avoid and minimize impacts to these resources of national significance (refer to **Chapter 5, Section 5.4** for details). In the DEIS, Alternative 9 impacted 29.4 acres of these three park properties; the SDEIS Preferred Alternative minimized impacts to 17 acres; and the FEIS Preferred Alternative further minimized impacts to 16.2 acres of which 2.7 acres are considered permanent impacts.
- **Maryland-National Capital Park and Planning Commission (M-NCPPC) Park Properties Further Minimized:** In the DEIS, Alternative 9 impacted 26 M-NCPPC park properties totaling 29 acres of impacts; the SDEIS Preferred Alternative impacted 9.2 acres at five M-NCPPC park properties; the FEIS Preferred Alternative further minimized the impacts at the five park properties to 8.2 acres, including both temporary and permanent impacts.
- **Morningstar Tabernacle No. 88 Moses Hall and Cemetery Avoided:** In the DEIS, Alternative 9 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.

- **Wetland Impacts Further Minimized:** In the DEIS, Alternative 9 had 16.3 acres of wetland impacts; the SDEIS Preferred Alternative had 4.3 acres; and the FEIS Preferred Alternative further minimized impacts to 3.9 acres.
- **Waterway Impacts Further Minimized:** In the DEIS, Alternative 9 had 155,922 linear feet of waterway impacts; the SDEIS Preferred Alternative had 46,553 linear feet; and the FEIS Preferred Alternative further minimized impacts to 42,286 linear feet.
- **Floodplain Impacts Further Minimized:** In the DEIS, Alternative 9 had 119.5 acres of floodplain impacts; the SDEIS Preferred Alternative had 48.8 acres; and the FEIS Preferred Alternative further minimized impacts to 31.6 acres.
- **Forest Canopy Impacts Further Minimized:** In the DEIS, Alternative 9 had 1,497 acres of forest canopy impacts; the SDEIS Preferred Alternative had 500.1 acres; and the FEIS Preferred Alternative further minimized impacts to 455.0 acres.

Refer to **Chapters 3, 5, and 6** of this FEIS for additional details on the impacts and efforts to further avoid and minimize impacts to environmental resources. For unavoidable impacts, a comprehensive mitigation package has been developed. Final mitigation is documented in this FEIS in **Chapters 5, 6, and 7** and will be documented in the ROD. Following the NEPA Process, 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.

What Are the Effects of the Preferred Alternative on the Environmental Resources?

The environmental consequences presented in **Chapter 5** are described for the Preferred Alternative. Since the DEIS and SDEIS, design has advanced on the Preferred Alternative. The permanent or long-term and temporary or short-term, construction-related effects are quantified and presented in this FEIS. The summary of environmental effects of the Preferred Alternative are presented in **Table ES-1**.

Table ES-1: Summary of Quantifiable Impacts¹ from the Preferred Alternative

Resource	Permanent ¹	Temporary ¹	Total ¹	Change in Total Impact since SDEIS
Total Potential Impacts to Public Park Properties (acres)	15.7	14.5	30.2	-5.9
Total Right-of-Way or Easement Required ² (acres)	78.2	14.7	92.8	-23.1
Number of Properties Directly Affected (count)	-	-	361	- 140
Number of Residential Relocations (count)	-	-	0	0
Number of Business Relocations (count)	-	-	0	0
Number of Historic Properties with Adverse Effect ³	-	-	10	+ 1
Noise Sensitive Areas Impacted (count)	-	-	48	+ 1
Hazardous Materials Sites of Concern (count)	-	-	255	0
Wetlands of Special State Concern	0	0	0	0
Wetlands ⁴ (acres)	3.5	0.4	3.9	- 0.4
Wetland 25-foot Buffer (acres)	6.3	0.2	6.5	- 0.6
Waterways ⁴ (square feet)	637,080	323,136	960,216	-57,486
Waterways ⁴ (linear feet)	39,933	2,353	42,286	-4,267
Tier II Catchments (acres)	0	0	0	0
100-Year Floodplain (acres)	24.2	7.42	31.6	-17.2
Forest Canopy (acres)	438.5	16.5 ⁵	455.0	- 45.1
Rare, Threatened and Endangered Species Habitat (acres)	33.0	21.8	54.8	-1.6
Sensitive Species Project Review Area (acres)	24.2	19.3	43.5	-1
Unique and Sensitive Areas (acres)	135.7	27.4	163.0	- 5.5

Notes: The impacts in this table are for the mainline improvements for the Preferred Alternative. Any impacts associated with the compensatory SWM are preliminary and discussed in the applicable resources sections in this Chapter and summarized in **Chapter 3, Section 3.1.6**.

¹ All values are rounded to the tenths place.

² The right-of-way is based on State records research and supplemented with county right-of-way, as necessary.

³ Refer to **Chapter 5, Section 5.7** for additional details on the effects to historic properties.

⁴ Refer to **Chapter 5, Section 5.12** for additional details on the impacts to wetlands and waterways.

⁵ Temporary forest canopy impacts are cleared forest in areas that will not be permanently acquired or altered by roadway construction. Replanting will occur in these areas. Impacts will be avoided and minimized, and replanting will be maximized within the corridor as determined in final design. Refer to **Chapter 5, Section 5.16** for additional details on forest canopy.

What Mitigation Is Being Considered for Unavoidable Environmental Effects?

The advancement of conceptual mitigation for unavoidable effects to environmental resources from the Preferred Alternative has occurred since the DEIS and SDEIS. The final mitigation is discussed by applicable resource in **Chapter 5** for the following resources: waters of the United States (US), waters of the state, and wetlands; floodplains; watersheds and surface water; forests, including vegetation and terrestrial habitat; rare, threatened, and endangered species; parks and recreational facilities; terrestrial wildlife; aquatic biota; unique and sensitive areas; historical, architectural, and archaeological resources; noise; air; property acquisitions; hazardous materials; topography, geology, and soils; groundwater hydrology; communities and community facilities; EJ; and visual and aesthetic resources. **Chapter 7** presents a comprehensive summary table of final mitigation measures and commitments that will be carried forward through to final design and construction of the Preferred Alternative. The final mitigation was based on priorities identified by the OWJ and regulatory agencies over the resource to achieve no net loss, with a goal of net benefit.

What Are the Results of the Final Section 4(f) Evaluation?

Section 4(f) of the USDOT Act of 1966, as amended (49 United States Code [U.S.C.] §303(c)) stipulates that the USDOT, including the FHWA, cannot approve the use of land from a publicly-owned park, recreation area, wildlife or waterfowl refuge, or public or private historic site unless the following conditions apply:

- 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 Code of Federal Regulations (CFR) §774.3(a)(1) and (2)); or
- FHWA determines that the use of the Section 4(f) properties, including any measures to minimize harm committed to by the applicant, will have a *de minimis* impact on the property (23 CFR §774.3(b)).

The Preferred Alternative considered further coordination with and listening to agencies and stakeholders, including the OWJs for Section 4(f) properties. The Preferred Alternative is responsive to comments received requesting avoidance of Section 4(f) resources and aligns the Study to be consistent with the previously determined phased delivery and permitting approach.

The Preferred 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 Preferred 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.

Chapter 6 of this FEIS and **FEIS, Appendix G** includes the Final Section 4(f) Evaluation. The information included in this Final Section 4(f) Evaluation informed FHWA's consideration of the use of Section 4(f) property by the Preferred Alternative. The Final Section 4(f) Evaluation reflects the coordination with OWJs to coordinate impacts and mitigation, and *de minimis* coordination with the OWJs. The Final Section 4(f) Evaluation also includes finalization of the analysis to demonstrate all possible planning to minimize harm, finalization of the Least Overall Harm Analysis, and final mitigation commitments. Based on the information presented in the Draft Section 4(f) Evaluation, Updated Draft Section 4(f) Evaluation, and this Final Section 4(f) Evaluation, FHWA and MDOT SHA have concluded that there is no feasible and prudent alternative to the use of land from the Section 4(f) properties identified in **Table 6-2**, and the proposed action includes all possible planning to minimize harm, and the Preferred Alternative is the alternative with the least overall harm. Final approval of the Final Section 4(f) Evaluation will be made during the ROD.

How Has Environmental Justice Been Addressed Under the Preferred Alternative?

The DEIS, SDEIS, and FEIS summarize the comprehensive community outreach and engagement strategies and in-depth analyses developed by MDOT SHA to ensure equal access to relevant Study information and to identify and address potential impacts to minority and low-income communities pursuant to federal requirements. These strategies reflected federal policy and guidance regarding EJ pursuant to Executive Order 12898, USDOT Order 5610.2(c), FHWA Order 6640.23A, and FHWA *Guidance on Environmental Justice and NEPA* (2011).

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. However,

even more concentrated outreach efforts effectively identified community concerns and informed agency decision-makers regarding project elements and potential mitigation 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 the Fall of 2021, MDOT SHA underwent an additional outreach effort with the purpose of providing opportunities for meaningful engagement with underserved communities directly or indirectly affected by the proposed improvements. In consideration of the pandemic and due to the large study area, MDOT SHA developed an online survey to seek 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 FEIS includes the final EJ analysis. Per FHWA Order 6640.23A, a *Disproportionately High and Adverse Effect on Minority and Low-Income Populations* is an adverse impact that:

- (1) is predominately borne by a minority population and/or a low-income population; or
- (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or non-low-income population.

Due to the parallel nature of the Preferred Alternative to I-495 and I-270, plus the infrequent distribution of EJ and non-EJ populations along the Phase 1 South limits, impacts would occur consistently throughout the limits. Quantifiable impacts, including impacts to property, community facilities and services, natural resources, noise, and hazardous waste, would be borne primarily by non-EJ populations.

Impacts to demographics, traffic, air quality and its effect on public health, safety, visual and aesthetic resources, economy and employment, access and mobility, community cohesion/isolation and quality of life, and impacts resulting from construction would occur consistently along the Phase 1 South limits and more frequently in non-EJ populations. Given the reasoning documented in detail in the EJ Analysis (**Chapter 5, Section 21** and **FEIS, Appendix F**) and in accordance with Executive Order 12898, USDOT Order 5610.2(c), FHWA Order 6640.23A, and in FHWA *Guidance on Environmental Justice and NEPA* (2011), FHWA and MDOT SHA have determined that a disproportionately high and adverse impact would not occur to the EJ populations under the Preferred Alternative.

However, to be responsive to community concerns raised during the outreach and engagement efforts, which identified priorities 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, 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.

Additionally, the Developer is committed to the following as part of the P3 Agreement:

- Working with Montgomery, Frederick and Prince George’s Counties to expand transit fare subsidies for eligible low-income riders.
- Defining a neighborhood walk and cycle connectivity zone to enhance multi-modal connectivity.
- Facilitating the development of a facility improvement program for the installation or replacement of sidewalks, crossings, or signal modifications and formalizing trail development that has pedestrian demand, then rank projects according to safety significance (considering predictive safety analyses completed by M-NCPPC), readiness, and landowner consensus, as part of its commitment to support Montgomery County’s Vision Zero Action Plan. The Vision Zero Action Plan identifies strategies to eliminate serious and fatal collisions on County roads for vehicle occupants, pedestrians, and bicyclists by the end of 2030.
- Generating a Sustainability Plan for the project and will make good faith efforts to achieve, at minimum, a Gold Award rating as recognized by the Envision™ Sustainable Infrastructure Rating System of the Institute for Sustainable Infrastructure (ISI) and target a Platinum Award. The Sustainability Plan will include actions related to the quality of life surrounding the infrastructure asset, stakeholder and community engagement, natural resource management, ecosystems and biodiversity health, climate resilience and carbon emissions.

How Has Transportation Equity Been Considered?

In consideration of FHWA’s policy priorities and MDOT’s interest in having an equitable transportation solution for all users of the Study roadways, MDOT SHA has incorporated elements into the Preferred Alternative or has committed to additional improvements or the Developer has committed to certain enhancements as part of the P3 Agreement that support fair, accessible, and affordable transportation options for all users of the Study roadways, including traditionally underserved communities, including the following. The elements listed below that are not part of the base design of the Preferred Alternative will be documented in the ROD or, if Developer lead, documented in the P3 Agreement and/or Memoranda of Understanding to ensure they are carried through project development.

- Supporting additional affordable, multimodal travel options including:
 - o Toll-free travel for new bus transit on managed lanes for a faster, more reliable trip.
 - o Toll-free travel for carpools/vanpools with three or more (3+) occupants.

- o Working with the Montgomery, Frederick, and Prince George's Counties to expand transit fare subsidies for eligible low-income riders.
- Improving accessibility to work, school, and other modes of transportation via pedestrian and bicycle improvements:
 - o Upgrading existing pedestrian and bicycle facilities impacted by the Preferred Alternative by replacing in-kind or upgrading to meet the master plan recommended facilities.
 - o Where I-495 and I-270 or associated ramps cross over a roadway and the bridge would be replaced, the mainline and ramp bridges will be lengthened to accommodate the footprint of the master plan facility under the structure.
 - o New pedestrian and bicycle facilities including a shared use path on the ALB.
 - o New sidepaths across MD 190 over I-495.
 - o New sidewalk along Seven Locks Road to re-establish the historic connection in the historically African American community of Gibson Grove.
 - o Providing safer pedestrian and bicycle improvements and connecting with planned City of Rockville improvements at the MD 189 and I-270 interchange.
- Enhancing transit connectivity and mobility by:
 - o Direct and indirect access ramps from the managed lanes to existing transit stations including Shady Grove, Twinbrook, Rockville Metro Stations and Westfield Montgomery Mall Transit Center.
 - o Increasing the number of bus bays at Washington Metropolitan Area Transit Authority (WMATA) Shady Grove Metrorail Station.
 - o Increasing parking capacity at the Westfield Montgomery Mall Transit Center.
- Upgrading existing transportation facilities throughout Phase 1 South for all users of the Study roadways by:
 - o Replacing or rehabilitating all existing bridges on or over I-495 and I-270 within the Phase 1 South corridor.
 - o Rehabilitating and repaving the existing general purpose lanes for smoother and safer travel for all users.

TRANSPORTATION AND TRAFFIC

What Are the Results of the Final Traffic Analyses?

Since the SDEIS, updates to traffic forecasts and analysis results have occurred for the 2045 No Build Alternative based on new information related to background projects (i.e., other projects within the study area that are expected to be constructed by the design year) and forecast refinements to address comments received on the SDEIS. Traffic forecasts and analysis results have also been updated for the Preferred Alternative to reflect design changes made following coordination with various stakeholders to

further improve operations and minimize property and environmental impacts. The FEIS also provides a detailed evaluation of the operations along cross streets and adjacent intersections. Refer to **Chapter 4** of this FEIS and **FEIS, Appendix A** for additional details.

The design updates and the forecasting refinements to the Preferred Alternative since the SDEIS show additional operational improvements. For example, the HOT lanes are now projected to achieve the desired speeds of 45 miles per hour (mph) or better during the peak hours, as reported in **Chapter 4, Section 4.3.1**. The projected operations on the Inner Loop of I-495 show an improvement over the SDEIS analysis—the average speed in the general purpose lanes during the PM peak hour was 7 mph in the SDEIS, whereas the FEIS traffic analysis shows speeds are around 15 mph; the congestion does not extend as far back along the mainline; and the results are more consistent with what VDOT was reporting for the 495 NEXT project.

The design year 2045 traffic operational evaluation results for the No Build Alternative and the Preferred Alternative are summarized below and presented in **Chapter 4** of this FEIS and **FEIS, Appendix A**.

The **No Build Alternative** would not address any of the significant operational issues experienced under existing conditions, and it would not be able to accommodate long-term traffic growth, resulting in slow travel speeds, significant delays, long travel times, and an unreliable network. Compared to the 2040 No Build results presented in the DEIS, the 2045 No Build results show generally higher delays and travel times on I-495 and I-270 due to additional projected traffic growth between 2040 and 2045. This traffic growth is anticipated despite additional transit projects included in the 2045 forecast that will help to slightly reduce projected delays on the surrounding local roadway network.

The **Preferred Alternative** is projected to provide meaningful operational benefits to the system even though it includes no action or no improvements for a large portion of the study area to avoid and minimize environmental and property impacts (**Table ES-2**). This alternative would significantly increase throughput across the ALB and on the southern section of I-270 while reducing congestion. It would also increase speeds, improve reliability, and reduce travel times and delays along the majority of I-495, I-270, and the surrounding roadway network compared to the No Build Alternative. The Preferred Alternative shows a reduction in delay on the surrounding local roadways, including a 4.8 percent reduction in daily delay on the arterials in Montgomery County, despite some localized increases in arterial traffic near the managed lane access interchanges. Although the Preferred Alternative provides less improvement to traffic operations when compared to the Build Alternatives that included the full 48-mile study limits evaluated in the DEIS (such as Alternatives 9 and 10), it was chosen based in part on feedback from the public and stakeholders who indicated a strong preference for eliminating property and environmental impacts on the top and east side of I-495. 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 Preferred Alternative limits, but it would not get worse due to implementing the Preferred Alternative.

Table ES-2: Traffic Benefits of Preferred Alternative vs. No Build Alternative for the Entire Study Area

METRIC	TIME PERIOD	IMPROVEMENT
System-Wide Average Delay Reduction vs. No Build	AM PEAK	13%
	PM PEAK	38%
Total Local Network Delay Reduction vs. No Build	DAILY	3.5%
American Legion Bridge Throughput Increase vs. No Build	AM PEAK	25%
	PM PEAK	30%
I-270 at Montrose Road Throughput Increase vs. No Build	AM PEAK	10%
	PM PEAK	15%

The FEIS and MDOT SHA's Application for Interstate Access Point Approval include a more detailed assessment of the future mainline and localized operational impacts of the Preferred Alternative. Refer to **FEIS, Appendix B** for MDOT SHA's Application for Interstate Access Point Approval. Opportunities to further address safety and operations will be evaluated on the Selected Alternative after the conclusion of NEPA and during final design.

Will Adding New Lanes Induce More Travel Demand?

MDOT SHA's goal was not to increase demand but to address current and predicted demand. Current and predicted demand could be met by adding many additional new lanes, however, the ultimate recommendation was to add capacity via managed lanes. This fundamental difference is crucial to understanding why the traffic analysis shows only a very modest increase in traffic through induced demand.

Managed lanes do a better job at regulating overall travel demand, including induced demand, due to dynamic pricing. Dynamic pricing means that as the demand for use of the managed lanes increases, the rate charged for access to the lanes also increases. This tends to regulate uses of the managed lanes in order to permit them to operate in a near free-flow condition and at a general speed of at least 45 mph.

The traffic analysis shows that there could be some induced demand as a result of this project, but the impact will be very small (*less than 1 percent increase* in vehicle miles traveled in the region) and those effects are fully accounted for in the regional traffic models used in the Study developed by the Metropolitan Washington Council of Governments (MWCOC). Even with a less than 1 percent increase, the proposed managed lanes would reduce regional congestion delays and significantly improve travel times along both I-495 and I-270 in the Phase 1 South limits and on local roads throughout the study area. Refer to **FEIS, Chapter 4** and **Chapter 9, Section 9.3.4B**.

How Has the COVID-19 Pandemic Impacted the Study?

The COVID-19 global pandemic had a profound impact on the daily routines of people across the world, affecting the way Maryland residents and regional commuters work, travel, and spend their free time. In the short-term, these changes have altered travel demand, transit use, and traffic volumes throughout the years 2020 and 2021 on all roadways in Maryland, including I-495 and I-270. In the long-term, there is uncertainty surrounding forecasts for post-pandemic traffic levels and transit use and there is no definitive model to predict how or if changes to mobility patterns during the pandemic will affect long-term traffic projections. To adapt to the ongoing and potential long-term travel impacts associated with the pandemic, MDOT SHA has developed a *COVID-19 Travel Analysis and Monitoring Plan (FEIS, Appendix C)*. This plan included three components: monitoring to track changes in roadway and transit demand during the pandemic; research of historical data and surveys/projections from the Transportation Research Board and National Capital Region Transportation Planning Board; and a sensitivity analysis evaluating several “what if” scenarios related to future traffic demand due to potential long-term changes to teleworking, ecommerce, and transit use.

The traffic data shows a severe drop in traffic volumes in April 2020 after stay-at-home orders were issued across Maryland, with daily traffic volumes on I-270 and I-495 reducing by more than 50 percent compared to April 2019. With the rollout of vaccines in early 2021, the corresponding drop in COVID-19 cases, and the gradual reopening of schools and businesses, traffic volumes have continued to recover and are back to over 90 percent of normal as of November 2021. Transit use has been slower to recover, with the use of Maryland Transit Administration services statewide down over 40 percent compared to pre-pandemic levels as of October 2021. In the DC region, use of WMATA facilities are also down significantly in October 2021 compared to October 2019. WMATA rail ridership is down 73 percent on weekdays, while WMATA bus ridership is down 40 percent on weekdays, and parking at Metro facilities is down 88 percent (<https://www.wmata.com/initiatives/ridership-portal/upload/October-2021-Ridership-Snapshot.pdf>).

While congestion decreased significantly on I-495 and I-270 at the onset of the pandemic in Spring 2020, significant congestion had returned to the study area by November 2021, approaching pre-pandemic levels.

The 2045 forecasts and results presented in **Chapter 4, Section 4.3** are based on models that were developed and calibrated prior to the onset of the COVID-19 pandemic and have been determined to be reasonable for use in evaluating projected 2045 conditions. However, MDOT SHA acknowledges that residual effects of some of the near-term changes in travel behavior could be carried forward into the future. Therefore, a sensitivity analysis was also conducted as part of the *COVID-19 Travel Analysis and Monitoring Plan*. The first part of the sensitivity analysis involved modifying input parameters in the MWCOG regional forecasting model based on observed changes in travel behavior during the pandemic to evaluate a range of potential long-term scenarios. This evaluation confirmed that the project would still be needed, even if long-term effects of the pandemic were in the high impact range resulting in less traffic demand than originally projected. The second part of the sensitivity analysis involved re-running the 2045 No Build and 2045 Build VISSIM models that were used to generate the operational results presented in **Chapter 4, Section 4.3** of this FEIS, but with reduced demand volumes to account for potential sustained impacts from the pandemic. The results indicated that the Preferred Alternative would also provide meaningful operational benefits to the system under a reduced-demand scenario.

These results 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.

Refer to **Chapter 4, Section 4.5** and **FEIS, Appendix C** for additional detail on the impact of the COVID-19 pandemic on the Study.

TOLLING

Why Do the New Lanes Need to Be Tolloed and Why Does the State Need a Developer to Build Them?

MDOT does not have the funds to construct improvements of this magnitude with an estimated cost of approximately \$3.75 to \$4.25 billion as the estimated cost of the Phase 1 South improvements. Additionally, even with the tolls to pay back loans, MDOT does not have enough bonding capacity to take out loans to pay for the improvements. Therefore, MDOT has selected a Developer through a competitive process and has entered into a Phase P3 agreement whereby the Developer will design, build, finance, operate, and maintain the managed lanes for a period of time using the toll revenue, once the ROD is issued. MDOT SHA would continue to own all of the lanes on I-495 and I-270 and ensure the highway meets their intended transportation function. For information on the toll rate process refer to **Chapter 3, Section 3.1.9**.

How Were the Toll Rates Established?

The Preferred Alternative will be designed to maintain speeds of 45 mph or greater⁵ in the HOT lanes, in compliance with Title 23 U.S.C. § 129 and 166. The goal of the HOT lanes is to maintain free-flowing traffic and to use pricing factors to influence traffic flow. As such, the toll rate range has been set through a public process as specified in Transportation Article, §4-312, Annotated Code of Maryland, to ensure the HOT lanes operate to established operational metrics, which applies the economic principles of supply and demand to influence the utilization of the HOT lanes. The Developer will be responsible for setting toll rates within the established toll rate ranges. The Developer will not only be responsible to ensure the free-flowing traffic goals are met, but will also have to cover design, maintenance, finance, and operations costs from the generated toll revenue. The toll rate range proposal approved by the MDTA Board in November 2021 will only be used if a ROD is signed by FHWA at the end of this Study.

The toll rate ranges for Phase 1 South consist of minimum toll rates, soft toll rate caps, and maximum toll rates for the HOT lanes. The rates also include annual escalation factors to ensure the toll rate ranges are adequate to cover the full term of the P3 Program agreements. Toll rates, within the set toll rate range, will be set dynamically, meaning they could change up to every five minutes based on 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. The actual toll rates will change based on real-time traffic within each tolling segment. 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 will only apply to the HOT lanes; the existing free general purpose lanes will not be tolled. In addition, the approved rates include discounts for qualifying vehicles—such as HOV 3+ (including carpools and vanpools), buses, and motorcycles. MDTA recognizes that designated HOV compliant

⁵ If average speeds in managed lanes drop below 45 mph during weekday peak periods 90% of the time over a 180-day period, federal law requires that the public authority with jurisdiction over the facility develops a plan of action toward bringing the facility into compliance (23 U.S.C. § 166 (d)(2)(B)).

vehicles are required to be toll-free under the Title 23 United States Code 166; however, MDTA is using the term ‘discount’ to refer to all vehicles that would have a toll rate that is lower than the standard toll rate.

NEXT STEPS

What Are the Next Steps for the Study?

Following an availability period for the FEIS, it is anticipated that FHWA will issue a ROD. The ROD will document the commitments to be carried forth during final design and construction. The ROD will document FHWA’s approval of the Selected Alternative and the Final Section 4(f) Evaluation. The ROD will conclude the NEPA process.

Will Additional Environmental and Community Benefits be Considered in Design?

Following the NEPA Process, 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 support community, environmental, and sustainability goals, the Developer will generate a Sustainability Plan for the project and will make good faith efforts to achieve, at minimum, a Gold Award rating as recognized by the Envision™ Sustainable Infrastructure Rating System of the ISI and target a Platinum Award. The Sustainability Plan will include actions related to the quality of life surrounding the infrastructure asset; stakeholder and community engagement; natural resource management; ecosystems and biodiversity health; climate resilience; and carbon emissions.

Additionally, as noted in prior sections, the Developer has committed to other community and environmental enhancements. Refer to **Chapter 7, Section 7.3** for a list of commitments made by the Developer as part of the P3 Agreement.

What Federal, State and Local Permits Are Required?

In addition to NEPA compliance, several permits and approvals are being coordinated concurrently with preparation of this FEIS. **Table 5-56** in **Chapter 5, Section 5.25** summarizes the Federal, state, and local permits, authorizations, and approvals that will likely be required based on the current Study design assumptions and associated impacts.

PUBLIC-PRIVATE PARTNERSHIP (P3)

What is a P3?

A P3 is an alternative model for delivery of a capital project. A P3 is a partnership between the public or governmental sector with private entities. The P3 seeks to harness private sector expertise, innovation, and funding to deliver public infrastructure for the benefit of the public owner and users of the infrastructure. P3s seek to successfully leverage the respective strengths of the public and private sectors to deliver large, complex infrastructure projects in a cost effective and timely fashion. Functions under a P3 agreement may include designing, building, financing, operating, and maintaining a transportation facility.

The Maryland Board of Public Works (BPW) approved a P3 designation for the I-495 & I-270 P3 Program in June 2019 and provided a supplemental approval in January 2020. The approvals allowed MDOT SHA to use a Progressive P3 process to design, construct, finance, operate, and maintain Phase 1 of the P3 Program – I-495 from south of the ALB to I-270 and I-270 from I-495 to I-70.

The I-495 & I-270 Managed Lanes Study is part of the P3 Program, and the Preferred Alternative aligns with the Phase 1 South limits that extend from I-495 south of the ALB to I-270, and along I-270 from I-495 to I-370. In August 2021, in accordance with Maryland law, MDOT and MDTA received approval from the BPW to award the Phase 1 P3 Agreement to the Phase Developer. Within this FEIS, the Phase Developer is referred to as the Developer.

What is the Role and Responsibility of the Phase Developer?

The Phase Developer is working collaboratively with MDOT, MDTA, and the stakeholders on predevelopment work for Phase 1 South including advancing the preliminary design and due-diligence activities to further minimize impacts and reduce project risks. During the predevelopment work leading up to the FEIS, the Phase Developer focused on further refining the preliminary design concept and further avoiding and minimizing impacts to environmental resources, communities, properties, utilities, and other features.

Concurrent with the predevelopment work, the Phase Developer has advanced a procurement process to select the Design-Build contractors who will subcontract with them to perform final design and construction of all of Phase 1 South, once the ROD is issued. The Phase 1 South Developer will be responsible for the overall final design, construction, financing, operations, and maintenance of all of Phase 1 South.