

MOVING FORWARD

2045 Long Range Transportation Plan



Calvert-St. Mary's Metropolitan Planning Organization

Adopted March 6, 2020

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The Plan and the Process

1.1 Moving Forward 2045

Moving Forward 2045 is the Calvert-St. Mary's Metropolitan Planning Organization's (C-SMMPO's) Long Range Transportation Plan (LRTP).

Federal regulations 23 CFR 450.324 define the development and content of the LRTP. The plan establishes transportation investment priorities in the C-SMMPO region over the next 25 years based on the latest estimates and assumptions for population, land use, travel, employment, congestion, and economic activity. Moving Forward 2045 uses a performance-based approach to transportation decision making to support the national goals described in 23 U.S.C. 150(b) and the general purposes described in 49 U.S.C. 5301(c). The LRTP focuses on large projects eligible for federal funding. It presents projects that are part of the fiscally constrained plan for the region according to priorities and estimated available funding through 2045 and illustrative projects that would be carried out with additional funding.

The primary purpose of the plan is to guide the C-SMMPO and government agencies in making decisions and directing transportation investments where they will be most effective. The plan is designed to be flexible and to reflect the unique characteristics of the communities in the C-SMMPO region. Moving Forward 2045 can be amended or updated with approval from the C-SMMPO Council, following opportunities for public involvement.

Federal Regulations for the Long-Range Transportation Plan

There are several federal rules that explain a Long-Range Transportation Plan (LRTP), what goes in it, and how it should be created.

23 CFR 450.324 explains what goes into an LRTP, how often it needs to be updated, and how it should be created.

23 U.S.C. 150(b) includes the goals that every LRTP must support and the requirement for performance based planning. This means decisions are based on data collected to measure progress towards a goal.

49 U.S.C. 5301(c) states that the federal government supports transit. This is through funding, research, setting standards, and other actions.



1.2 Regional Transportation Planning

Transportation planning is a continuing, cooperative, and comprehensive (3-C) process. The goal of this process is to identify improvements to facilities and operations to provide a well-maintained, multimodal transportation system. The transportation system affects all aspects of daily life—commuting to work or school, shopping, transporting goods and freight, and ensuring that the national network of highways, railroads, and airports connects people all over the world.

1.2.1 Metropolitan Planning Organization Responsibilities

Federal law requires that a Metropolitan Planning Organization (MPO) be established for urban areas with populations greater than 50,000. The MPO is responsible for setting priorities and carrying out regional transportation planning for its designated area. This means planning for and implementing improvements to roadways, transit systems, and bicycle and pedestrian infrastructure. The MPO has five main responsibilities, as illustrated in **Figure 1.1**.

1.2.2 Metropolitan Planning Organization Structure

MPOs drive regional decision-making and provide a critical link for coordinating transportation investments between federal, state, and local governments and the public. MPOs use regional transportation planning to address shared challenges and direct financial investments to transportation projects that improve mobility, safety, and security over long time spans. There is no standard structure for MPOs, but most have three elements: the MPO Council, MPO Staff, and a Technical Advisory Committee. **Figure 1.2** describes the roles and responsibilities of each of the groups of actors that make up the MPO.

The C-SMMPO Council includes a commissioner from each county and the Maryland Department of Transportation (MDOT) Secretary or their designee. The Council meets as needed to make decisions on matters of regional importance. The main planning work is carried out by the MPO Staff, which includes one full-time planner and support from planning staff of each county, with technical support from MDOT and related agencies. The Technical Advisory Committee (TAC) is made up of professionals including urban planners and engineers from relevant government agencies and development organizations, such as the Tri-County Council for Southern Maryland, and representatives from the Naval Air Station Patuxent River (NAS PAX). The TAC reviews work from the MPO and recommends revisions to improve the decision-making process.

Figure 1.1 Metropolitan Planning Organization Responsibilities

MPO Responsibilities

- 1 Create the setting**
Create and manage a fair and impartial setting for regional decision-making
- 2 Involve the public**
Involve the public by actively seeking input on the plans and projects of the MPO
- 3 Prepare and maintain a Long-Range Transportation Plan**
Develop and update an LRTP that improves mobility and access for people and goods, efficient system performance, and good quality of life
- 4 Create the Transportation Improvement Plan**
Develop a four-year plan of transportation improvements based on the LRTP.
- 5 Create the Unified Planning Work Program**
Develop a plan for the work that supports the regional transportation planning process including studies to define new projects and priorities

What is a Long-Range Transportation Plan (LRTP)?

An LRTP serves as the vision for the region's transportation systems and services. It is developed by collaborating with state and local agencies and public engagement. Plans are updated every four years and cover a period of at least twenty years.

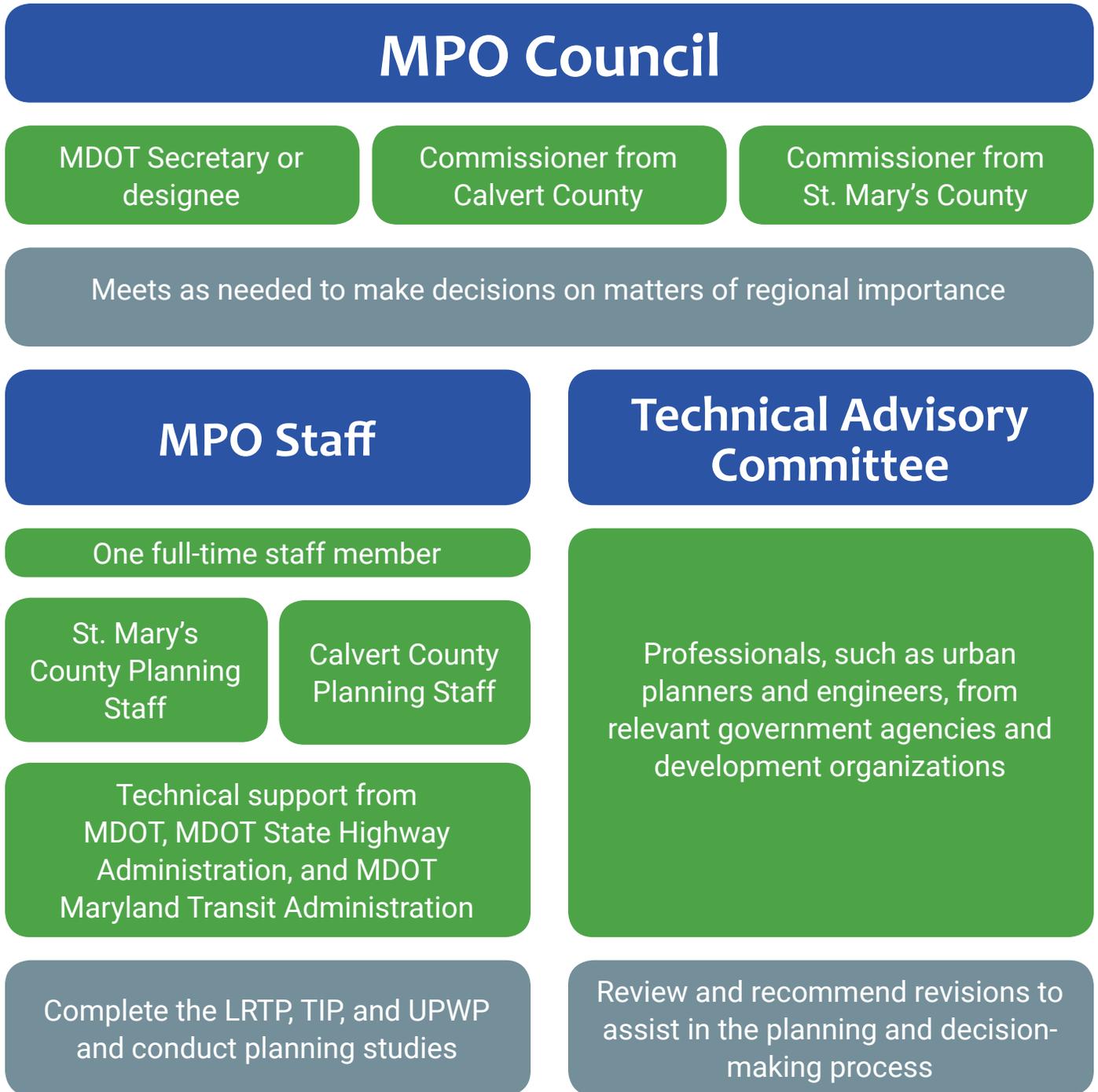
What is a Transportation Improvement Plan (TIP)?

The TIP prioritizes transportation projects that make progress on the goals of the LRTP over a period of four years. The TIP must include financial information and the responsible agency.

What is a Unified Planning Work Program (UPWP)?

The UPWP lists studies and tasks that MPO staff perform to support the transportation planning process. It identifies the funding source, schedule, and responsible agency for each task or study.

Figure 1.2 Structure of the C-SMMPO

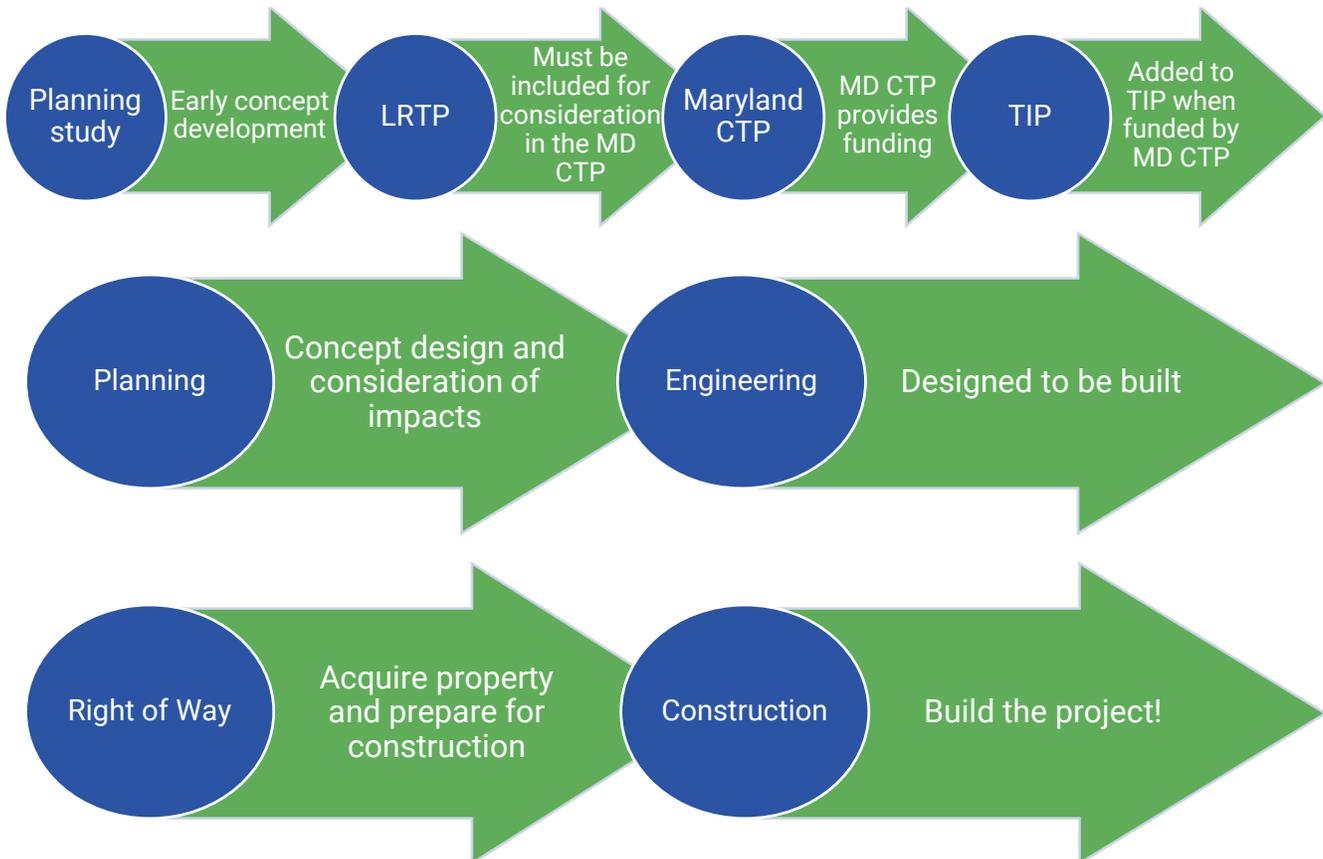


1.2.3 Project Development Process

Moving Forward 2045 closely relates to other aspects of the transportation planning process. The LRTP is one step in moving a transportation project from an idea to a completed project as illustrated in **Figure 1.3**. A project idea must first be developed before it is included in the LRTP. This might occur in a study completed by the MPO or by a state planning agency.

Projects in the fiscally constrained LRTP, meaning they are the recommended projects for the funding available, can be considered for funding in the Maryland Consolidated Transportation Program (CTP). The MD CTP is the six-year plan that funds projects across the state. If a plan receives state funding in the MD CTP, it can be included in the TIP created by the C-SMMPO every four years. The TIP is a short-range plan that describes the timeline, tasks, and responsible agency for funded projects. Once a plan is in the TIP, it will move through the project implementation phases of planning, engineering, right-of-way, and construction. Planning is when the project concept is designed. This is when different options and impacts on the environment and community are considered. Generally, this stage includes public engagement to get feedback on the project. Engineering is when construction plans are created. Right-of-way is when the land

Figure 1.3 Project Development Process



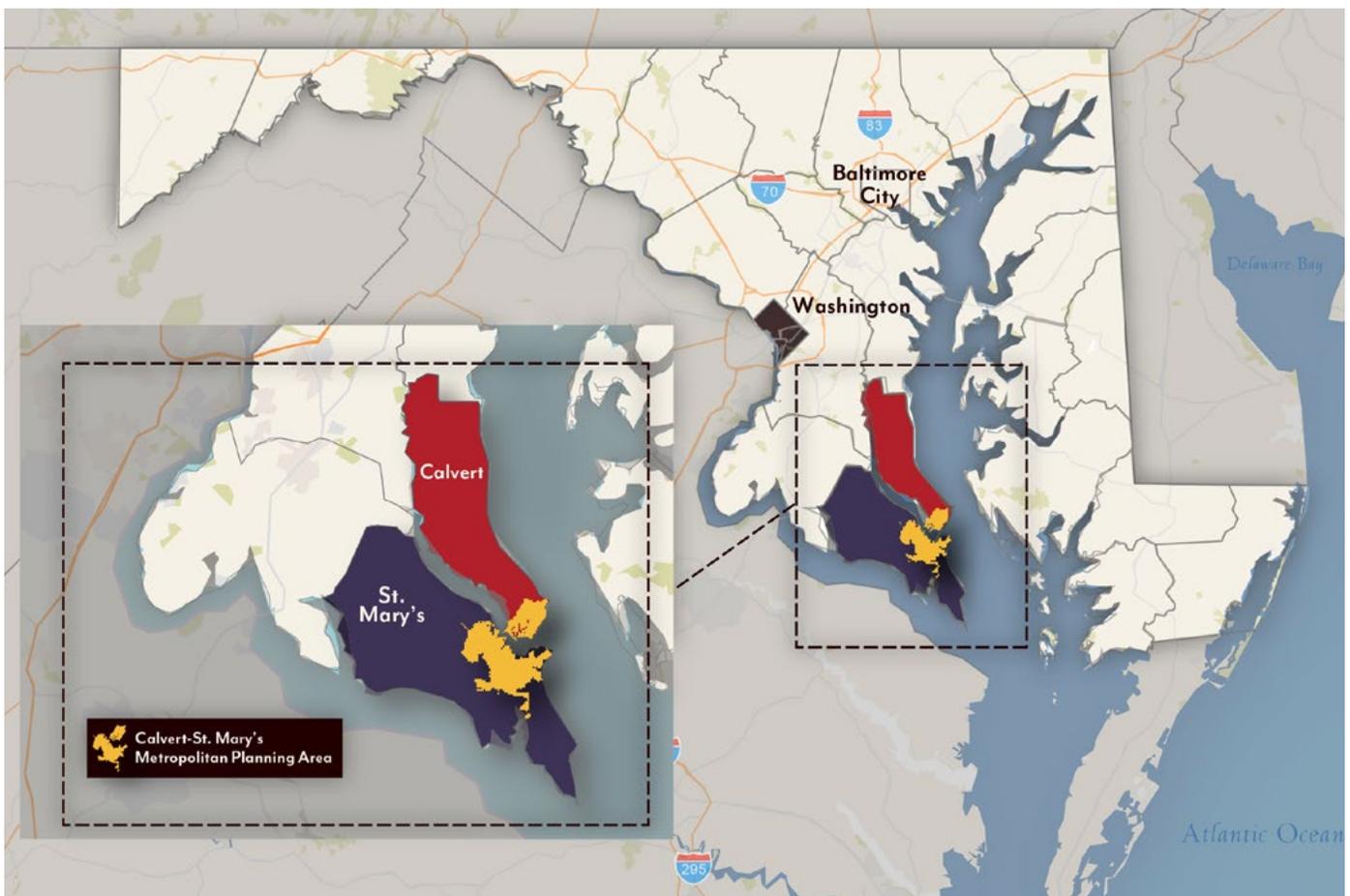
Source: CHPlanning, Ltd.

needed to build is acquired and prepared for construction. Construction is when the project is built. It takes a lot of work to make sure the projects that move to the construction stage are safe and do not have large negative impacts on the community or environment.

1.3 Calvert-St. Mary's Metropolitan Planning Organization

In 2010, the Lexington Park-California-Chesapeake Ranch Estates Urban Area reached a population of 58,875. Because this exceeds the threshold of 50,000 people, the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) was established in 2013 to coordinate regional transportation planning. The C-SMMPO includes the areas of St. Mary's and southern Calvert counties that are considered to be one continuous urban area but excludes the more rural areas that surround the MPO or urban areas separated by rural areas from the MPO region. As shown in **Figure 1.4**, the MPO is in Southern Maryland, approximately 60 miles south of Washington DC.

Figure 1.4 Regional Context Map



Source: Maryland Department of Transportation Office of Planning and Capital Programming

The Metropolitan Planning Area (MPA), shown in **Figure 1.5**, includes the Urban Area and the areas expected to become urban during the next 20 years. It serves as the area in which the C-SMMPO conducts planning outreach and research. The boundary was developed by the Calvert and St. Mary's county governments and approved by the Governor of Maryland.

The MPO includes the southern portion of Calvert County, mainly below MD 2-4, and the eastern portion of St. Mary's County from Hollywood to St. Mary's City. Calvert County is a peninsula on the western shore of the Chesapeake Bay with about 213 square miles of land area. At its widest point, Calvert County spans 9 miles, and extends 35 miles from the Anne Arundel County line south to Solomons. There are 14.62 square miles, approximately 25% of the total planning area, in Calvert County.

St. Mary's County consists of approximately 357 square miles of land area and over 500 miles of shoreline. It is bordered on the west by the Wicomico River, on the south by the Potomac River, on the east by the Chesapeake Bay, and on the northeast by the Patuxent River. There are 44.65 square miles, approximately 75% of the planning area, in St. Mary's County.

The planning area includes the Calvert County communities of Chesapeake Ranch Estates, Drum Point, Lusby, and Solomons. In St. Mary's County, the planning area includes the communities of California, Lexington Park, Callaway, Great Mills, and St. Mary's City, as well as NAS PAX. MD 4 runs north-south through Calvert County and crosses the Thomas Johnson Bridge into St. Mary's County. MD 5 runs north-south in St. Mary's County along the western and southern borders of the MPA. MD 235 runs north-south along the eastern side of St. Mary's County and provides the main connection to NAS PAX. MD 237, MD 245, and MD 246 provide the east-west connections between MD 5 and MD 235.



Figure 1.5 Metropolitan Planning Area



Source: Maryland Department of Transportation Office of Planning and Capital Programming

1.4 Consistency with Other Plans

Plans from the state, Calvert County, St. Mary's County, and the C-SMMPO were reviewed for consistency with this plan. These plans are listed in **Table 1.1**.

Table 1.1 Plans Reviewed for Consistency

Agency	Year	Plan
Maryland Department of Transportation	2019	2040 Maryland Transportation Plan
Calvert County	2019	Calvert County Comprehensive Plan
Calvert County	2020	Calvert County Transportation Plan
Calvert County	2018	Calvert County Land Preservation, Parks, and Recreation Plan
Calvert County	2009	Solomons Town Center Master Plan
Calvert County	2002	Lusby Town Center Master Plan
St. Mary's County	2010	St. Mary's County Comprehensive Plan
St. Mary's County	2006	St. Mary's County Transportation Plan
St. Mary's County	2017	St. Mary's County Land Preservation, Parks, and Recreation Plan
St. Mary's County	2016	Lexington Park Development District Master Plan
St. Mary's County	2019	Lexington Manor Passive Park
C-SMMPO	2019	MPO Bus Stop Assessment
C-SMMPO	2019	Navy Base Multi-Modal Study
C-SMMPO	N/A	St. Andrew's Churchman Road Study

Source: CHPlanning, Ltd.



1.4.1 State

2040 Maryland Transportation Plan (2019)

The 2040 Maryland Transportation Plan sets priorities for the state transportation system through 2040. It identifies Southern Maryland (Calvert, Charles, and St. Mary's counties) as the fastest growing region with 31% growth expected by 2040. The projects included in the plan that are relevant to the MPO region include the widening of MD 2-4 north of Prince Frederick, the Governor Thomas Johnson Bridge replacement, and the upgrade of the MD-5 crossing over St. Mary's River. The plan has seven goals:

- Ensure a safe, secure, and resilient transportation system
- Facilitate economic opportunity and reduce congestion in Maryland through Strategic System Expansion
- Maintain a high standard and modernize Maryland's multimodal transportation system
- Improve the quality and efficiency of the transportation system to enhance the customer experience
- Ensure environmental protection and sensitivity
- Promote fiscal responsibility
- Provide better transportation choices and connections

[See the full 2040 Maryland Transportation Plan here.](#)

1.4.2 County

Both Calvert and St. Mary's counties have comprehensive and transportation plans that define the goals and priorities of the counties in developing their transportation system to best serve their residents

Calvert County Comprehensive Plan (2019)

The 2019 Calvert County Comprehensive Plan has three main values: preserving the rural landscape, creating vibrant town centers, and working towards environmental, economic, and social sustainability. Calvert County saw a decrease in traffic volume from 2005 to 2010 throughout the County. Most areas have remained at the 2010 levels except Lusby, which increased to the 2005 traffic volume. The main transportation concern within the County is the dependence on MD 2-4 as the only north-south route. The County considers transitioning MD 2-4 to a controlled access expressway and connecting parallel roads along MD 2-4 to provide alternate options for local travel as two of the largest priorities to maintain good travel conditions. [See the full Calvert County Comprehensive Plan here.](#)

Calvert County Transportation Plan (2020)

The 2020 Calvert County Transportation Plan was still in draft form at the time of writing. According to the draft plan, 65% of residents commute outside of the county for work and 90% of people drive to work alone in Calvert County. The average commute time has increased to 42 minutes in 2018 with the number of people commuting more than 60 minutes increasing from fewer than 2,000 people in 2000 to more than 12,000 people in 2017. The plan has five goals and objectives that further define each goal:

- **Goal 1:** *Build and maintain transportation assets that are safe, resilient, and in good repair*
- **Goal 2:** *Eliminate traffic and pedestrian deaths and serious injuries*
- **Goal 3:** *Improve mobility within town centers*
- **Goal 4:** *Expand practical choices and achieve reliable travel times for commuters using MD 2-4*
- **Goal 5:** *Meet unmet transportation needs for carless and limited-mobility households*

Calvert County prepared a historical growth scenario, using historic growth rates, along with aggressive and hyper growth scenarios. Under the historical growth scenario, there will be little increase in failing road segments assuming the completion of the widening of MD 2-4 from the Anne Arundel County line to Prince Frederick and the replacement of the Governor Thomas Johnson Bridge by 2040. The emphasis of the plan is to implement lower cost management strategies to improve traffic flow due to the high cost of widening or adding roadways and the limited state resources.

Calvert County Land Preservation, Parks, and Recreation Plan (2018)

Residents of Calvert County consider the rural landscape, waterways, and access to recreational opportunities close to home integral to their quality of life. With nearly 12,000 acres of open space in the county, there is currently high satisfaction with existing parks and programming. There is some need to expand offerings because demand occasionally exceeds capacity and the population is predicted to continue growing, albeit at a slow rate.

This plan lays out goals for parks, recreation, and open space in Calvert County and allows the county to participate in Maryland's Open Space program that provides matching funds for land acquisition and facility improvements. One of the goals related to transportation is "Our highways are safe with only moderate congestion, and public transit is readily



available. Walking and bicycling are practical alternatives.” According to the survey conducted for this plan, there is significant demand for interconnected pedestrian and bicycle trails to access recreation opportunities. The plan recommends creating bicycle and pedestrian master plan and acquiring right of way for trails. [See the full Calvert County Land Preservation, Parks, and Recreation Plan here.](#)

Solomons Town Center Master Plan (2009)

The purpose of the Master Plan is to guide development and direct future growth with an overall goal of developing Solomons Town Center as an attractive, convenient, and interesting place to live, work, and shop while protecting natural assets and preserving the historic character. The transportation section focuses on creating a balanced transportation system that provides sidewalks and bike lanes and considers the connections between land and water transportation. Planning must consider the limited right-of-way to allow for sidewalks and bike lanes. The plan includes numerous recommendations to improve roadways, parking, transit access, bicycle and pedestrian facilities, and the harbor and boat ways. [See the full Solomons Town Center Master Plan here.](#)

Lusby Town Center Master Plan (2002)

The purpose of the Master Plan is to direct development to meet the objectives of the plan. The plan includes recommendations to manage access to MD 2-4, which run through the Town Center, and create a parkway for through traffic to allow Trueman Road to become a downtown main street and preserve its rural character. [See the full Lusby Town Center Master Plan here.](#)

St. Mary’s County Comprehensive Plan (2010)

The St. Mary’s County Comprehensive Plan (2010), in its Community Vision statement, preserves and enhances the quality of life by recognizing and protecting the unique character of St. Mary’s County as a Chesapeake Bay Peninsula. It also fosters economic growth and creates an atmosphere of excellence by focusing and managing growth to create a vibrant, attractive communities; by protecting the rural character and economy of the countryside; by nurturing the shoreline and adjacent waters; and by preserving and capitalizing on the natural resources and historical quality of the County.

The Transportation Element of the Comprehensive Plan (Chapter 11) states that: “In order to meet present and future transportation needs, a well-maintained, multimodal transportation system that facilitates the safe, convenient, affordable, and efficient movement of people, goods, and services within and between population and business centers is required. Failure to adequately plan for the future will result in higher future transportation operational and improvement costs, reduced traffic safety, increased air pollution, reduced economic viability, and a lower quality of life for all residents.” [See the full St. Mary’s County Comprehensive Plan here.](#)

St. Mary's County Transportation Plan (2006)

The 2006 St. Mary's County Transportation Plan has the stated goal to provide *"an integrated transportation plan that will assist all aspects of transportation including motor vehicles, mass transportation, horse and buggy, bicycles, pedestrians, waterways, and air transportation while considering the cultural resources throughout the county."* In order to achieve this goal, a series of objectives, policies, and actions were developed. Examples include:

- Provide safe, efficient, economical roads that support community, revitalization, economic development, and environmental stewardship.
- Ensure adequate capacity and safety for the traveling public and the appropriate level of access.
- Maintain a needs assessment and an evaluation of options, fare structure, and supplemental funding sources for system improvement.
- Create and maintain an extensive network of bikeways that will enhance access to cultural resources throughout the county including residential, recreational, educational, institutional, and commercial areas.
- Construct sidewalks networks between neighborhoods, schools, parks, and other activity nodes/ centers.

[See the full St. Mary's County Transportation Plan here.](#)



St. Mary's County Land Preservation, Parks, and Recreation Plan (2017)

The parks, recreation, and open space in St. Mary's County define the rural and coastal character and contribute to high quality of life. There are more than 13,000 acres of parks, recreation areas, and open space. The recreation opportunities generally meet demand, however demand for trails sometimes

exceeds capacity. Future growth and increased demand show the need for expanded facilities and programming to meet resident needs.

This plan lays out goals for St. Mary's County recreation and allows St. Mary's County to use Maryland's Open Space program matching grant funds for land acquisition and facility improvements. One of the goals is to create a network of connected walkways, trails, and paths throughout the County. The development of the Three Notch Trail is a significant achievement for pedestrian and bicycle access. This effort is described further in **Section 4.3.2 Pedestrian and Bicycle Network**. [See the full St. Mary's County Land Preservation, Parks, and Recreation Plan here.](#)

Lexington Park Development District Master Plan (2016)

St. Mary's County created a Lexington Park Development District Master Plan in 2016. The County sees Lexington Park as the main growth area for the county and wants to transform the area into a mixed-use downtown with a balanced transportation system. By estimated forecasts, the area is expected to have 10,000 additional housing units and 23% growth in jobs by 2030.

The development plan focuses on creating a downtown through creating a central business district and infill development within existing development. The plan focuses on several areas—downtown where MD 235 and MD 246 meet, Jarboesville, Great Mills Road, and FDR Boulevard—to develop its recommendations. The circulation improvements focus on creating new street connections to form a more gridded network, improving streetscapes through pedestrian amenities and traffic calming, improving transit through upgrades to bus stops, vehicles, and other amenities, and creating a network of open space including a town green and community gardens. The plan both supports and expands on the 2006 Transportation Plan. [See the full Lexington Park Development District Master Plan here.](#)

Lexington Manor Passive Park Plan (2019)

Lexington Manor Passive Park, also known as Flattops after the distinctive homes that once populated the neighborhood, is an 84-acre green space in downtown Lexington Park. The park is nearly all open space with many mature trees, including cherry trees. The southern parcel has a disc golf course and the roadway network supports walking, running, rollerblading, skateboarding, and biking.

Currently, there are limited park amenities and signage. The Master Plan creates a concept for improving Lexington Manor. Recommendations include resurfacing roadways in the park, establishing primary entrances, improving connections to the surrounding neighborhoods, incorporating public art and a community garden, and providing amenities like restrooms, benches, lighting, and trash cans. [See the full Lexington Manor Passive Park Plan here.](#)

1.4.3 Calvert-St. Mary's Metropolitan Planning Organization

The C-SMMPO conducts studies that assess existing conditions, recommend improvements, and/or explore improvements that may be added to a future long-range plan.

MPO Bus Stop Assessment (2019)

The Bus Stop System uses signed bus stops (also called transfer stations), stop requests, and flag-stop systems (hailing the bus along the route). The long-term goal is to move from a flag-stop system to a signed bus stop system. The bus stop assessment study examined the condition of existing bus stops and found that there are limited signs, ADA compliance, and passenger amenities like shelters and trash cans. The study provides recommended improvements and a timeline for these improvements.

The St. Mary's Transit System (STS) will work with MODT MTA and county agencies to plan and establish a mixed-use development with multimodal transit options in Lexington Park. STS will relocate the Transit Center to this mixed-use development to connect passengers and drivers, move the facility out of the of the NAS PAX Air Installation Compatible Use Zone, improve safety, and spark transit-oriented development.

Navy Base Multi-Modal Study (2019)

This study focused on improving multi-modal access to and within the Naval Air Station Patuxent River (NAS PAX) to reduce congestion. The goal was to recommend actions that can reduce the number of single occupancy vehicles that enter and exit the base per day. The study included a survey that got 2,254 responses. Some problems that were identified include congestion entering and exiting the base, lack of parking on base, and lack of bicycle and pedestrian infrastructure on base.

Recommendations within the base include creating a shuttle system that runs between locations on base; reinstating on-call taxi for business travel; implementing a bike share program, improved bicycle infrastructure, locker rooms with showers, and bicycle parking; and adding sidewalks and crosswalks where there are gaps in the network. The study also recommends policy changes, such as increased opportunities for teleworking (i.e. working from home or remotely), transit and bicycle subsidies, and a transit awareness campaign. These can help to reduce the number of single occupancy vehicles entering the base on any given day. Recommendations for connections to the base include a bike path and pedestrian crossing on MD 235, completing Three Notch Trail and FDR Boulevard, and adding lunch locations at Tulagi Place to provide lunch locations near the base.

St Andrews Church Road Improvement Study

There is an ongoing transportation improvement study on St. Andrews Church Road that includes complete street concepts, access improvements, and sidewalk for pedestrians to provide mobility, reduce vehicle and pedestrian crashes, and promote healthier communities in this part of the MPO region.



2



Performance Based Planning

2.1 Federal Requirements

Moving Ahead for Progress in the 21st Century (MAP-21), created 10 federal factors to ensure that transportation planning is consistent with federal regulations, shown in **Figure 2.1**. These factors are used to set goals, recommend projects, and prioritize spending in MPO plans.

MAP-21 establishes a transparent, accountable decision-making framework for MPOs and public transit providers to identify multimodal investment and project priorities. MAP-21 also introduced performance-based planning to assess the effectiveness of plans and programs in meeting state and regional performance goals. MDOT adopted performance measures, which were adopted by the C-SMMPO Council. These are discussed in **Section 2.3 Performance-Based Planning**.

Along with the federal transportation bills that set goals and provide funding for the MPO planning process, transportation planning is subject to several federal regulations that apply to federally funded projects. These include the National Environmental Protection Act (NEPA), Title VI of the Civil Rights Act, Limited English Proficiency (LEP), and Environmental Justice. The purpose of NEPA, which is discussed further in **Section 3.4 Environment**, is to protect the environment. The purpose of Title VI, LEP, and Environmental Justice regulations is to ensure equity in the planning process, further discussed in **Chapter 6 Equity in the Planning Process**.

2.2 Long Range Transportation Plan Goals

The C-SMMPO established an overall vision and six overarching goals to guide transportation planning and policy work over the next 25 years. The vision for the region is to:

Provide a well-maintained, multimodal transportation system that facilitates the safe, convenient, affordable, and efficient movement of people, goods, and services within and between population and employment centers of the metropolitan areas of Calvert County, St. Mary's County, and throughout the region.

The Moving Forward 2045 goals, stated in **Figure 2.2**, are consistent with the 10 federal metropolitan planning factors, state guidance, local and county comprehensive planning documents, and stakeholder input from public meetings. Included under each goal is a list of more specific objectives.

Figure 2.1 Federal Metropolitan Transportation Planning Factors



Source: § 450.306 Scope of the metropolitan transportation planning process

Figure 2.2 Moving Forward 2045 Goals

Goals	Objectives
<p>Manage the existing transportation system</p> 	<ul style="list-style-type: none"> • Coordinate local, state, and federal efforts to provide an efficient transportation system that will maximize capacity and safety of the existing transportation system • Provide recommendations for the short and long-term maintenance and management of the transportation infrastructure
<p>Enhance access and mobility</p> 	<ul style="list-style-type: none"> • Provide a transportation network that optimizes the efficient movement of people throughout the region • Encourage local jurisdictions to control the location and intensity of land development so that highway traffic load will not exceed planning design capacities • Improve access to and movement within the communities of the C-SMMPO region including the road network, public transportation system, and bike and pedestrian network • Manage access points along highways and encourage the use of service roads to provide additional route options
<p>Support economic vitality</p> 	<ul style="list-style-type: none"> • Provide a transportation system that enhances economic growth and employment opportunities • Connect activity centers such as shopping, employment centers, schools, parks, and playgrounds with residential neighborhoods
<p>Provide connected, multimodal transportation system</p> 	<ul style="list-style-type: none"> • Coordinate transportation modes • Encourage an efficient, convenient public transportation system to meet the needs of current and potential transit riders • Connect people to health, community, education, retail, and other necessary services • Encourage the development of a safe and efficient continuous pedestrian and bikeway network throughout the region
<p>Improve safety and security</p> 	<ul style="list-style-type: none"> • Provide for the safe and efficient integration of private, commercial, emergency, and seasonal traffic, including application of effective and enforceable traffic controls and restrictions • Ensure resilient transportation system that emphasizes preparedness for changing environmental conditions • Improve bicycle and pedestrian safety • Coordinate with local authorities for emergency and evacuation routes and procedures
<p>Conserve the environment</p> 	<ul style="list-style-type: none"> • Improve existing transportation facilities rather than create new highway corridors that may compound adverse effects on the environment • Maximize the desired use of transportation systems while minimizing potential negative effects upon neighborhoods, the environment, and the general public • Locate and design new transportation facilities and make facility improvements in a manner that will avoid impacts to the natural environment and minimize impacts to developed areas • Provide for and preserve scenic areas and other open space areas along major highways

2.3 Performance-Based Planning

2.3.1 Federal Requirements

Transportation performance management is a strategic approach that uses system performance data to inform decision-making and outcomes. Federal transportation planning legislation, the FAST Act and MAP-21, require State Departments of Transportation (DOTs), MPOs, and transit providers to adopt performance-based measures and targets. Performance-based planning allows agencies to monitor the transportation system using specific performance measures to see if projects are providing the intended benefit. There are two categories of transportation performance measures (TPM) – Safety and Infrastructure. The safety measures are set using a Toward Zero Deaths (TZD) approach to reduce deaths and serious injuries by half from 2010 to 2030. The infrastructure targets are established to ensure the system has quality roads, bridges, and other major infrastructure. In Maryland, performance measures and targets are first established by MDOT and then coordinated with the MPOs to ensure consistency.

As required by 23 U.S.C. 490 – National Performance Management Measures, State DOTs are required to report progress on all targets, other than those related to transit, every four years to FHWA in the baseline performance period report. On May 20, 2018, MDOT State Highway Administration (MDOT SHA) submitted its baseline performance report for the required measures and targets for each of six National Highway System Infrastructure Conditions and six System Performance measures for Maryland’s MPOs.

Transit providers must establish Transit Asset Management (TAM) Performance targets, coordinate with States and MPOs, develop a transit asset management plan (TAMP), and report asset inventories, condition, and performance measures through the National Transit Database (NTD). On September 20, 2018, MDOT Maryland Transit Administration (MDOT MTA) submitted an FTA compliant TAMP.

2.3.2 C-SMMPO Performance Targets

The C-SMMPO envisions a modern, well-maintained transportation system that supports a sustainable, healthy, livable, and economically vibrant region. To support this vision, the C-SMMPO is developing a performance-based planning and capital programming process. The C-SMMPO has submitted a letter for the past two years adopting the state targets for TPM 1 Safety and TPM 2 Infrastructure targets. The C-SMMPO has adopted 15 of the state’s targets for their region, shown in **Table 2.1**. The MDOT targets and the C-SMMPO letter of support can be found in **Appendix C: Transportation Performance Measures**.

Table 2.1 Adopted Performance Management Targets

Category	Specific Targets
Transit Asset Management	1. Percentage of non-revenue service vehicles that have either met or exceeded their Useful Life Benchmarks (ULBs). (Resolution 09-2017)
	2. Percentage of revenue vehicles within an asset class that have either met or exceeded their ULBs. (Resolution 09-2017)
	3. Percentage of facilities within an asset class that have either met or exceeded their ULBs. (Resolution 09-2017)
Highway Safety	4. Number of Fatalities (Resolution 01-2018)
	5. Rate of fatalities per 100 million Vehicle Miles Traveled (VMT). (Resolution 01-2018)
	6. Number of serious injuries. (Resolution 01-2018)
	7. Rate of serious injuries per 100 million VMT. (resolution 01-2018)
	8. Number of non-motorized fatalities and non-motorized serious injuries - pedestrian and bicycle. (Resolution 01-2018)
Pavement Condition	9. Percentage of pavement on the non-Interstate System in good condition (Resolution 05-2018)
	10. Percentage of pavement on the non-Interstate System in poor condition. (Resolution 05-2018)
Bridge	11. Percentage of National Highway System (NHS) bridges (by deck area) classified as in good condition. (Resolution 05-2018)
	12. Percentage of NHS bridges (by deck area) classified as in poor condition. (Resolution 05-2018)
Travel Time Reliability (LOTTR)	13. Percentage of person-miles traveled on the non-interstate NHS that are reliable (non-interstate NHS Travel Time Reliability measure) (Resolution 06-2018)
Freight Movement	14. Percentage of interstate system mileage providing for reliable truck travel times (Truck Travel Time Reliability Index – TTTR) (Resolution 06-2018)
On-road Mobile Source Emissions	15. Total emissions reduction: 2-year and 4-year cumulative reported emission reductions of each criteria pollutant and applicable precursors (PM2.5, PM10, CO, VOC, and NOx) for which the area is designated nonattainment or maintenance. (Resolution 07-2018)

Source: Maryland Department of Transportation

Over the coming months, C-SMMPO staff will collect data to use in tracking progress towards performance targets, monitor updates in federal and state performance planning processes, and recommend methods to reach the targets to the C-SMMPO Council. This work is designed to help the MPO make key decisions that will create an effective, integrated, and informative transportation performance management (TPM) process for the C-SMMPO region. This will allow the C-SMMPO and the State to make better decisions, including difficult tradeoffs, by focusing on specific performance outcomes. The performance-based approach to transportation planning and programming will increase accountability and transparency in MPO planning processes and better integrate MPO planning and programming activities.

2.4 System Performance Report

The system performance report describes the condition and performance of the transportation system with respect to the performance targets described in federal regulation 23 CFR 450.306(d).

The C-SMMPO has documented performance measures that will be used to measure progress towards performance targets in comparison with system performance recorded in previous reports, including baseline data. The C-SMMPO has adopted the statewide and county level targets set by MDOT for transit asset management (TAM), highway

safety, congestion, air quality, highway and bridge conditions, system performance, and freight movement. The adopted measures and targets will play an important role in prioritizing future planning and project decisions.

Federal Requirements for Performance Targets

There are federal rules that state what performance measures MPOs should use.

23 CFR 450.306(d) says that performance measures should include safety, air quality, transit, freight movement, and other measures as desired by the MPO.

2.4.1 Transit Asset Management

Federal law requires public transit operators to establish TAM performance targets coordinated with the state and MPOs. Transit operators must also report asset inventories, condition, and performance measures through the National Transit Database (NTD) to receive federal funds. The TAM Final Rule distinguishes requirements between larger and smaller or rural transit agencies:

- **Tier I provider:** “owns, operates, or manages either: 1. one hundred and one (101) or more vehicles in revenue service during peak regular service or in any one non-fixed route mode, or 2. rail transit.”
- **Tier II provider:** “owns, operates, or manages: 1. one hundred (100) or fewer vehicles in revenue service during peak regular service across all non-rail fixed route modes or in any one non-fixed route mode, 2. a subrecipient under the 5311 Rural Area Formula Program, 3. or any American Indian tribe.”

The St. Mary’s Transit System (STS) and Calvert County Public Transportation are Tier II providers that receive federal funding from MDOT MTA, which oversees asset management for Tier II agencies in the State. The MDOT MTA has developed a group Transit Asset Management Plan (TAMP) for all Tier II agencies, easing the process for inventory maintenance, facility condition assessment, and National Transit Database (NTB) reporting. As required by the TAM Final Rule, Tier II Provider TAMPs must:

- Maintain an Asset Inventory that includes all vehicles, facilities, and equipment used in the delivery of transit service;
- Identify all Safety-Critical assets within the Asset Inventory and prioritize efforts to maintain those Safety-Critical assets in a State of Good Repair (SGR);
- Clearly define ownership, control, accountability, and reporting requirements for assets, including leased and third-party assets;
- Set annual asset performance targets and measure, monitor, and report on progress towards meeting those targets;
- Consider asset criticality, condition, performance, available funding, safety considerations, and the evaluation of alternatives that consider full lifecycle benefits, costs, and risks in capital project prioritization and other asset management decisions; and
- Maintain a group asset management plan, in coordination with MDOT MTA and Locally Operated Transit System (LOTS) safety.

On May 18, 2017, the C-SMMPO Council adopted MDOT’s transit asset performance measures for Tier II transit providers (Resolution 09-2017). The C-SMMPO continued its support of the January 2019 revision of the MDOT TAMP by direct correspondence with MDOT on March 1, 2019. **Table 2.2** summarizes the FY 2017 performance and FY 2019 targets for Tier II LOTS assets. Targets have been set based on the anticipated funding availability and the priorities of both the LOTS and MDOT MTA.

Table 2.2 TAM Performance Targets for Tier II Transit Providers

National Transit Database Vehicle Type	Percent at or past FTA Useful Life Benchmark	FY 2019 Targets
Revenue Vehicles - Bus	17.3	13.3
Revenue Vehicles - Cutaway Bus	14.8	10.8
Revenue Vehicles - Automobile	42.9	38.9
Revenue Vehicles - Van	39.4	35.4
Equipment - Trucks and Other Rubber Tire Vehicles	14.6	14.6
Facilities - Administrative	10	5
Facilities - Admin/Maintenance	30.8	25.8
Facilities - Maintenance	40	35
Facilities - Passenger	25	25

Source: Maryland Department of Transportation

2.4.2 Highway Safety

Improving safety for all transportation system users is a priority for the C-SMMPO. The plans, policies, and programs developed at a statewide and local level play an important role in coordinating efforts to significantly reduce and/or eliminate the number of deaths and serious injuries on public roads. The National Highway Traffic Safety Administration Fatality Analysis Reporting System (NHTSA FARS) provides county-level data on traffic safety statistics. **Table 2.3** shows crashes in Calvert County from 2009 to 2018 and **Table 2.4** shows crashes in St. Mary's County from 2009 to 2018.

Table 2.3 Vehicle Crashes in Calvert County 2009-2018

Crash Type	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fatal Crashes	9	8	6	9	10	7	11	11	9	5
Injury Crashes	484	428	420	404	391	402	384	416	407	366
Property Damage Crashes	755	733	695	686	738	703	784	773	795	880
Total Crashes	1248	1169	1121	1099	1139	1112	1179	1200	1211	1251
Total Fatalities	9	8	7	9	11	8	13	11	10	6
Total Number Injured	748	628	619	598	589	604	601	595	603	527
VMT (millions)	776	789	741	752	754	745	753	779	760	756
Fatality Rate/100 Mil VMT	1.16	1.01	0.94	1.20	1.46	1.07	1.73	1.41	1.32	0.79

Source: National Highway Traffic Safety Administration Fatality Analysis Reporting System (NHTSA FARS)

Table 2.4 Vehicle Crashes in St. Mary's County 2009-2018

Crash Type	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fatal Crashes	16	11	14	13	6	9	11	12	16	14
Injury Crashes	634	584	568	585	569	523	536	649	578	602
Property Damage Crashes	802	833	787	859	866	837	826	1025	1039	1183
Total Crashes	1452	1428	1369	1457	1441	1369	1373	1686	1633	1799
Total Fatalities	16	11	15	14	6	9	12	12	19	14
Total Number Injured	933	886	870	890	807	783	797	962	864	915
VMT (millions)	811	845	839	841	850	893	937	957	957	943
Fatality Rate/100 Mil VMT	1.97	1.30	1.79	1.66	0.71	1.01	1.28	1.25	1.99	1.48

Source: National Highway Traffic Safety Administration Fatality Analysis Reporting System (NHTSA FARS)

In Maryland, the Strategic Highway Safety Plan (SHSP) serves as MDOT's overarching plan identifying the State's key safety needs and priorities and establishes a program of strategies to reduce or eliminate identified safety issues. The 2016-2020 Maryland SHSP consists of the following six major emphasis areas targeting various users of the roadway system: Distracted Driving; Impaired Driving; Aggressive Driving; Occupant Protection; Highway Infrastructure; and Pedestrian Crashes.

For each of the emphasis areas, the SHSP provides program goals, safety performance measures, and an action plan to achieve the stated goals. States are required to set annual safety performance targets in the Highway Safety Improvement Program (HSIP) on the following measures:

- Number of fatalities (The total number of people suffering fatal injuries in motor vehicle crashes)
- Rate of fatalities per 100 million vehicle miles traveled (VMT) (The ratio of total number of fatalities to the number of vehicle miles traveled (VMT expressed in 100 Million VMT) in a calendar year).
- Number of serious injuries (The total number of persons suffering at least one serious injury in a motor vehicle crash during a calendar year).
- Rate of serious injuries per 100 million VMT (The ratio of total number of serious injuries to the number of VMT (VMT expressed in 100 Million VMT) in a calendar year).
- Number of non-motorized fatalities and number of non-motorized serious injuries combined (The combined total number of non-motorized fatalities and non-motorized serious injuries involving a motor vehicle during a calendar year).

MDOT updated its highway safety performance measures and targets in August 2019. The C-SMMPO continued its support of the safety targets by direct correspondence with MDOT on November 13, 2019. MDOT provided a methodology for using crash data to develop regional targets per FHWA's final rule.

The State and the region are committed to the concept of Maryland's "Toward Zero Deaths" (TZD) Program. The targets are developed with 5-year rolling averages. **Table 2.5** shows the measures and targets for the 2021 interim target and 2030 TZD target. Consistent with the HSIP, the 2030 TZD targets are half the 2008 baseline targets.



Table 2.5 Highway Safety Improvement Program (HSIP) Performance Targets for Calvert and St. Mary’s Counties

Performance Measure	2008 Baseline	2016 Actual	2017 Actual	2021 Interim Target	2030 TZD Target
Number of fatalities	25	23	29	17	13
Number of serious injuries	305	127	158	153	153
Fatality rate per 100 million VMT	1.58	1.32	1.69	1.04	0.79
Serious injury rate per 100 million VMT	19.23	9.04	9.2	9.48	9.61
Number of non-motorized (bike/ pedestrian) fatalities and serious injuries	20	14	8	11	10

Source: Maryland Department of Transportation

2.4.3 Traffic Congestion

The portion of the C-SMMPO located in Calvert County is classified as nonattainment for the 2008 National Ambient Air Quality Standard (NAAQS) for ozone and must work to ensure the region maintains conformity with the state’s air quality plan. The Congestion Mitigation and Air Quality Improvement (CMAQ) program was created to provide funding for transportation programs and projects that reduce air pollution and mitigate congestion in the transportation system.

The FHWA’s final rule established three performance measures for state DOTs and MPOs to use to report on traffic congestion to carry out the CMAQ program. This final rule requires state DOTs and MPOs to coordinate and report on a unified set of performance targets for each of the measures for the urban area. These three measures are:

- Annual hours of peak-hour excessive delay (PHED)
- Percentage of non-single-occupancy (non-SOV) travel
- On-road mobile source emission reductions (VOC and NOx)

The C-SMMPO is only responsible for setting 4-year targets for the on-road mobile source emissions reductions and adopted the statewide mobile source emissions reductions targets in 2018 (Resolution 07-2018). **Table 2.6** shows the performance target for the on-road mobile source emission reductions.

Table 2.6 On-Road Source Mobile Emissions Reductions Performance Targets

Performance Measure	4-Year Targets
Reduction of Volatile Organic Compounds (VOCs) in kg/day	8.14 kg/day
Reduction of NOx in kg/day	124 kg/day

Source: Maryland Department of Transportation

Note: At this time the C-SMMPO is not required to report PM 2.5, PM 10 or CO to reflect the State of Maryland’s performance reporting requirements

2.4.4 Regional Bridge and Pavement Infrastructure Condition

The FHWA's final rule established six performance measures, including four measures of pavement condition and two measures of bridge condition, to assess the performance of the NHS under the National Highway Performance Program (NHPP). MDOT provided a methodology for developing 2 and 4-year targets for bridge and pavement condition performance measures for the C-SMMPO region.

The pavement and bridge condition targets adopted by the C-SMMPO in October 2018 (Resolution 05-2018) are based on projecting current conditions out to the target years, considering planned and programmed maintenance. No interstate highways exist in the region. Thus, the adopted targets pertain to non-interstate roadways in Maryland. **Table 2.7** shows the 2- and 4-year targets for bridge and pavement condition.

Table 2.7 Bridge and Pavement Condition Performance Targets

Performance Measures	2-Year Targets	4-Year Targets
Percentage of NHS bridges in good conditions (2017 baseline)	29.5%	27.0%
Percentage of NHS bridges in poor condition (2017 baseline)	2.0%	5.0%
Percentage of NHS non-interstate pavement in good condition (2016 baseline)	35.0%	35.0%
Percentage of NHS non-interstate pavement in poor condition (2016 baseline)	7.0%	8.0%

Source: Maryland Department of Transportation



Photo courtesy of MDOT

2.4.5 Travel Time Reliability

The FHWA’s final rule established three performance measures to assess the performance of the NHS under the National Highway Performance Program (NHPP). These include two measures for Level of Travel Time Reliability (LOTTR) and one for the Truck Travel Time Reliability (TTTR) Index. MDOT provided a methodology for developing 2 and 4-year targets for the C-SMMPO region’s non-interstate LOTTR and TTTR indexes.

Table 2.8 shows the regional performance targets related to travel time reliability.

What is Level of Travel Time Reliability (LOTTR)?

LOTTR compares travel time in congested (80th percentile) and normal (50th percentile) conditions. A ratio of 1.5 or lower is considered reliable. For example, if a road takes 30 minutes to travel in normal conditions and 45 minutes in congested conditions, it is considered reliable travel time.

Table 2.8 Travel Time Reliability Performance Targets

Performance Measures	2-Year Targets	4-Year Targets
LOTTR: Percentage of person-miles traveled on the non-Interstate NHS that are reliable	N/A	81.7%
TTTR Index	1.87	1.88

Source: Maryland Department of Transportation

2.4.6 Future Performance Monitoring

The C-SMMPO in cooperation with MDOT will continue to monitor the performance of the regional transportation systems throughout the life of the long-range transportation plan. The C-SMMPO will use the established statewide and county level targets to help in identifying strategies and in making investment decisions about programs and projects.

FHWA will determine whether a State has met or made significant progress toward its safety performance targets at the end of the following calendar year when target-year data is available and report findings to States and the public.

What is the Truck Travel Time Reliability (TTTR) Index?

The TTTR Index compares travel in congested (95th percentile) and normal (50th percentile) conditions for truck travel using a ratio. There is no threshold like with LOTTR, but MDOT and C-SMMPO have goals for the TTTR Index to keep goods moving through the region.



3

The MPO Region

3.1 Population and Households

3.1.1 Population

In 2017, the population of the Urban Area was 60,842 people. The MPO region, shown in **Figure 1.5**, is made up of a portion of southern Calvert County south of Calvert Cliffs State Park and east of MD 2-4 and the eastern portion of St. Mary's County from Hollywood to St. Mary's City.

Population forecasts for Calvert and St. Mary's counties were created by the Maryland Department of Planning. These forecasts show the population in five-year periods to 2045 using a cohort component model. A cohort component model breaks the population into 5-year age groups by sex and uses information about births, deaths, and migration to estimate the future population. Using the same methodology, a population forecast was prepared for the Urban Area in five-year periods to 2045. The Urban Area refers to the census designated Lexington Park-California-Chesapeake Ranch Estates Urban Area. This is used because data is collected and calculated for this geographic unit by the US Census Bureau. More information about the methodology for the cohort component model can be found in **Appendix B: Technical Methodology**.



Table 3.1 Population Forecasts to 2045

Geography	Projected Population							
	2010	2015	2020	2025	2030	2035	2040	2045
Calvert County	88,737	90,650	94,600	97,350	99,200	100,050	100,450	100,850
St. Mary's County	105,151	110,965	120,150	129,200	140,750	148,150	155,350	162,900
Urban Area	58,875	61,584	63,926	66,700	69,426	72,109	74,691	77,374

Source: Maryland Department of Planning, CHPlanning, Ltd.

Table 3.2 Percent Change for Population Forecasts

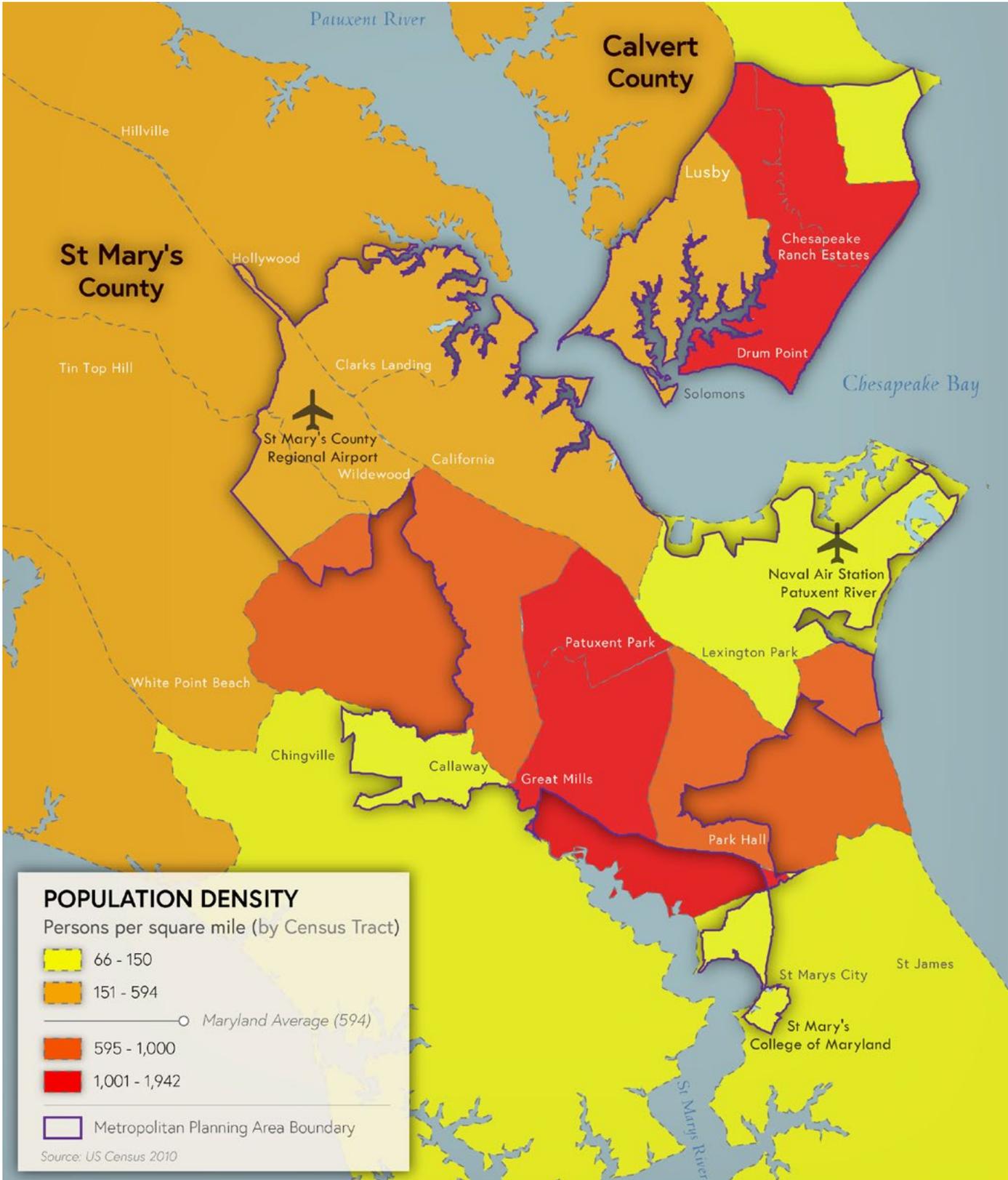
Geography	Projected Percent Change							
	2010-2015	2015-2020	2020-2025	2025-2030	2030-2035	2035-2040	2040-2045	Average
Calvert County	0.43%	0.87%	0.58%	0.38%	0.17%	0.08%	0.08%	0.37%
St. Mary's County	1.11%	1.66%	1.51%	1.79%	1.05%	0.97%	0.97%	1.29%
Urban Area	0.92%	0.76%	0.87%	0.82%	0.77%	0.72%	0.72%	0.80%

Source: Maryland Department of Planning, CHPlanning, Ltd.

Table 3.1 shows the forecasted population in five-year periods for Calvert County, St. Mary's County, and the Urban Area. The Urban Area is projected to grow to 77,374 by 2045 from 61,584 in 2015. **Table 3.2** shows the projected growth rate between five-year estimates. Calvert County has projected growth rates under 1% for all periods and the growth rate projection particularly falls after 2035. The county has an average projected growth rate of 0.37%. St. Mary's County has projected growth rates over 1% until 2035. The average projected growth rate is 1.29%. The Urban Area has projected growth rates closer to 1%, which also decline towards the end of the forecast. The average projected growth rate is 0.8%. These trends indicate that Calvert County is expected to grow slowly, St. Mary's County is expected to experience significant growth, and the Urban Area is expected to experience moderate growth. The 2008 St. Mary's County Annual Growth Policy states that 70% of growth should occur in the designated areas of Lexington Park and Leonardtown to protect the rural and waterfront landscapes.

The Urban Area includes some areas that have a higher population density than the Maryland state average, as shown in **Figure 3.1**. The census tracts between MD 235 and MD 5 near the Naval Air Station Patuxent River (NAS PAX) and those in Chesapeake Ranch Estates and Drum Point are the densest in the Urban Area. The areas in California, Hollywood, and Solomons are less dense than the state of Maryland average. The lowest density areas are the census tracts that include the NAS PAX, Exelon/Calvert Cliffs Nuclear Power Plant, Dominion Energy Cove Point LNG, and Calvert Cliffs State Park because of the institutions, industrial uses, or park land that dominate those census tracts. The areas outside of the MPO region to the south of St. Mary's City and west of MD 5 have significantly lower population density, showing the divide between the MPO and more rural areas.

Figure 3.1 Population Density



Source: Maryland Department of Transportation Office of Planning and Capital Programming

3.1.2 Race and Ethnicity

Table 3.3 Race and Ethnicity Distribution

Race	Calvert County	St. Mary's County	Urban Area
White	81.3%	78.8%	71.5%
Black or African American	11.9%	14.3%	19.7%
American Indian and Alaska Native	0.2%	0.2%	0.2%
Asian	1.7%	2.8%	3.7%
Native Hawaiian and Other Pacific Islander	0.0%	0.0%	0.0%
Other/Multiracial	4.9%	3.8%	4.8%
Total	100.0%	100.0%	100.0%
Ethnicity	Calvert County	St. Mary's County	Urban Area
Not Hispanic/Latino	96.4%	95.2%	94.1%
Hispanic/Latino	3.6%	4.8%	5.9%
Total	100.0%	100.0%	100.0%

Source: 2013-2017 American Community Survey

Table 3.3 shows the distribution of race in the Calvert County, St. Mary's County, and the Urban Area. All three areas are majority White, but each has a significant population of African Americans. In each area, there are smaller populations of Asian and multiracial individuals with very few American Indians, Alaskan Natives, Native Hawaiians, or other Pacific Islanders. The Urban Area has a larger Hispanic/Latino population than either Calvert or St. Mary's counties.

3.1.3 Age

Table 3.4 Age Distribution

Age	Calvert County	St. Mary's County	Urban Area
0 to 9	10.8%	13.4%	13.9%
10 to 19	15.7%	14.2%	13.8%
20 to 34	16.6%	20.3%	24.7%
35 to 49	20.1%	20.1%	20.6%
50 to 64	23.1%	20.2%	16.7%
65+	13.6%	11.9%	10.3%
Total	100.0%	100.0%	100.0%

Source: 2013-2017 American Community Survey

In the Urban Area, the concentration of younger people is reflected in the larger population of 20 to 34-year old residents and the slightly lower population of people 50 and older. The concentration of young professionals in the Urban Area may be due to the concentration of employment opportunities, including at NAS PAX and other major employers.

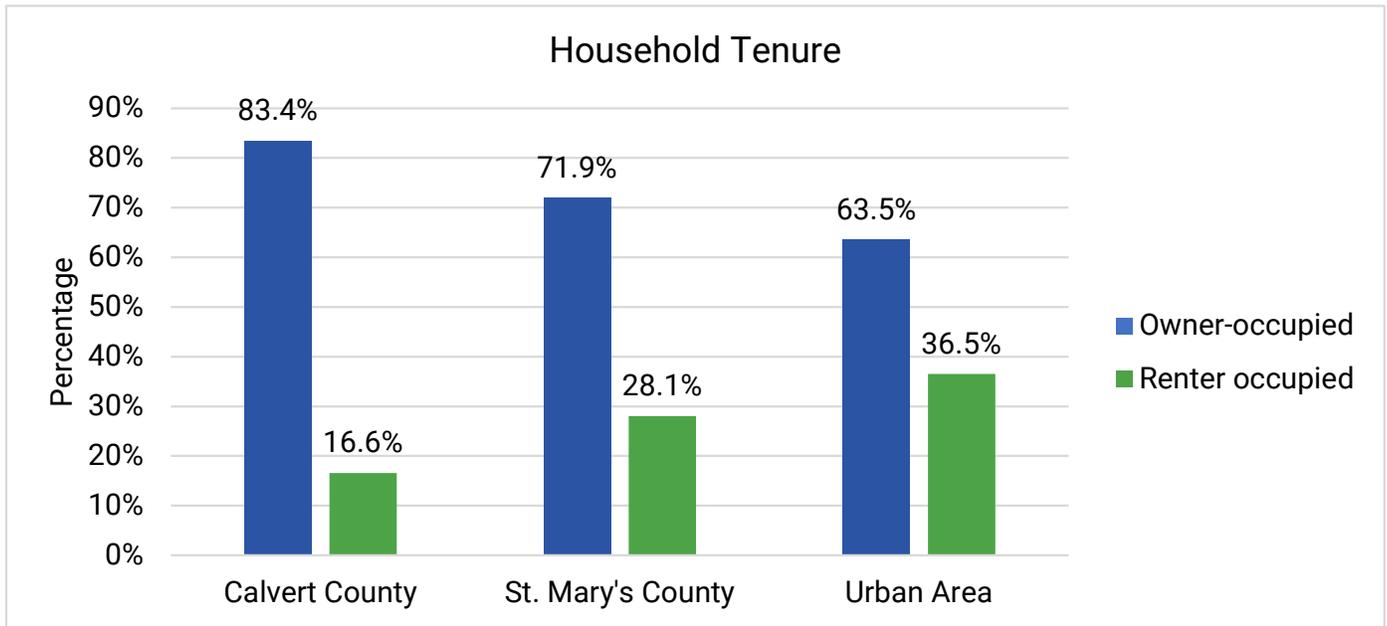
The median age in the Urban Area is 33.5 years, which is significantly younger than the median age in Calvert County (40.8) and slightly younger than St. Mary's County (36.5).

Table 3.4 shows the age distribution in Calvert County, St. Mary's County, and the Urban Area. In the Urban

3.1.4 Households

There are about 31,500 occupied housing units in Calvert County, 39,300 in St. Mary’s County, and 22,500 in the Urban Area. The median household size in Maryland is 2.65. The median household size is 2.85 in Calvert County, 2.75 in St. Mary’s County, and 2.61 in the Urban Area. The urban area has a slightly smaller median household size than the state of Maryland. The smaller median household size in the Urban Area is influenced by the larger number of people living alone.

Figure 3.2 Household Tenure



Source: 2013-2017 American Community Survey

Figure 3.2 shows the percentage of owner and renter occupied households in Calvert County, St. Mary’s County, and the Urban Area. The Urban Area has 8.4% more renter-occupied households than St. Mary’s County and 20% more than Calvert County. The larger number of renter-occupied households in the Urban Area may be related to the larger percentage of young professionals who are less likely to own homes than older individuals. It could also be related to the lower median household income and higher poverty rate than overall in Calvert and St. Mary’s counties.

Table 3.5 Household Type

Household Type	Calvert County	St. Mary's County	Urban Area
Married-couple family	58.6%	55.0%	47.2%
Other family	16.9%	15.4%	18.0%
Lives alone	18.6%	24.1%	26.6%
Non-family cohabitants	5.9%	5.5%	8.2%
Total	100.0%	100.0%	100.0%

Source: 2013-2017 American Community Survey

Table 3.5 shows the distribution of household types in Calvert County, St. Mary's County, and the Urban Area. In the Urban Area, 47% of households are married-couple families, 18% are other families, 27% live alone, and 8% are non-family cohabitants. There are about 8 to 10% fewer married-couple family households in the Urban Area than in Calvert and St. Mary's counties. There are slightly more other family households, individuals living alone, and non-family cohabitant households. The larger percentage of individuals living alone and in non-family cohabitant households may be due to the larger population of young professionals in the Urban Area who are more likely to live alone or with housemates.



3.1.5 Income

The median household income in Maryland is \$78,916. The median household income is \$100,350 in Calvert County, \$86,508 in St. Mary's County, and \$78,448 in the Urban Area. Compared to the state median income, Calvert County is 27% higher, St. Mary's County is 10% higher, and the Urban Area is 0.6% lower than the state median income. The poverty rate is 5.7% in Calvert County, 8.2% in St. Mary's County, and 8.6% in the Urban Area. The 2017 Department of Health and Human Service poverty guidelines are a household income of \$12,060 for an individual and \$24,600 for a family of four.

Table 3.6 Household Income Distribution

Household Income	Calvert County	St. Mary's County	Urban Area
Less than \$10,000	2.8%	4.3%	4.1%
\$10,000 to \$14,999	1.9%	2.4%	2.5%
\$15,000 to \$24,999	3.1%	5.5%	4.8%
\$25,000 to \$34,999	4.7%	6.3%	6.7%
\$35,000 to \$49,999	7.7%	9.3%	11.2%
\$50,000 to \$74,999	15.2%	15.2%	18.3%
\$75,000 to \$99,999	14.5%	14.0%	14.5%
\$100,000 to \$149,999	23.1%	23.2%	22.0%
\$150,000 to \$199,999	15.2%	10.8%	9.6%
\$200,000 or more	11.9%	9.1%	6.4%
Total	100.0%	100.0%	100.0%

Source: 2013-2017 American Community Survey

Table 3.6 shows the distribution of household incomes in Calvert County, St. Mary's County, and the Urban Area. Calvert County has a larger percentage of households at the highest incomes than St. Mary's County or the Urban Area, which is reflected in the higher median household income. St. Mary's County and the Urban Area have similar household income distributions, though the Urban Area has more households between \$35,000 and \$74,999 than St. Mary's County.

3. 2 Employment

3.2.1 Major Employment Centers

Many of the largest employers in the MPO region are related to defense, security, aviation, and the military due to the influence of NAS PAX. **Figure 3.3** shows a map of the largest employers by number employed. In Calvert County, the largest employers in the MPO region, excluding the county government, are Exelon/ Calvert Cliffs Nuclear Power Plant, Dominion Energy Cove Point LNG, Asbury Solomons, and Solomons Nursing Center.

In St. Mary's County, the 10 largest employers, excluding the county government, are NAS PAX, MedStar St. Mary's Hospital, DynCorp International, BAE Systems, Wyle, Lockheed Martin, Boeing, HMR of St. Mary's County/Charlotte Hall, and SAIC.¹ Employing over 11,200 people directly, NAS PAX is the largest employer by far. The remaining largest employers have between 400 and 1,200 employees. Other than defense, security, and aviation related employers, the other two major employers in St. Mary's County, MedStar St. Mary's Hospital and HMR of St. Mary's County/Charlotte Hall, are healthcare providers, which is a growing field due to the rising population of senior citizens nationally.

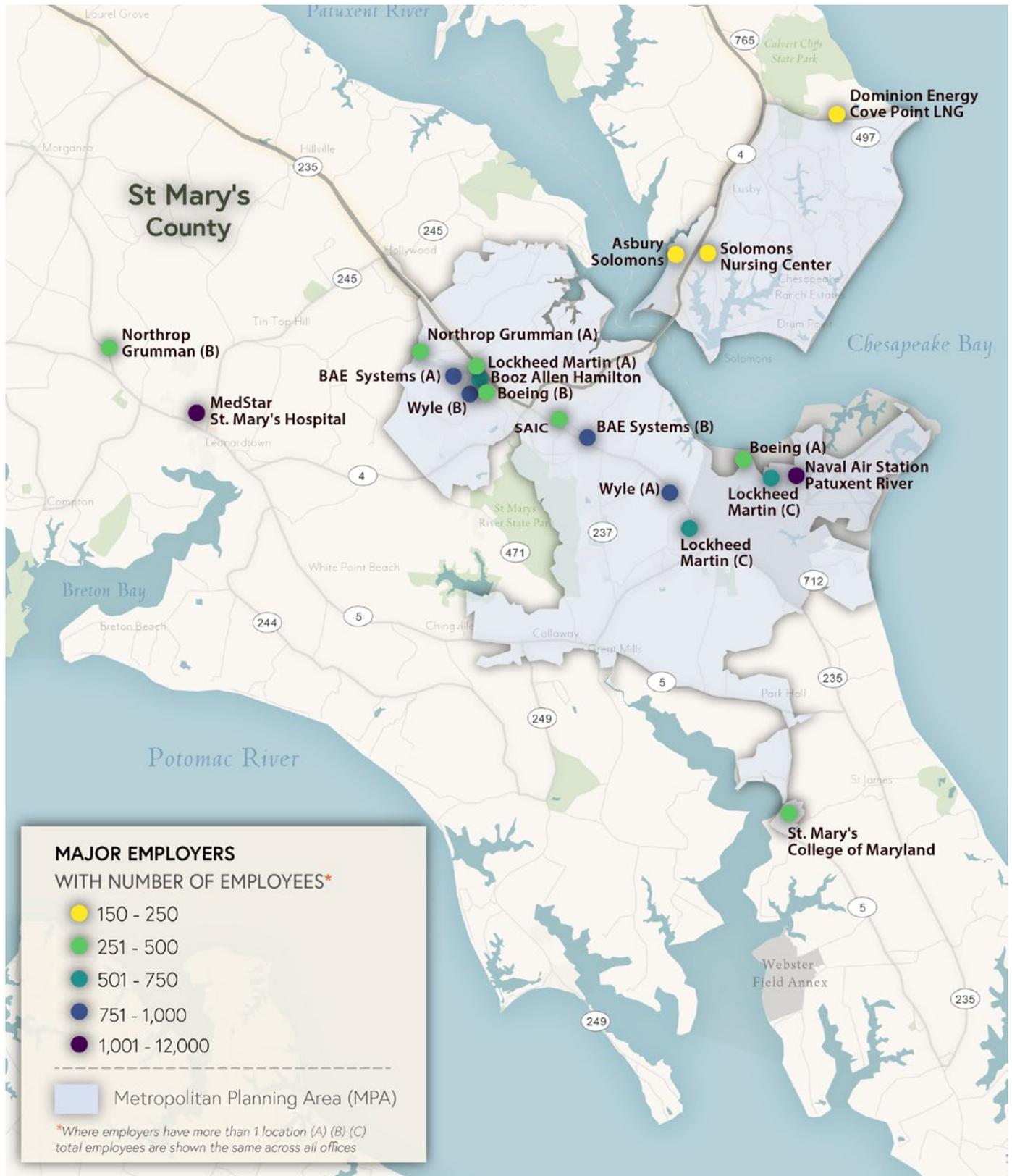
3.2.2 Employee Characteristics

There are about 45,700 people in the labor force in Calvert County, 54,100 people in St. Mary's County, and 30,000 people in the Urban Area. The labor force includes civilians over the age of 16 who are employed or actively looking for work and military forces.



¹St. Mary's County Department of Economic Development, 2015

Figure 3.3 Map of Largest Employers



Source: Maryland Department of Transportation Office of Planning and Capital Programming

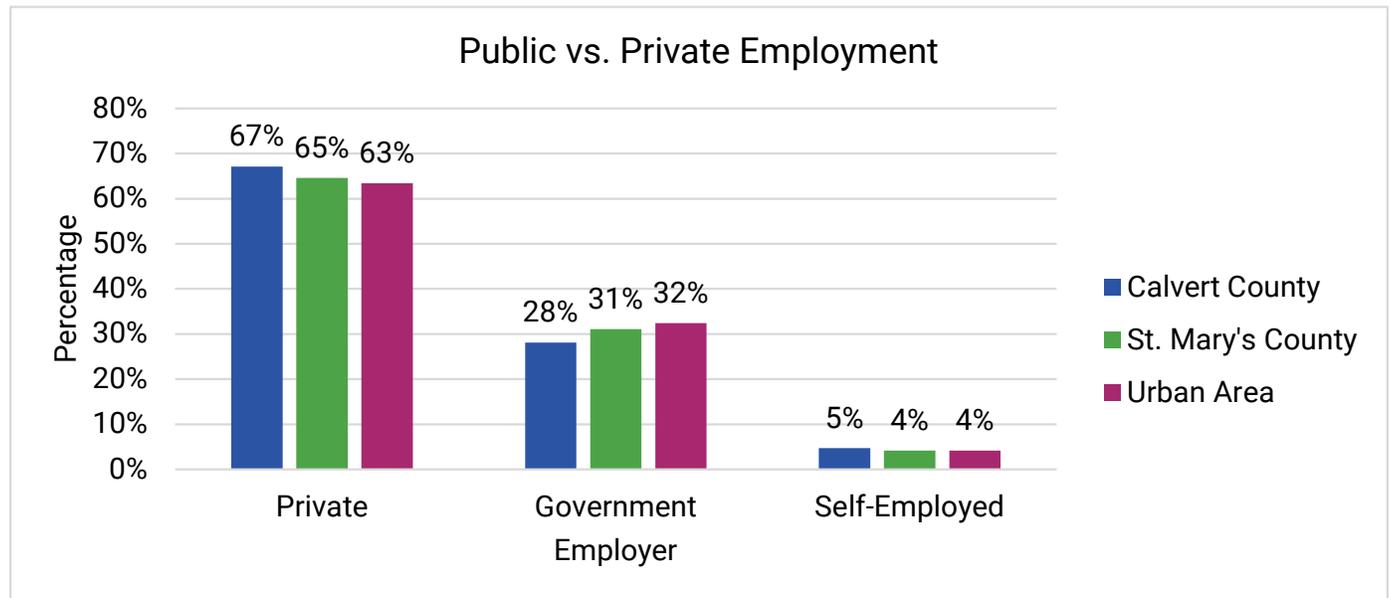
Table 3.7 Employment Status

Employment Status	Calvert County	St. Mary's County	Urban Area
Civilian Employed	63.7%	62.4%	63.1%
Civilian Unemployed	5.0%	2.7%	4.3%
Military	0.9%	2.2%	3.2%
Not in Labor Force	30.4%	32.6%	29.4%
Total Population	100.0%	100.0%	100.0%
Unemployment Rate of People in the Labor Force	7.3%	4.2%	6.4%

Source: 2013-2017 American Community Survey

Table 3.7 shows the employment status and unemployment rate in Calvert County, St. Mary's County, and the Urban Area. All have similar percentages of civilian employed, however St. Mary's County and the Urban Area have larger populations of military personnel than Calvert County due to the location of NAS PAX. Both Calvert County and the Urban Area have higher unemployment rates than St. Mary's County. The Urban Area has a slightly lower number of people that are not in the labor force, which may be due to the smaller population of people over 50 who are more likely to be retired.

Figure 3.4 Employment by Employer Status



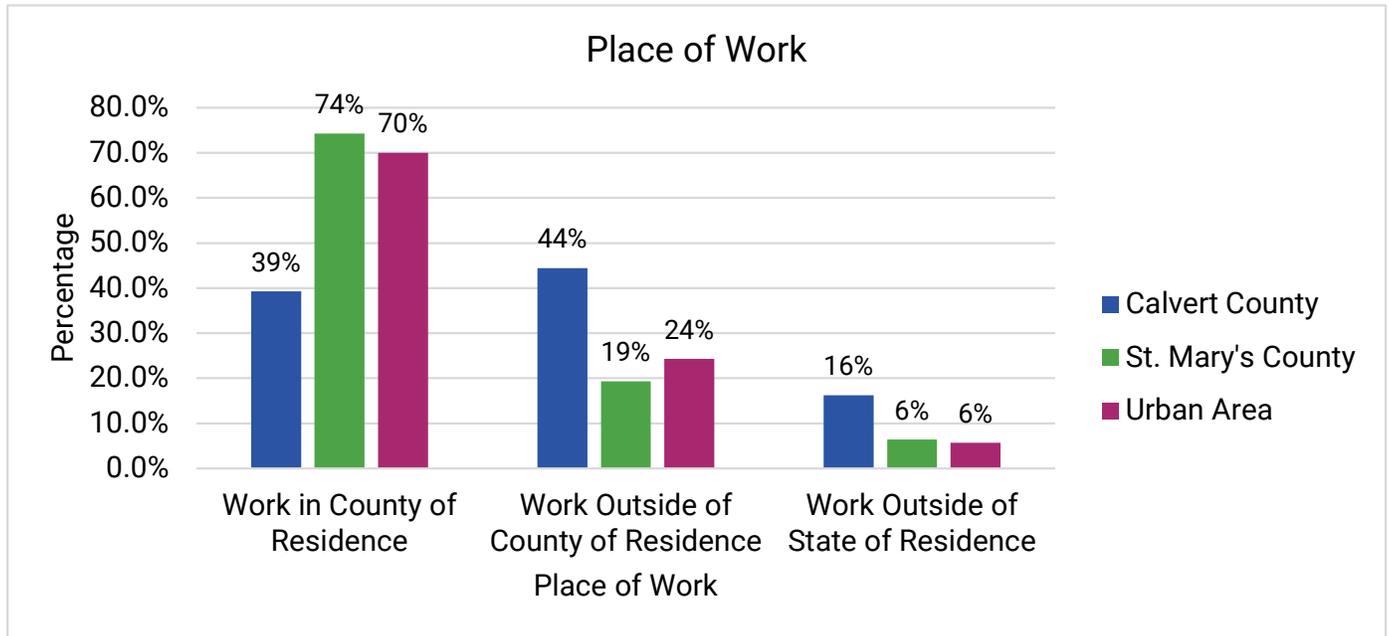
Source: 2013-2017 American Community Survey

Figure 3.4 shows the percentages of employees that work at private firms, government entities, and self-employed businesses. In all three areas, the largest percentage of people work for a private firm, followed by the government, and then a smaller number of self-employed individuals. In St. Mary's County and the Urban Area, there is a higher percentage of people employed by the government than in Calvert County, due to the influence of NAS PAX as a major employer.

3.2.3 Commute to Work

The median commute is 41.9 minutes in Calvert County, 30.9 minutes in St. Mary’s County, and 29.5 minutes in the Urban Area. The longer commute in Calvert County is explained by the larger number of people who work outside of the county and outside of Maryland and the lower number of major employers in Calvert County as compared to St. Mary’s County.

Figure 3.5 Place of Work for Residents



Source: 2013-2017 American Community Survey

Figure 3.5 shows the percentages of residents that work within their county of residence, outside their county of residence but still in Maryland, and outside of Maryland. In St. Mary’s County and the Urban Area, most people work in their county of residence. This may be partially due to the concentration of large employers in the Urban Area. Calvert County is more evenly split with 39% of people working in the county and 44% of people working outside of the county. In St. Mary’s County and the Urban Area, only about 6% of people work outside of Maryland. In Calvert County, 16% of people work outside of Maryland. This may be partially due to Calvert County’s location closer to Washington DC with the northern part of the county being only about 30 miles from Washington DC.

Table 3.8 Commute to Work Method

Commute Method	Calvert County	St. Mary's County	Urban Area
Drove alone	81.7%	82.6%	83.3%
Carpooled	8.4%	9.4%	8.4%
Public Transportation	3.0%	2.2%	1.8%
Walked	0.7%	2.4%	2.6%
Other	0.9%	1.0%	1.3%
Work at home	5.3%	2.5%	2.6%

Source: 2013-2017 American Community Survey

Table 3.8 shows how residents of Calvert County, St. Mary's County, and the Urban Area commute to work. In all three areas, most people drive alone to work. In the Urban Area, a slightly larger percentage of people drive alone to work. Calvert County has the highest rate of public transportation use and working from home, which may be due to the use of commuter buses to access Washington DC. The Urban Area has slightly lower rates of public transportation use and slightly higher rates of walking and other means of transportation than Calvert and St. Mary's counties.

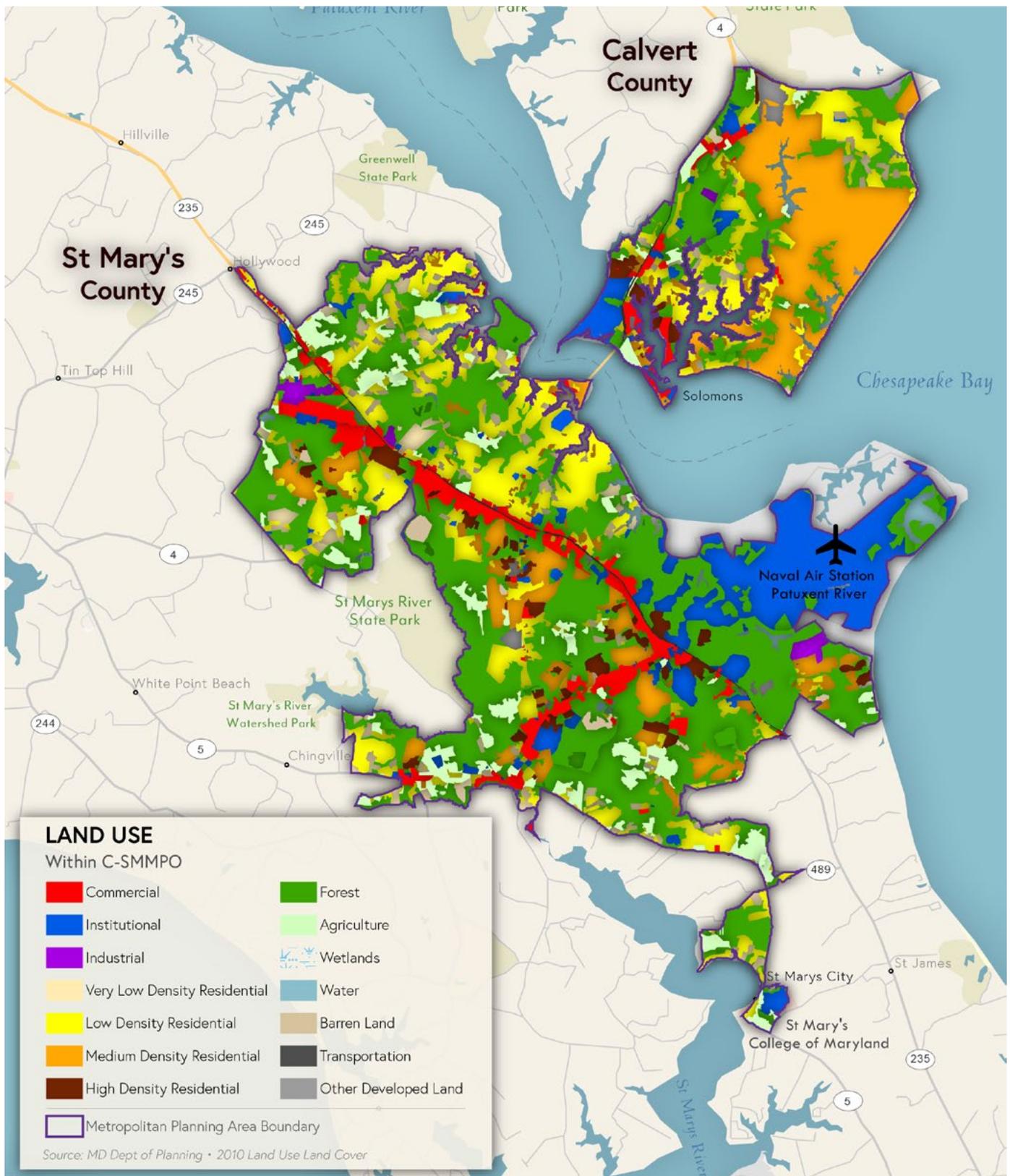
3.3 Land Use and Development

The way land uses—like homes, stores, offices, and parks—are organized greatly impacts the transportation people need to access them. For example, in a mainly residential neighborhood with single-family homes, people need to drive to get to the store and work, whereas in an area with mixed residential and commercial uses, people may be able to walk, bicycle, or take transit for some of their daily needs. Similarly, the access allowed by the transportation system influences what uses are in different locations. For example, an airport, stadium, or industrial area is likely to locate near one or more major highways because many people and large vehicles need to access these locations.

People take trips for many reasons—getting to work and school, accomplishing basic needs like shopping and going to the doctor, and going out for entertainment—but, simply put, trips get people from a starting point to an end point. The largest factor in the number of trips taken are people commuting between work and home. It is important to consider the number, origins and destinations of trips, and the routes and modes of transportation used when analyzing transportation needs.

The intensity of the land use influences how many trips people take to a location. For example, NAS PAX has more than 22,000 people that work on the base, which means there are tens of thousands of trips to access NAS PAX daily. When a transportation system cannot meet the needs of the land use, there is a need for improvements. **Figure 3.6** shows a map of the land use in 2010 and **Table 3.9** shows the percentage of each land use in each county and the Metropolitan Planning Area (MPA).

Figure 3.6 Land Use in the MPO Region



Source: Maryland Department of Transportation Office of Planning and Capital Programming

Table 3.9 Land Use

Land Use	Calvert County		St. Mary's County		Urban Area	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
Low Density Residential	39,829	29.0%	52,553	22.8%	7,722	16.7%
Medium Density Residential	5,985	4.4%	4,715	2.0%	7,294	15.8%
High Density Residential	543	0.4%	815	0.4%	1,568	3.4%
Commercial	1,234	0.9%	3,065	1.3%	3,310	7.2%
Industrial	785	0.6%	501	0.2%	479	1.0%
Other Developed Land, Institutional, and Transportation	3,116	2.3%	8,021	3.5%	7,884	17.1%
Developed Land Subtotal	51,492	37.6%	69,670	30.2%	28,257	61.2%
Agriculture	19,622	14.3%	51,511	22.3%	3,753	8.1%
Barren Land	278	0.2%	793	0.3%	214	0.5%
Forest	62,819	45.8%	106,212	46.0%	13,812	29.9%
Wetlands	2,932	2.1%	2,725	1.2%	138	0.3%
Resource Land Subtotal	85,651	62.4%	161,241	69.8%	17,917	38.8%
Total	137,143	100.0%	230,911	100.0%	46,174	100.0%

Source: 2013-2017 American Community Survey

Maryland divides its land use data into developed land and resources lands, which includes agriculture, forest, wetlands, and open lands. In Calvert County, about two-thirds of the land is resource land and one-third is developed land. The largest developed land use in Calvert County is low-density residential. Nearly half of the county is forest land and 14% is used for agriculture. Similarly, St. Mary's County is about 70% resource land and 30% developed land. The largest developed land use is low-density residential. Nearly half of the land in the county is forest and 22% is used for agriculture.

The MPA is a more urban area with about 60% developed land and 40% resource lands. Though the MPA still has low-density residential areas, it has significantly more medium-density residential use than Calvert or St. Mary's counties. It also has significantly more land dedicated to transportation and institutional uses in the MPA. With all the development, about 30% of land is still forested and 8% is used for agriculture.

Chesapeake Ranch Estates and Drum Point in Calvert County are large developments of medium-density housing. There are also medium-density residential developments along MD 235 and MD 246. The NAS PAX is the largest area of institutional development with some additional development around NAS PAX and at the southwestern tip of Calvert County. Since 2010, there has been significant development in the MPA. Much of MD 235 and MD 246 has high and medium intensity commercial development. There are also high-density residential developments along MD 246 and significant business and industrial development near the St. Mary's County Regional Airport.

3.4 Environment

The transportation system impacts the natural landscape and opportunities for conserving agricultural, park, and scenic landscapes in Calvert and St. Mary's counties. Transportation modes also influence greenhouse gas (GHG) emissions, air quality, and health in the MPO region. This section discusses the natural resources in the MPO region, federal environmental regulations, and air quality conformity. Climate change and link to the transportation system are discussed in **Section 4.5.3 Climate Change**.



Photo courtesy of MDOT

3.4.1 Natural Resources in the MPO Region

The residents of Calvert and St. Mary's counties value the rural landscape, coastal character, and access to recreation opportunities as evidenced in their Land Preservation, Parks, and Recreation Plans. Water resources play a large role in defining both Calvert and St. Mary's counties. Calvert County is bordered by the Chesapeake Bay and Patuxent River. Historically, tobacco farming first brought trade to the Calvert County communities along the Patuxent River. Solomons Island, at the southern tip of Calvert County, was a prominent location for fishing, oyster processing, and ship building and repair in the 1800s and into the early 1900s.

St. Mary's County is the oldest county in Maryland and St. Mary's City served as Maryland's first capital for 50 years. This is largely due to the access from the Chesapeake Bay, Potomac River, and Patuxent River that border St. Mary's County. With these bodies of water, the county has 536 miles of coastline for residents to enjoy. Along with the water resources, nearly half of all land in Calvert and St. Mary's counties is forested and there is significant land dedicated to agriculture. St. Mary's County is home to the largest Amish settlement in Maryland, near Mechanicsville, and an Old Order Mennonite settlement, near Loveville.

3.4.2 Federal Environmental Regulations

There are ten federal planning factors that guide transportation planning. The environmental factor specifies that the plan must serve to protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.

During project planning, the impacts of proposed transportation projects on the human environment, the natural environment, and cultural resources are studied to ensure that they comply with laws related to conservation, water, and air quality. Most projects that receive federal funding must conduct environmental studies as directed in the National Environmental Policy Act (NEPA). These studies identify and analyze the projects' effects on natural and human environments. For large transportation projects, NEPA studies can take a long time to conduct and involve public outreach. This means that residents in the MPO region will have an opportunity to learn about potential impacts and strategies to avoid, minimize, and mitigate impacts to the environment.

With so much natural beauty and the rural character of much of the two counties, it is important that C-SMMPO protect the natural environment when developing projects. Development should be guided to denser areas like Lexington Park, which St. Mary's County sees as the main growth area for the county, to protect the rural landscapes in other parts of the two counties.

3.4.3 Air Quality Conformity

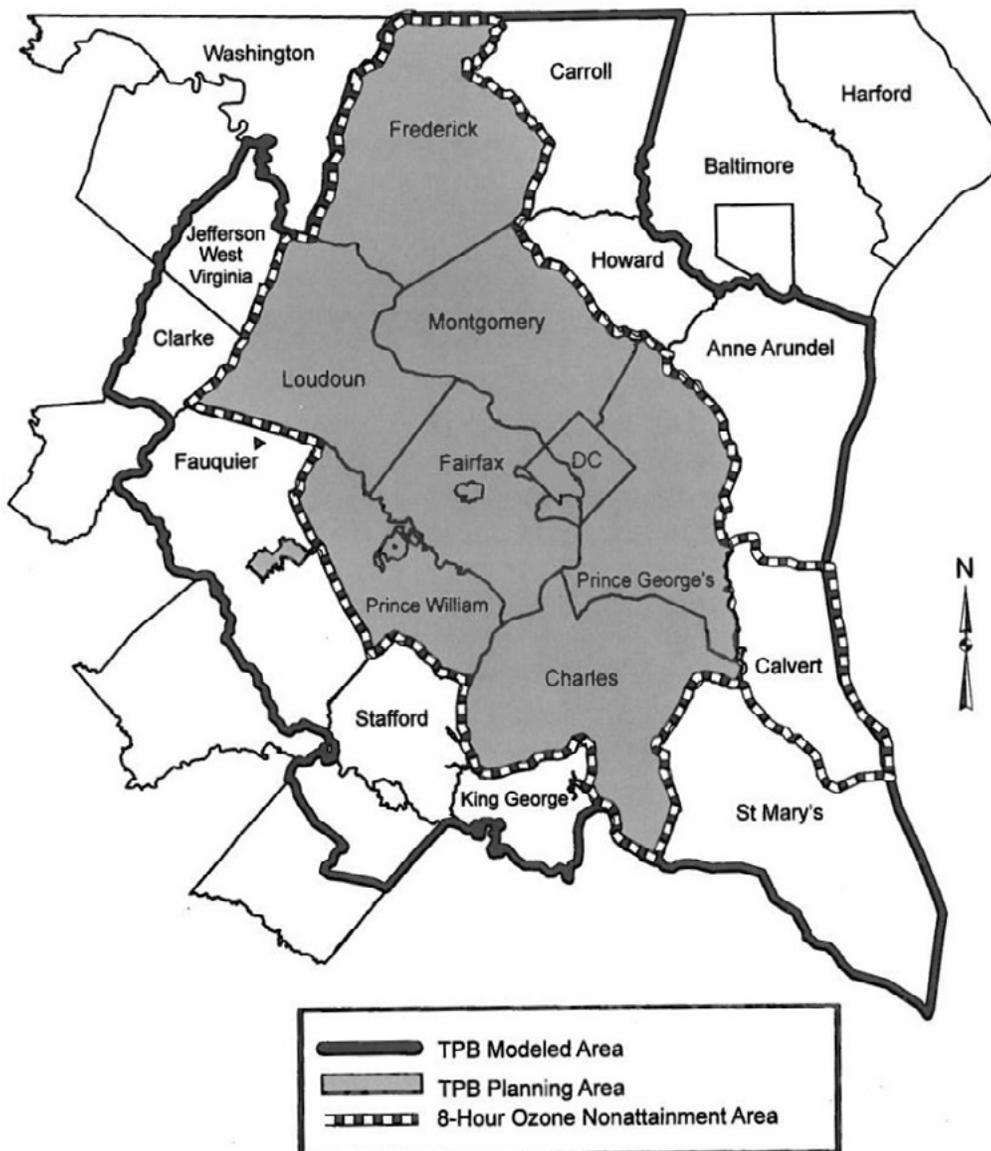
The federal Clean Air Act set air quality standards for harmful pollutants including ground-level ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead. All MPOs must show that their proposed projects will not cause the region to violate air quality standards. Transportation and air quality planning are completed together to ensure that transportation projects will not:

- Cause or contribute to any new violation of any standard in any area;
- Increase the frequency or severity of any existing violation of any standard in any area;
- Delay the timely attainment of any standard or any required interim emissions reductions or other milestones in any area.

Calvert County is part of the Washington, DC-MD-VA nonattainment area for the 2008, 8- hour Ozone National Ambient Air Quality Standard (NAAQS). The C-SMMPO has entered into an agreement with the Washington DC MPO, the National Capital Region Transportation Planning Board (TPB), that states that the TPB will perform regional conformity analyses, to include Calvert County, for the C-SMMPO along with their own conformity analyses. See **Appendix D: Air Quality Conformity** for the signed resolution and the formal agreement. As shown in **Figure 3.7**, the TPB conformity modeling area includes the C-SMMPO counties of Calvert and St. Mary's.

Figure 3.7 TPB Transportation Planning Area and Washington, DC-MD-VA

TPB Transportation Planning Area and Washington, DC-MD-VA 8-Hour Ozone Nonattainment Area

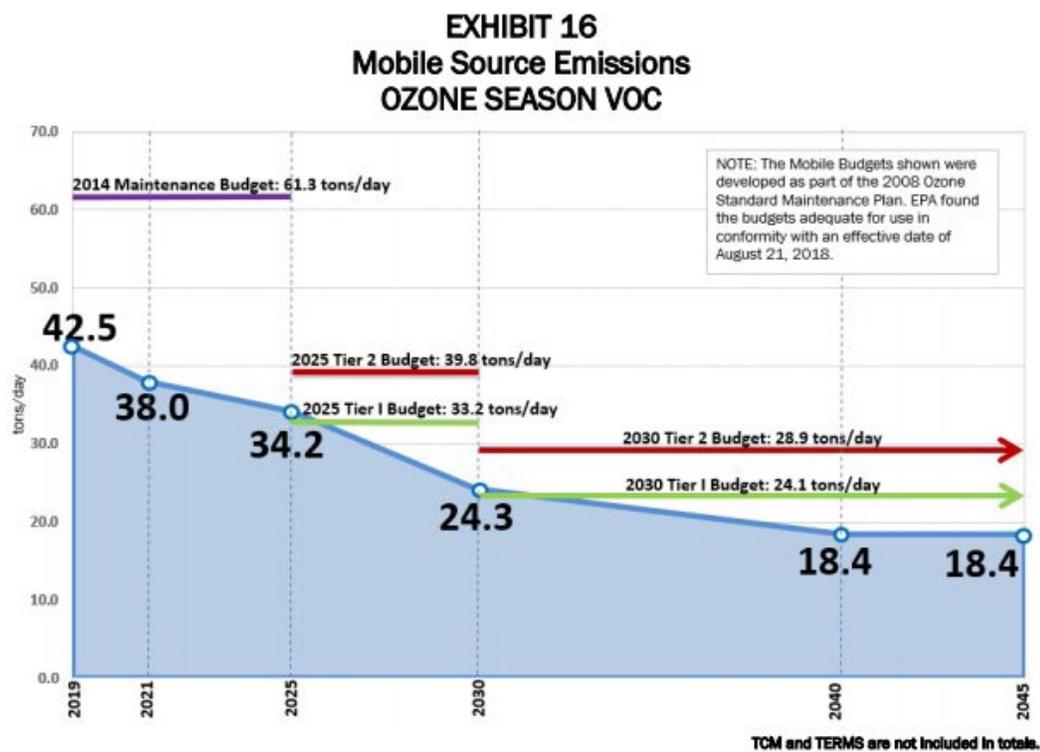


Source: National Capital Region Transportation Planning Board

The Metropolitan Washington Air Quality Committee analyzed emissions for ozone season Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NOx) for 2019, 2021, 2025, 2030, 2040, and 2045. Both VOCs and NOx have “budgets” for how much can be emitted each year while remaining within the requirements of the 2008 conformity plan.

Figure 3.8 shows the analysis for volatile organic compounds (VOCs) and **Figure 3.9** shows the analysis for nitrogen oxide (NOx). This analysis shows that the region’s emissions are within the budgets for each year of the plan.

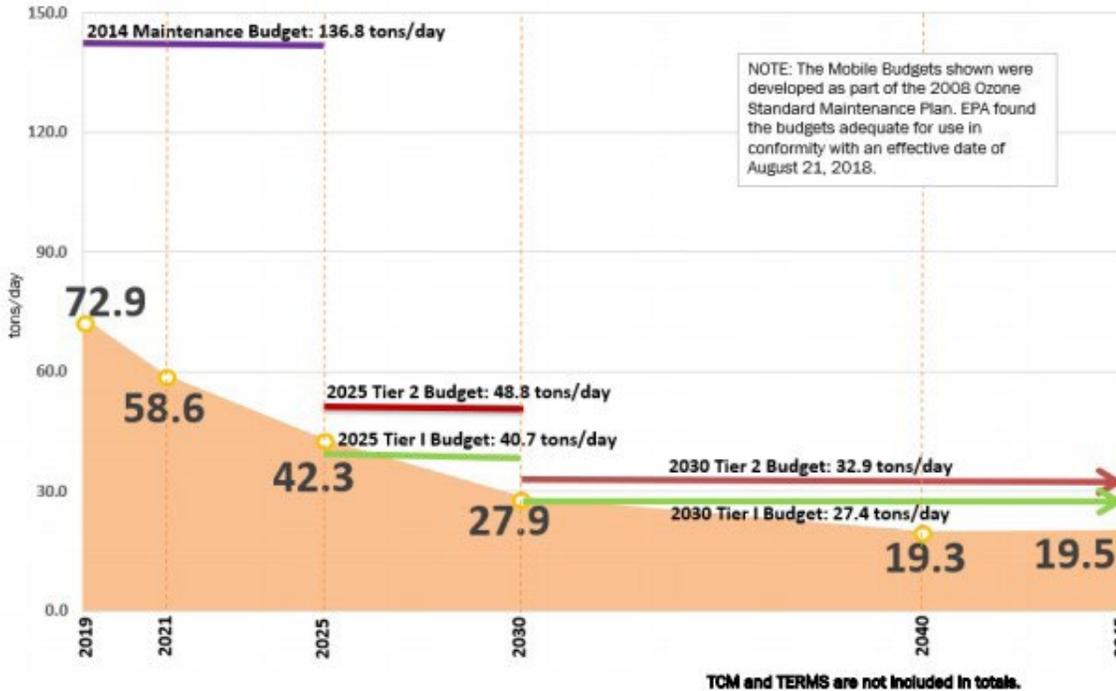
Figure 3.8 VOC Emissions for the Air Quality Conformity Region



Source: National Capital Region Transportation Planning Board

Figure 3.9 NOx Emissions for the Air Quality Conformity Region

**EXHIBIT 17
Mobile Source Emissions
OZONE SEASON NOx**



Source: National Capital Region Transportation Planning Board

According to the Maryland Commission on Climate Change’s 2018 Annual Report, climate change will make it more difficult for areas to meet their air quality standards because higher temperatures increase the frequency of reactions that create air pollutants. Poor air quality is associated with health risks like reduced lung capacity, asthma, and premature death. This makes it critical that the C-SMMPO take steps to improve air quality through methods such as decreasing vehicle miles traveled (VMT) and the number of single-occupancy vehicle (SOV) trips.

²Maryland Commission on Climate Change. 2018. Annual Report. Retrieved from: https://mde.maryland.gov/programs/Air/ClimateChange/MCCC/Documents/MCCC_2018_final.pdf

4



The
Transportation
System

4.1 Roadway Network

4.1.1 Access and Mobility

Not all roads serve the same purpose in the transportation network. While wide lanes and a faster speed limit make sense for regional through traffic and long-haul trucks on MD 4, slower speeds, narrower lanes, on-street parking, bicycle facilities, and sidewalks are appropriate for local streets used by residents and businesses.

Functional classification groups streets and highways into classes or systems according to the service they are intended to provide. Three different classes of roadways (arterial, collector, and local) are part of the network that provides the region with both access and mobility. **Table 4.1** shows the differences across roadway types.

The functional classification system helps to prioritize types of improvements and levels and sources of investment. The intended function of a road provides a basis for determining system management techniques and prioritizing new construction or other road

improvements. **Figure 4.1** provides descriptions and examples of functional classifications in the region.

Figure 4.2 shows a map of the functional classifications of the roadway network in the MPO region.

Access vs. Mobility

Access means helping people reach their destinations. Mobility means traveling longer distances. For example, a minor arterial has a lower level of traffic mobility because it has lower speeds and more intersections and driveways. These same things mean that the minor arterial provides a higher level of access to businesses and homes than the principal arterial.

Table 4.1 Relationship Between Functional Classifications and Travel Characteristics

Travel Characteristics	Arterial	Collector	Local
Distance Served and Length of Route	Longest	Medium	Shortest
Access Points	Few	Medium	Many
Speed Limit	Highest	Medium	Lowest
Distance Between Routes	Longest	Medium	Shortest
Usage	Highest	Medium	Lowest
Significance	Statewide	Regional or County	Local
Number of Travel Lanes	More	Medium	Fewer

Figure 4.1 Illustrative Roadway Functional Classification



MD 4 Thomas Johnson Bridge

Principal Arterial: Freeway/Expressway

- Provides continuous and efficient routes for movement of high-volume traffic
- Supports regional mobility
- Typically funded and maintained by state



MD 235 near California

Principal Arterial: Other

- Provides continuous and efficient routes for movement of high-volume traffic
- Supports regional mobility
- Typically funded and maintained by state



MD 760 near Lusby

Minor Arterial

- Serves shorter trips and may include sidewalks, traffic lights, or on-street parking
- Generally designed, constructed, and funded by local government



Pegg Road, Lexington Park

Collector

- Supports access to nearby destination and provides connections to arterials
- Generally designed, constructed, and funded by local government



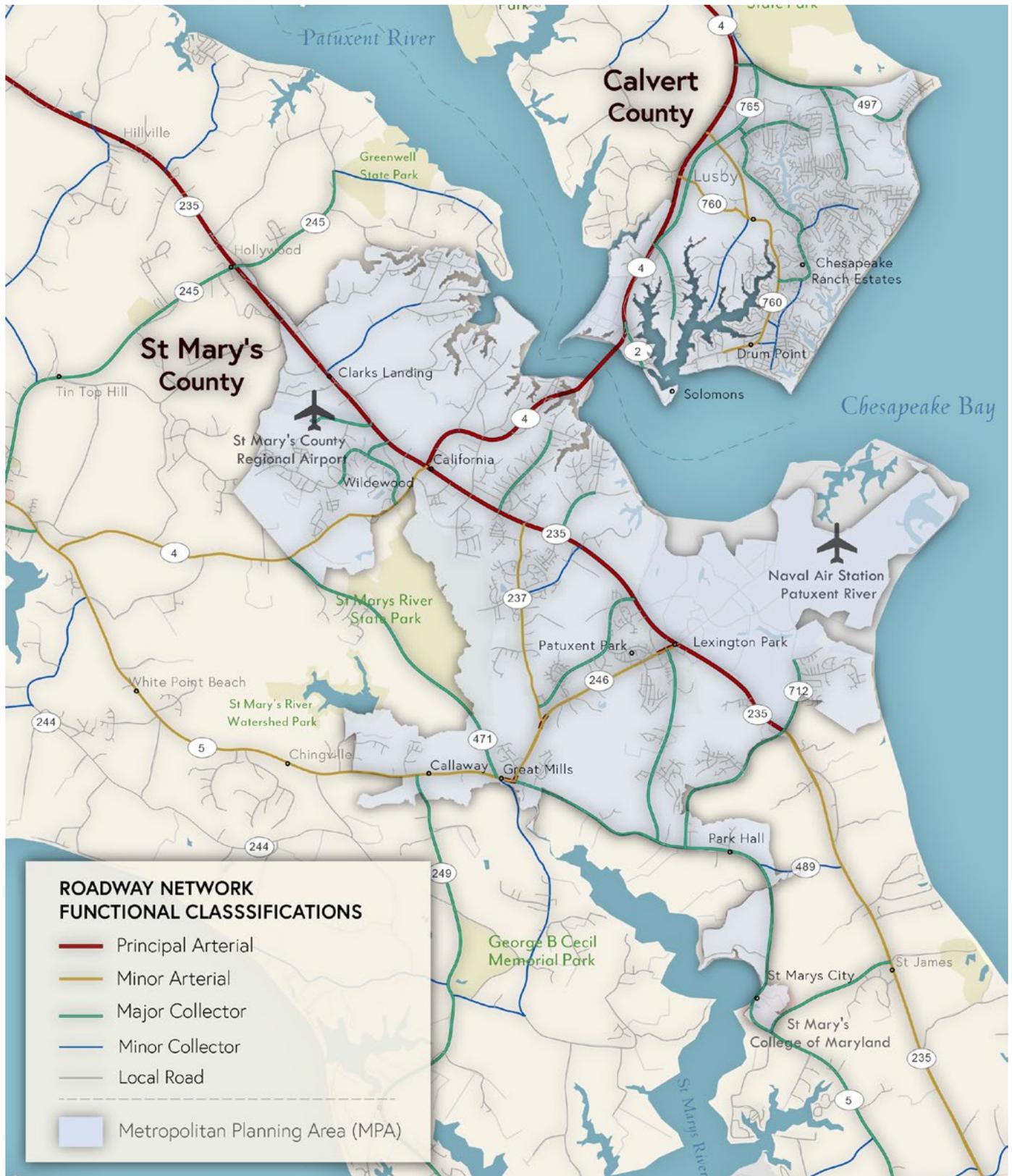
Charles Street, Solomans

Local

- Provides the greatest access to homes and business
- Serve the shortest travel distances
- Generally designed, constructed, and funded by local government

Source: CHPlanning, Ltd.

Figure 4.2 Map of Roadway Functional Classifications



Source: Maryland Department of Transportation Office of Planning and Capital Programming

Within the MPO region, MD 2-4 runs north-south in Calvert County before turning west to cross the Thomas Johnson Bridge over the Patuxent River into St. Mary's County. MD 235 and MD 5 serve as the main north-south roads in St. Mary's County. MD 235 runs along the western edge of NAS PAX and serves as the major roadway used for accessing the base. MD 5 is the western border of the MPO region near Callaway and Great Mills and then moves away towards Leonardtown as it goes further north.

MD 237, MD 246, and MD 245 all run east-west in St. Mary's County, connecting MD 235 and MD 5. In Calvert County, MD 760 is the main roadway for accessing MD 2-4 from Lusby, Chesapeake Ranch Estates, and Drum Point. These are mainly principal and minor arterial roadways that serve as the main roads to take people between destinations. The roadway network is completed with collector and local roads that are generally county maintained. Collectors and local roads provide circulation and access to businesses in town centers and move traffic from neighborhoods to principal arterials.

4.1.2 Existing and Forecasted Traffic Conditions

There are several key measures that are used to monitor the region's traffic conditions: traffic volume, shown as average annual daily traffic (AADT) and vehicle miles traveled (VMT), and capacity or congestion, shown as travel time index (TTI) and level of service (LOS).

Traffic Volume

According to the Institute for Traffic Engineers, traffic volume is the most basic and widely used parameter in traffic engineering. While there are different definitions and methods used to collect, analyze, and describe traffic volume data, average annual daily traffic (AADT) is the most common measure. AADT is used for determining the present demand on the roadway, developing the major or arterial street system, locating areas where new facilities or improvements to existing facilities are needed, and programming capital improvements.

MDOT SHA collects data on AADT in various locations throughout the state in three- or six-year rotations. In Calvert County, AADT data was collected on MD 2 north of Dowell Road from 2009 to 2014. Over this time, traffic volumes remained fairly stable. According to the 2020 Calvert County Transportation Plan, AADT on MD 2-4 from Coaster Road/Mill Bridge Road in Lusby to Lore Road in Solomons has increased 11% since 2010.

No AADT data has been collected within the MPO region in St. Mary's County. It could be helpful to collect AADT data within the MPO region for future plan updates.

What is Average Annual Daily Traffic (AADT)?

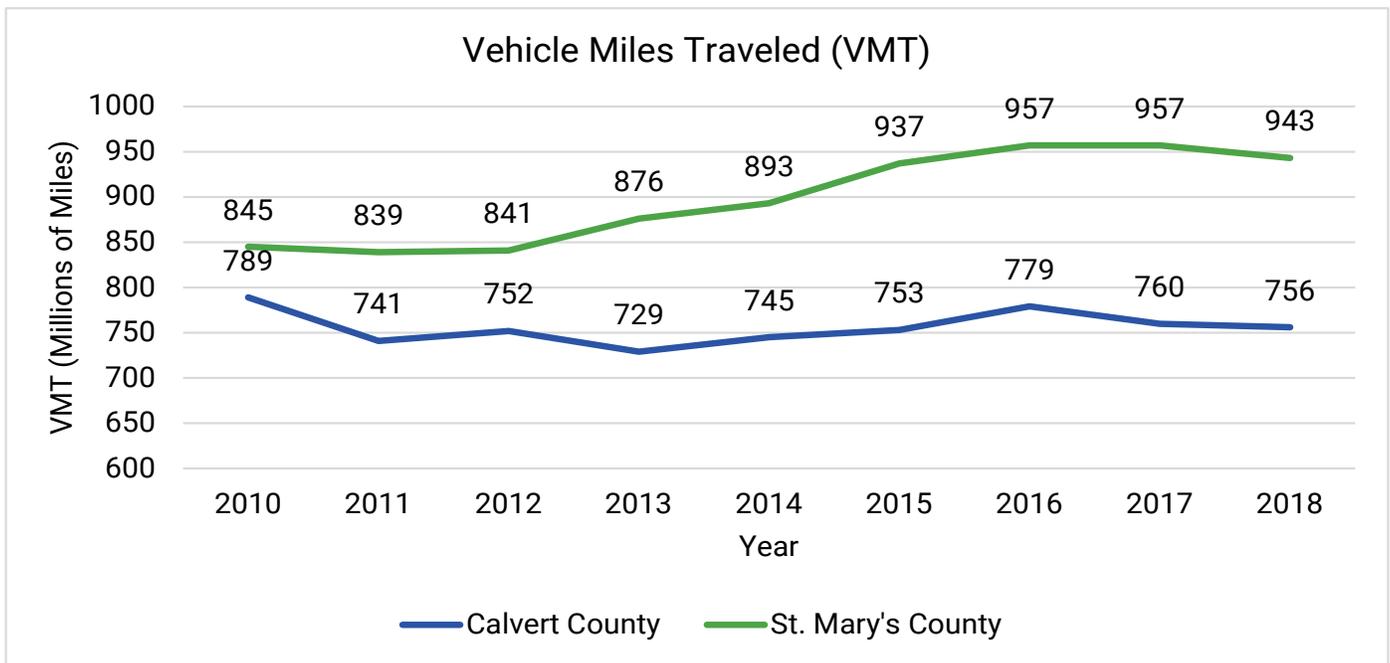
AADT shows how many vehicles are expected to drive on a roadway in any day of the year. It may be calculated by the total traffic volume divided by the days in a year or through counting on specific days and averaging that volume.

Vehicle Miles Traveled (VMT)

Annual data on the number of miles that vehicles travel is another important metric for understanding how the roadway system changes over time. Maryland has seen a steady increase in VMT from 56.4 billion miles traveled in 2014 to 59.9 billion miles traveled in 2018.³ Growth in travel on urban roads has made up most of the increase, with rural road VMT remaining relatively steady.

What are Vehicle Miles Traveled (VMT)?
 VMT is the total miles traveled by vehicles in a region during a time period. For example, it could be all miles traveled by vehicles within Calvert County in August of 2018.

Figure 4.3 Vehicle Miles Traveled (VMT)

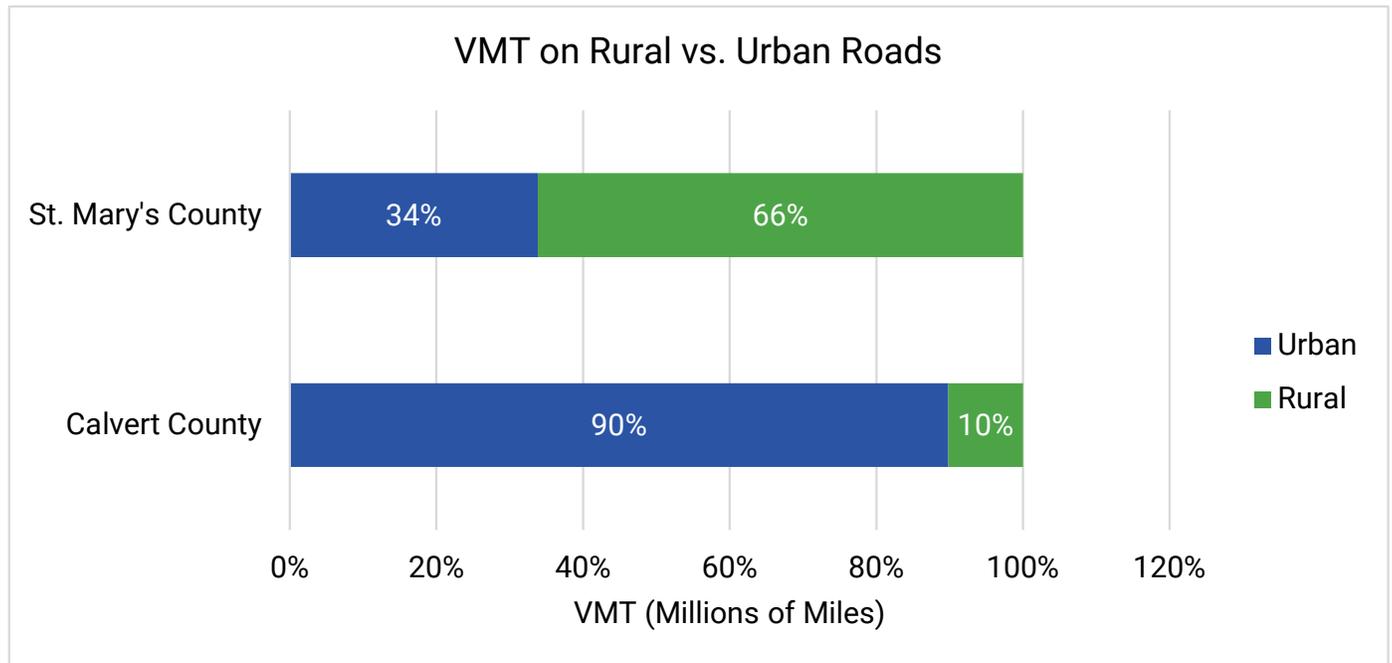


Source: Maryland Department of Transportation State Highway Administration

MDOT SHA collects annual VMT data by county and functional classification as part of FHWA’s Highway Performance Monitoring System, as shown by **Figure 4.3**. In 2018, 756 million total vehicle miles were traveled in Calvert County and 934 million total vehicle miles were traveled in St. Mary’s County. In Calvert County, VMT declined by 7.6% from 2010 to 2013 and then grew by 6.9% from 2013 to 2016. From 2016 to 2018, there was a 3% decline in VMT. Overall, VMT has declined by 4.2% from 2010 to 2018. In St. Mary’s County, VMT grew 14% from 2011 to 2017 after dropping slightly from 2010 to 2011. In 2018, there was a 1% decline in VMT from the high in 2017. Overall, VMT has increased 11.6% from 2010 to 2018 in St. Mary’s County.

³2018 Maryland State Highway Mobility Report

Figure 4.4 VMT on Rural vs. Urban Roads



Source: Maryland Department of Transportation State Highway Administration

As shown in **Figure 4.4**, 90% of VMT are on urban roads in Calvert County, whereas only 34% are on urban roads and 66% are on rural roads in St. Mary’s County

Traffic Congestion

MDOT uses two methods to determine traffic congestion on roadways. MDOT uses Travel Time Index (TTI) for freeways and expressways and Level of Service (LOS) for other major roads. LOS uses letter grades A-F to describe the congestion on the roadway. **Figure 4.5** further explains LOS.

Roadway congestion falls into four categories: Uncongested, Moderately Congested, Heavily Congested, and Severely Congested, as shown in **Table 4.2**. These categories are used for roadways described in both TTI and LOS.

Table 4.2 Congestion Ratings for LOS and TTI

Categories	LOS	TTI
Uncongested	A, B, C	0-1.15
Moderate Congestion	D	1.15-1.3
Heavy Congestion	E, F	1.3-2.0
Severe Congestion	Not used for LOS	Greater than 2.0

Source: Maryland Department of Transportation

Figure 4.5 Explanation of Level of Service (LOS)



LOS A

LOS A describes operation at or above the posted speed limit, where vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.



LOS B

LOS B represents conditions where posted speeds are maintained and the ability to maneuver within the traffic stream is only slightly restricted. The general level of physical and psychological comfort provided to drivers is still high.



LOS C

LOS C provides for flow with speeds at or near the posted speed limit. Freedom to maneuver within the traffic stream is noticeably restricted.



LOS D

LOS D is the level at which speeds begin to decline slightly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.



LOS E

LOS E describes operation at capacity. Vehicles are closely spaced, and maneuverability within the traffic stream is extremely limited. The level of physical and psychological comfort afforded the driver is poor.



LOS F

LOS F describes breakdowns in vehicular flow. Such conditions generally exist when the number of vehicles arriving at a freeway section is greater than the number of vehicles that can move through it.

Source: Maryland Transportation Authority, <http://www.mdt.maryland.gov>

MDOT prepares countywide congestion assessment maps showing levels of congestion on major state roadways in Maryland on an average weekday during the morning and evening peak hours. This allows users to determine the spatial extent of peak hour traffic congestion. The results may be used to compare traffic operations on State-maintained roadways in various jurisdictions. These can be found here: <https://www.roads.maryland.gov/Index.aspx?PageId=360>.

The AM and PM peak period maps for Calvert County show that MD 4 experiences heavy congestion approaching the Thomas Johnson Bridge. MD 760 (Rousby Hall Rd) experiences moderate northbound congestion in the AM peak and moderate southbound congestion in the PM peak. MD 765 (Trueman Rd) from Dowell Road to Rousby Hall Road experiences moderate northbound congestion in the PM peak and MD 497 (Cove Point Road) experiences moderate southbound congestion in the PM peak.

The AM and PM peak period maps for St. Mary's County show that MD 4 from the Thomas Johnson Bridge to MD 5 experiences moderate to heavy congestion in both directions. MD 5 from MD 245 to MD 489 experiences moderate to heavy congestion in both directions. MD 246 (Great Mills Rd) experiences single direction congestion towards NAS PAX in the AM and leaving NAS PAX in the PM peak.

Travel demand forecasts were performed for Calvert County for the 2020 Transportation Plan showing what future demand will be assuming the completion of the Thomas Johnson Bridge replacement and widening of MD 2-4 north of Prince Frederick by 2040. The travel demand forecast shows only a slight increase from 1.08% of directional miles exceeding capacity in 2017 to 2.33% in 2040 in the AM peak. In the PM peak, there is an increase from 0.59% exceeding capacity in 2017 to 1.39% exceeding capacity in 2040. This indicates that the overall system functions very well, however this does not mean that there is not localized congestion. In 2040 with historical growth and expected improvements, congestion will be particularly severe at the intersections of Dowell Road/Monticello Drive within the MPO region.

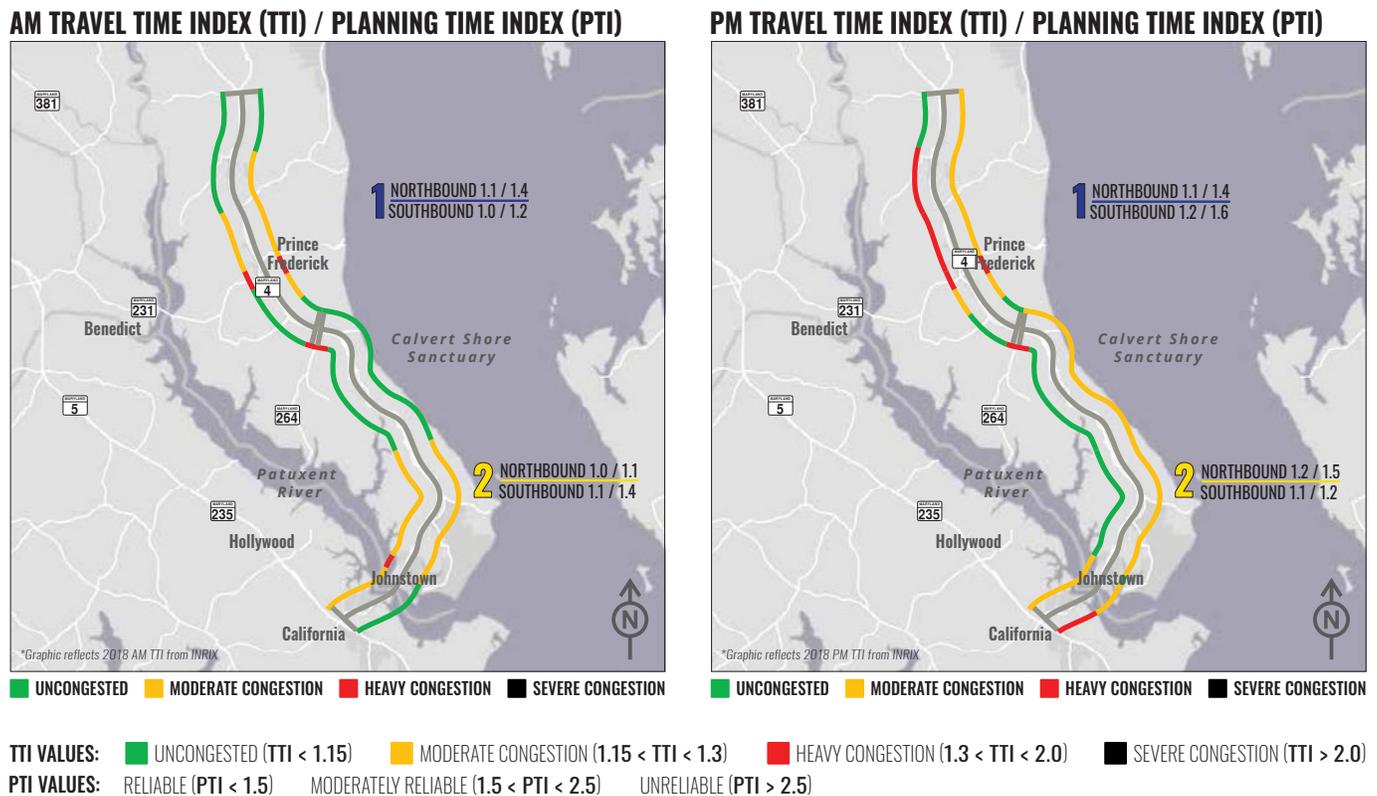
Travel demand forecasts have not been prepared for St. Mary's County since 2006. It would be helpful to prepare a forecast for future planning efforts. Given that the MPO region is experiencing traffic congestion and continued residential and commercial development, it is likely that congestion on these roadways will increase over the lifespan of Moving Forward 2045.



4.1.3 MDOT Transportation System Management and Operations (TSMO)

The MDOT SHA Transportation System Management and Operations (TSMO) program assists in operating existing facilities and systems to maximize their full potential. TSMO strategies aim to better leverage capacity limitations due to congestion, incidents, construction, weather, poor signalization, and other factors. TSMO strategies focus on operational, safety, and technology-based improvements that provide high benefit to the public at lower costs than traditional capacity improvements.

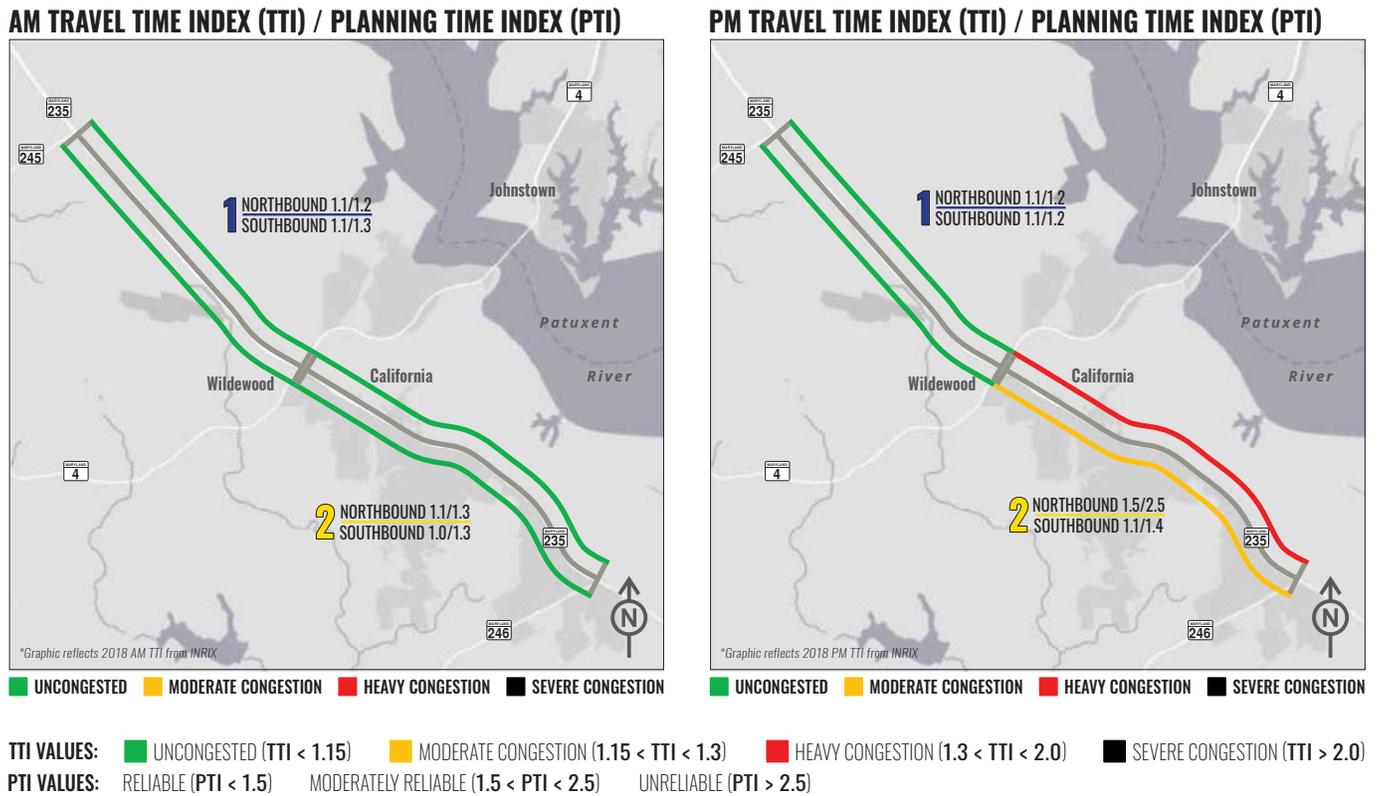
Figure 4.6 Corridor Analysis of Congestion on MD 2-4 in Calvert County to MD 235



Source: Maryland Department of Transportation

MDOT has prepared detailed corridor analyses for MD 2-4 and MD 235. **Figure 4.6** shows that MD 2-4 generally operates uncongested or with moderate congestion, however there are hot spots with heavy congestion, primarily approaching the Thomas Johnson Bridge from the Calvert side in the AM and from the St. Mary’s side in the PM as people drive to and from work at NAS PAX and other locations in St. Mary’s County.

Figure 4.7 Corridor Analysis of Congestion on MD 235 from MD 245 to MD 246



Source: Maryland Department of Transportation

Figure 4.7 shows that MD 235 between MD 245 and MD 246 operates uncongested in the morning peak, however the section from MD 4 to MD 246 has heavy congestion northbound towards the Thomas Johnson Bridge and moderate congestion southbound in the PM peak. The operational link between congestion on MD 4 and MD 235 is clear because of the large number of trips to NAS PAX.



TSMO strategies along MD 2-4 and MD 235 focus on using Intelligent Transportation Systems (ITS) to improve safety, reduce impact of non-recurring congestion, and ease friction at known locations with recurring congestion. The main strategies recommended for this corridor are traveler information and smart traffic signals.

Figure 4.8 Traveler Information as a TSMO Strategy

>
TRAVELER INFORMATION
>



- **Traveler information** provides motorists with data that affects their drive
- **Queue Warnings** alert motorists when congestion and queues are ahead
- **Dynamic Rerouting** provides motorists with alternative route information in response to increasing congestion at bottlenecks/incidents
- **Crowdsource Applications** (Waze, Google, etc.) provide real time information on traffic conditions and incidents



Source: Maryland Department of Transportation

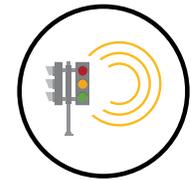
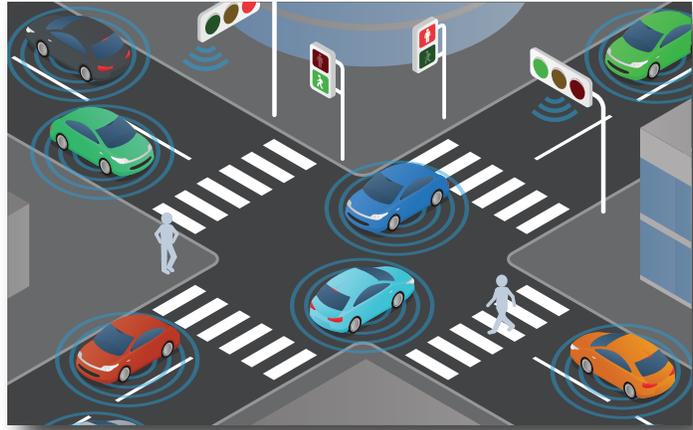
Traveler information strategies, shown in **Figure 4.8**, use cameras and detectors to monitor and detect traffic conditions and dynamic message signs (DMS) to inform travelers. As detectors and monitoring technologies are deployed, more real-time data becomes available improving the accuracy and reliance of crowdsource applications that use such data. Better live data also allows for better trip planning and more reliable travel times. Traveler information strategies identified for MD 2-4 include queue warning and dynamic routing. Queue warnings improve safety in areas with limited sight distance or recurring congestion by providing travelers advanced warning of traffic conditions ahead through DMS. This strategy warns drivers and alleviates the friction at known problem locations. Dynamic routing is hard to achieve along MD 2-4 because there are few parallel options, but additional DMS may prove beneficial for the corridor at key decision points such as roadway splits, park and rides, or transit connections.

Figure 4.9 Smart Traffic Signals and CAV as TSMO Strategies

SMART TRAFFIC SIGNALS

CONNECTED VEHICLE APPLICATIONS

- **Smart Traffic Signals** optimize signal timing plans based on prevailing conditions to increase throughput along arterials
- **Smart Traffic Signals** can be used on arterials parallel to highway to manage re-routed traffic affected by congestion or traffic incidents
- **Dynamic Lanes** at intersections turn a turn lane to a thru lane during peaks
- **Connected vehicle** technologies allow vehicles to communicate with each other and the world around them
- **Connected vehicle** applications uphold and enhance a safe, efficient and equitable transportation future
- **Connected vehicle** pilot project underway utilizing ITS solutions to support incident and traffic management



Source: Maryland Department of Transportation

Another TSMO strategy recommended for MD 2-4 and MD 235 is smart traffic signalization, shown in **Figure 4.9**. Unlike traditional time-based traffic signals, smart traffic signals can adapt to changing traffic conditions by changing timing plans based on live data. Smart traffic signals and adequate vehicle detection are required to test and implement potential intelligent intersection safety applications.

Deployment of ITS strategies along this corridor requires improving the communication infrastructure, such as fiber optic lines, to connect and operate the technology devices. Traffic detectors are also required at various locations to enable queue warning, advance warning, and smart traffic signals. The investment in ITS devices and telecommunications infrastructure prepares the corridor for the future use of connected vehicles. The TSMO strategies identified for the MPO region provide an outline of operational technologies to assist agencies program and align funding and priorities. The next step is to begin concept design and the systems engineering process to better define the TSMO strategies and develop a deployment plan based on priorities, benefit cost, and available funding.

4.1.4 Roadway Safety

Crashes

One of the largest safety concerns on the roadway are vehicle crashes. The C-SMMPO has adopted MDOT performance targets that support Maryland's Toward Zero Deaths efforts. Historic crash rates and the C-SMMPO targets are discussed in **Section 2.4.2 Highway Safety**.

Emergency Planning

The MPO region is susceptible to a wide range of threats and hazards, including both human-caused and naturally occurring disasters, catastrophic acts of violence and terrorism, and the isolated or systematic failure of critical infrastructure, such as bridges, highways, and other critical infrastructure. Some potential risks include hurricanes, floods, tornadoes, winter storms, earthquakes, hazardous materials accident, nuclear accident, major traffic accident, infrastructure failure, terrorism, civil disorder, or wartime attack. Many of the hazards potentially affecting the region can have significant impacts to the transportation system.

The Calvert County Emergency Management Division is responsible for developing and maintaining an ongoing program of mitigation, preparedness, response, and recovery in the event of an extraordinary emergency. The division creates and maintains the following emergency plans: Emergency Operating Plan, Radiological Emergency Plan, and specific plans for Cove Point Liquid Natural Gas Receiving Terminal, Cove Point-Loudoun Pipeline, and Calvert Cliffs Nuclear Power Plant. The emergency evacuation route from Calvert County relies heavily on MD 2-4 as the north-south route out of the County. There are two bridges crossing the Patuxent River out of the county, Governor Thomas Johnson Bridge at the southern end and the Benedict Bridge in the middle of the county.

The St. Mary's County Emergency Management Division is responsible for developing, coordinating and promoting the emergency management program incorporating planning, preparedness, response, and recovery activities related to emergencies and/or disasters in St. Mary's County. The county provides information to the public on how to be aware of and prepare for hazards that may impact the county. In the event of an emergency where evacuation is needed, the county has identified four major evacuation routes including MD 5/MD 235, MD 4, and MD 234. Gradual improvements to Pegg Road from MD 237 to MD 5 will help with an evacuation from NAS PAX.

4.2 Transit System

4.2.1 Existing Transit Systems

Calvert and St. Mary's counties are served by both local and commuter transit systems. MDOT MTA manages transit operations and transit funding programs available to transportation operators throughout the state. These programs support both public transportation and specialized transportation services.

Local Transit System

In Calvert County, there are eight bus routes and four demand-response/paratransit routes to link residents with major shopping, medical, and employment destinations, as well as with public services in Prince Frederick. **Table 4.3** shows the operating days and times for the routes. All routes operate Monday through Friday with three routes operating limited schedules on Saturday. There is no transit service on Sunday. The bus routes have limited timeframes with only three routes having evening service. Three fixed routes operate in the C-SMMPO region in Calvert County—the South Route, Mid-County Route, and Lusby Shuttle—shown in **Figure 4.10**.



Calvert County Public Transportation provides demand response services for disabled persons. This includes the North County, Mid-County, South County, and ADA paratransit routes. ADA paratransit service is available to eligible disabled persons who are unable to use fixed-route service.

Table 4.3 Calvert County Bus Routes

Route	Operating Days
Dunkirk Route (Orange Route)	Monday - Friday (9am - 3:30pm)
Lusby Shuttle (Gold Shuttle)	Monday - Friday (7am - 7pm)
Prince Frederick Shuttle I (White Shuttle)	Monday - Friday (6:30am - 8pm), Sat (9am - 4pm)
Prince Frederick Shuttle II (Green Shuttle)	Monday - Friday (9:30am - 2:30pm)
Mid-County (Yellow Route)	Monday - Friday (8am - 3:30pm)
North Route (Pink Route)	Monday - Friday (8am - 5pm), Sat (8:30am - 2:30pm)
South Route (Blue Route)	Monday - Friday (7am - 7pm), Sat (8am - 3:30pm)
Charlotte Hall (Purple Route)	Monday - Friday (7:30am - 5pm)

Source: <https://www.co.cal.md.us/885/Bus-Schedules>

The St. Mary's Transit System (STS) is run by St. Mary's County's Department of Public Works and Transportation. There are ten bus routes, shown in **Figure 4.10**, and demand response services for individuals with disabilities. **Table 4.4** shows the operating days and times for the bus routes. Four of the bus routes run only on weekdays, four include Saturday service, and two have Saturday and Sunday service. All routes operate on an hourly or every other hour schedule. The two bus routes with the most extensive hours are routes 11 and 12. Route 11/Great Mills-California Route serves an area that has concentrations of minority, Hispanic, low-income, and households without access to a vehicle as shown in **Section 6.4.3 Environmental Justice Analysis**.

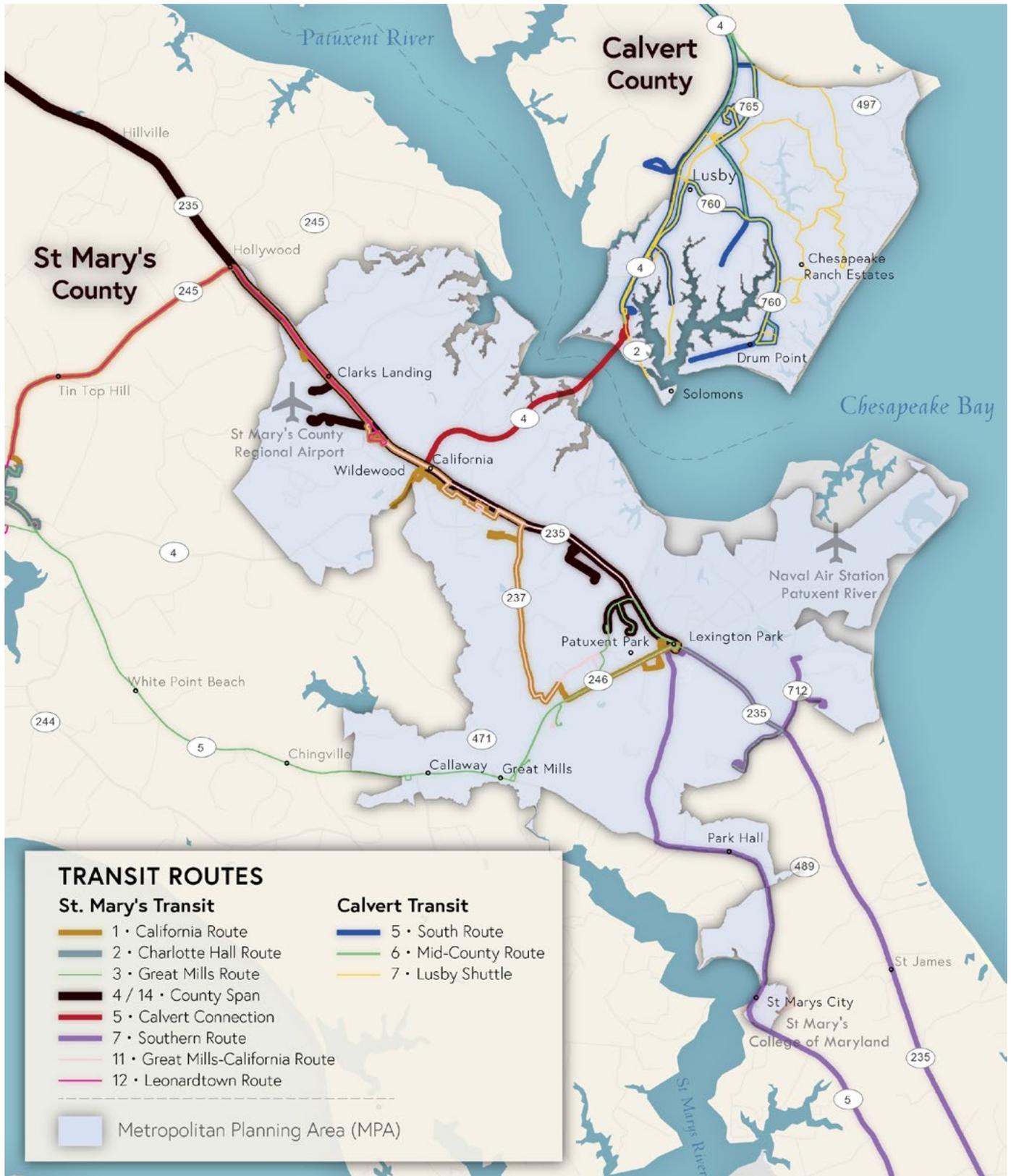
Table 4.4 St. Mary's County Bus Routes

Route Number	Route	Operating Days
1	California Route (Leonardtown to Lexington Park via California)	Monday - Friday (6am - 6pm)
2	Charlotte Hall Route (Leonardtown to Charlotte Hall via Loveville)	Monday - Friday (6am - 6pm)
3	Great Mills Route (Lexington Park to Leonardtown via Great Mills)	Monday - Friday (6am - 6pm)
4/14	County Span (Lexington Park to Charlotte Hall)	Monday - Saturday (NB - 6am - 5pm, SB - 8am - 6pm)
5	Calvert Connection (Lexington Park to Solomons)	Monday - Saturday (7am - 6pm)
6	Northern Route (Charlotte Hall to Budds Creek via Mechanicsville)	Monday - Saturday (7am - 6pm)
7	Southern Route (Lexington Park to Ridge to St. Mary's City)	Monday - Friday (6am - 7pm), Saturday (7am - 7pm)
8	Great Mills -California (Lexington Park, Great Mills, and California)	Monday - Friday (6am - 6pm)
11	Great Mills/California Route (California to Great Mills)	Monday - Saturday (6am - 11pm), Sunday (6am - 9pm)
12	Leonardtown Route (California to Charlotte Hall via Leonardtown)	Monday - Saturday (6am - 9pm), Sunday (6am - 8pm)

Source: <https://www.stmarysmd.com/dpw/STSfares.asp>



Figure 4.10 Map of Transit Routes



Source: Maryland Department of Transportation Office of Planning and Capital Programming

Commuter Transit Services

Transportation Demand Management (TDM) is a general term for strategies that result in more efficient use of transportation resources. Several TDM strategies are managed and implemented by MDOT and Calvert and St. Mary's counties.

TDM strategies are divided into major categories according to how they affect travel and TDM solutions tend to be particularly appropriate for regional organizations such as the C-SMMPO. The C-SMMPO provides the coordination required for effective TDM among various stakeholders, including various levels of government, jurisdictions within a region, industries, businesses, and special interest groups. For example, efforts to shift regional trips from automobile to ridesharing and public transit require a combination of transit service improvements, walking and cycling improvements, and commuter financial incentives. Parking and land use management is implemented by both Calvert and St. Mary's counties, and this can be helpful in implementing TDM strategies.

Commuter services in the region are provided by Commuter Choice Maryland, which is the MDOT's TDM Program. This program enables MDOT to address key goals, objectives, and strategies that will maximize traveler choices and deliver transportation solutions and services that can reduce congestion, conserve energy, protect the environment, facilitate economic opportunity, and enhance the quality of life. Commuter Choice Maryland offers an extensive menu of commuter transportation services including commuter bus, rideshare matching, Guaranteed Ride Home, and options offered through employers like parking cash-out. Options available depend on specific employers. See <http://mdot.maryland.gov/newMDOT/Commuter/Commuting> for additional information.

Commuter Bus Service

The MDOT MTA provides commuter bus service to both counties, connecting them to the Washington Area Metropolitan Transit Administration (WMATA) Metrorail stations and bus services in Washington DC, Prince George's County, and Montgomery County, as well as Northern Virginia. To enhance and provide access to Maryland's Commuter Bus operations in the counties, MDOT SHA operates and maintains park-and-ride



Park and ride lot at the Hollywood Volunteer Fire Department

locations throughout St. Mary's and Calvert counties. Park and ride lots provide free parking spaces for commuters, including car and van pools that use commuter bus routes. Permits are not required at the park and ride locations and lots are open 24/7 unless otherwise noted. Overnight parking is permitted.

Calvert and St. Mary's counties each have four commuter bus routes to Washington DC. These access four Metro stations in Washington DC and many employment centers. In Calvert County, none of the park and ride lots are within the MPO region, however residents may be driving to these park and ride lots. In St. Mary's County, Route 725 stops at the park-and-ride lot at the Hollywood Volunteer Fire Department in California. The other three routes stop only at Charlotte Hall, which is north of the MPO region.



Rideshare

Ridesharing or carpooling is when multiple people share a car ride to their destination. This reduces congestion and GHG emissions by reducing the number of vehicles on the road at peak periods. Calvert and St. Mary's counties provide a resource for assisting residents in forming or joining a carpool. Those interested can contact George Clark at gclark@tccsmd.org or 301-274-1922.

Guaranteed Ride Home

Guaranteed Ride Home (GRH) provides free rides home for registered commuters who work in Calvert and St. Mary's counties, as well as select Maryland cities, Virginia counties, and Virginia cities who carpool, vanpool, take transit, bike or walk to work at least twice a week.

In the event of a personal or family illness, emergency, or unscheduled overtime at work, GRH will arrange for a free taxi ride, transit ride, or even a free car rental up to four times each year. Registration is free, but annual registration is required for GRH services. For a complete list of service areas, visit www.CommuterConnections.org or contact George Clark at gclark@tccsmd.org or 301-274-1922.

4.3 Non-Motorized Transportation: Biking, Walking, and Buggies

Non-motorized transportation refers to all transportation methods that are human or animal powered. These include walking, bicycling, and using a horse and buggy. Walking and bicycling are modes of transportation as well as recreational activities that are undertaken by adults and children, residents and visitors, people seeking exercise as well as those seeking enjoyment of the natural environment. Travel by horse and buggy is common in the northern part of St. Mary's County because it is home to the largest Amish settlement in Maryland and an Old Order Mennonite settlement. Within the MPO region, Amish often use transit, walk, and ride in vehicles driven by others.

4.3.1 Pedestrian, Bicycle, and Buggy Facilities

A variety of facility types for pedestrians and bicyclists help to meet the range of demand. The features of trails and bike paths intended for recreational use may be different from the sidewalks and on-road bike facilities for commuters. Pedestrian facilities are numerous and can be exclusively used by pedestrians such as sidewalks or shared with bicyclists or motorists. **Table 4.5** provides a list of pedestrian facilities.



Table 4.5 Types of Pedestrian Facilities

Element	Description
Sidewalk	Paved path along a street designated for pedestrians only
Off-Road Path	Paved or unpaved pedestrian facility in rural or low-density suburban areas
Shared-Use Path	Paved or unpaved paths for use by pedestrians and bicyclists
Shared Roadway	Shared use of a road for people walking and driving (usually only roads with extremely low vehicle speeds)
Overpass/Underpass	Walkway for pedestrians over or under barriers such as a large highways, streams, or train tracks.

There are several types of bicycle facilities that meet different needs as explained in **Table 4.6**. On-street bicycle facilities may include marked, buffered, and protected bike lanes, paved shoulders, and shared lanes. Off-road facilities may include bike trails and multi-use paths intended for bicycling, as well as walking, jogging, in-line skating, and potentially horseback riding.

Table 4.6 Types of Bicycle Facilities

Element	Description
Bikeway	Generic terms for any road, street, or path designated for bicycle travel
Bike Lane	A designated lane for bicycle use marked on a roadway. Ideally these are on both sides of the street (except on one-way streets) traveling in the same direction as the adjacent traffic.
Buffered Bike Lane	A designated bike lane with a painted buffer to separate bicyclists from moving vehicles.
Protected Bike Lane	A designated bike lane with a physical barrier (bollards, planters, etc.) to separate bicyclists from moving vehicles.
Off-Road Routes	Off-road trails that connect on-road facilities or greenway connections with major hubs. These may or may not be shared with pedestrians.
Rails-to-Trails	Off-road trails that use former railroad rights-of-way. These may or may not be shared with pedestrians.

There are many ways to implement sidewalk, trail, and bicycle network improvements. Initiatives may be undertaken by state, county, or municipal agencies as stand-alone projects or as part of larger programs. Bike and pedestrian circulation improvements may be implemented as roadway construction occurs or conducted as a part of an overall pedestrian or bicycle program. Bicycle and off-road trail projects may be implemented in association with park improvements or recreation programs. Both bicycle and pedestrian improvements can be undertaken by private developers as a result of negotiations in the local jurisdiction development approval process. Since so many different entities can have a role in contributing to these networks, it is important to have plans to guide initiatives.

Horse and buggy travel is common in the northern part of St. Mary's County, outside of the MPO region. While it is not as common in the MPO region, it is important to consider the safety and travel needs of both horses and buggies on roadways used by these means and to consider the travel of Amish populations by transit and walking within the MPO region. The Ohio Department of Transportation (ODOT) completed a

study on buggy safety on their roadways that found the three most common causes of crashes are motor vehicle drivers underestimating the speed difference between their vehicle and the buggy, lack of visibility between dusk and dawn or due to rolling terrain, and vehicle and buggy actions including sudden stops and not signaling turns.⁴

One way to improve buggy safety is to have a wide shoulder that serves as a buggy lane. A buggy is generally about six feet wide, so an 8 to 10-foot shoulder is preferred to safely operate a horse and buggy. This is recommended on several roadways outside of the MPO region where horse and buggy travel is common. Furthermore, Three Notch Trail in St. Mary's County is designed to be wide enough for buggies to operate along its length rather than driving on MD 5 and MD 235, which have high traffic volumes. Finally, improved transit and pedestrian infrastructure benefits the Amish and Mennonite populations who use these means to travel within the MPO region.



Photo courtesy of MDOT

4.3.2 Pedestrian and Bicycle Network

In the MPO region, sidewalk networks are available in certain places to improve mobility for pedestrians. However, in many places, sidewalks are not continuous because the county or municipality does not own the right of way. Many sidewalks do not meet ADA standards because they have not been retrofitted since the ADA requirements went into place. In Calvert County, the sidewalk network is mostly in town centers, however it still has significant gaps in coverage because new development did not previously require that sidewalks be built. The sidewalk network is expected to fill in with new development but closing gaps will require significant public investment. In St. Mary's County, sidewalks are primarily located in Lexington Park

⁴Ohio Department of Transportation. 2000. Amish Buggy Safety on Ohio's State Roadway System: Analysis and Action Plan.

with limited sidewalk coverage in other locations. As transportation projects are implemented, bicycle and pedestrian improvements should be included.

There are limited bicycle routes in the MPO region. As shown in **Figure 4.11**, there are bicycle routes along the length of MD 5 and MD 2-4. The MD 2-4 route has a detour onto the parallel roadway MD 765 because of its lower traffic volume. These bicycle routes consist only of a wide shoulder and are not marked on the roadway. They are along high-speed roadways with high traffic volume and would be considered a high stress riding experience, likely deterring potential cyclists who would prefer safer infrastructure.

Three Notch Trail is a 28-mile non-motorized pedestrian and bicycle trail along the rail right-of-way from the Charles County line to Lexington Park in St. Mary's County. The trail is constructed of asphalt and is 10 feet wide. Phases 1, 2, 5, and 6, making up an 11-mile section of the trail, were completed between 2006 and 2016. This section runs from MD 236 Thompson's Corner Road to MD 235 at Baggett Park. Phase 4A was completed in 2009 and is approximately ½ mile from the Wal-Mart to MD 237 Chancellors Run Road. Sections currently being designed or constructed include:



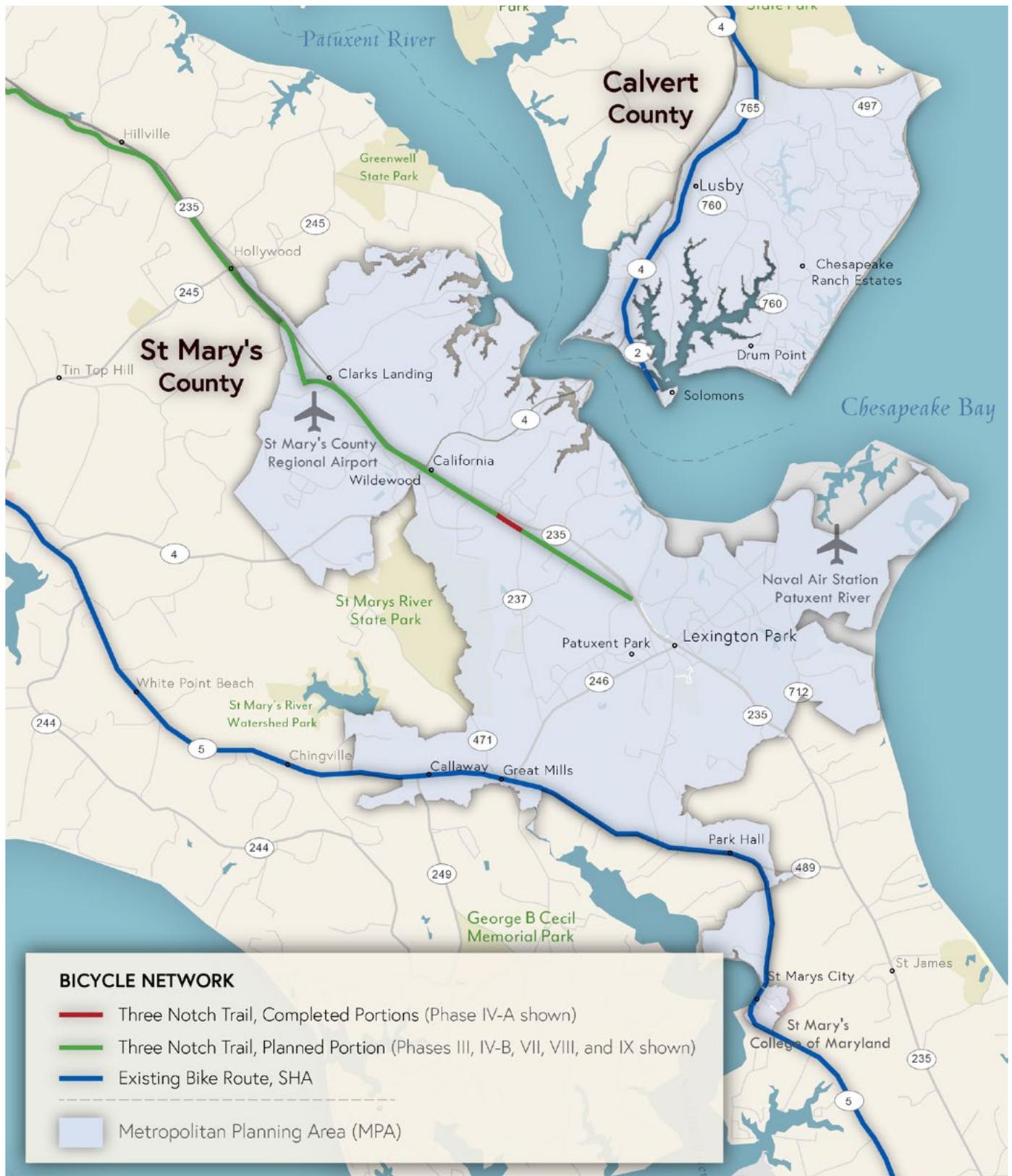
Three Notch Trail section near Wal-Mart

- **Phase 3 (2 miles):** This section is in the town of California, from the Wildewood Sturbridge Condominiums south to the Wal-Mart shopping center. The South Plaza (Panera/Old Navy), Wal-Mart, and part of the Wildewood (Sturbridge Condos) sections are complete. Portions of the trail in the vicinity of the former Kmart Center, First Colony, and St. Mary's Marketplace still need to be completed.
- **Phase 4B (1.8 miles):** The section of MD 237 Chancellors Run Road to Pegg Road, is being designed as part of Phase 3 of the FDR Boulevard project. This project is currently in the design stage and includes a commuter bike lane along with this trail.
- **Phase 7 (3.33 miles):** Wildewood to Hollywood Volunteer Rescue Squad (near MD 245 Hollywood Road). Design and engineering are underway with construction scheduled for 2022.

Future Sections:

- **Phase 8 (4.5 miles):** Hollywood Volunteer Rescue Squad to Friendship School Road; design anticipated in 2020 and construction in 2022.
- **Phase 9 (2.5 miles):** Friendship School Road to connect at Baggett Park. Design and construction are anticipated in future years as funding permits.

Figure 4.11 Map of Bicycle Routes



Source: Maryland Department of Transportation Office of Planning and Capital Programming

4.4 St. Mary's County Regional Airport

The MPO region is served by one public airport located in the town of California. The St. Mary's County Regional Airport opened in 1969 and has been an important part of the transportation network since its opening. The airport is located on Airport Road off MD 235. Previously, the airport served as the Park and Ride lot for the MD 725 bus route that provides service to Washington DC, however the parking lot has now been moved to the Hollywood Volunteer Fire Department located at 24801 Three Notch Road due to development at the airport. The airport is served by two county bus routes – the California Route and Leonardtown Route.

Though no major airlines serve the airport currently, it is used for Maryland State Police operations, medical evacuations, private charter operations, flight instruction, and general and corporate aviation operations. Businesses at the airport include flight schools, aircraft modification, testing and research, and unmanned aircraft systems. To support these operations, the airport has a terminal building, one runway, 122 hangars, and 78 tie-down locations for aircraft.

The current plan was adopted by the Commissioners of St. Mary's County in 2002. Since 2002, approved versions of the Airport Layout Plan have incorporated an additional 52,000 square feet of office space, six rows of additional T-hangar space, and three new commercial use box hangars. The taxiway has been relocated to the south and extended to a full-length parallel taxiway to accommodate wingtip clearance in preparation for the runway extension. In 2021, the runway will be extended an additional 1,200 feet to the west. A new west ramp has been built and additional commercial box hangars will be built along the ramp to meet the demands of airport users.

Currently, St. Mary's County is moving forward with plans to create an Innovation District at the St. Mary's County Regional Airport. An Innovation District seeks to encourage economic development by stimulating innovation and entrepreneurship by bringing together anchor companies and creating places to start and grow companies, innovate and invent, gather and exchange ideas, and learn.



St. Mary's County Regional Airport

4.5 Factors Impacting the Transportation System

4.5.1. Electric Vehicles

An electric vehicle (EV) is one that uses electricity, generally stored in a battery, for propulsion. The widespread adoption of these vehicles will require public charging stations and upgraded infrastructure. EVs reduce local air pollution because they do not emit greenhouse gases (GHGs) from their tailpipes. GHGs are still emitted when the electricity used to charge is produced, but these emissions will continue to decrease as Maryland moves toward more renewable energy sources.

As of September 2019, Calvert County had 157 registered plug-in hybrid vehicles (PHEVs) and 107 registered battery electric vehicles (BEVs). Saint Mary's County had 168 registered PHEVs and 106 BEVs. EV ownership in Maryland grew from about 600 vehicles in 2012 to more than 15,000 vehicles

in 2018⁵ and is expected to continue to grow as more EVs become available and prices decline. There are eight public EV charging stations within the MPO region. Four are in Calvert County, including ones at the Calvert County Library in Solomons and the Walgreens in Lusby, and four are in St. Mary's County, including one near NAS PAX.⁶ Southern Maryland Electric Cooperative (SMECO) has been approved by the Maryland Public Service Commission to install seven EV charging stations MPO area. MDOT is currently conducting a survey of EV Stations in Maryland. The C-SMMPO should continue to follow trends in in EV ownership within its planning area and consider the need for expanded infrastructure to support EVs.

The major source of funding available for the purchase and installation of EV charging stations across Maryland is the Volkswagen Settlement Mitigation Fund. Maryland is eligible to receive approximately \$75.7 million, \$11.3 million of which will be dedicated to installing EV charging stations at workplaces, state office buildings, and the recently federally designated alternative fuel corridors.



⁵Maryland Electric Vehicle Infrastructure Council. (2018). 2018 Annual Report. Retrieved from: http://www.mdot.maryland.gov/newMDOT/Planning/Electric_Vehicle/Documents/FINAL_2018_EVIC_Report_3-2019.pdf

⁶US Department of Energy Alternative Fuels Data Center. (2019). Alternative Fueling Station Locator. Accessed at: <https://afdc.energy.gov/stations/#/find/nearest>

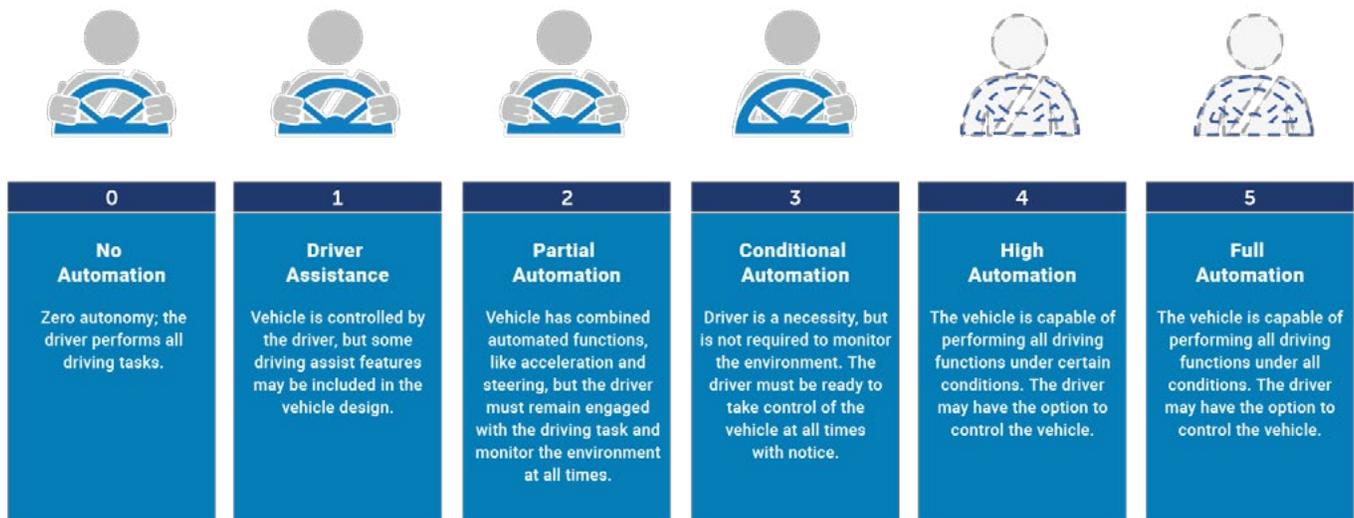
4.5.2 Connected and Automated Vehicle Technology

Connected and Automated Vehicle (CAV) technology is changing the way residents of Maryland drive. Connected vehicle technology allows vehicles to communicate with each other and the world around them. A fully autonomous vehicle is computer driven and does not require a human driver. If implemented well, CAV technologies could improve safety, lower transportation costs, and reduce traffic congestion, greatly increasing the safety and mobility for residents of the MPO region. The rapid pace of CAV innovation means that policies and programs to accommodate future vehicles should be considered.

The US DOT adopted the “Levels of Automation,” shown in **Figure 4.12**, designated by SAE International. Most vehicles are at Level 1 where drivers control the vehicle but are assisted by technologies, such as correcting the path of a vehicle to stay within the painted lane. Levels 2 and 3, which will phase in over the next several years, will allow the car to take control on certain roads, such as highways, but with the driver ready to retake control when required for other situations. Research, development, and testing of highly and fully automated vehicles is underway, but these vehicles are not expected to be adopted in the near future.

MDOT is testing and deploying CAV technology in pilot projects throughout the state. These technologies will eventually be deployed in the MPO region. If desired, the C-SMMPO or other agencies within the MPO region could identify and designate potential testing sites for CAV technology by collaborating with MDOT and the private companies developing CAVs. The proposed Innovation District by the St. Mary’s County Regional Airport may be a good location for this development because the goal of the district is to attract technology, education, and other creative industries to the area. The lack of quality cell phone and internet coverage in some locations pose one challenge to implementing CAV technologies in the MPO region.

Figure 4.12 Levels of Vehicle Automation



Source: <https://www.nhtsa.gov/technology-innovation/automated-vehicles>

4.5.3 Climate Change

Climate change is already having an impact on communities across the country. Maryland's Commission on Climate Change stated in its 2018 Annual Report that Maryland's climate is becoming warmer and wetter with this trend expected to continue. Impacts in Maryland can already be observed in the increasing number of extreme heat days (over 90 degrees), increased flooding, increased sea-level rise, and declining health of the Chesapeake Bay.⁷ In 2018, the University of Maryland Center for Environmental Science released its projections for sea-level rise. The likely range of sea-level rise by 2030 is between 4.8 and 10.8 inches and 9 inches and 1.6 feet by 2050.⁸

Climate change currently has and will continue to have damaging impacts to transportation infrastructure that will shorten the useful lifetime, increase maintenance costs, and make some infrastructure completely unusable due to sea-level rise, coastal flooding, and more intense rain. Unmitigated climate change is projected to increase the cost of road maintenance by \$4.2 to \$7.4 billion nationally as compared to the 2 degrees Celsius mitigation scenario.

Calvert and St. Mary's counties have already seen some of the impacts of climate change on the transportation system. In July 2018, a storm that dumped 12 inches of rain across Southern Maryland closed many roads and flooded homes and businesses. Nearly a year later in July 2019, a storm that dumped nearly 3 inches of rain in just one hour closed roads again. St. George's Island and other low-lying areas already have water on roadways at high tide. Additionally, low-lying areas are experiencing rising ground water and septic system failure. As the climate becomes warmer and wetter, flooding events, including high tide flooding, are expected to increase and intensify.

Another risk in the MPO region is storm surge that causes flooding. This can be especially serious if it blocks the evacuation routes for an area. It is a concern in the MPO region because evacuation in Calvert County is entirely dependent on MD 2-4.

Even a seemingly minor impact like warmer temperatures in the winter can have negative consequences for roads. Temperatures that vary between above freezing during the day and below freezing at night can cause stress to the roadway as water expands and contracts with the temperature, causing the roadway to crack more easily. This means more potholes and issues that can cause potentially dangerous conditions. As impacts from climate change continue and worsen, the C-SMMPO will need to consider both GHG reduction and climate resilience in their project selection.

⁷Maryland Commission on Climate Change. 2018. Annual Report. Retrieved from: https://mde.maryland.gov/programs/Air/ClimateChange/MCCC/Documents/MCCC_2018_final.pdf

⁸Boesch, D.F., W.C. Boicourt, R.I. Cullather, T. Ezer, G.E. Galloway, Jr., Z.P. Johnson, K.H. Kilbourne, M.L. Kirwan, R.E. Kopp, S. Land, M. Li, W. Nardin, C.K. Sommerfield, W.V. Sweet. 2018. Sea-level Rise: Projections for Maryland 2018, 27 pp. University of Maryland Center for Environmental Science, Cambridge, MD. Retrieved from: <https://mde.maryland.gov/programs/Air/ClimateChange/MCCC/Documents/Sea-LevelRiseProjectionsMaryland2018.pdf>

5

**Projects and
Financial Plan**

5.1 Committed Projects

Projects included in this category must have sufficient committed funding to complete the proposed transportation improvement. Committed projects were included in the 2018-2021 TIP and the Maryland Consolidated Transportation Plan (MD CTP). The 2018-2021 TIP includes two federally funded highway projects in the near term:

- Preliminary engineering for the upgrade to MD 4 between MD 2 and MD 235, which includes the Thomas Johnson Bridge. This project will include sidewalks in some locations, shoulders on the roadway, and a parallel trail for bicycles and pedestrians.
- Planning and preliminary engineering for intersection, bridge, and drainage improvements along MD 5 from MD 246 to MD 471.

Highway funding includes funding within certain categories that can be used across the MPO region to make improvements to the roadway system:

- **Environmental:** Includes improvements like noise abatement, wetlands, reforestation, landscape planning, scenic beautification, and pedestrian and bicycle facilities
- **Safety and Spot Improvements:** Includes improvements like bypass lanes, acceleration and deceleration lanes, turn lanes, intersection improvements, roundabouts, bicycle and pedestrian safety improvements, and ADA improvements
- **Resurfacing:** Includes resurfacing and repairing roadways
- **Bridges:** Includes a variety of structural improvements, maintenance, and cleaning and painting
- **Urban Reconstruction:** Includes improvements like addition or widening of shoulders, drainage, curb and gutter, sidewalks, streetscape, signs, markings, and lighting improvements
- **Congestion Management:** Includes improvements like electronic message signs about delays, crashes, and closures, traffic management detection, signal timing changes, monitoring technologies, and park and ride developments.

The 2018-2021 TIP also includes committed capital and operating funding for the transit systems in Calvert and St. Mary's counties and rideshare funding totaling \$15,000,000.

5.2 Fiscally Constrained Plan

Moving Forward 2045 analyzes the funding available for and costs of capital expansion projects in the MPO region from 2025-2045. There are two types of transportation projects, capital expansion projects and system preservation projects. Each serve a different purpose: capital expansion projects increase the capacity of the transportation system by constructing new facilities or expanding existing facilities. System preservation projects maintain and improve the existing facilities. Both project types are important to maintain a safe and well-functioning transportation system.

LRTPs typically focus on capital expansion projects, which take a long time to plan and build. These are major projects, typically on state-owned roadways and require funding from the MD CTP. For a project to be included in the MD CTP, it must first be included in the fiscally constrained LRTP.

A fiscally constrained plan includes only those projects that can be funded by the expected revenue over the term of the plan. This causes the MPO to prioritize the most important projects. All project cost estimates must be provided in year-of-expenditure (YOE) dollars. This means that the anticipated inflation is added to the project costs estimates that are produced in current year dollars. This is to account for rising prices of goods and labor so that costs in the future are not higher than anticipated due to rises in these prices. The project cost estimates produced for the LRTP are typically general cost estimates. When a project begins the planning process, a more detailed cost estimate is prepared and evaluated throughout the life of the project.

Table 5.1 shows the capital expansion funding available and the total YOE project costs. The financial projections for C-SMMPO show that \$873.2 million will be available for projects through 2045 in the MPO region. The calculations for financial projections can be found in **Appendix E: Financial Projections**.

Table 5.1 Financial Projections and Estimate Project Costs (2022-2045)

Funding Description	Cost (Millions)
Total Capital Expansion Project Funding Available (MDOT Financial Projection)	\$873.2
Total Estimated Project Costs in YOE	\$873
Remaining Balance Available for Other Capital Expansion or System Preservation Projects	\$0.2

Source: Maryland Department of Transportation

5.3 Recommended Projects

After adjusting for state and federal funding for committed projects identified by the 2018-2021 TIP and those identified by MDOT in the 6-Year CTP, the C-SMMPO program has sufficient financial capacity to fund regional priority projects. Five projects were identified as high priorities to be implemented using this available funding balance as part of the fiscally constrained LRTP. **Table 5.2** lists the recommended projects and **Figure 5.1** displays the projects on a map.

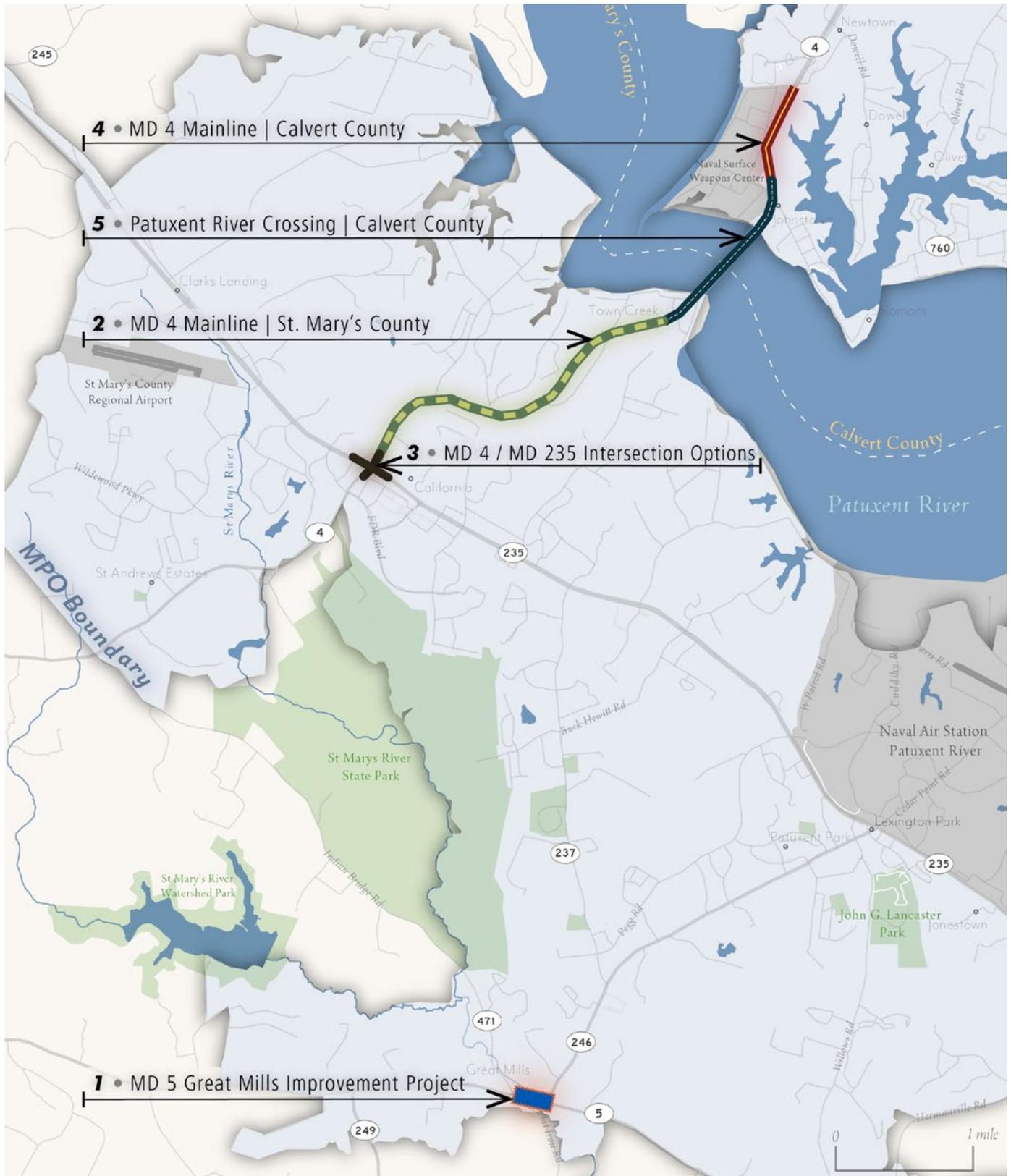
Table 5.2 Recommended Projects

Map ID	Name	Location	Description	Year of Expenditure (YOE)	Estimated Project Cost in YOE \$ (Millions)
1	MD 5 Great Mills Improvement Project	MD 471 (Indian Bridge Road) to MD 246 (Great Mills Road)	Widening, Intersection Improvements and Bridge Replacement (MDOT SHA #1800600 that extends over the St. Mary's River on MD 5 (Point Lookout Road).	2026	\$28
2	MD 4 Mainline, St. Mary's County	Thomas Johnson Bridge to MD 235	Four-lane widening	2026	\$80
3	MD 4/MD 235 Interchange	MD 4/MD 235 intersection in Lexington Park	Interchange construction	2026	\$180
4	MD 4 Mainline, Calvert County	Thomas Johnson Bridge to Patuxent Point Parkway	Four-lane widening	2030	\$10
5	Patuxent River Crossing	Thomas Johnson Bridge	Construct a new four-lane bridge	2030	\$575
Total Estimated Project Cost in YOE					\$873

Source: Maryland Department of Transportation

As described previously, traffic problems and congestion are a growing problem in the MPO region. The recommended projects were identified to improve existing capacity and traffic operations and increase vehicular, pedestrian, and bicycle safety. St. Mary's County has the fastest-growing workforce in Maryland with a high concentration of science, technology, and math (STEM) jobs. Growth is driven by critical military bases including NAS PAX within the MPO region and Webster Outlying Landing Field (WOLF) at St. Inigoes, a Coast Guard Station south of the MPO region. These installations alone employ 20,000 active-duty personnel, civilians, and contractors, many of whom rely on MD 5 and MD 2-4 for access to destinations around MPO region, Washington, DC, Virginia, and Maryland.

Figure 5.1 Map of Recommended Projects



Source: Maryland Department of Transportation Office of Planning and Capital Programming

The Thomas Johnson Bridge replacement and associated projects on MD 4 and MD 235 will create a four-lane bridge. There is currently heavy congestion because large numbers of people use the bridge to access NAS PAX and other employment centers in St. Mary's County. This project is critical to maintain good access to NAS PAX, maintain safe evacuation routes from Calvert and St. Mary's counties in the event of emergencies, and allow emergency services to respond to crashes and incidents on the bridge more easily.

The MD 5 Great Mills Improvement Project will add one travel lane in each direction, bicycle lanes, and Americans with Disabilities (ADA) compliant sidewalks, as well as replacing the fifty-year-old bridge over the St. Mary's River. Traffic is expected to grow in this area with new commercial and residential developments in Great Mills. As a result of improvements on MD 5, the level of service will be elevated to LOS C in the morning and evening at MD 471 and MD 246. The project's bridge replacement and construction of connections at the two intersections reduce congestion, improve safety, and improve pedestrian and bicycle connectivity from MD 471 (Indian Bridge Road) to MD 246 (Great Mills Road).

5.4 Illustrative Projects

Along with the recommended projects that are included in the fiscally constrained plan, the LRTP includes a list of illustrative projects. Calvert and St. Mary's counties submitted a list of projects to the C-SMMPO to be considered for the LRTP.

These projects could be completed if additional funding were to become available. For example, federal funding for a specific type of project might be authorized by Congress in response to problems in the country like pedestrian crashes near schools or other safety issues. When funding becomes available, having illustrative projects outlined in the LRTP allows counties and MPOs to act quickly to submit their related projects for funding. **Table 5.3** shows the illustrative projects for the MPO region.



Table 5.3 Illustrative Projects

Route No./Name	Limits	Improvement Type
MD 235, Three Notch Road	MD 4 to MD 245	Divided highway reconstruction with access control improvements
MD 235/MD 5, Three Notch Road/Point Lookout Road	MD 4 to Charles County Line	Access control improvements
MD 4, St. Andrews Church Road	MD 5 to MD 235	Multi-lane reconstruction with access control and intersection improvements
MD 489, Park Hall Road	MD 5 to MD 235	Two-lane reconstruction
MD 5, Point Lookout Road	MD 245 to MD 249	Multi-lane reconstruction
MD 5 Point Lookout Road	MD 249 to MD 471	Multi-lane reconstruction
MD 712, Forest Park Road	MD 235 to end SHA maintenance	Multi-lane reconstruction
Leonardtown Rd/MD 5	MD 235 to end of SHA maintenance	Widen shoulders to at least 10 feet for horse drawn buggies, bicycles, and pedestrians where necessary
MD 246/Great Mills Rd	MD 246/Great Mills Rd	Widen shoulders to at least 10 feet for horse drawn buggies, bicycles, and pedestrians where necessary
MD 238/Chaptico Rd	MD 238/Chaptico Rd	Widen shoulders to at least 10 feet for horse drawn buggies, bicycles, and pedestrians where necessary
MD 236/Thompsons Corner Rd	MD 236/Thompsons Corner Rd	Widen shoulders to at least 10 feet for horse drawn buggies, bicycles, and pedestrians where necessary
MD 242/Colton Point Rd	MD 242/Colton Point Rd	Widen shoulders to at least 10 feet for horse drawn buggies, bicycles, and pedestrians where necessary
MD 239/Bushwood Wharf Rd	Entire length from MD 242	Widen shoulders to at least 10 feet for horse drawn buggies, bicycles, and pedestrians where necessary
MD 520/Whites Neck Rd	Entire length from MD 520	Widen shoulders to at least 10 feet for horse drawn buggies, bicycles, and pedestrians where necessary
MD 243/Newtown Neck Rd	Entire length from MD 520	Widen shoulders to at least 10 feet for horse drawn buggies, bicycles, and pedestrians where necessary
Three Notch Trail - Phase VIII	From the 24801 Three Notch Rd (Hollywood Volunteer Rescue Squad) to Friendship School Rd	4.5 miles of walking and biking trail that connects with Phase VII
Three Notch Trail - Phase IX	Friendship School Rd to Baggett Park	2.5 miles of walking and biking trail that connects with Phase VIII
Appeal Sidewalk	Appeal Lane to Lusby Shopping Center	Complete sidewalk connection
Lusby Parkway Sidewalk	Lusby Parkway to Thunderbird Drive	Complete sidewalk connection
Cove Point Park Trail	Along Cove Point Rd	Construct 2.7 mile multi-use trail
Solomons Sidewalk	MD 2-4	Complete sidewalk connection
Patuxent Parkway Crosswalk	MD 2-4	Complete crosswalks to the shopping center

Source: Maryland Department of Transportation

5.5 Funding Sources

5.5.1 Highway Funding

Highway projects are often federally funded in the MPO region with some state funding. This funding is exclusively for highway projects and does not fund planning studies or other tasks. **Table 5.4** shows the highway funding sources.

Table 5.4 Highway Funding Sources

Funding Program	Description
Maryland State Funding	Funding for transportation projects provided by MDOT
National Highway Performance Program (NHPP)	The NHPP provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.
Surface Transportation Block Grant (STGB)	The program encompasses funding previously made available under various smaller federal-aid categories as well as a broad, flexible component. Funding must be set aside for transportation alternatives (STBGP-TA).

Source: Maryland Department of Transportation

5.5.2 Transit Funding

The MDOT MTA provides grants and technical assistance to Calvert and St. Mary's Counties under the Locally Operated Transit Services (LOTS) to finance local transportation programs and services. These include:

- Federal and State Regulatory Compliance
- Operations
- Management
- Planning
- Training

Federal funding for public transportation programs is provided through Moving Ahead for Progress in the 21st Century (MAP-21), the current transportation authorization. MAP-21 gave the Federal Transit Administration (FTA) significant new authority to strengthen the safety of public transportation systems throughout the United States. It put new emphasis on restoring and replacing aging transit infrastructure with a new needs-based formula program and new asset management requirements.

In addition, it established performance-based planning requirements that align federal funding with key goals and tracks progress toward these goals. Finally, MAP-21 improved the efficiency of administering grant programs by consolidating several programs and streamlining the major capital investment grant program known as “New Starts.” **Table 5.5** summarizes the federal funding programs in MAP-21.

Table 5.5 Federal Transit Funding from MAP-21

Funding Program	Description
5307 - Urbanized Area Formula Grants	The largest of FTA's grant programs, this program provides grants to urbanized areas to support public transportation. Funding is distributed by formula based on the level of transit service provision, population, and other factors.
5311 - Rural Area Formula Grants	This section provides capital, planning, and operating assistance to support public transportation in rural areas with fewer than 50,000 residents.
5310 - Mobility of Seniors and Individuals with Disabilities	This program provides formula funding to increase the mobility of seniors and persons with disabilities. Funds are apportioned based on each state's share of the targeted populations and are now apportioned to States (for all areas under 200,000) and large urbanized areas (over 200,000). The former New Freedom program (5317) is folded into this program.
5329 - Safety	Establishes a comprehensive program to oversee the safety of public transportation. Requires local transit providers to develop agency safety plans that include performance measures.
5337 - State of Good Repair	A new grant program to maintain public transportation systems in a state of good repair.
5326 - Asset Management	Requires transit authorities to establish asset management plans, including inventories, condition assessments, and investment prioritization.
5339 - Bus and Bus Facilities	Provides funding for capital improvements, including replacement, rehabilitation, and purchases of buses and related equipment, as well as the construction of bus-related facilities.
5324 - Emergency Relief	Provides assistance to states and public transportation systems with emergency-related expenses when emergencies are declared by governors or the president.
5316 - Job Access and Reverse Commute Program (JARC)	The goal of the JARC program is to improve access to transportation services to employment for welfare recipients and eligible low-income individuals, and to transport residents of urbanized areas and non-urbanized areas to suburban employment opportunities.
Statewide Special Transportation Assistance Program (SSTAP)	SSTAP is a state-funded program to provide general purpose transportation to the elderly and persons with disabilities. These funds are annually apportioned to the counties and Baltimore City based on a formula. Funds can be used for operating and capital costs with a local share required.

Source: Maryland Department of Transportation

St. Mary's Transit System (STS) has identified some projects that may qualify for funding described above. These include:

- Expanding routes and frequency to cover more of the county
- Creating designated bus stops on Great Mills Rd and Rt. 235 in the MPO area, complete with ADA accessibility and bus shelters
- Relocating the Transit Center for buses in the Lexington Park area for connecting passengers and drivers to spark transit-oriented development
- Planning and constructing a new STS building for management, staff, and enhanced bus maintenance
- Establishing electric and hybrid vehicle charging stations in the MPO area with the Southern Maryland Electric Company, county departments, and funding partners



6



Equity in the Planning Process

6.1 Public Participation

Federal regulations 23 CFR 450.316 define the participation and consultation process required for the development of the LRTP and the responsibility of MPOs to seek participation from all parties in the planning process. Public participation is a vital part of creating a plan that reflects the values and desires of the residents and employees in a region and considers the affected public agencies. The public outreach activities undertaken as a part of this plan included:

- A public survey about the goals and direction of the plan (open for responses from September 19, 2019 to November 14, 2019)
- A public meeting on October 15, 2019 to get initial feedback from the public and affected public agencies on what they want to see in the plan and the region
- A public meeting on January 16, 2020 to present the final draft plan to the public before the 45-day comment period

The public survey asked the public to provide feedback on the goals of the plan and what they want to see in the region. The results are discussed below in **Section 6.1.1 Public Survey Results**.

A strong effort was made to involve low income and minority populations, senior citizens, and other traditionally underserved populations in the project notice and survey. Two flyers, one advertising the survey and two meetings before the first meeting and a second advertising the second meeting, were put up at bus stops like Tulagi Place, churches, Lexington Park Library, Garvey Senior Center, the Latino Market, and St. Mary's College. Tulagi Place, the Oasis Victory Christian Center International, Lexington Park Library, and the Latino Market all serve low-income and/or minority populations. St. Mary's College has a diverse student body of about 1,500 students. The flyers are included in **Appendix F: Public Participation**.

Along with flyers, notice was posted in local newspapers, The Enterprise of St. Mary's County and The Enterprise of Calvert County for both meetings. For the second meeting, MPO Staff partnered with the St. Mary's County Public Information Office to create a radio advertisement for the meeting.

MPO staff also shared information about the survey and meetings with the following groups and asked them to share with their members via newsletters and social media posts:

- The Southern Maryland Minority Chamber of Commerce
- St Mary's County Department of Aging and Human Services
- Lexington Park Minority Outreach
- Lexington Park Community Leaders
- NAACP- Lexington Park, MD
- Lexington Park Library
- Unified Committee for Afro-American Contributions

MPO staff attended the annual meeting of the Healthy St. Mary's Partnership in September 2019 to share information about the plan, survey, and two public meetings. MPO staff also presented to residents at the Citizens Academy, a program of the St. Mary's County government that provides information about county government programs and services.

The first public meeting was held from 6:30 to 8pm on Tuesday, October 15, 2019 at the University of Southern Maryland extension on Airport Drive. Both food and paper and crayons were available to make it easier for residents to attend. The meeting was intended to inform the public on the role of an MPO and transportation planning process and get initial feedback on what they want to see in the region. The meeting included a presentation that explained the role of an MPO, the transportation planning process, and presented demographic information, travel trends, and the goals and timeline of the LRTP. There was then time for questions and feedback from the public.

Eleven members of the public attended. There were several great, insightful questions and a robust discussion of the need for alternatives to driving single-occupancy vehicles, such as public transportation, shuttles to NAS PAX, and walking and biking infrastructure. A full description of the meeting and comments can be found in **Appendix F: Public Participation**.



The second public meeting was held from 2 to 7pm on Thursday, January 16, 2020 at the Lexington Park Library on FDR Boulevard. The meeting was conducted in an open house style with five stations that each had staff to engage with the public. There was also a table with food and one with copies of the plan, presentation, and giveaways from the MDOT Commuter Choice program for attendees to take with them. The five stations were:

- **MPO Basics:** Included a map of the C-SMMPO region and a board explaining the roles and responsibilities of an MPO
- **Goals and Public Survey:** Included a board with the vision, goals, and objective of the LRTP and a board with the results of the public survey
- **Recommended Projects:** Included a map of the recommended projects
- **Comment Station:** Included copies of the plan for the public to review and leave comments on, as well as a comment board for more general comments written on sticky notes and put in the categories road, transit, safety, environment, economy, and other
- **Coloring Station:** Included transportation themed coloring pages for children as their parents

Staff gave an overview presentation at 3pm, 4:30pm, and 6pm and took questions for the public. Attendees were then invited to visit the stations to engage further with staff and leave their comments. There were 32 people present throughout the meeting. Staff received excellent questions and engaged significantly with the individuals who attended the meeting. A summary of the meeting and questions received during the presentations can be found in **Appendix F: Public Participation**.



6.1.1 Public Survey Results

The C-SMMPO conducted an online public survey about the goals of the LRTP and methods that can be used to solve problems in the MPO region. This was distributed through flyers handed out at the Healthy St. Mary's Partnership annual meeting and by community groups that the C-SMMPO contacted for help in distributing the survey.

There were 1,371 responses. The survey respondents were 62% male, 35% female, and 3% other gender. About 33% of survey respondents were between 18 and 36, showing the large presence of young people in the MPO region. In terms of location, 75% of respondents lived in St. Mary's County, 20% lived in Calvert County, and 5% lived in another county.

The survey asked respondents if they take transit and to rate the quality of sidewalks and trails in the MPO region. Only 5% of respondents indicated that they took public transit. About 14% of respondents rated sidewalks as good quality, 45% rated them fair, and 41% rated them poor quality.

The survey asked respondents to rank the six goals of the LRTP. Respondents were asked to order the goals 1 to 5 with 1 being the most important:

- Enhance access and mobility
- Manage the existing transportation system
- Improve safety and security
- Provided a connected and multi-modal system
- Conserve the environment
- Support economic vitality



Photo courtesy of MDOT

The survey also asked respondents to rank strategies to achieve goals. The most popular strategies for enhancing access and mobility are enhancing local connectivity to reduce the load on major roads and reducing the number of driveways and intersections on major roads. The top strategy for traffic safety is street design that encourages walking and biking, reduces traffic speeds with measures like traffic calming, and improves safety by catering to all users. The top strategies for conserving the environment are to minimize impacts by preserving scenic areas and reducing environmental impacts of transportation projects and considering walking, biking, and transit in project design. The top strategy for supporting economic vitality is to locate commercial development on walkable main streets.



Photo courtesy of MDOT

The survey asked respondents what options that would reduce congestion they were most interested in. The top choice was teleworking and flextime, which would reduce congestion by varying work time schedules and taking some people off the road. The next choices were traffic calming, transit, and walking



Photo courtesy of MDOT

and biking infrastructure. Each of these strategies is well suited to a complete streets policy that considers the needs of all road users. Carsharing was not popular among survey respondents.

The survey asked respondents to create a vision statement based on what is important to them. The major takeaway is that respondents want to see less congestion, especially around the Thomas Johnson Bridge and NAS PAX, and safer roads. Other major points are a desire for improved transit and increased walking and biking options in the MPO region.

6.2 Title VI

Projects and programs funded by the federal government are subject to Title VI of the Civil Rights Act of 1964, which states that “no person in the United States, shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance.” As a federally funded program, the C-SMMPO is required to have a Title VI Plan, complaint process, and coordinator who handles matter related to Title VI. The C-SMMPO’s [Title VI Plan](#) was adopted in 2014 and the Administrator of the MPO serves as the Title VI Coordinator.

The Title VI Plan includes information about Limited English Proficiency and Environmental Justice, which are discussed separately below.

6.3 Limited English Proficiency

6.3.1 Federal Requirements

Under Title VI of the Civil Rights Act, federally financed programs cannot discriminate based on national origin, including discrimination due to lack of services for those with Limited English Proficiency (LEP). A person who speaks English less than “very well” is considered an LEP individual. The US Department of Transportation (US DOT) guidance lays out a four-factor analysis that agencies should undertake to determine the reasonable steps they should take to ensure meaningful access to programs. The four factors are:

1. The number or proportion of LEP persons eligible to be served or likely to be encountered by a program, activity, or service of the recipient or grantee
2. The frequency with which LEP individuals encounter the program
3. The nature and importance of the program, activity, or service provided by the recipient to people’s lives
4. The resources available to the recipient and costs

Table 6.1 LEP Population and Languages Spoken

Language Spoken	LEP Individuals
Spanish	731
Other Indo-European Languages	253
Asian and Pacific Island Languages	628
Other Languages	0
Total "Speaks English Less Than Very Well"	1612

Source: 2013-2017 American Community Survey

6.3.2 C-SMMPO Four Factor Analysis

The C-SMMPO has conducted a four-factor analysis as part of their Title VI Plan to determine the need for LEP services. The information below shows updated information on the number of LEP individuals in the MPO region.

1. As shown in **Table 6.1**, there are 1,612 individuals over the age of five in the Urban Area that speak English less than very well. This is 2.8% of the population over the age of five.
2. The frequency of contact with LEP individuals is low.
3. The C-SMMPO facilitates the use of federal funds for transportation projects. Though transportation facilities are important to daily life, the C-SMMPO does not own or operate any transportation facilities or services and therefore does not provide any services that requires vital, immediate, or emergency assistance.
4. There are limited resources available and the cost for translation is high.

To address the needs of LEP individuals, the C-SMMPO has taken the following steps:

- Provides translation on the website (www.calvert-stmarysmpo.com) through the free, online service Google Translate. This allows translation into any language offered by Google Translate.
- Translated select materials, including the Title VI Policy and Complaint Forms. These are available in Spanish online and at the MPO office.
- Provide oral or written translation when needed through a contract with Language Line Services.
- Trained designated staff uses language identification cards during face-to-face contact to allow that staff member to request the appropriate translator through Language Line Services.

6.4 Environmental Justice

6.4.1 Federal Requirements

Environmental Justice (EJ) is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income. Fair treatment means that no person or group should bear a disproportionate burden of the negative environmental consequences of industry, government, or commercial operations. Meaningful involvement means that individuals should have the opportunity to participate in decisions impacting the environment or health, their contribution can impact the agency's decision, community concerns are considered in decision making, and decision makers seek out and involve impacted parties.

Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations establishes the requirement for all federal agencies to consider impacts on minority and low-income populations. The US Department of Transportation issued guidance for transportation projects and programs, which requires agencies to:

- Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The Federal Highway Administration (FHWA) defines a minority person as Black or African American, Asian American, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, or Hispanic or Latino. A low-income person is defined as a person having a household income below the poverty line established by the Department of Health and Human Services. In 2017 (year of data used in this report), this income was \$12,060 for an individual and \$24,600 for a family of four.

If a project is found to have a disproportionately high and adverse impact on minority or low-income populations, alternatives to the proposed action must be considered and/or mitigation measures must be undertaken to reduce the impact to the affected populations.

6.4.2 MPO Responsibilities

MPOs, as part of their planning process, are required to identify minority and low-income populations in their service area and make efforts to engage these populations in the public participation process. Low-income and minority individuals are often overlooked in traditional public participation processes because they may lack formal organization or influence to make their needs known. MPOs should employ methods unique to these populations to facilitate their involvement in the planning process.

If projects that are proposed in the LRTP are funded, they will undergo an Environmental Justice analysis as part of the NEPA process if it is determined that the project could have a high and adverse impact on the environment and/or health. Though projects recommended in the LRTP are not yet being developed, MPOs should consider if the recommended projects might disproportionately impact minority and low-income populations.

6.4.3 Environmental Justice Analysis

Environmental Justice (EJ) analysis is required for federally funded projects for minority, Hispanic, low-income populations, and any other identifiable minority population. Commonly, the analysis is only done for these groups. The analysis for this project is conducted for minority, Hispanic, low-income, individuals with disabilities, households lacking vehicle access, and the Amish and Mennonite populations. These are population groups that may have unique travel characteristics or needs that may be overlooked in a traditional planning process.

Typically, EJ analysis uses a threshold method. This is when population concentrations that exceed a certain percentage threshold within a geographic boundary (i.e. 20% within a census tract) are identified as EJ populations. This method can fail to identify large populations in terms of count that may have percentages under the threshold. For this analysis, both a percentage threshold and count threshold will be applied to identify areas to focus outreach. Even with this method, thresholds do not capture the entire population for each group. Though concentrations can provide guidance on where to find a certain population, outreach should seek to reach the EJ populations living outside of these concentrations as well. This could be through reaching out to groups that represent these populations to help to reach as many individuals as possible.

The analysis is done with census tracts for low-income, disability, and vehicle access. The analysis is done with census block groups, which are smaller than census tracts, for minority and Hispanic population because this allows for more detailed analysis. The threshold is based on the average of the populations in Calvert and St. Mary's counties for minority, Hispanic, low-income, and vehicle access. The threshold for disability is slightly lower than the rate in the Urban Area.

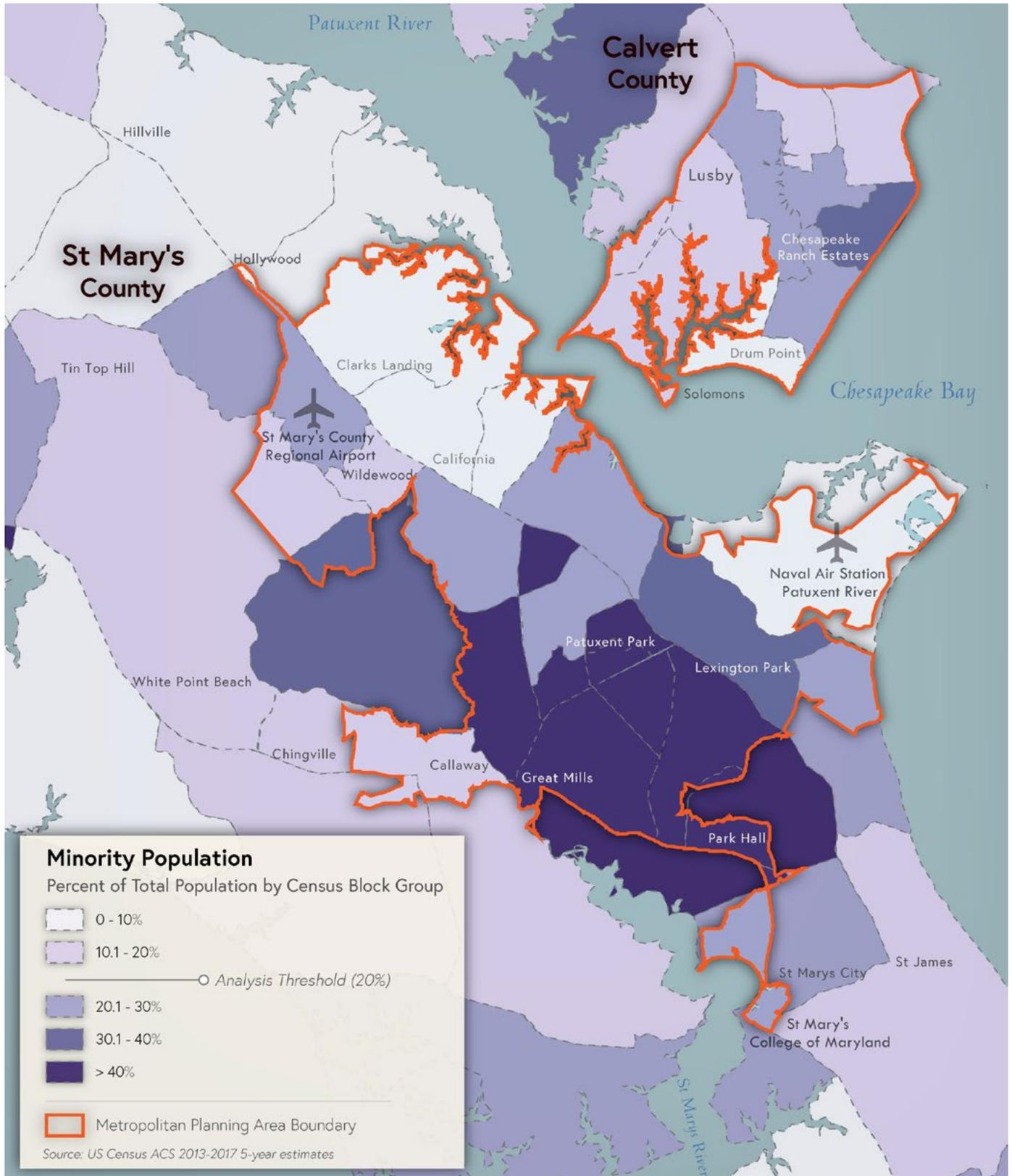
The analysis uses the following thresholds to identify focus areas for EJ outreach and analysis:

- **Minority:** 20% or more than 500 people
- **Hispanic:** 5% or more than 150 people
- **Low-income:** 7% or more than 500 people
- **No Vehicle Access:** 4% or more than 100 households
- **Disability:** 10% or more than 600 people

The US Census Bureau does not collect data on Amish and Mennonite populations as a distinct group because they are a religious minority. This section includes a description of the size and location of the Amish and Mennonite population in St. Mary's County from www.amishamerica.com.

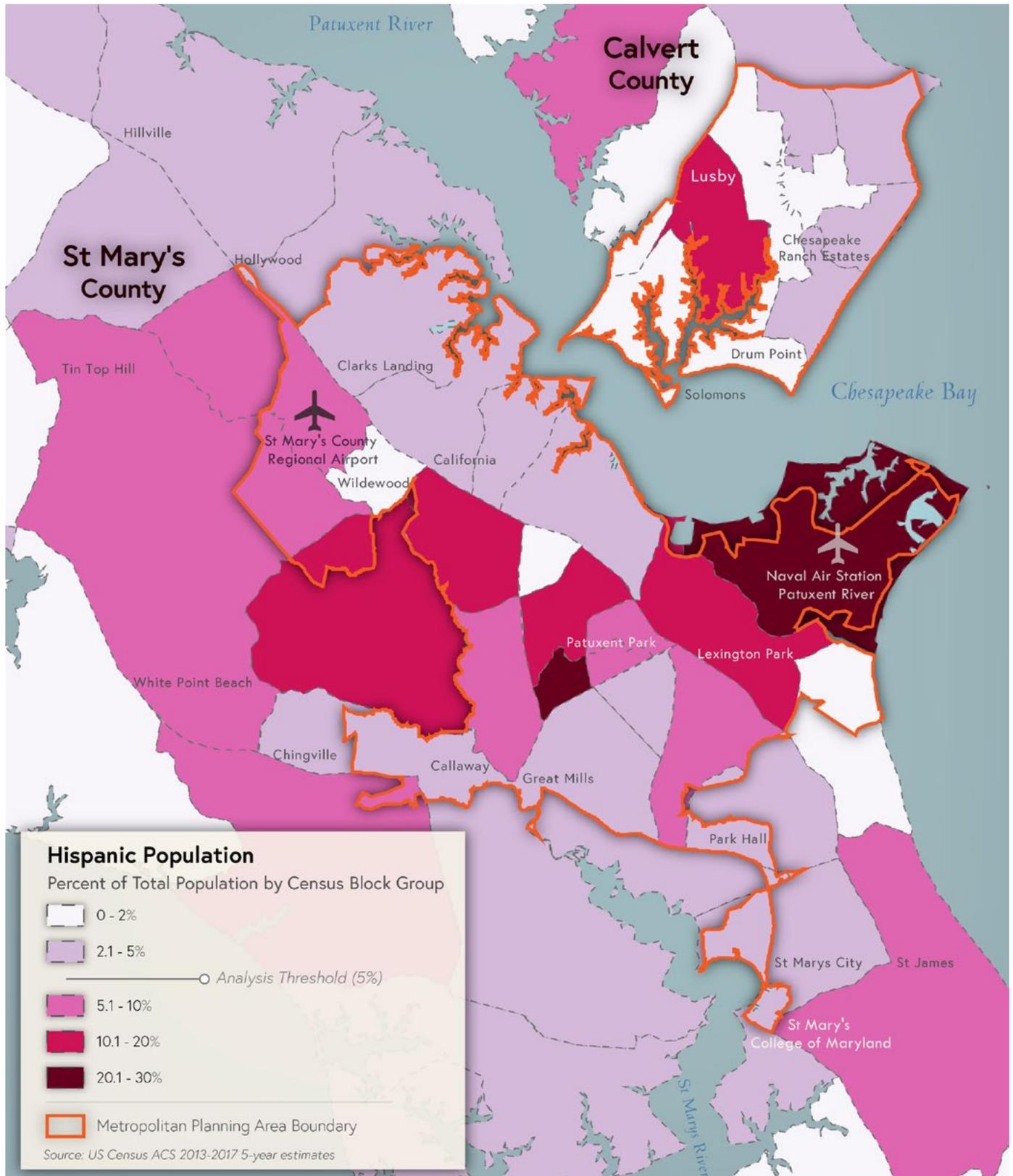
The Urban Area has a minority population of 28.4%, larger than the minority populations in Calvert or St. Mary's Counties. The threshold used in this analysis is 20% (the average of Calvert and St. Mary's counties) or more than 500 people. This analysis is done using census block groups.

Figure 6.1 Map of Minority Population



Source: Maryland Department of Transportation Office of Planning and Capital Programming

Figure 6.2 Map of Hispanic Population



Source: Maryland Department of Transportation Office of Planning and Capital Programming

As shown in **Figure 6.1**, 23 out of 36 census block groups have minority populations that exceed the threshold. Six block groups are more than 50% minority. The largest concentration of minority individuals is along MD 246 in Lexington Park and MD 237 in Great Mills. There is also a concentration in the northeastern portion of Chesapeake Ranch Estates.

The Urban Area has a Hispanic/Latino population of 5.9%, which is somewhat larger than the population in Calvert and St. Mary's counties. The threshold used in this analysis is 5% (the average of Calvert and St. Mary's counties) or more than 100 people.

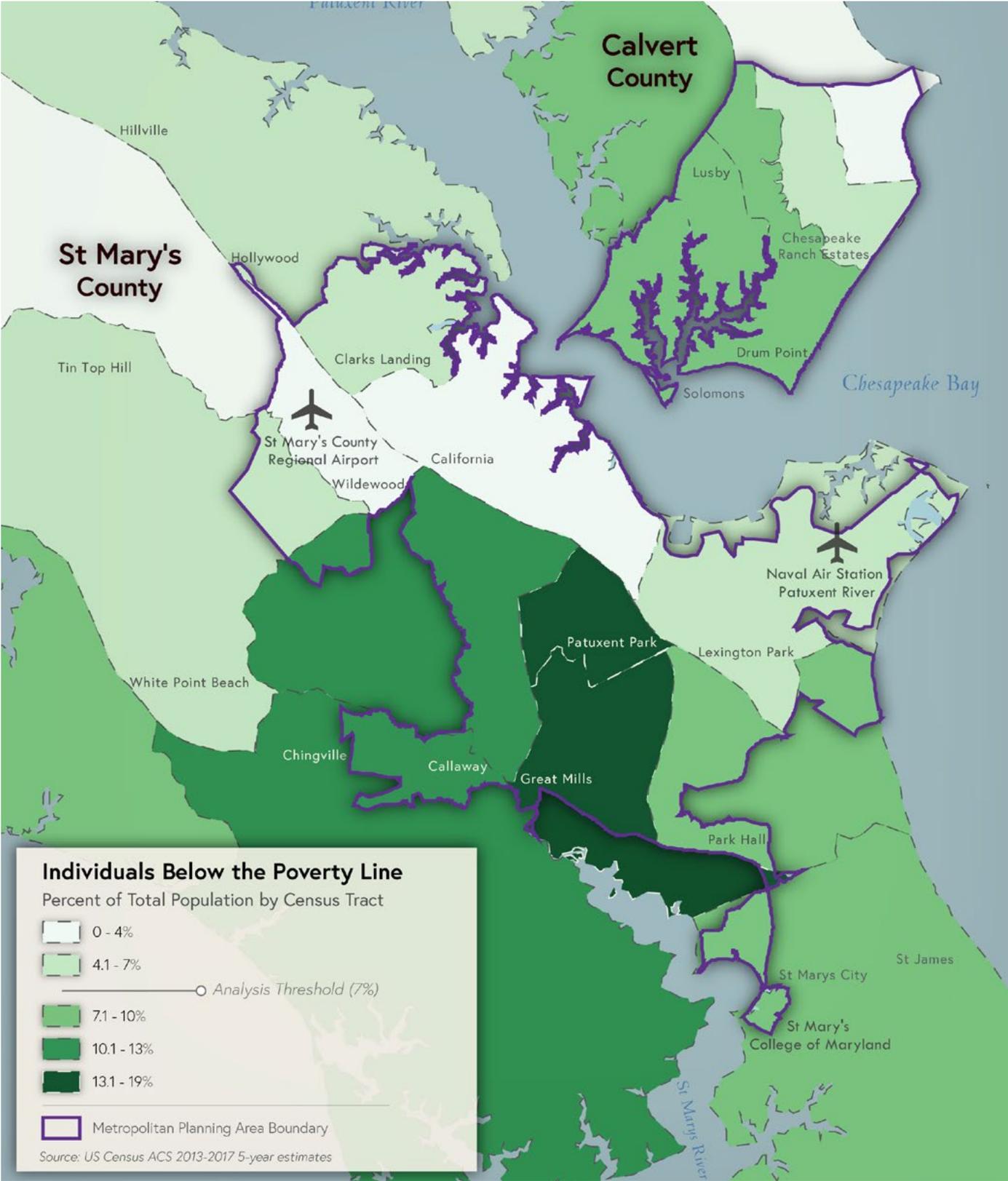
As shown in **Figure 6.2**, 15 out of 36 census block groups have Hispanic populations that exceed the threshold. There are six block groups where the Hispanic population is more than 10% of the population. These include two block groups along MD 246 in Lexington Park and Great Mills, the block groups that include NAS PAX, one block group on MD 235 in the town of California, and one block group in Lusby.

The Urban Area has a poverty rate of 8.6%. The threshold used in this analysis is 7% (the average of Calvert and St. Mary's counties) or more than 300 people. This analysis is done using census tracts because data about poverty is not available at the census block group level for this area. As shown in **Figure 6.3**, eight out of 16 census tracts have populations in poverty that exceed the threshold. The highest concentrations of poverty are along MD 246 and MD 237 in Lexington Park and Great Mills. The percent of the population in poverty is low in Calvert County and on and near NAS PAX and in the towns of California and Hollywood in St. Mary's County.

In the Urban Area, 5.1% of households do not have access to a vehicle. The threshold used is 4% (average of Calvert and St. Mary's counties) or more than 100 households. This analysis is also done using census tracts because data about vehicle access is not available at the census block group level. As shown in **Figure 6.4**, six out of 16 census tracts have more than 100 households without access to a vehicle. The highest concentration is along MD 235, MD 246, and MD 237 in Lexington Park, Great Mills, and the town of California.

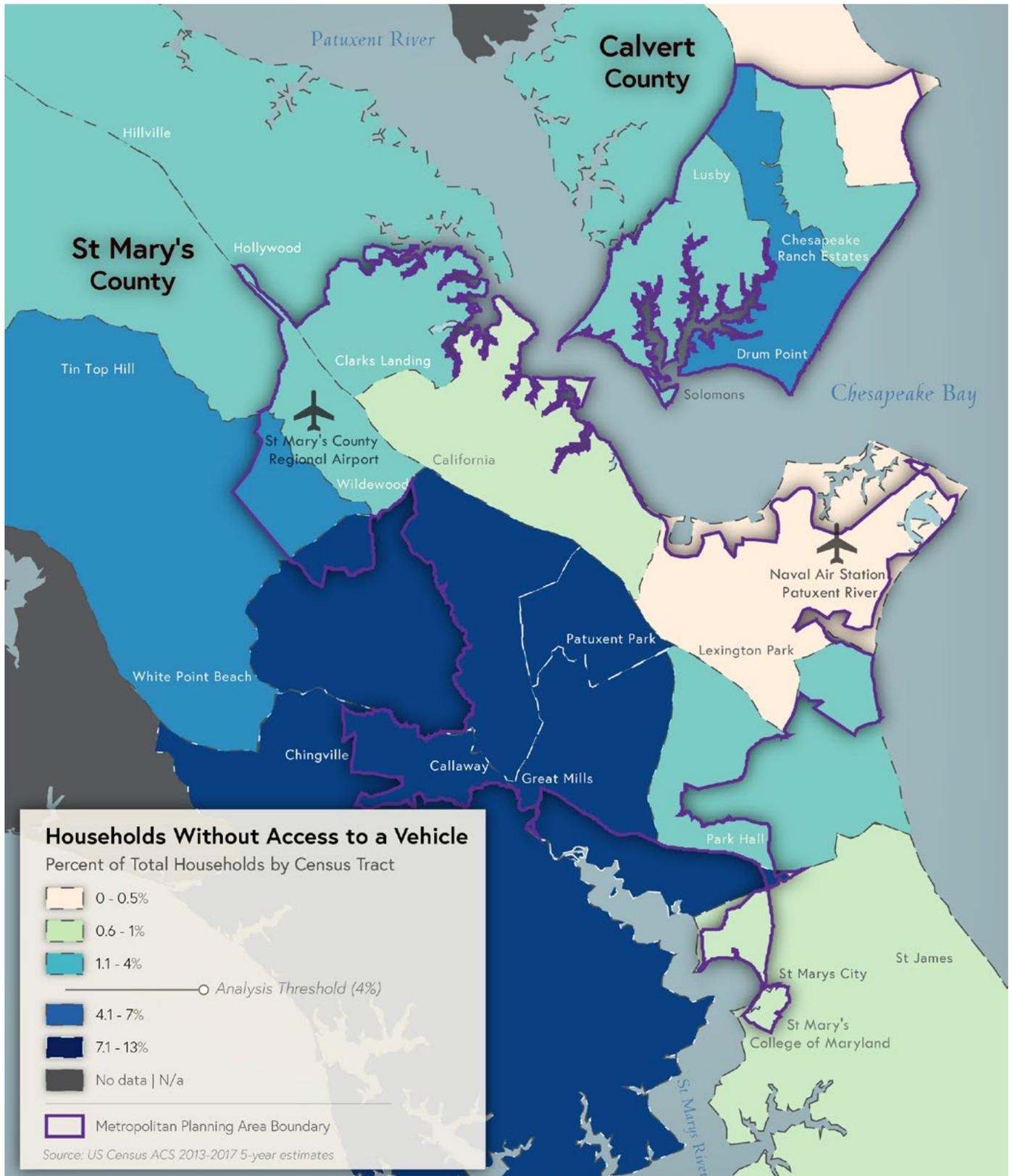
In the Urban Area, 10.8% of the population has a disability. The threshold used in this analysis is 10% or greater than 600 people. This analysis is done using census tracts because data about disability is also not available at the block group level. As shown in **Figure 6.5**, 11 out of 16 census tracts have a population with a disability greater than the threshold. The highest rates are more spread out than other analyzed groups. There are concentrations in Great Mills, California, and Lusby.

Figure 6.3 Map of the Population in Poverty



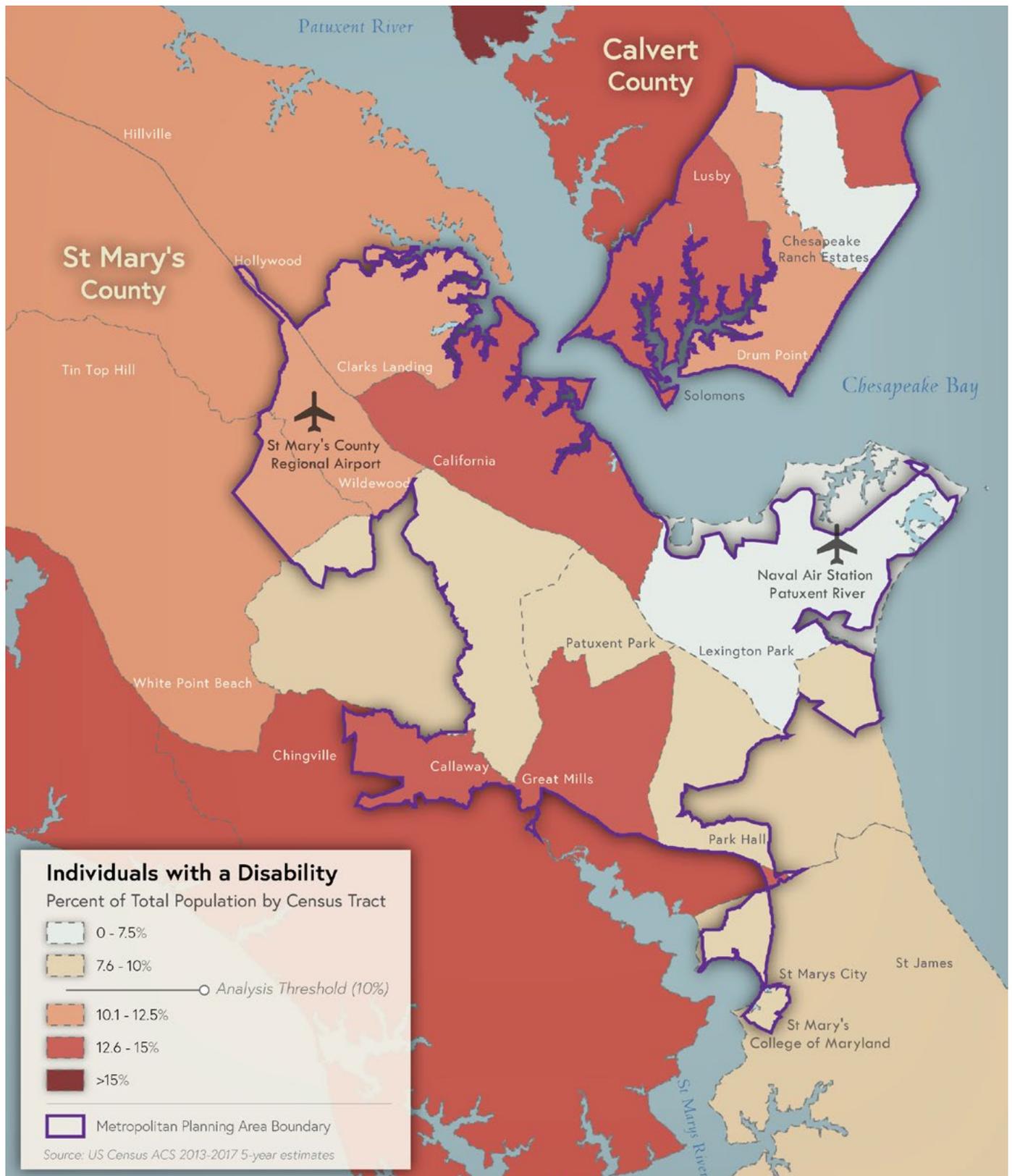
Source: Maryland Department of Transportation Office of Planning and Capital Programming

Figure 6.4 Map of Households Without Vehicle Access



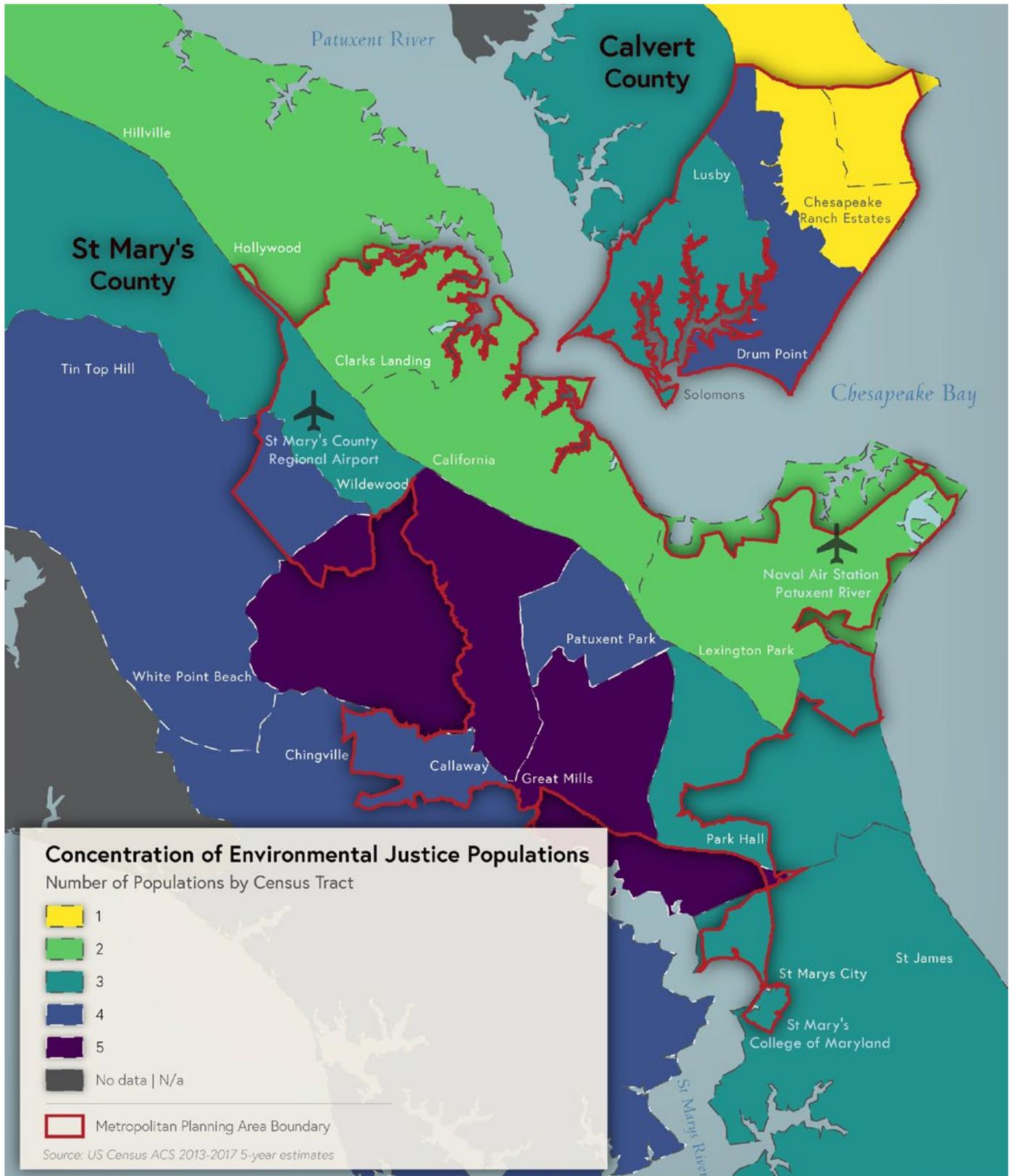
Source: Maryland Department of Transportation Office of Planning and Capital Programming

Figure 6.5 Map of Population with a Disability



Source: Maryland Department of Transportation Office of Planning and Capital Programming

Figure 6.6 Concentrations of Environmental Justice Populations



Source: Maryland Department of Transportation Office of Planning and Capital Programming

This analysis shows that there are concentrations of minority, Hispanic/Latino, poverty, no vehicle access, and individuals with disabilities within the MPO region. **Figure 6.6** is a map of the number of EJ populations for which each census tract exceeds the threshold. **Table 6.2** shows the populations for which each census tract exceeds the thresholds. There are two census tracts with populations above the threshold for all five populations and four with concentrations of four populations. The areas that should be targeted for EJ outreach include the areas along MD 246 and MD 235 in Great Mills and Lexington Park, the neighborhoods near the airport in Wildewood, and the tract in Drum Point that has a concentration of 4 populations.

Table 6.2 Census Tracts Above the Environmental Justice Threshold

Census Tract	Race	Ethnicity	Poverty	Vehicle	Disability	Total
CC, CT 8609		Yes	Yes		Yes	3
CC, CT 8610.01					Yes	1
CC, CT 8610.03	Yes		Yes	Yes	Yes	4
CC, CT 8610.04	Yes					1
SMC, CT 8755	Yes	Yes		Yes	Yes	4
SMC, CT 8756	Yes	Yes			Yes	3
SMC, CT 8757		Yes			Yes	2
SMC, CT 8758.01	Yes	Yes				2
SMC, CT 8758.02	Yes				Yes	2
SMC, CT 8759.01	Yes	Yes	Yes			3
SMC, CT 8759.02	Yes	Yes	Yes	Yes	Yes	5
SMC, CT 8760.01	Yes	Yes	Yes	Yes		4
SMC, CT 8760.02	Yes	Yes	Yes	Yes	Yes	5
SMC, CT 8761		Yes	Yes	Yes	Yes	4
SMC, CT 8762	Yes		Yes		Yes	3

The Amish settlement located near Mechanicsville in St. Mary’s County is the largest in Maryland with an estimated 1,000 people living in this settlement. A large amount of the settlement is located along MD 236 (Thompson Corner Rd). The settlement was established in the 1940s as a separation from the Lancaster, Pennsylvania Amish community. There is also an Old Order Mennonite community near Loveville in St. Mary’s County, mainly along MD 247 (Loveville Rd). Both communities travel by horse and buggy and Old Order Mennonites may ride bicycles. Amish also use transit, walk, and ride in vehicles driven by others within the MPO region. Though these communities are not within the MPO boundary, their needs should be considered when designing transportation infrastructure including transit routes, pedestrian facilities, and roadways.

6.4.4 Public Outreach to Environmental Justice Populations

A strong effort was made to involve low income and minority populations, senior citizens, and other traditionally underserved populations in the project notice and survey participation. Two flyers, one advertising the survey and two meetings before the first meeting and a second advertising the second meeting, were put up at bus stops like Tulagi Place, churches, Lexington Park Library, Garvey Senior Center, the Latino Market, and St. Mary's College. Tulagi Place, the Oasis Victory Christian Center International, Lexington Park Library, and the Latino Market all serve low-income and/or minority populations. St. Mary's College has a diverse student body of about 1,500 students. The flyers are included in **Appendix F: Public Participation**.

Outreach to Environmental Justice communities included reaching out to community groups and asking them to share information about the survey and two public meetings with their members via newsletters and social media posts. This outreach included the NAACP Southern Maryland Chapter, Lexington Park Minority Outreach and Lexington Park Community Leaders, and churches serving minority and low-income populations. Flyers were posted at the Tulagi Place transfer stop, the Lexington Park Library, the Latino Market, and some churches to target locations serving larger populations of low-income and minority individuals.

The first public meeting was held at the University of Southern Maryland Extension on Airport Drive on October 15, 2019 from 6:30pm to 8:15pm. It is transit accessible on two routes, the California route and the Leonardtown route. The building is ADA accessible. Food and children's activities were offered to make it easier for individuals to attend the meeting.

The second public meeting, held on January 16, 2020, was at the Lexington Park Library from 2-7pm. This meeting was held with an open house style over a longer time period to allow individuals with different schedules to attend at the times that work for them. This also allows residents to learn about the plan and provide feedback for a short or long period of time based on their schedule and interest. Overview presentations were given at 3pm, 4:30pm, and 6pm with stations covering important topics staffed throughout the event.

The library is in the area with the highest concentration of populations evaluated in the EJ analysis. The library is a 1/2 mile (10 minute) walk from Tulagi Place Transfer Stop with sidewalks in place along the route, making it accessible to the eight bus routes that stop there. Food and children's coloring activities were offered to make it easier for residents to attend.

Appendix A: Acronyms

Acronym	Definition	Acronym	Definition
AADT	Average Annual Daily Traffic	MVA	Motor Vehicle Administration
ADA	Americans with Disabilities Act	NAS PAX	Naval Air Station Patuxent River
ADT	Average Daily Traffic	NEPA	National Environmental Protection Act
BEV	Battery Electric Vehicle	NHPP	National Highway Protection Program
CAV	Connected Autonomous Vehicle	NHS	National Highway System
CMAQ	Congestion Mitigation and Air Quality	NHTSA	National Highway Traffic Safety Administration
C-SMMPO	Calvert- St. Mary's Metropolitan Planning Organization	NO _x	Nitrogen Oxide
CTP	Consolidated Transportation Program	NTD	National Transit Database
DMS	Dynamic Messaging Sign	ODOT	Ohio Department of Transportation
DOT	Department of Transportation	PHED	Peak Hour Excessive Delay
EJ	Environmental Justice	PHEV	Plug-In Hybrid Electric Vehicle
EPA	Environmental Protection Agency	SGR	State of Good Repair
EV	Electric Vehicle	SHSP	Strategic Highway Safety Program
FARS	Fatality Analysis Reporting System	SOV	Single Occupancy Vehicle
FAST	Fixing America's Surface Transportation Act	SSTAP	Statewide Special Transportation Assistance Program
FHWA	Federal Highway Administration	STEM	Science, Technology, Engineering, and Math
FTA	Federal Transit Administration	STGB	Surface Transportation Block Grant
FY	Fiscal Year	STS	St. Mary's Transit System
GHG	Greenhouse Gas Emissions	TAC	Technical Advisory Committee
GRH	Guaranteed Ride Home	TAM	Transit Asset Management
HSIP	Highway Safety Improvement Program	TAMP	Transit Asset Management Program
ITE	Institute for Traffic Engineers	TDM	Transportation Demand Management
ITS	Intelligent Transportation System	TIP	Transportation Improvement Program
JARC	Job Access and Reverse Commute	TPB	Transportation Planning Board
LEP	Limited English Proficiency	TPM	Transportation Performance Management
LOS	Level of Service	TSMO	Transportation System Management and Operations
LOTS	Locally Operated Transit System	TTI	Travel Time Index
LOTTR	Level of Travel Time Reliability	TTTR	Truck Travel Time Reliability
L RTP	Long Range Transportation Plan	TZD	Toward Zero Deaths
MAP-21	Moving Ahead for Progress in the 21st Century Act	ULB	Useful Life Benchmark
MDOT	Maryland Department of Transportation	UPWP	Unified Planning Work Program
MDOT MTA	MDOT Maryland Transit Administration	USDOT	United States Department of Transportation
MDOT SHA	MDOT State Highway Administration	VMT	Vehicle Miles Traveled
MPA	Metropolitan Planning Area	VOC	Volatile Organic Compound
MPO	Metropolitan Planning Organization	WMATA	Washington Metropolitan Area Transportation Administration
MSA	Metropolitan Statistical Area	YOE	Year of Expenditure

Appendix B: Technical Methodology

Population Forecasts

Population forecasts for Calvert and St. Mary's counties were acquired from the Maryland State Data Center. These project the total population of the county in 5-year increments out to 2045.

A cohort component model was prepared for the Urban Area that forecasts the population in 5-year increments out to 2045. The model is prepared using 5-year age cohorts for males and females to determine births and deaths over time. This model assumes any population change (growth or decline) not accounted for by births and deaths is explained by migration.

The 2010 population data for the Urban Area was obtained from the US Census Bureau. The 2015 population data was obtained from the 2011-2015 American Community Survey five-year estimates and used to create a migration residual. The population data for all other years are projections based on the cohort component model.

Births

The annual fertility rate per woman is used to calculate births. This data is available for women in 5-year age cohorts from ages 15 to 44. The annual fertility rate per woman is multiplied by the number of women in that age cohort to determine the number of births per year. It is then multiplied by five to calculate the number of births in the five-year range.

Data on the fertility rate for St. Mary's County was obtained from the Center for Disease Control's (CDC) 2007-2017 dataset. Data for Calvert County was not available due to the CDC's medical data suppression regulations.

Deaths

The annual crude death rate is used to calculate a survival rate for each age cohort. The crude death rate is the total number of deaths in a geographic area per 100,000 people. This rate is divided by 100,000 to calculate the crude death rate per person. To calculate the survival rate, the crude death rate per person is subtracted from one and then raised to the fifth power to account for the five-year projection period because the crude death rate is annual. This provides a survival rate for each age cohort over the five-year period.

The crude death rate for St. Mary's County was obtained from the CDC's 1996-2016 dataset. Data for Calvert County was not available due to the CDC's medical data suppression regulations.

Migration

The cohort component model assumes that all population change not accounted for by births and deaths is accounted for migration, known as the migration residual. To calculate the migration residual, the cohort component model was used to create a projection for 2015. The 2015 projection was then compared to the 2011-2015 American Community Survey 5-year estimate for the 2015 population. The difference between the census estimate and the model result is the migration residual. This residual is then applied to each five-year estimate to account for the migration over a five-year period. The migration residual helps to better replicate the age breakdown of a community that experiences people moving both to and from the area. For example, if a community attracts a lot of young couples with children due to the excellent school system, but has few retired individuals, carrying population cohorts forward as they age would not accurately reflect the propensity of young people with children to move to the area or of older individuals to move away when they retire.

Another method for calculating the migration residual would be to use the same methodology explained above, but to use historic data. Typically, decennial census data is used for this because it is more accurate than the intermediary estimates. In this case, the 2000 census data would be used to calculate a projection for 2010 and the difference between 2010 projection and 2010 census data would be assumed to represent the migration residual. This method was not used for this cohort component model because the Urban Area was only designated by the census in 2010 and therefore does not have historic data. This method could be used in the future once the 2020 census data is released.

Limitations

As with any forecasting model, there are limitations to the cohort component model. First, the model assumes that the fertility rate will remain the same into the future. This may not be accurate because of changing population conditions or societal norms. The model also assumes that the survival rate will remain the same, which may not reflect advances in medical technology that increases the survival rate or the impact of catastrophic events that may temporarily decrease the survival rate and impact future population numbers.

The model also carries the migration residual calculated with 2015 data forward, which assumes that the area will remain attractive to the same age cohorts. This is not able to account for future changes to employment prospects (i.e. major addition or loss of jobs), catastrophic events (i.e. hurricane, etc.), and other aspects that would significantly change the area.

Appendix C: Transportation Performance Measures



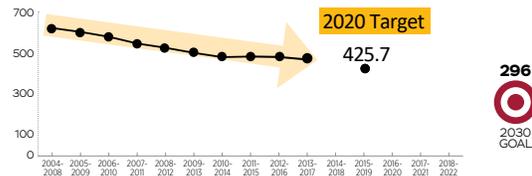
TRANSPORTATION PERFORMANCE MANAGEMENT (TPM) ESTABLISHED TARGETS FOR MARYLAND

The Maryland Department of Transportation (MDOT) established performance targets for Safety, Infrastructure Condition, System Performance, and Congestion Mitigation and Air Quality (CMAQ), as specified under 23 U.S.C. 490 - National Performance Management Measures.

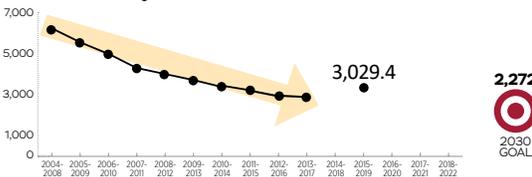
TPM 1: SAFETY

Maryland has set highway safety performance targets, maintaining the Toward Zero Deaths (TZD) approach by developing interim targets to reduce overall fatalities and serious injuries by at least 50 percent in the next two decades, starting with a baseline of 2008 to an end goal in 2030. Five-year rolling averages are used to calculate five-year-average targets for each of the safety measures.

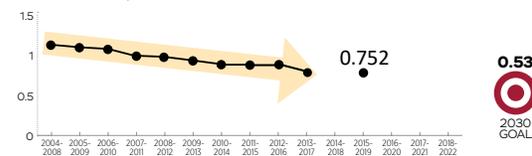
Total Fatalities



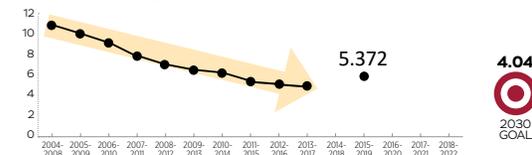
Total Serious Injuries



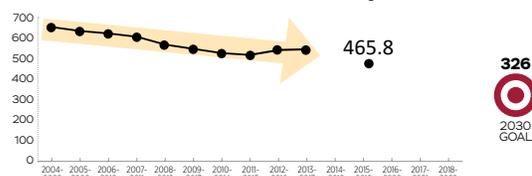
Total Fatality Rate (per 100M vehicle miles traveled)



Total Serious Injuries Rate (per 100M vehicle miles traveled)



Non-motorized Fatalities & Serious Injuries



October 2019



TPM 2: INFRASTRUCTURE CONDITION

Infrastructure condition targets for the National Highway System (NHS) in Maryland were developed through the Transportation Asset Management Plan (TAMP) process for the entire system, regardless of ownership. The NHS in Maryland is owned and maintained by federal, state, and local agencies.

GOOD POOR



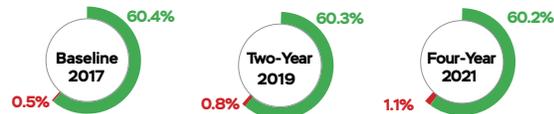
NHS BRIDGE CONDITION*



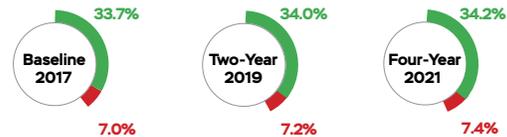
*Baselines were generated using conditions as reported in 2019 with best information available on federally-owned bridges.



INTERSTATE PAVEMENT CONDITION



NON-INTERSTATE NHS PAVEMENT CONDITION



The MDOT managed development of TPM 1: Safety targets through the MDOT Motor Vehicle Administration (MDOT MVA) Maryland Highway Safety Office and MDOT State Highway Administration (MDOT SHA) Office of Traffic and Safety.

The MDOT SHA managed development of NHS Bridge condition targets through the Office of Structures and NHS Pavement condition targets through the Office of Materials Technology.



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**CALVERT-ST. MARY'S
METROPOLITAN PLANNING ORGANIZATION**

Calvert County Government
Steven R. Weems, County Commissioner

Maryland Department of Transportation
Pete K. Rahn, Secretary of MDOT

St. Mary's County Government
Todd B. Morgan, County Commissioner

December 14, 2018

Heather Murphy
Director
Attn: Mr. Dan Janousek
Maryland Department of Transportation
Office of Planning and Capital Programming
7201 Corporate Center Drive
Hanover, Maryland 21076

RE: C-SMMPO Council adopted Transportation Performance Measures (TPM) Safety Targets, as established by Maryland Department of Transportation, for the State of Maryland.

Dear Ms. Murphy,

On January 25, 2018, the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) Council adopted transportation performance measures (TPM) and targets for five safety performance measures, as established by the Maryland Department of Transportation (MDOT) for the State of Maryland via Resolution No. 01-2018. Per Federal requirements, the State and C-SMMPO are to review and establish performance targets annually.

MDOT has provided C-SMMPO an updated summary of TPM Established Targets for Maryland, which reflects TPM 1 Safety targets submitted by Maryland through the August 31, 2018 Highway Safety Improvement Program annual report.

C-SMMPO has reviewed MDOT's updated Transportation Performance Management (TPM) Established Targets for Maryland dated October 2018 and continues to support the State's established TPM 1 Safety targets. In the event that the C-SMMPO would establish targets different than the State's targets a resolution would be developed for the Council to approve, as established in Resolution No 01-2018.

As established in Resolution 01-2018, the C-SMMPO agrees to plan and program projects in the Transportation Improvement program (TIP) to accomplish the State's targets. The C-SMMPO also will report the State's baseline safety performance and the State's progress toward achieving the targets in the system performance report of the Long Range Transportation plan (LRTP).

If you have any questions, please contact Kathleen Easley at Kathleen.Easley@stmarysmd.com or at (301) 475-4200 ext. *1541.

Thank you for your continued cooperation.

Sincerely,

William Hunt
Director
St. Mary's County Government



**CALVERT-ST. MARY'S
METROPOLITAN PLANNING ORGANIZATION**



Calvert County Government
Steven R. Weems, County Commissioner

Maryland Department of Transportation
Pete K. Rahn, Secretary of MDOT

St. Mary's County Government
Todd B. Morgan, County Commissioner

November 13, 2019

Heather Murphy
Director
Attn: Mr. Dan Janousek
Maryland Department of Transportation
Office of Planning and Capital Programming
7201 Corporate Center Drive
Hanover, Maryland 21076

RE: C-SMMPO Continued support for the Transportation Performance Measures (TPM) Safety Targets, as established by Maryland Department of Transportation, for the State of Maryland.

Dear Ms. Murphy,

On January 25, 2018, the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) Council adopted transportation performance measures (TPM) and targets for five safety performance measures, as established by the Maryland Department of Transportation (MDOT) for the State of Maryland via Resolution No. 01-2018. Per Federal requirements, the State and C-SMMPO are to review and establish performance targets annually.

MDOT has provided C-SMMPO an updated summary of TPM Established Targets for Maryland, which reflects TPM 1 Safety targets submitted by Maryland through the August 31, 2018 Highway Safety Improvement Program annual report.

C-SMMPO has reviewed MDOT's updated Transportation Performance Management (TPM) Established Targets for Maryland dated October 2019 and continues to support the State's established TPM 1 Safety targets through 2030. In the event that the C-SMMPO would establish targets different than the State's targets a resolution would be developed for the Council to approve, as established in Resolution No 01-2018.

As established in Resolution 01-2018, the C-SMMPO agrees to plan and program projects in the Transportation Improvement Program (TIP) to accomplish the State's targets. The C-SMMPO also will report the State's baseline safety performance and the State's progress toward achieving the targets in the system performance report of the Long Range Transportation plan (LRTP).

If you have any questions, please contact Kwasi Bosompem at Kwasi.Bosompem@stmarysmd.com or at (301) 475-4200 ext. 71507.

Thank you for your continued cooperation.

Sincerely,

William Hunt
Director
St. Mary's County Government

Appendix D: Air Quality Conformity

TPB R6-2016
January 20, 2016

NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD
777 North Capitol Street, N.E.
Washington, D.C. 20002

RESOLUTION ON AGREEMENT BETWEEN THE NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD AND THE CALVERT-ST. MARY'S METROPOLITAN PLANNING ORGANIZATION AND CALVERT COUNTY, MARYLAND

WHEREAS, the National Capital Region Transportation Planning Board (TPB) is the officially designated Metropolitan Planning Organization (MPO) for the Metropolitan Washington area; and

WHEREAS, the TPB's planning area is part of the Washington, DC-MD-VA 8-Hour Ozone Nonattainment area, as shown on the map in Attachment A, and as such, is subject to regional air quality conformity analysis of its Transportation Plans and Transportation Improvement Programs (TIPs); and

WHEREAS, the Washington, DC-MD-VA 8-Hour Ozone Nonattainment area also includes Calvert County, and transportation projects within Calvert County have been included in TPB's regional air quality conformity analysis as appropriate; and

WHEREAS, the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) is the newly officially designated MPO for Southern Maryland, whose planning area includes Calvert County, as shown on the map in Attachment B; and

WHEREAS, under federal surface transportation legislation (23 U.S.C. § 134 and 49 U.S.C. § 5303) related to MPO Consultation in Plan and TIP Coordination for Nonattainment areas, "If more than one metropolitan planning organization has authority within a metropolitan area or an area which is designated as a nonattainment area for ozone or carbon monoxide under the Clean Air Act (42 U.S.C. § 7401 et seq.), each metropolitan planning organization shall consult with the other metropolitan planning organizations designated for such area and the State in the coordination of plans and TIPs" and

WHEREAS, the TPB and the C-SMMPO have agreed to consult with the Maryland Department of Transportation (MDOT) in the coordination of their respective plans and TIPs; and

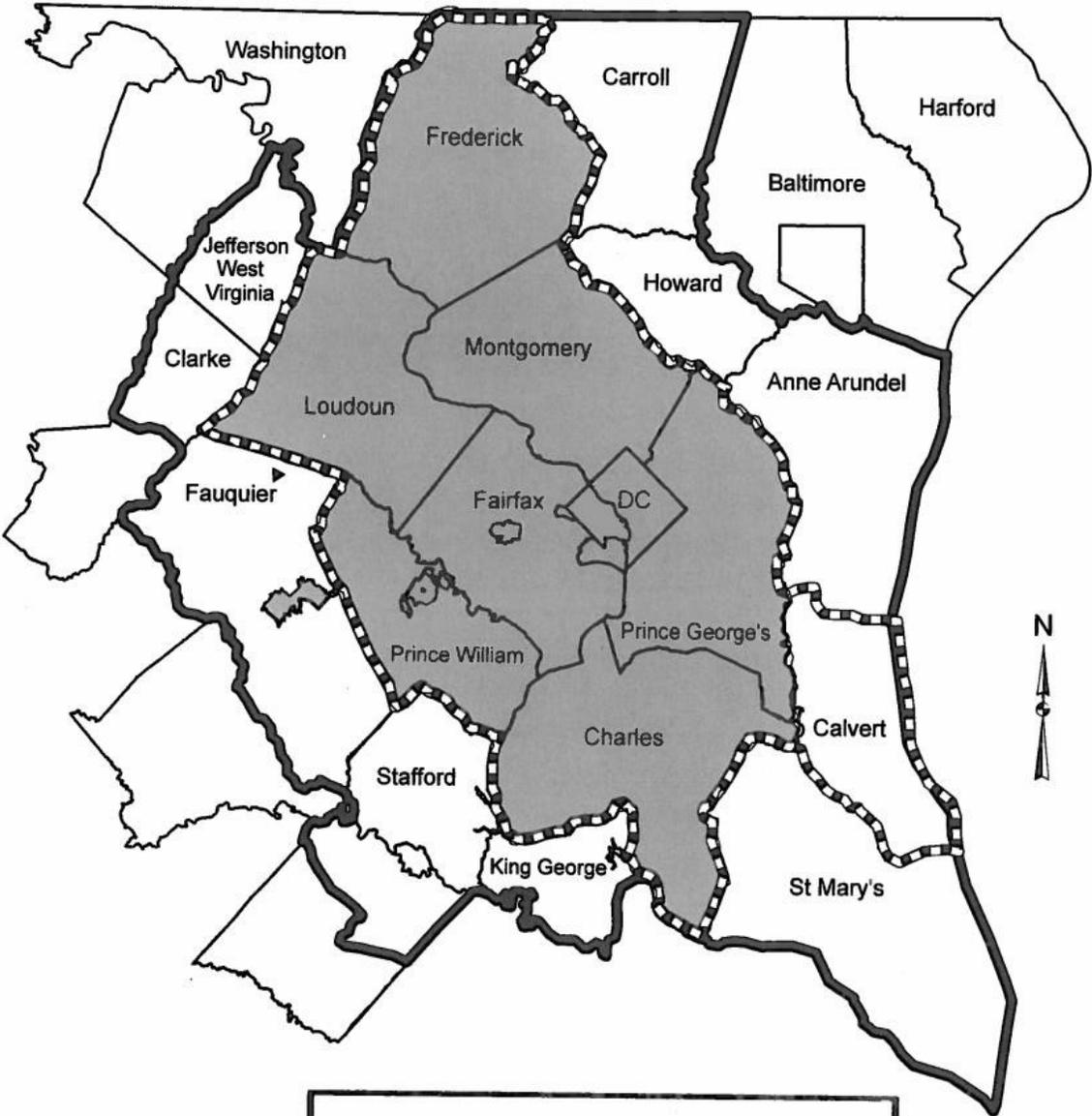
WHEREAS, the TPB, the C-SMMPO, and Calvert County have agreed to a process where C-SMMPO will develop Plans and TIPs to include Calvert County projects, and the TPB will continue to include these Calvert County projects in its regional air quality conformity analysis;

NOW, THEREFORE, BE IT RESOLVED THAT THE NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD approves execution, by its Chairman, of the attached *Agreement between the National Capital Region Transportation Planning Board (TPB) and the Calvert-St. Mary's*

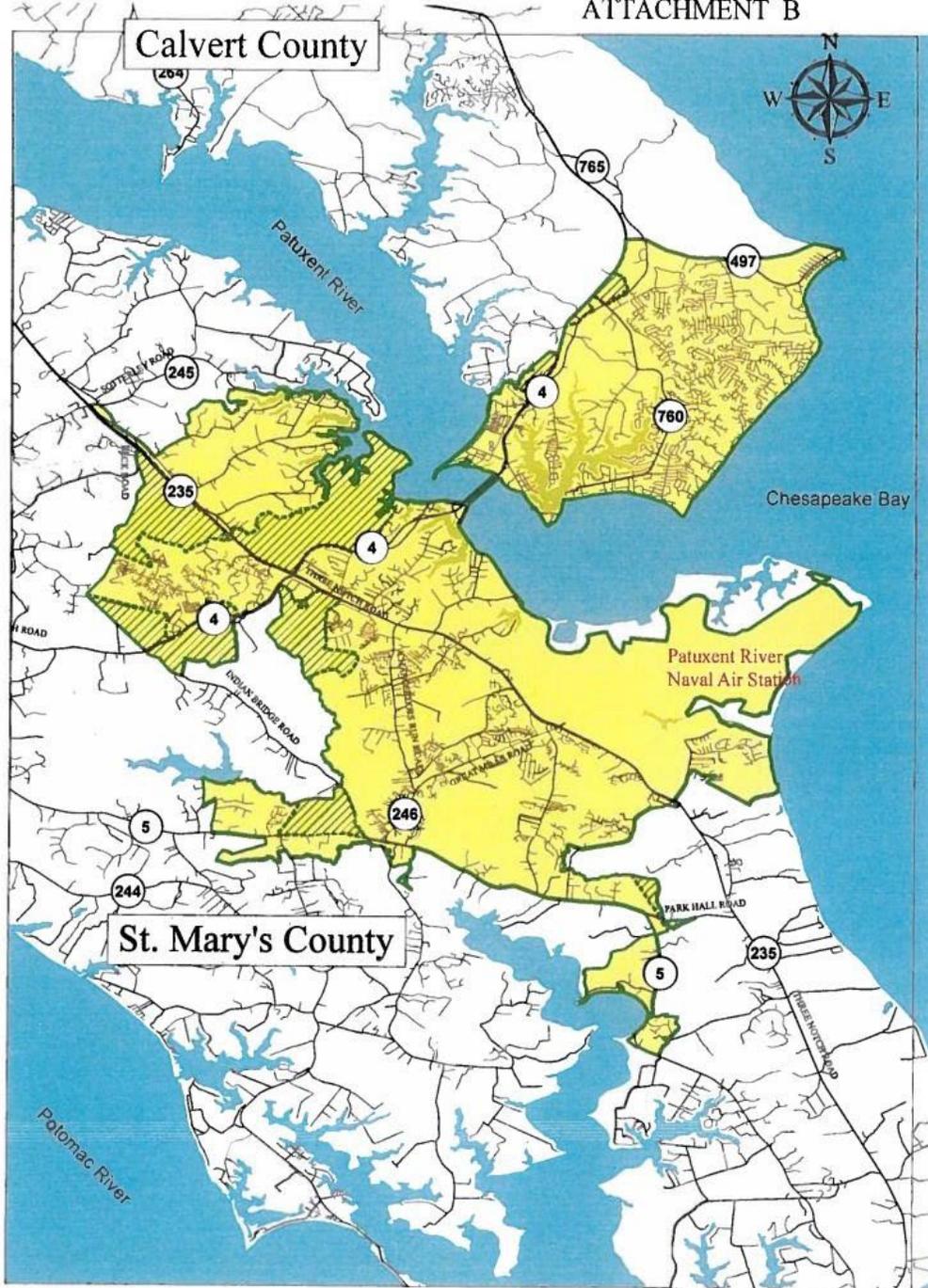
Metropolitan Planning Organization (C-SMMPO) and Calvert County, Maryland on the conformity analysis and determination of transportation plans, programs, and projects in Calvert County, Maryland document to ensure that transportation plans, programs, and projects in Calvert County are assessed for regional air quality conformity as is required in the Clean Air Act Amendments of 1990 (with subsequent amendments).

Adopted by the Transportation Planning Board at its regular meeting on January 20, 2016

ATTACHMENT A
TPB Transportation Planning Area and
Washington, DC-MD-VA 8-Hour Ozone Nonattainment Area



ATTACHMENT B



Legend

-  Boundary Line
-  Urbanized Area Boundary Incorporated into Adjusted Urbanized Area
-  Adjusted Urbanized Area
-  Metropolitan Planning Area

**Calvert - St. Mary's
Metropolitan Planning
Organization
Adjusted Urbanized Area
and
Metropolitan Planning Area**



National Capital Region
Transportation Planning Board

Agreement between the National Capital Region Transportation Planning Board (TPB) and the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) and Calvert County, Maryland on the conformity analysis and determination of transportation plans, programs, and projects in Calvert County, Maryland

Recognizing that Calvert County, Maryland, is a member of the C-SMMPO and is included in the Washington DC-MD-VA 8-hour Ozone Nonattainment area, TPB and C-SMMPO and Calvert County agree upon the following procedures for ensuring that transportation plans, programs, and projects in Calvert County are assessed for regional air quality conformity as is required in the Clean Air Act Amendments of 1990 (with subsequent amendments):

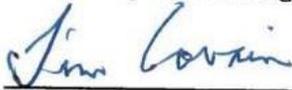
1. Transportation plans, programs, and projects in the C-SMMPO Metropolitan Planning Area (MPA) of Calvert County will be included in the Long Range Transportation Plan and Transportation Improvement Program developed by the C-SMMPO.
2. The C-SMMPO and Calvert County, in consultation with the Maryland Department of Transportation (MDOT), will submit the plan, program, and project inputs for Calvert and for the C-SMMPO MPA to the TPB for inclusion in each update of the TPB's regional air quality conformity analysis and determination for the Washington, DC-MD-VA 8-Hour Ozone Nonattainment area.
3. The timeframe for analysis and coordination will be outlined by the schedule in the TPB's *Call For Projects* document for each cycle.
4. The TPB's *Air Quality Conformity Scope of Work* will provide details regarding the steps taken to ensure compliance with the Federal Transportation Conformity Rule (40 CFR 51 and 93). For example, the TPB will coordinate with Calvert County and the State of Maryland to obtain all necessary analysis inputs and latest planning assumptions (e.g., land activity, vehicle registration data, etc.).
5. Project level conformity analyses will continue to be performed by the State, and assessed through the interagency consultation process, as is currently done for all state projects.
6. Calvert County will be involved in all aspects of the TPB's air quality conformity analysis and determination including its interagency consultation process:
 - Formal involvement for Calvert County on the TPB will be provided through MDOT, and through Calvert County's membership on the

Metropolitan Washington Air Quality Committee (MWAQC) and on the MWAQC Technical Advisory Committee.

- Informal involvement by Calvert County will be provided through participation by representatives of Calvert County in TPB committees and processes concerned with regional air quality conformity, including receipt of all materials and participation in all meetings, discussions, and reviews.
7. The TPB will provide copies of the conformity report to C-SMMPO and Calvert County at the completion of each conformity cycle. As relevant, portions of the TPB conformity report will be included in the C-SMMPO Plan and TIP documentation to demonstrate conformity.

This agreement will remain in effect for the 2008 Ozone National Ambient Air Quality Standards (NAAQS) and all future NAAQS applicable to Calvert County.

Executed by the undersigned this 27 day of January 2016:



Tim Lovain, Chair
National Capital Region Transportation
Planning Board



Steven R. Weems, Chairperson
Calvert - St. Mary's Metropolitan
Planning Organization



Evan K. Slaughterhoubt Jr, President
Board of County Commissioners
Calvert County, Maryland

Approved for legal sufficiency

on January 27, 2016 by



County Attorney



Department of Community Planning and Building
INTEROFFICE MEMORANDUM

TO: Board of County Commissioners
VIA: Terry Shannon, County Administrator *TLS*
VIA: Thomas Barnett, Director of Community Planning and Building
FROM: Patricia Haddon, Principal Planner *PH*
DATE: January 27, 2016
SUBJECT: Agreement between the National Capital Region Transportation Planning Board and the Calvert-St. Mary's Metropolitan Planning Organization and Calvert County, Maryland on the conformity analysis and determination to transportation plans, programs, and projects in Calvert County, Maryland

Background:

In their letter of July 24, 2015, to Dr. Kwame Arhin, Planning & Program Manager of the Federal Highway Administration, Maryland Division, the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) advised that they were coordinating the required air quality conformity analysis with the MPO for the National Capital Region, Transportation Planning Board (TPB), as Calvert County's portion of the C-SMMPO was within the non-attainment area for the 2008 8-Hour Ozone area within the National Capital Region.

Transportation plans, programs and projects in Calvert County must be included in the conformity analysis and determination carried out by the TPB for the Washington Metropolitan Statistical Area, as per a Proposal for Satisfying Federal Metropolitan Planning Requirements for Charles and Calvert Counties (Attachment A) and TPBs current resolution, adopted in 1993 (Attachment B.)

The TPB resolution (R23-93, Resolution Responding to Governor Schaefer's Letter Concerning the Metropolitan Planning Boundary in Maryland) which includes Calvert county in the TPB's air quality conformity analysis was the result of coordination between the State transportation air agencies and the Federal Highway Administration (FHA) and the Federal Transit Administration (FTA), in response to requirements in the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

Discussion

Since the establishment and inclusion of Calvert County in the C-SMMPO, the TPB staff has initiated discussions with the Maryland Department of Transportation to review and update the 1993 resolution. Updates have resulted in the attached agreement between TPB, the C-SMMPO, and Calvert County to address analysis issues related to inclusion of C-SMMPO and Calvert County transportation plans, projects and programs in TPB's regional air quality conformity analysis. The agreement has been reviewed by the TPB, MDOT, the C-SMMPO, FHA and FTA, and the County Attorney, John Norris. The agreement requires BOCC approval and signature.

Conclusion/Recommendation:

Staff requests the BOCC review and authorize signature of the attached agreement by the President of the County Commissioners, Evan Slaughenhoupt.

Attachments: 3

ATTACHMENT A

Proposal for Satisfying Federal Metropolitan Planning Requirements
for Charles and Calvert Counties

The TPB proposes the conformity procedures defined in parts 1-4 below. These procedures affirm the practices that have been used for the past two years for the Metropolitan Washington Region non-attainment area as a means for assuring conformity in Charles and Calvert Counties.

1. The TPB agrees with Governor Schaefer that Charles and Calvert Counties not be a part of the planning area covered by the TPB.
2. Transportation plans, programs and projects in Charles and Calvert Counties will be excluded from the TPB's Long-Range Transportation Plan and six-year Transportation Improvement Program (TIP), and included in the statewide Long-Range Transportation Plan and state-wide Transportation Improvement Program (STIP) developed by the State of Maryland.
3. Transportation plans, programs and projects in Charles and Calvert Counties will be included in the conformity analysis and determination carried out by the TPB for the Washington Metropolitan Statistical Area (MSA). Conformity determinations concerning proposed added projects will be based on a system level analysis for the non-attainment area.
4. Charles and Calvert Counties will be involved in all aspects of the conformity analysis and determinations.
 - Formal involvement for Charles and Calvert Counties will be provided through the Maryland Department of Transportation on the TPB, and through Charles and Calvert Counties' membership on MWAQC and its Technical Staff Coordination Committee (TSCC).
 - Informal involvement by Charles and Calvert Counties will be provided through participation by their representatives in COG and TPB committees and processes concerned with conformity, including receipt of all materials and participation in all meetings, discussions, and reviews.

These procedures are subject to amendment should they be found in conflict with the final rule on conformity promulgated by the U.S. Environmental Protection Agency.

ATTACHMENT B

TPB R23-93
December 16, 1993

METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS
NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD
777 North Capitol Street, N.E.
Washington, D. C. 20002

RESOLUTION RESPONDING TO GOVERNOR SCHAEFER'S
LETTER CONCERNING THE METROPOLITAN PLANNING
BOUNDARY IN MARYLAND

WHEREAS, the National Capital Region Transportation Planning Board (TPB) is the officially designated Metropolitan Planning Organization (MPO) for the Metropolitan Washington area; and

WHEREAS, the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 requires MPO boundaries to "at least include the boundaries of the non-attainment area, except as otherwise provided by agreement between the metropolitan planning organization and the Governor;" and

WHEREAS, in a letter of April 16, 1992, the Governor of Maryland presented a proposal to the TPB under which "the Washington area MPO boundaries should not be expanded to encompass Charles and Calvert Counties;" and

WHEREAS, on September 16, 1992, the Transportation Planning Board (TPB) requested that the Metropolitan Washington Air Quality Committee (MWAQC) consider and provide comments to the TPB on the implications of Governor Schaefer's request for air quality planning and conformity findings in the Metropolitan Washington Area; and

WHEREAS, there has been extensive coordination with the State Transportation Agencies and the State Air Quality Agencies, who are members of MWAQC, and with Federal Highway Administration (FHWA) and Federal Transit Administration (FTA); and

WHEREAS, on December 9, 1992, the MWAQC adopted a set of recommendations to the TPB on responding to Governor Schaefer's request; and has transmitted those recommendations to the TPB; and

WHEREAS, the "Interim Guidance on the ISTEA Metropolitan Planning Requirements" issued by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) of April 6, 1992, contains the following guidance on Metropolitan boundaries:

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B-1

"In non attainment areas, if the MPO and the Governor agree to exclude a portion of the nonattainment area, they must be able to demonstrate how conformity will be ensured in the excluded portion. Such proposals should be coordinated with FHWA, FTA, EPA, the state transportation agency, and the state air quality agency before a final decision is made".

NOW, THEREFORE, BE IT RESOLVED THAT: The National Capital Region Transportation Planning Board endorses the MWAQC recommendations as defined in Attachment A, agrees to respond favorably to the April 16, 1992 request of the Governor of Maryland, and also to transmit copies to the Federal Highway Administration, the Federal Transit Administration, and the Environmental Protection Agency.

Adopted by the Transportation Planning Board at its regular meeting on December 16, 1992.

Appendix E: Financial Projections for Calvert-St. Mary's County

Calvert – St. Mary's Area
Regional Transportation Plan

Financial Projections
for
Calvert - St. Mary's County

Prepared by
Maryland Department of Transportation
December 2017

DOCUMENTATION OF ASSUMPTIONS

Date: December 2017

Subject: Methodology and Assumptions used to derive the
2017 – 2045 Constrained Long-range Transportation Plan

Total Program Revenues/Expenditures (operating and capital):

- FY 1981 to FY 2016 figures are actual expenditures from historical records. FY 2017 to FY 2022 are from the FY 2017 Transportation Trust Fund Financial Plan and Consolidated Transportation Plan (CTP).
- The federal funds received directly by WMATA are **not** included in this exercise.
- FY 2023 to FY 2045 projections of state funds use a historical annual average growth rate of 5.3%. Federal fund projections for the same period are based on an average growth rate of 3.0% for Highway and Transit program funds.

Operating Expenditures:

- FY 1981 to FY 2016 figures are actual expenditures from historical records. Expenditures for FY 2017 to FY 2022 are the operating budget projections contained in the current Trust Fund Forecast.
- FY 2023 to FY 2045 projections are derived by inflating the previous year with an estimate for the percentage change in CPI-U plus 2%. The Consumer Price Index is a generally accepted measure of inflation. The projected annual change in index figures is based on information received from two economic forecasting firms. Two percent (2%) is added to the forecasted rate to account for the additional operating costs associated with new capital expansions.

Capital - Systems Preservation:

- Department records were used to determine the split between systems preservation and expansion for FY 1981 to FY 2016. Amounts for FY 2017 to FY 2022 represent the current version of the capital program.
- For the period FY 2023 – FY 2045, an annual growth rate of 2.0% is assumed for systems preservation projects, not to exceed 70% of the total program.

Capital - Expansion:

- Expenditures for capital expansion were derived by subtracting both operating and systems preservation expenditures from the total program expenditures for each year.

Calvert-St Mary's County -- Percentage of Capital Expansion:

- Total capital figures from FY 1981 to present were split into surface and non-surface. Surface included highway (SHA) and transit (MTA, MARC, and WMATA) costs. Non-surface included the Maryland Port, Aviation, and Motor Vehicle Administrations and the Secretary's Office expenses.
- The surface / non-surface data and the system preservation / expansion data were combined, analyzed, and evaluated to produce estimates of the percentage of Maryland expansion associated with surface transportation for the various time periods.
- Surface capital in Calvert-St. Mary's County was derived from historical records and used with the above-mentioned projections to produce the estimates for Calvert-St. Mary's County as a percent of Total Surface Expansion and as a percent of Total Maryland Expansion.

**MDOT Operating & Capital Expenditures - Statewide
History, Program & Forecast
(Millions of Dollars)**

Fiscal Year	Operating	Systems Preservation	Operating & Systems Pres.	Expansion	Statewide Total
1981	265	111	376	247	623
1982	287	136	423	236	659
1983	322	164	486	284	770
1984	352	167	519	246	765
1986	385	204	589	319	908
1986	428	234	662	403	1,065
1987	441	264	705	506	1,211
1988	478	260	738	615	1,353
1989	508	227	735	677	1,412
1990	551	270	821	760	1,581
1991	591	268	859	773	1,632
1992	577	187	764	542	1,306
1993	638	254	892	418	1,310
1994	689	279	968	393	1,361
1995	709	400	1,109	497	1,606
1996	784	391	1,175	465	1,640
1997	770	417	1,187	493	1,680
1998	808	451	1,259	411	1,670
1999	868	515	1,383	420	1,803
2000	913	476	1,389	455	1,844
2001	979	578	1,557	632	2,189
2002	1,045	612	1,657	772	2,429
2003	1,158	620	1,778	772	2,550
2004	1,178	619	1,797	762	2,559
2005	1,237	714	1,951	780	2,731
2006	1,303	729	2,032	793	2,825
2007	1,396	724	2,120	701	2,821
2008	1,488	766	2,254	680	2,934
2009	1,527	974	2,501	368	2,869
2010	1,583	957	2,540	275	2,815
2011	1,548	908	2,456	325	2,781
2012	1,572	1,096	2,668	366	3,034
2013	1,638	1,154	2,792	416	3,208
2014	1,843	1,324	3,167	477	3,644
2015	1,859	1,438	3,297	603	3,900
2016	1,917	1,389	3,306	806	4,112
2017	1,947	1,560	3,507	1,123	4,630
2018	2,030	1,580	3,610	1,071	4,681
2019	2,080	1,557	3,637	1,005	4,642
2020	2,131	1,475	3,606	687	4,293
2021	2,181	1,391	3,572	483	4,055
2022	2,264	1,449	3,713	400	4,113
2023	2,454	1,284	3,738	550	4,288
2024	2,592	1,259	3,851	540	4,391
2025	2,896	1,332	4,028	571	4,599
2026	2,811	1,408	4,219	603	4,822
2027	2,924	1,490	4,414	639	5,053
2028	3,043	1,576	4,619	676	5,295
2029	3,176	1,661	4,837	712	5,549
2030	3,313	1,698	5,011	805	5,816
2031	3,451	1,732	5,183	914	6,097
2032	3,597	1,766	5,363	1,030	6,393
2033	3,754	1,802	5,556	1,146	6,702
2034	3,911	1,838	5,749	1,279	7,028
2035	4,079	1,874	5,953	1,416	7,369
2036	4,257	1,912	6,169	1,559	7,728
2037	4,433	1,950	6,383	1,721	8,104
2038	4,633	1,989	6,622	1,879	8,501
2039	4,837	2,029	6,866	2,052	8,918
2040	5,042	2,070	7,112	2,242	9,354
2041	5,258	2,111	7,369	2,444	9,813
2042	5,475	2,153	7,628	2,667	10,295
2043	5,717	2,196	7,913	2,889	10,802
2044	5,963	2,240	8,203	3,131	11,334
2045	6,228	2,285	8,513	3,383	11,896

MDOT - Office of Finance
29-Dec-17

ST. MARY'S-CALVERT COUNTY

Percentage of Capital Expansion

(Millions of Dollars)

Surface Expansion % of Maryland Expansion:	
1981-2016	86.4%

St. Mary's-Calvert Expansion % of Surface Expansion:	
1981-2016	2.8%



Fiscal Year	Statewide Expansion Funds	Surface Percentage	Private Funds	Total Surface Available	St. Mary's-Calvert Percentage	Total St. Mary's-Calvert Expansion Funds
2014	477					2.3
2015	603					3.0
2016	806					3.6
2017	1,123					8.9
2018	1,071					18.6
2019	1,005					22.7
2020	687					23.9
2021	483					8.4
2022	400					1.7
2023	550	475	24	499	14.2	14.2
2024	540	467	24	491	13.9	13.9
2025	571	493	24	517	14.7	14.7
2026	603	521	24	545	15.5	15.5
2027	639	552	25	577	16.4	16.4
2028	676	584	25	609	17.3	17.3
2029	712	615	25	640	18.2	18.2
2030	805	696	25	721	20.5	20.5
2031	914	790	25	815	23.1	23.1
2032	1,030	890	25	915	26.0	26.0
2033	1,146	990	25	1,015	28.8	28.8
2034	1,279	1,105	25	1,130	32.1	32.1
2035	1,416	1,224	25	1,249	35.5	35.5
2036	1,559	1,347	25	1,372	39.0	39.0
2037	1,721	1,487	25	1,512	42.9	42.9
2038	1,879	1,624	25	1,649	46.8	46.8
2039	2,052	1,773	25	1,798	51.1	51.1
2040	2,242	1,938	25	1,963	55.7	55.7
2041	2,444	2,112	25	2,137	60.7	60.7
2042	2,667	2,305	25	2,330	66.2	66.2
2043	2,889	2,497	25	2,522	71.6	71.6
2044	3,131	2,706	25	2,731	77.6	77.6
2045	3,383	2,924	25	2,949	83.7	83.7
Total '23-'45	34,848	30,116	571	30,687	871.5	871.5
Total '14-'45	41,503					964.6

MDOT - Office of Finance
03-Dec-19

Appendix F: Public Participation

The survey and two public meetings were advertised in the Calvert and St. Mary's newspaper (The Enterprise), on the C-SMMPO website, and through outreach to community groups.

The flyer, shown below, advertises the survey and meetings on October 15, 2019 and January 16, 2020. It was distributed at the Healthy St. Mary's Partnership event in September 2019, the Citizens Academy, a program of the St. Mary's County Government, and posted around the MPO region at bus stops, churches, libraries, senior centers, and other gathering locations.

The second flyer, shown below, advertises the second public meeting on January 16, 2020. It was posted around the MPO region at bus stops, churches, libraries, senior centers, and other gathering locations.

Summary of Public Participation Meeting of October 15, 2019, 6:30 PM

Calvert-St Mary's MPO Long Range Transportation Plan "Moving Forward 2045"

University System of Maryland at Southern Maryland

Recorded by Sarah Oaks, CHPlanning

The meeting was attended by 11 members of the public (sign-in list attached), Kwasi Bosompem (St. Mary's County), Ben Cohen (C-SMMPO staff), Dan Janousek (MDOT), Jaime Phillips (CHPlanning) and Sarah Oaks (CHPlanning).

Mr. Bosompem began by describing the importance of building a vision for the future of transportation investments and stating that this Plan Update is part of the process. All MPOs are required to do this in order to receive Federal (surface transportation) funding. He stated that this meeting will begin the process of updating the previous Plan, adopted in 2016, and that the meeting was advertised through local papers, and through outreach to local organizations. He thanked those present for coming to the meeting.

Mr. Janousek then informed the attendees that C-SMMPO is one of seven MPOs in Maryland, and that an MPO is mandated by the Federal Government when the population of an urban area reaches 50,000. The MPO sets policy on how Federal funds are spent on transportation and other types of projects. Long Range Transportation Plans (LRTPs) are generally updated every five years, but MPOs in non-attainment areas for air quality must update their LRTP every four years. Calvert-St Mary's is in non-attainment (for the 8-hour ozone standard), so this update is in the four-year cycle.

Mr. Janousek further stated that, whereas the Long-Range Plan is for a 25-year horizon, the Transportation Improvement Program (TIP) includes short range projects, and the Unified Planning Work Program (UPWP) sets the agenda for work done by the MPO staff. The Long-Range Plan must be fiscally constrained, meaning that project costs cannot exceed the expected budget for the next 25 years, currently \$621 million. Mr. Janousek indicated that over the next 25 years he envisions "the Bridge" plus other, smaller projects. He noted that funding for transit in the MPO's service area also goes through the MPO.

MOVING FORWARD
2045 Long Range Transportation Plan

 Calvert-St. Mary's Metropolitan Planning Organization
 (C-SMMPO)

WE NEED YOUR HELP



How can the transportation system in the Calvert-St. Mary's Metropolitan Planning area better serve you?

How would you prioritize transportation projects to make your community better?

What transportation improvements are needed to make driving, commuting, access and recreation better?

The Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) is responsible for setting priorities for regional transportation planning. This includes improvements to roadways, transit systems, bike facilities, and sidewalks.

Moving Forward 2045 is the C-SMMPO's Long Range Transportation Plan (LRTP) to improve transportation in the region.

Your assistance in identifying transportation needs and priorities is essential.

GET INVOLVED!

Kick-Off Meeting: October 15, 2019

University System of Maryland at Southern Maryland
 44219 Airport Road, Building #2 Center Hall
 California, MD 20619
 Time 6:30pm to 9:30pm

Draft LRTP Review Meeting: January 16, 2020

Lexington Park Public Library
 21677 FDR Boulevard, Meeting Room A/B
 Lexington Park, MD 20653
 Time 2:00pm to 7:45pm

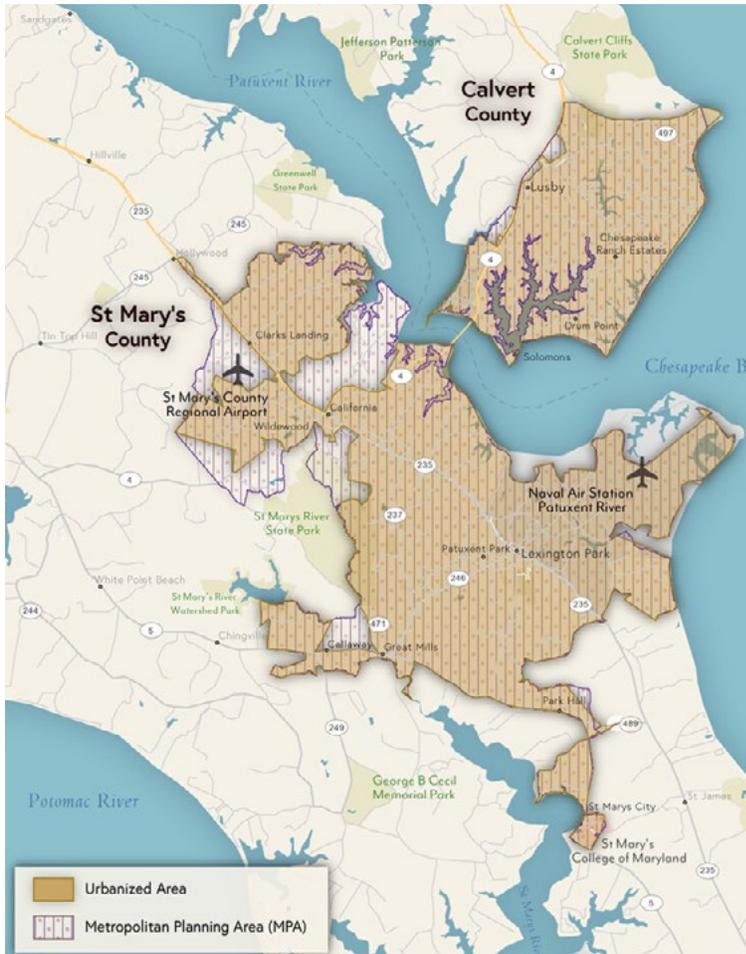
For Questions and Meeting Inquiries, Contact:
 Land Use & Growth Management of St. Mary's County
 301-475-4200 ext. 71507
 or
 Kwasi.Bosompem@stmarysmd.com

Complete the MetroQuest Survey
<https://C-SMMPOPlan.metroquest.com>
 Survey Deadline: October 6, 2019



C-SMMPO Planning Region





The Calvert-St. Mary's Metropolitan Planning Organization is responsible for regional transportation planning.

We want to hear from you! Come learn about and give feedback on the draft long-range transportation plan.

- How can the transportation system better serve you?
- What transportation improvements are needed?
- How would you prioritize transportation projects?



January 16, 2020 | Open house 2-7pm
Presentations at 3pm, 4:30pm, and 6pm

Lexington Park Library
21677 FDR Blvd, Room A/B

10 minutes walk from Tulagi Place (Bus routes 1, 3, 4, 5, 7, 8, 11, and 14)
 Lexington Park Library is ADA accessible

Enjoy snacks and children's coloring activities!

If you need accommodations, please contact Ben Cohen at 301-475-4200 ext 71505 or ben.cohen@stmarysmd.com

Mr. Janousek then stated that C-SMMPO currently serves only parts of Calvert and St Mary's Counties, because much of the area is rural and does not contain enough residents to be included. The MPO Council is made up of one member from Calvert County, one member from St Mary's County, and one member designated by the Maryland Secretary of Transportation. He added that projects for the LRTP, the TIP and the UPWP can be supplied by the Council, by the counties, and by MDOT.

Ms. Oaks spoke next, thanking the participants for attending, and she described CHPlanning and its role in this process. She then introduced Ms. Phillips and her Power Point Presentation (see LRTP Appendix). Following Ms. Phillips' presentation, attendees were invited to ask questions or offer comments, which are summarized below.

- In response to a question about why the plan is going ahead now instead of waiting for 2020 census data, staff replied that the update does not match the Census cycle this year because the census is conducted every 10 years. Mid-cycle census data is collected every year but releases lag by a couple of years; at the time of writing, 2017 data was the most recent release.
- In response to a question about the MPO boundary, Mr. Bosompem replied that the boundaries include all the population centers, but that the counties can petition the Governor's office to re-draw the boundaries. To date the Governor has approved all such requests.
- Mr. Janousek stated that transit opportunities in the LRTP can be illustrative and that studies can be funded with planning funds allocated to the MPO.
- In response to a comment regarding educating the public about transportation issues (specifically ridesharing), Mr. Janousek said that this can be a goal of the LRTP. MDOT has a commuter choice program called "Commuter Choice Maryland" that provides tax benefits to employers which the MPO or the Counties or both can access. But he cautioned that it is hard to promote ridesharing and transit use in rural areas because services aren't viable.
- Vehicle Miles Traveled per county is usually calculated based on odometer readings provided with vehicle registrations.
- A representative from the Patuxent River Naval Air Station (NAS) said that traffic is a huge issue for the Pax River Base. The Pentagon, which has a similar number of workers, has a commuter choice program for workers in central DC, but not at this base. The LRTP needs to address commuter choice programs. There is a bus that serves the base, but it sits in the same traffic as cars so it's not a viable option. Getting over the bridge and on to base is an issue.
- Currently only vanpools operated by a third party are eligible for the \$265 monthly tax-free commuter benefit, so people using carpools can't access these funds.
- Closing the Thomas Johnson Bridge would cause and has caused a crisis.
- Three-Notch Road (MD235) has HOV capacity now that it has been widened and resurfaced. A study to determine feasibility of such service can be part of the MPO's UPWP if the Council agrees to put it in.
- Mr. Bosompem asked participants to answer their MetroQuest surveys and to encourage their friends and neighbors to do so as well.
- An attendee asked why there is a lack of public transportation and stated that Greyhound previously served the area and was the main way people got to Baltimore and Washington. Currently, getting to

these places by bus requires multiple transfers and takes too much time. Cars have been the focus of planning for too long. The plan needs to look at the best way to move people rather than cars

- Zoning issues impact transportation and transit opportunities.
- An attendee asked why more is not being done to get people into carpools.
- Additional observations included the notion that rideshare participation is usually limited if there are not financial incentives and saving fuel and improving air quality are not enough to get people out of their cars. Sometimes disincentives work, but they only work when they are enforced, and most employers are not willing to commit resources to enforcement unless there is financial pain to the company. Plus, there needs to be infrastructure or a program to help match people who are willing to carpool, and funding this is an issue.
- There are limited pedestrian facilities throughout the MPO area.
- A member of the audience recommended luxury coach service targeted to young people who would rather text than drive. There are many examples of successful programs around the country and most of the target audience earns more than \$80,000 per year. He felt that it would be a “slam-dunk” success
- There is currently a shuttle that serves the NAS, but it’s alternately standing room only or completely empty. The base could conduct studies and build park and ride lots on federally owned land. Apparently, there are many small parcels around the area owned by MDOT and the Federal government.
- A member of the audience said that at one time there was a bus from the NAS to the airport for service members’ use but did not know why it was discontinued.
- Neighborhood connectivity needs to be discussed and addressed in the LRTP.
- An attendee stated that Leonardtown is growing and wondered why it is not in the MPO’s territory.

Attendees were advised to discuss local transit issues with transit providers. They were also advised to send ideas for projects to Mr. Bosompem.

The meeting concluded at 8:15.

Summary of Public Participation Meeting on January 16, 2020, 2-7 PM

Calvert-St Mary’s MPO Long Range Transportation Plan “Moving Forward 2045”

Lexington Park Public Library

Recorded by Tim Chelius, CHPlanning

The meeting was held in an open house style, so there is not a summary of all interactions. The layout included a food table and children’s coloring table with transportation themed coloring pages near the entrance. There were four stations as attendees went around the room. The first station covered the MPO basics including the responsibilities of an MPO, three main plans that MPOs must create, and the structure of the C-SMMPO. The second station covered the vision, goals, and objectives of the LRTP and results from the public survey. The third station included a map of the recommended projects. The final station included two opportunities for comments. Attendees could read through the plan and leave comments directly on it

or leave comments on the board in the categories roads, transit, safety, environment, economy, and other.

At the 3 PM presentation, Mr. Bosompem welcomed the attendees, stated that the draft Plan had been approved for public comment by the MPO Council and would be considered at their March 6 meeting. He added that the MPO needed input on the content of the draft Plan from the attendees. Ms. Phillips then made an approximately 20-minute presentation to the attendees including background information MPO responsibilities and the transportation planning process, the public survey results, and the recommended projects. The staff then answered questions from the public.

An attendee asked how projects make it into the Plan, and Mr. Janousek replied that projects included in the LRTP are those that are federally funded and regionally significant. There can be many other State, County, and local projects not reflected in the Plan, and the Plan's goals can help direct smaller projects. Ms. Phillips added that the TIP has other funding. Mr. Janousek also stated that transit projects are shown in the TIP.

In response to a question about Year of Expenditure, Mr. Janousek explained that MDOT produces a financial forecast and uses cost estimates that reflect the actual costs when incurred.

After the 4:30 PM presentation, an attendee suggested that the MetroQuest survey of a population of over 50,000 yielded a small sample size. Ms. Phillips explained that the survey was advertised to community groups, including NAS PAX, which is the major employer in the region. Mr. Bosompem stated that notices were posted online and in newspapers, and that he also attended community events such as Healthy St. Mary's Partnership Annual Meeting and an event at a senior center to share information about the survey and LRTP.

In response to a question on who decides on the projects included in the Plan, Ms. Phillips stated that they must be regionally significant and federally funded, and that the Counties each submitted a priority project list, with the Thomas Johnson Bridge the top project in both. She further stated that the TIP includes funding for smaller projects like resurfacing.

An attendee stated that some people oppose zoning regulations, and even though bike and scooter lanes are not a priority for many, they should be provided. Mr. Bosompem added that legislative action is needed for bike lanes and therefore local input is important.

After the 6 PM presentation, an attendee asked about the health and safety considerations in creating the new Thomas Johnson Bridge due to people jumping from the existing very high bridge. Mr. Janousek explained that those elements would be decided as part of the design process and Ms. Phillips added that there should be another opportunity for public input when the project is undergoing planning, design, and the environmental review process required for a large federally funded project.

The meeting concluded at 7 PM.

Appendix G: Resolution to Adopt

**RESOLUTION BY THE CALVERT – ST. MARY’S METROPOLITAN PLANNING ORGANIZATION COUNCIL ADOPTING THE LONG-RANGE TRANSPORTATION PLAN
RESOLUTION 01-2020**

WHEREAS, the Calvert – St. Mary’s Metropolitan Planning Organization (“C-SMMPO”) was established to conduct regional transportation planning for the C-SMMPO area in accordance with the Federal requirements;

WHEREAS, the C-SMMPO Council is the governing body for the C-SMMPO;

WHEREAS, the C-SMMPO staff in cooperation with the Maryland Department of Transportation (MDOT) perform the necessary functions of the C-SMMPO;

WHEREAS, The Long-Range Transportation Plan serves as a guide for transportation improvements in the C-SMMPO region over the next 25-year period extending from 2020 – 2045. This financially constrained Long-Range Transportation Plan is multimodal in nature and developed in conjunction with the Maryland Department of Transportation and in accordance to applicable Federal guidelines governing the development of transportation plans by metropolitan planning organizations;

WHEREAS, The C-SMMPO has established a continuing, cooperative, and comprehensive performance-based multimodal transportation planning process for the metropolitan planning area;

WHEREAS, on January 16, 2020, the Long-Range Transportation Plan, *Moving Forward 2045*, was reviewed by the C-SMMPO TAC, which made a favorable recommendation to forward the LRTP to the C-SMMPO Council for their review and action; and

WHEREAS, and consistent with the requirements of the C-SMMPO’s Adopted Public Participation Plan, a 45-day public comment period was instituted prior to the public meeting.

NOW THEREFORE, BE IT RESOLVED that the C-SMMPO Council hereby approves and adopts this Resolution and the Long-Range Transportation Plan, *Moving Forward 2045*, incorporated herein by reference and made a part hereof; and

BE IT FURTHER RESOLVED that the foregoing recitals are adopted as if fully rewritten herein.

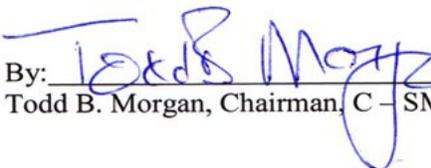
PASSED AND DULY ADOPTED this 6th day of March 2020.

ATTEST:

CALVERT-ST. MARY’S METROPOLITAN PLANNING ORGANIZATION



(Steven R. Weems)

By: 

Todd B. Morgan, Chairman, C – SMMPO Council

Approved for form
and legal sufficiency


Office of County Attorney 3/4/2020

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