1 PURPOSE AND NEED

The Study Purpose and Need has not changed. Refer to the Draft Environmental Impact Statement **(DEIS)**, **Chapter 1**, **DEIS**, **Appendix A**, and Supplemental Draft Environmental Impact Statement **(SDEIS)**, **Chapter 1**. These materials can be viewed through the following links on the Program website:

- **DEIS**, **Chapter 1**: https://www.oplanesmd.com/wp-content/uploads/2020/11/2020-06-02_DEIS_01_Purpose_and_Need.pdf
- **DEIS**, **Appendix A**: https://www.oplanesmd.com/wp-content/uploads/2020/07/DEIS_AppA_PN_web.pdf
- **SDEIS**, **Chapter 1**: https://oplanesmd.com/wp-content/uploads/2021/09/SDEIS_01_PurposeNeed.pdf

This FEIS Chapter has been updated to reflect 2045 population, employment and traffic projections.

1.1 Background and Context

The Federal Highway Administration (FHWA), as the Lead Federal Agency, and the Maryland Department of Transportation State Highway Administration (MDOT SHA), as the Local Project Sponsor, have prepared a Final Environmental Impact Statement (FEIS) under the National Environmental Policy Act (NEPA) for the I-495 & I-270 Managed Lanes Study (Study). The I-495 & I-270 Managed Lanes Study (Study) is the first environmental study under the broader I-495 & I-270 Public-Private Partnership (P3) Program.

This chapter presents a summary of the Purpose and Need for the Study, which was developed by FHWA and MDOT SHA in coordination with Cooperating and Participating Agencies and the public during the NEPA scoping process. The full Purpose and Need Statement that was concurred upon by the Cooperating Agencies[1] in November 2018 is included with the **DEIS, Appendix A**.

The 48-mile study limits remain 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 Preferred Alternative, Alternative 9 - Phase 1 South (shown in **dark blue** in **Figure 1-1**), includes build improvements within the limits of Phase 1 South only totaling approximately 15 miles of proposed improvements. While no improvements are included at this time on I-495 east of the I-270 east spur to MD 5 (shown in **light blue** in **Figure 1-1**), improvements to the remaining parts of I-495 within the Study limits may still be needed in the future. Any such improvements would advance separately and would be subject to additional environmental studies and analysis and collaboration with the public, stakeholders and agencies.

Potential roadway or transit improvements on I-270 from north of I-370 to I-70 were not included as part of this Study, as alternatives for that phase of I-270 will be developed as part of a separate NEPA process (https://oplanesmd.com/i270-environmental/).

[1] M-NCPPC did not concur on the Purpose and Need.

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

1.2 Purpose and Need

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 chapter includes a summary of the Purpose and Need Statement, as well as updated traffic and demographic data relevant to the Purpose and Need.

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.

1.3 Accommodate Existing Traffic and Long-Term Traffic Growth

The state of Maryland experiences the second longest commuting times in the nation, according to 2015 US Census American Community Survey data. The National Capital Region is the most congested region in the nation based on annual delay and congestion per auto commuter. 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). Refer to **Chapter 4**, **Section 4.3** and **FEIS, Appendix A** for results of the final traffic analysis.

1.3.1 Population and Employment Growth

I-495 connects key employment centers within the study area, many of which are undergoing redevelopment as multi-use activity centers with mixed land uses, including residential and retail activity. Bethesda, Rock Spring Technology Park, Silver Spring, Wheaton, College Park, Greenbelt, New Carrollton, Largo, and Suitland are all points of origin and destinations for large numbers of travelers. This creates travel demand during a broad range of times during the day and throughout the week as demonstrated by the fairly even traffic directional splits on I-495 during the peak periods.

The I-270 corridor provides an essential connection between the National Capital Region, central and western Maryland, and longer-distance trips to the Midwestern US, through use of I-70 and I-68. It is an important corridor for both local and long-distance trips. The area up to I-370 includes residential, retail/commercial, and growing mixed-use development including Downtown Crown in Gaithersburg. Major government and corporate employment centers such as National Institute of Standards and Technology and pharmaceutical corporations are spread throughout Montgomery County generating travel in both directions of I-270 during peak travel periods. However, there is a clear directional split in traffic on I-270 during the morning and afternoon/evening weekday commutes. I-270 is the primary route from the population centers around the National Capital Region to many recreational and tourism points of interest to the northwest including Monocacy National Battlefield, Chesapeake and Ohio Canal National Historical Park, Harpers Ferry National Historical Park, and Antietam National Battlefield.

Traffic growth along I-495 and I-270 is related in part to increased regional population. A growing population results in the need for additional mobility to intended destinations such as work, school, sites of commerce, and recreational/tourism points of interest. The population in Montgomery and Prince George's counties have increased approximately 20.1 and 14.6 percent, respectively, between 2000 and 2020 (**Table 1-1**). The Metropolitan Washington Council of Governments (MWCOG) Round 9.1a forecasts, estimates that between 2020 and 2045 the population in Montgomery County and Prince George's County will increase approximately 16.3 percent and 7.9 percent, respectively (**Table 1-1**). According to MWCOG 2000 and 2020 data, employment in Montgomery and Prince George's Counties has increased between 14.5 percent and 3.3 percent, respectively (**Table 1-2**). The MWCOG forecasts that between 2020 and 2045, employment in Montgomery County and Prince George's County will increase approximately 24.9 percent and 15.2 percent, respectively (**Table 1-2**).

Table 1-1: Regional Population Growth

Geography	2000	2020	% Increase Since 2000	2045 Forecast	Forecasted % Increase 2020 to 2045
Montgomery County	875,672	1,052,000	20.1%	1,223,300	16.3%
Prince George's County	805,723	923,100	14.6%	995,900	7.9%
Inner Washington, DC Suburbs[1]	390,386	529,400	35.6%	681,500	28.7%
Outer Washington, DC Suburbs[2]	891,273	1,093,000	22.6%	1,204,700	10.2%
MWCOG Planning Area Counties Total	4,385,759	5,690,000	29.7%	6,925,700	21.7%

Sources: MWCOG (2006; 2020)

[1] As defined by MWCOG and includes Calvert, Charles, and Frederick counties.

[2] As defined by MWCOG and includes Anne Arundel, Carroll, and Howard counties.

Table 1-2: Regional Employment Growth

Geography	2000	2020	% Increase Since 2000	2045 Forecast	Forecasted % Increase 2020 to 2045
Montgomery County	474,602	543,500	14.5%	678,800	24.9%
Prince George's County	337,976	349,000	3.3%	402,100	15.2%
Inner Washington, DC Suburbs[1]	161,003	201,100	24.9%	251,300	25.0%
Outer Washington, DC Suburbs[2]	525,294	649,200	23.6%	789,700	21.6%
MWCOG Planning Area Counties Total	2,791,859	3,360,600	20.4%	4,273,800	27.2%

Sources: MWCOG (2006; 2020)

[1] Includes Calvert, Charles, and Frederick counties.

[2] Includes Anne Arundel, Carroll, and Howard counties.

1.3.2 Traffic Growth

The 2020 Maryland State Highway Mobility Report (MDOT SHA, 2020)[2] documents substantial traffic growth in the National Capital Region prior to the COVID-19 pandemic. The number of vehicle miles traveled (VMT) along Maryland roadways set an all-time record in 2019 with over 60 billion VMT. Also, Baltimore, Montgomery, and Prince George's Counties experienced the largest increase in VMT between 2018 and 2019, each growing by more than 80 million VMT. These statistics show the large movement of people into and around the National Capital Region at peak periods and the movement of goods throughout the day. This movement is focused around the major interstates. In addition, the top four highest volume roadway sections in Maryland based on average daily traffic (ADT) are contained within

[2] The Purpose and Need Statement in the **DEIS, Appendix A** was finalized in November 2018 based on the 2016 Mobility Report. The 2018 Mobility Report numbers were included in **DEIS, Chapter 1**. The **FEIS, Chapter 1** presents the updated numbers based on the 2020 Mobility Report.

the study limits. These locations include I-270 from the I-270 Split to MD 117, I-495 from the Virginia State Line to the I-270 West Spur, I-495 from the I-270 East Spur to I-95, and I-495 from MD 4 to I-95. Refer to **Chapter 4, Table 4-1** for existing ADTs in the study corridors.

The combined effect of changes in traffic volumes and changes in transit usage on speeds and congestion along I-495 and I-270 has also been monitored by MDOT SHA through a partnership with the Regional Integrated Transportation Information System. A review of this data indicated that congestion decreased significantly on I-495 and I-270 at the onset of the pandemic in Spring 2020, corresponding to the sharp decline in traffic volumes during that time. However, by November 2021, significant congestion had returned to the study area, approaching pre-pandemic levels. For example, average speeds on the I-495 Inner Loop crossing the American Legion Bridge during the PM peak in early November (non-holiday) of 2021 were 20 mph, reflecting significant congestion, and matching the speeds during the similar period in November 2019 (also 20 mph). Refer to **Chapter 4, Section 4.5** and **FEIS, Appendix C** for additional details and results of the COVID-19 traffic analysis.

The high demand for travel results from commuter, commercial, and recreational use of the study corridors and has created congestion along the roadways. Congestion occurs during peak travel periods when demand exceeds roadway capacity. Along I-495, these peak travel periods occur at various times throughout the day, not just during the typical AM and PM peak periods, for as long as 10 hours per day. This type of recurring congestion makes roadways in the study corridors susceptible to exponential increases in delay, as the systems have a fixed capacity base. This exponential increase in delay occurs after a traffic queue has formed and new vehicles arrive, thereby increasing the delay for those vehicles arriving behind them (Cambridge Systematics, Inc., 2005).

Additionally, as congestion increases, the speeds decrease and the roadways in the study corridors become more susceptible to traffic incidents, such as vehicle crashes which cause non-recurring congestion. Crashes are unpredictable and can result from decreased vehicle spacing (rear-end collisions) and weaving and merging maneuvers (sideswipes) to change lanes. Heavily trafficked areas and construction zones are especially prone to these types of incidents (National Capital Region Transportation Planning Board, 2016d). After a crash occurs, it produces stop-and-go traffic movements and can result in lane closures on these capacity-limited systems. These non-recurring delays make the highway systems unreliable, thus negatively affecting travel times and speeds. (This diminished reliability as a result of traffic growth is interrelated to the another need element, as described in **Section 1.4**.)

Long-term traffic management options are needed to address the existing and future recurring congestion along the study corridors. In the National Capital Region, as well as across the country, the addition of general purpose roadway capacity alone cannot keep up with the growing demand for mobility due to the expanding populations and growth in and around the cities. Options to address the growing traffic demand and congestion in the region have been the subject of many prior studies; refer to **DEIS, Appendix A, Section 2.2.1**. While some of those strategies are being implemented, for example Travel Demand Management under the I-270 Innovative Congestion Management project to address existing issues and short-term needs on I-270 and additional mass transit under the Purple Line Light Rail project, these project alone 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. The 2045 No Build traffic

projections show severe congestion on I-495 and I-270 which will adversely affect the regional and local roadway network, especially in and around the interchanges and arterial roads in the study area.

Traffic management strategies are one option in the transportation "tool-kit" that have been identified to address the growing congestion. Managed lanes would maintain traffic operations at a relatively free-flow condition with little congestion because the number of vehicles entering the lanes is controlled. Management strategies, such as managed lanes, were evaluated in several prior studies for these corridors: Capital Beltway Study, I-270 Multi-Modal Corridor Study, and the West Side Mobility Study. The management strategies previously evaluated in these prior studies include high-occupancy vehicle (HOV), high-occupancy toll (HOT), or express toll lanes (ETL).

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.

1.4 Enhance Trip Reliability

Congestion on I-495 and I-270 results in unpredictable travel times. Travelers and freight carriers place a high value on reaching their destinations in a timely and safe manner, and in recent years, the study corridors have become so unreliable that uncertain travel times are experienced daily. More dependable travel times are needed to ensure trip reliability.

MDOT SHA uses the Travel Time Index (TTI)[3] as one of the primary measures of congestion on freeways/expressways. The 2018 Mobility Report identifies the top 15 congested segments during the AM peak hour and the PM peak hour in Maryland based on TTI data from the year 2017, corresponding to the baseline year for traffic operational analyses in this FEIS. Five of the top 15 most congested segments in Maryland during the AM peak are located within the study corridors on I-495, as shown in **Table 1-3**. Nine of the most congested segments in Maryland during the PM peak are located within the study corridors, as shown in **Table 1-4**. In 2045, based on modeling completed for the Study, travel times along the study corridors are projected to increase and users would likely have to increase their planned travel time to reach their intended destinations. In addition, increased amounts of congestion will likely decrease vehicle spacing along the roadways, thereby increasing the potential for congestion-related crashes (rear-end and sideswipe collisions). When these occur, traffic incidents and non-recurring congestion will further degrade the performance and reliability of I-495 and I-270, potentially causing delay for over 300,000 commuters each weekday by the year 2045 and increasing travel costs.

[3] The TTI compares the 50th percentile travel time of a trip on a segment of freeway/expressway for a particular hour to the travel time of a trip during off peak (free-flow or uncongested) conditions. The higher the TTI, for a given hour of the day, the longer the travel times (MDOT SHA, 2018). Free Free-flow conditions equate to TTI 1.0, and a TTI of 2.0 indicates a trip takes twice as long as free free-flow conditions, and greater than 2.0 indicated severe congestion.

Table 1-3: 2017 and Projected 2045 No Build TTI for Most Congested Segments in AM Peak

Road	Location	Direction (Loop)	2017 TTI (MD Rank)	Projected 2045 TTI	Forecasted % Increase
I-495	MD 650 to MD 193	Outer	5.1 (1)	6.5	27%
I-495	at MD 650	Outer	4.6 (2)	6.0	30%
I-495	MD 193 to US 29	Outer	4.1 (3)	5.3	29%
I-495	I-95 to Prince George's County Line	Outer	3.6 (5)	7.2	100%
I-495	US 29 to MD 97	Outer	2.9 (9)	4.0	38%

Source: MDOT SHA (2018) Note: MDOT SHA defines the various levels of congestion in four categories[4] based on TTI.

Table 1-4: 2017 and Projected 2045 No Build TTI for Most Congested Segments in PM Peak

Road	Location	Direction (Loop)	2017 TTI (MD Rank)	Projected 2045 TTI	Forecasted % Increase
I-495	at Cabin John Pkwy	Inner	4.5 (1)	6.1	36%
I-495	Clara Barton Pkwy to Cabin John Pkwy	Inner	3.8 (6)	4.9	29%
I-270	I-270 Split to Democracy Blvd	South	3.5 (7)	3.5	0%[2]
I-495	MD 355 to MD 185	Inner	3.4 (9)	3.7	9%
I-495	at MD 185	Inner	3.4 (10)	4.7	38%
I-495	at MD 355	Inner	3.3 (11)	5.3	61%
I-495	MD 190 to I-270 West Spur	Inner	3.3 (12)	5.1	55%
I-495	at MD 190	Outer	3.2 (14)	3.4	6%
I-495	MD 190 to Clara Barton Pkwy	Outer	3.1 (15)	3.1	0%[2]

Source: MDOT SHA (2018)
Notes: 1. MDOT SHA defines the various levels of congestion in four categories[4] based on TTI. 2. Future congestion is mitigated by background projects at these locations.

Overall, this TTI data shows that users in the study corridors need an option for a reliable trip when the general purpose lanes are congested due to recurring or non-recurring congestion (such as incidents, weather, and disabled vehicles). Managed lanes are an option to provide users with a more reliable travel time for their trip. Managed lanes are designed to operate at an acceptable level of service even when the adjacent general purpose lanes are congested. Because they are managed to control the number of vehicles using the lane to keep them flowing, managed lanes provide users with a more reliable option to reach their destination(s).

1.5 Provide Additional Roadway Travel Choices

Travelers on I-495 and I-270 do not have free-flowing travel options in the study corridors during peak periods or during the high incidents of vehicle breakdowns or accidents which exacerbate congestion and delays. Other than on I-270 where there are some HOV lanes, existing low-occupancy vehicles, buses, carpools, and vanpools, and trucks are limited to general purpose lanes along these roadways. Users needing to travel during peak periods, which experience recurring delays, utilize a variety of methods seeking a less congested option. Users attempt to bypass high volume ramps and locations by using arterial streets for all or a portion of their travel. Other users adjust their travel schedule to avoid those timeframes with typical delays. In addition, other than choosing alternate non-freeway routes (local and

[4] These four categories are: Uncongested (TTI < 1.15); Moderate Congestion (1.15 < TTI < 1.3); Heavy Congestion (1.3 < TTI < 2.0); or Severe Congestion (TTI greater than 2.0).

arterial roadways), no options exist to avoid non-recurring delays, such as during crashes, which close travel lanes or substantially slow travel. Additional roadway management options are needed to improve travel choice for time-sensitive trips, provide opportunities to bypass delays, and manage demand, while improving reliability and maintaining the existing number of general purpose lanes in the study corridors (**FEIS, Appendix A, Section 3.6**).

Managed lanes are an option to provide drivers with a choice to pay for a less congested trip or to carpool because they are managed to control the number of vehicles using the lanes. Drivers adjust their travel behavior in order to take advantage of the management tool for those managed lanes if their particular trip purpose warrants a relatively free-flow condition. When traffic shifts to the managed lanes, it also frees up space in the general purpose lanes to accommodate additional traffic that might otherwise use the local arterial network to avoid freeway congestion. The management strategies could include HOV, HOT, or ETLs. Under the Preferred Alternative, the management strategy is HOT where single occupancy vehicles pay a toll while bus transit, HOV 3+ including carpool and vanpool, travel toll-free.[5] Managed lanes can also encourage and support reliable, more efficient transit service such as express and commuter bus routes. Optimizing free-flow conditions has the potential to increase overall mobility by making transit usage on those lanes faster and more effective. Accommodating transit usage on the managed lanes, coupled with enhancing connectivity through reduced congestion on the study corridors, presents the opportunity to incorporate multimodal solutions to the identified transportation needs.

1.6 Accommodate Homeland Security[6]

The National Capital Region is the nation's main hub of government, military, and other facilities related to homeland security, such as US Customs and Border Patrol, Federal Emergency Management Agency, and Transportation Security Administration, refer to **Table 3-8** in **FEIS, Appendix A** for additional details. These agencies and facilities rely on quick, unobstructed roadway access during a homeland security event. During a homeland security event, the government facilities along the I-495 and I-270 study corridors, as well as beyond the limits of the study corridors into the Baltimore Metropolitan Area and Northern Virginia, may be required to utilize I-495 and I-270. Existing congestion would be exacerbated in the event of an emergency evacuation and/or homeland security event in the National Capital Region. Per the FHWA study, *Highway Evacuations in Selected Metropolitan Areas: Assessment of Impediments*, a primary impediment to effective large-scale evacuations in the National Capital Region is roadway capacity (FHWA, 2010).

I-495 and I-270 are primary connections to and from densely populated communities in the National Capital Region, and the daily high travel demand on these highways results in severe congestion. Mobility and access for emergency response vehicles are limited by the traffic conditions on these highways, where high vehicle volumes may reduce the ability for emergency response vehicles to navigate and pass through congestion. This may result in longer response times. A study based on surveys from Emergency Medical Services (EMS) first responders, *Emergency Medical Service Providers' Experiences with Traffic Congestion*,

[5] 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.

[6] Homeland Security is defined by the National Strategy for Homeland Security as "a concerted national effort to prevent terrorist attacks within the United States, reduce America's vulnerability to terrorism, and minimize the damage and recover from attacks that do occur." 2017 Edition – Revision 2, issued October 16, 2017
https://www.dhs.gov/sites/default/files/publications/18_0116_MGMT_DHS-Lexicon.pdf

supports this idea. The EMS study results indicate that traffic congestion is more often experienced on interstates and national highways than city streets, and that traffic congestion, on average, contributes to an extra ten minutes in emergency response time (Griffin and McGwin, 2013).

Additional roadway capacity would assist in improving emergency response access and accommodating a population evacuation should an event related to homeland security occur.

1.7 Improve Movement of Goods and Services

The transportation connections that I-495 and I-270 provide are essential to the productivity of the National Capital Region's economy. The study corridors allow the movement of goods and services, including freight and commuting employees, throughout the region. Existing congestion along both corridors increases the cost of doing business due to longer travel times and unreliable trips. The effects of this congestion on the movement of goods and services is a detriment to the health of the local, regional, and national economy. Efficient and reliable highway movement is necessary to accommodate passenger and freight travel that move goods and services through the region.

1.7.1 Movement of Freight Goods

Freight-dependent industries, including goods transportation services, raw materials/intermediate products transportation services, and retail/consumer outlets, account for 19 percent of the National Capital Region's Gross Domestic Product, which totaled $464 billion in 2013 (National Capital Region Transportation Planning Board, 2016c). Among these industries within the National Capital Region, the truck transportation mode accounts for 86 percent of the total weight and 79 percent of the total value of freight moved (National Capital Region Transportation Planning Board, 2016c).[7] Reliable travel times are critical to the movement of freight trucks and, therefore, the economy of the National Capital Region.

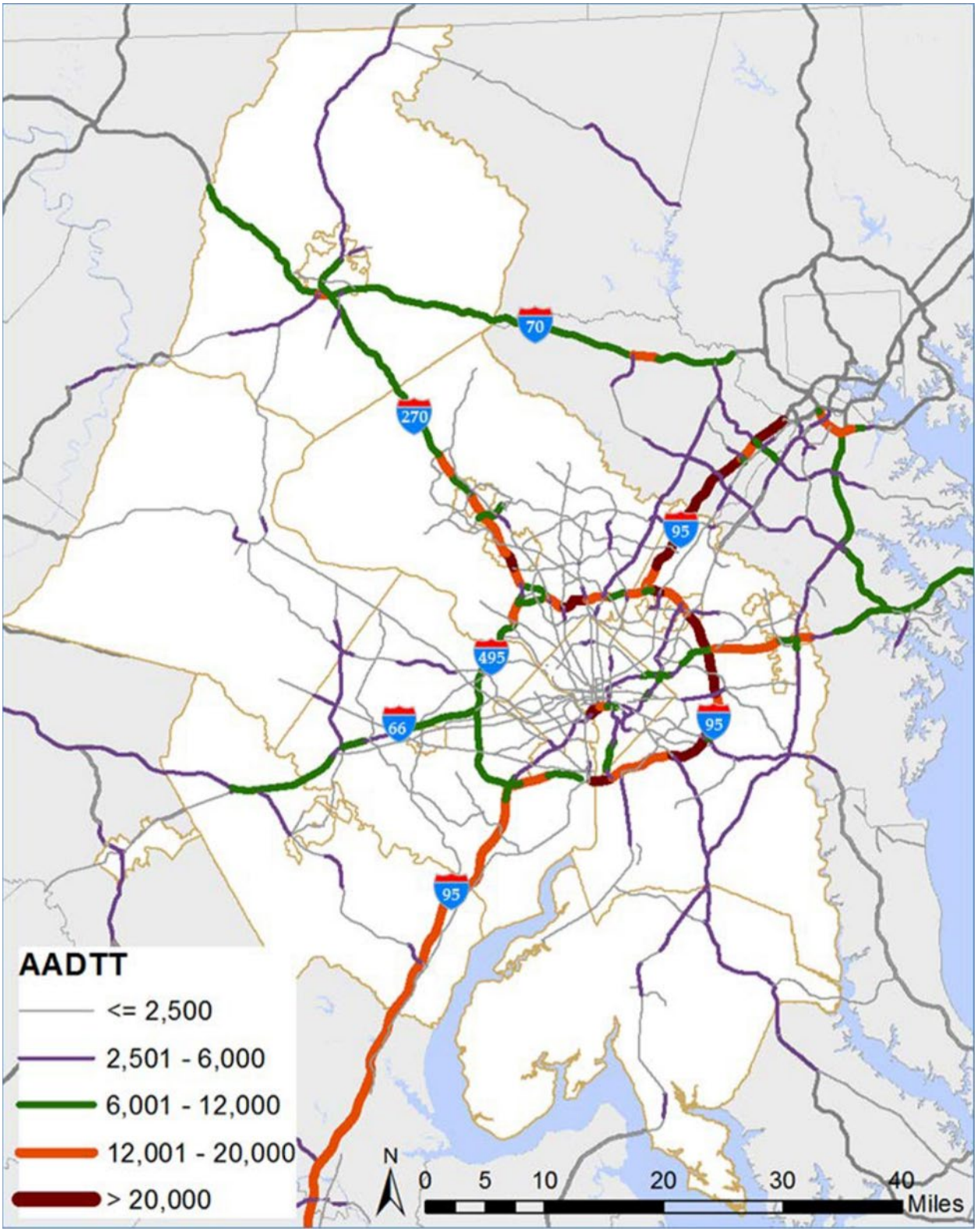
Freight trucks contribute to daily traffic flow conditions along I-495 and I-270. As shown in **Figure 1-2**, the study corridors experience the highest AADT volumes of freight trucks and greater percentages of freight trucks relative to other vehicles in the Freight-Significant Network.[8,9] Based on annual average data, both the I-495 study corridor and I-270 study corridor serve over 20,000 trucks per day, respectively. The demand for freight increases with population size. Each person in the United States generates demand for more than 60 tons of freight per year (MWCOG, 2016a), and with each new resident added, the demand for consumer goods increases. Therefore, as the population increases in the region, so does a corresponding demand for freight transportation. Refer to **FEIS, Appendix A, Section 3.9** for additional details.

[7] The freight weight and value percentages presented here are based on the National Capital Region Transportation Planning Board's *National Capital Region Freight Plan* (July 2016). The most recently available freight demand analysis data used in the 2016 *Freight Plan* is from 2007. See page 45 of the 2016 *Freight Plan* for additional information.

[8] Based on the National Capital Region Transportation Planning Board's National Capital Region Freight Plan (July 2016). The most recently available freight demand analysis data used in the *2016 Freight Plan* is from 2007. See page 45 of the *2016 Freight Plan* for additional information.

[9] Commercial traffic is not allowed on the National Park Service Parkways.

Figure 1-2: Average Annual Daily Truck Traffic



Source: National Capital Region Freight Plan, page 31. National Capital Region Transportation Planning Board, 2016.

1.7.2 Movement of Commuting Employees

Thousands of employers in the National Capital Region depend on the study corridors for employee commuting and delivery access. As illustrated in **Figure 1-3**, approximately 54 percent of residents in Montgomery County and 56 percent of residents in Prince George's County travel ten or more miles from their homes for work with employment destinations and workers' home destinations densely clustered along the I-495 and I-270 study corridors (MD Maryland Department of Labor, Licensing, & Regulation, 2018 https://www.dllr.state.md.us/lmi/wiacommuting/). The ability to move freight and commuting employees through the study corridors will increasingly depend on the performance of the existing travel lanes on I-495 and I-270. Travelers, commuting employees, and freight trucks are especially sensitive to non-recurring delays (unanticipated disruptions), which are indicative of poor reliability, as they disrupt scheduled activities and manufacturing/distribution activities (Transportation Planning Board, 2016d). Refer to **FEIS, Appendix A, Section 3.10** for additional details. For additional detail on the COVID-19 pandemic's impact on commuting and travel, refer to **Chapter 4, Section 4.5** and **FEIS, Appendix C**.

1.8 Other Goals and Objectives

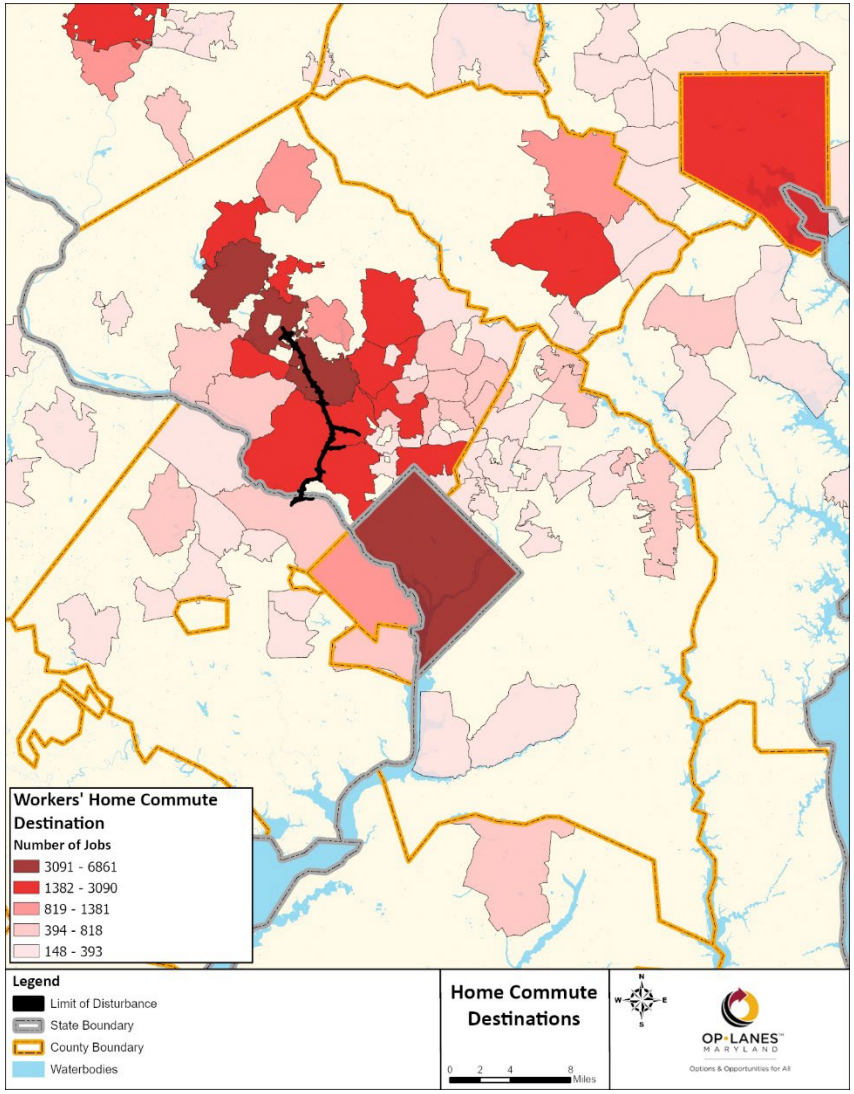
1.8.1 Incorporate Alternative Funding Sources to Achieve Financial Viability

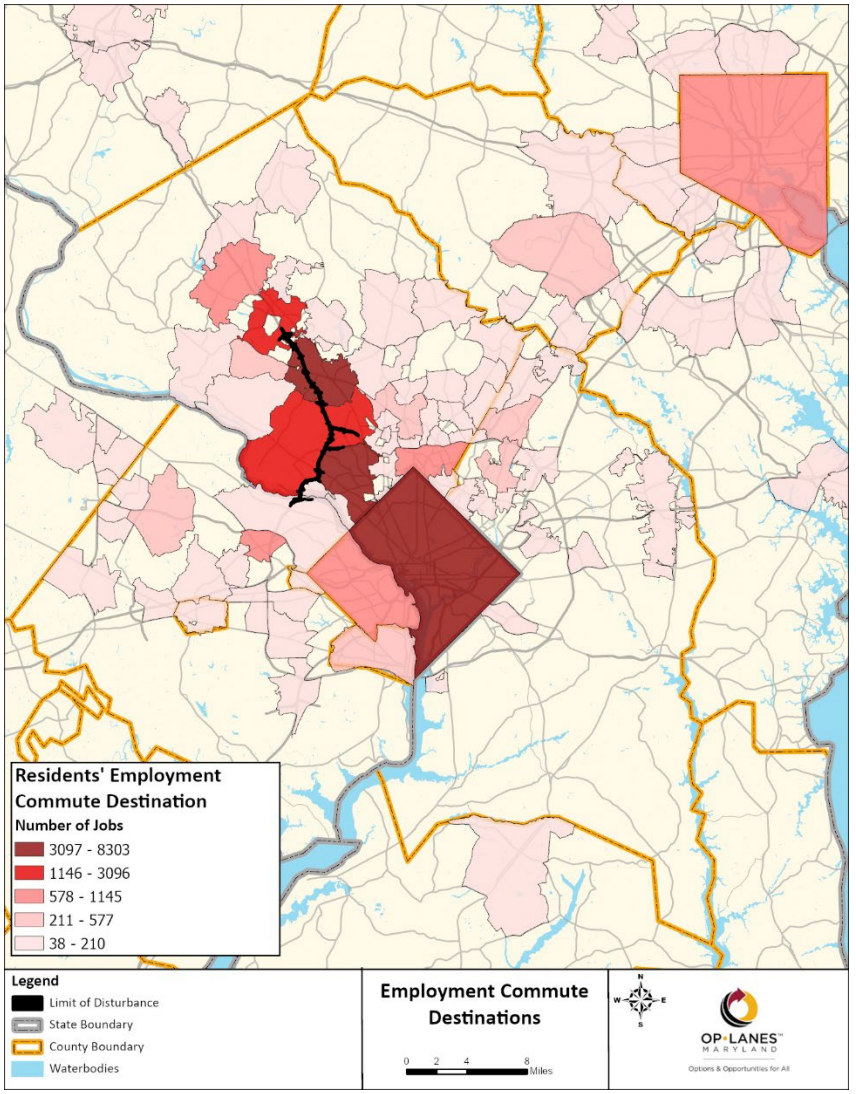
The State of Maryland is committed to provide timely transportation improvements that can accommodate existing and long-term traffic growth. Typical roadway infrastructure improvements are funded through use of Maryland's Transportation Trust Fund. The Transportation Trust Fund is primarily comprised of revenue from the gas tax and motor vehicle registration and titling fees. All funds dedicated to MDOT are deposited in the Transportation Trust Fund, and disbursements for all programs and projects are made from the Transportation Trust Fund. Revenues are not earmarked for specific programs.

However, the State's traditional funding sources, including the Maryland Transportation Trust Fund, are unable to effectively finance, construct, operate, and maintain highway improvements of the magnitude that are needed to address roadway congestion and enhance trip reliability in these study corridors, due to the fiscal constraints of the program and the state-wide transportation needs. These types of large projects must be financially viable and revenue sources, such as pricing options, that provide adequate funding are needed to support additional roadway capacity and improvements that address roadway congestion and enhance reliability.

Large-scale improvements, such as those being considered with the Study, would require decades to accumulate enough revenue in the State's Transportation Trust Fund to deliver the improvements with traditional funding. The use of alternative funding approaches, such as pricing options, provides needed large-scale improvements decades earlier than would otherwise be realized using traditional funding and allows the project to be fiscally-constrained in the metropolitan transportation plan. This is a critical step in the NEPA decision-making process, as current federal policy restricts issuance of a NEPA decision document unless the project is fiscally-constrained. For large-scale improvements such as those considered in this Study, MDOT SHA will use an innovative financing method through a P3 in order to design, build, finance, operate, and maintain the proposed infrastructure improvements.

Figure 1-3: Residents' Home and Employment Commute Destinations





Source: U.S. Census Bureau, Center for Economic Studies, OnTheMap (https://onthemap.ces.census.gov)

1.8.2 Environmental Responsibility

The area surrounding the study corridors is highly constrained. MDOT SHA has worked extensively with agency partners and other stakeholders to avoid and minimize community, wetlands, waterways, cultural, noise, air quality, and parkland impacts, and mitigate for impacts when not avoidable. With respect to final project permitting, MDOT SHA will work with our federal, state, and local resource agency partners in a streamlined, collaborative, and cooperative way to meet all regulatory requirements to ensure the protection of significant environmental and community resources. In planning mitigation for a build alternative, MDOT SHA will strive to provide meaningful benefit to resources and improve their values, services, attributes, and functions that may be compromised by a build alternative. MDOT SHA has worked in good faith with our regulatory agency partners to plan worthwhile mitigation based on identified priorities that strive to achieve the goal, at a minimum, of no net loss to impacted resources with a goal of net benefit. Innovative, creative solutions, including modern environmental site design techniques to mitigate for unavoidable impacts are identified in this FEIS and will also be included in the Record of Decision (ROD). Commitments in the ROD will also be included in any contract documents.