Governor's Attainment Report Advisory Committee Summary Report

FINAL | July 28, 2023

MDOT
MARYLAND DEPARTMENT
OF TRANSPORTATION

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1. Introduction

The Maryland Department of Transportation (MDOT) plans, invests in, and evaluates the transportation system to ensure efficiency in meeting our goals and objectives in order to achieve our mission statement:

MISSION STATEMENT
The Maryland Department of Transportation is a customer-driven leader that delivers safe, sustainable, intelligent, exceptional, and inclusive transportation solutions in order to connect our customers to life's opportunities.

MDOT presents its strategic approach through the State Report on Transportation (SRT), which comprises three documents:

The Maryland Transportation Plan (MTP): A 20-year vision document for the state's transportation system.

The Consolidated Transportation Program (CTP): The six-year budget for transportation projects statewide, produced annually; and

The Annual Attainment Report on Transportation System Performance (AR): An evaluation of the performance of Maryland's transportation system.

This document summarizes the AR's purpose, related processes, and recommendations made by the Governor's Attainment Report Advisory Committee (ARAC) and MDOT staff, including the Modal Administration staff, for updating the AR to be responsive to the 2050 MTP.

Background and Legislative Requirements

The AR assesses how well MDOT is achieving our goals and objectives in the MTP through strategically aligned performance measures. It also provides an overview of the Maryland transportation system, system investment, and mobility and accessibility by land, water, and air. The AR must be presented annually to the Governor and General Assembly to assess our performance before MDOT advances the vision and selects projects for investment.

The AR provides an overview of the Maryland transportation system, system investment, mobility and accessibility. MDOT assesses progress toward achieving its overarching strategic goals by aligning performance measures and data with each MTP goal area. The AR must be presented annually to the Governor and General Assembly before they may consider the MTP and CTP.

State Requirements

Per Transportation Article of Annotated Code Section 2-103.1 of the Annotated Code of Maryland, enacted in 2000, the state is required to develop or update a comprehensive annual performance report on the attainment of transportation goals and benchmarks in the MTP and CTP. A key part of developing this annual report is the Governor's ARAC, a group of diverse stakeholders that represent interests that range from environmental advocates to disabled citizens. When the MTP is updated, an Advisory Committee (AC) is convened to provide guidance to MDOT in the development of the AR, which occurs at least every 4–5 years.

The primary role of the ARAC is to:

- Advise on the selection of performance measures.

- Advise on how well selected performance measures and supporting data communicate and respond to the AR.

- Recommend strategies and format updates to increase the effectiveness of the annual report for MDOT, citizens and legislators.

The Maryland Code mandates that MDOT and the Advisory Committee shall take into consideration:

- Transportation and population trends and their impact on the state's transportation system and priority funding areas.

- Past and present state funding devoted to the various transportation modes and demand management.

- The full range of unmet transportation needs in priority funding areas.

- The full range of transportation measures and facilities available, and their role, effectiveness, and cost effectiveness in providing travel choices and reducing congestion.

- A review of transportation performance indicators and their use in other states.

- A review of the coordination of state transportation investments with local growth plans for priority funding areas.

- The types of investments needed and their levels of funding for supporting the goals and objectives of the Maryland Transportation Plan.

- The impact of transportation investment on the following: 1) the environment; 2) environmental justice as defined in § 1-701 of the Environment Article; 3) communities; and 4) economic development.

- The goals required by the Climate Solutions Now Act of 2022 under § 2-1205(b) of the Environment Article.

The Equity in Transportation Sector law was passed in 2023 and became effective June 1, 2023. This law requires that equity be considered when state transportation plans, reports, and goals are developed. Equity was a main topic of discussions for the ARAC when considering performance measures. The committee was interested in ensuring that ARAC process was following the Equity in Transportation Sector requirements.

2. Attainment Report Advisory Committee

The ARAC is required to meet at least four times during the development of the MTP in order to address transportation needs, funding, and performance measures. The ARAC is composed of individuals appointed by the Governor based on the communities that they represent. Table 1 lists the representation required per state regulation, along with the name, title, and organization of the appointed representative. Those areas with an asterisk (*) indicate representation as required by state statute.

Table 1: ARAC Required Representation and Actual Membership

Representation	Name	Title	Organization
Maryland Business Community*	Alexander Austin	President/CEO	Prince George's County Chamber of Commerce
Disabled Citizens Community*	Derrick Waters	Supervisor Contact Representative	Department of Treasury IRS
Rural Interests*	Charlotte Davis	Executive Director	Rural Maryland Council
Auto Users Group*	Ragina Ali	Public; Government Affairs Manager	AAA Mid-Atlantic
Transit Users Group*	Jaime McKay	Deputy Director	Frederick County Transit Services
Transit Users Group*	Ben Groff	Chair	MTA Citizens Advisory Committee
Transit Users Group*	Sheila Somashekhar	Purple Line Coalition	University of Maryland
Goods Movement Industry*	Louis Campion	President/CEO	Maryland Motor Truck Association (MMTA)
National Expert: Pedestrian/Bike Transportation*	Chester Harvey, Ph.D.	Director, Transportation Policy Research Group	University of Maryland National Center for Smart Growth
National Expert: Transportation Demand Management*	Mansoureh Jeihani, Ph.D.	Director, National Transportation Center	Morgan State University
National Expert: Transportation Performance Management*	Ting Ma, Ph.D.	Standing Committee on Performance Management	Transportation Research Board

Representation	Name	Title	Organization
Environmental Advocacy Organization*	Lindsey Mendelson	Clean Transportation Representative	Sierra Club Maryland
Maryland Department of Planning*	Charles W. Boyd	Director of Planning Coordination	Maryland Department of Planning
Maryland Association of Counties*	Deborah Price	Demographic Planner	Harford County
Maryland Municipal League*	Dennis Enslinger	Deputy City Manager	City of Gaithersburg
Health Equity	Shima Hamidi, Ph.D.	Assistant Professor	John Hopkins University Department of Environmental Health & Engineering
Immigrant Community	Gustavo Torres	Executive Director	CASA Maryland
Transportation Labor Organization*	Brian Patrick Wivell	Legislative & Political Director	Maryland and DC AFL-CIO
NAACP*	Jacqueline Allsup	Vice President	Maryland NAACP
Transportation Construction Industry*	Robert A. Holsey, Jr.		International Union of Operating Engineers, Local 37

*   An asterisk (*) indicates those areas of representation required by state statute.

The ARAC reviewed the 2050 MTP goals, objectives, guiding principles, and key outcomes. The ARAC also reviewed and identified measures that they recommended for modification, addition, or realignment to an appendix. This process compared measures against AR performance measure selection criteria and reviewed draft targets. The ARAC also discussed potential improvements to the presentation of the AR materials. In calendar year 2023, the ARAC met four times. A high-level summary of those meetings follows.

Table 2: ARAC Meeting Summaries

Meeting #1: May 23, 2023
Objective: To become familiar with the State Report on Transportation, the AR update process, and discuss the MTP guiding principles, goals, and key outcomes. Agenda
Outcome: Participants were asked to review the Attainment Report and performance measure selection criteria. They also were asked to provide feedback on draft MTP goals. Meeting Summary
Meeting #2: June 8, 2023
Objective: To discuss performance measures and collect feedback on as many of the four goals as time allows. Agenda
Outcome: The first two goals were addressed during Meeting #2. Meeting Summary
Meeting #3: June 20, 2023
Objective: To continue the review of performance measures for the last two goals. Agenda
Outcome: The last two goals were addressed during Meeting #3. Meeting Summary
Meeting #4: July 11, 2023
Objective: To confirm measures to include in the AR, review requirements, data and targets, review the ARAC Summary Report, and receive input on the AR report and dashboard interface. Agenda
Outcome: Overall measures and targets were confirmed, as well as a decision on the format of the AR. Meeting Summary

3. Performance Measures Framework

MDOT's mission is to be a "customer-driven leader that delivers safe, sustainable, intelligent, exceptional, and inclusive transportation solutions in order to connect our customers to life's opportunities." MDOT's mission serves as the foundation for the 2050 MTP. This mission will be realized through the guiding principles, goals, objectives, and performance measures incorporated into the MTP.

The guiding principles serve as overarching, cross-cutting ideas that MDOT strives for through each of the MTP's goals. They are:

- **Equity:** Integrate equity considerations in all aspects of transportation planning, programming, and operational processes.

- **Resilience:** Improve the transportation system's ability to provide reliable service throughout natural weather events and man-made threats.

- **Preservation:** Preserve the condition of the existing transportation system assets to provide safe and efficient movement.

- **Modernization:** Transform the transportation system by using proven technological improvements and exploring innovative new ideas.

- **Experience:** Improve the experience of all transportation system users.

In keeping with the mission and these principles, the 2050 MTP identifies four goals for the future of the transportation system in Maryland:

1. **Enhance Safety and Security:** Protect the safety and security of all residents, workers, and visitors.

2. **Deliver System Quality:** Deliver a reliable, high-quality, integrated transportation system.

3. **Serving Communities and the Economy:** Expand transportation options to allow Maryland's diverse communities to access opportunities and to support the movement of goods.

4. **Promote Environmental Stewardship:** Minimize and mitigate the environmental effects of transportation.

Equity Analysis

One of the 2050 MTP's guiding principles is equity, calling on MDOT to "integrate equity considerations in all aspects of transportation planning, programming, and operational processes." The 2023 Equity in Transportation Sector Law requires that equity be considered when state transportation plans, reports, and goals are developed. Further, the Climate Solutions Now Act (CSNA) (2022) is a state law with provisions to reduce negative environmental impacts on overburdened and underserved communities. Overburdened communities are defined as any census tract for which three or more of 21 environmental health indicators are above the 75th percentile.[1] Underserved communities are defined as any census tract where the most recent census survey shows:

- At least 25 percent of the residents qualify as low income.

- At least 50 percent of the residents identify as non-white.

- At least 15 percent of the residents have limited English proficiency.

MDOT staff and the ARAC discussed the methodology for assessing equity in performance measures. MDOT staff evaluated 6 state and federal analysis tools. Recognizing that equity analysis is an evolving practice, **MDOT staff recommends utilizing two tools to begin measuring performance through an equity lens:**

- The Maryland Department of the Environment (MDE) EJ Screening Tool that adheres strictly to CSNA definitions of overburdened and underserved communities; and

- The Equitable Transportation Community (ETC) Explorer provides transportation-centric metrics on factors pertinent to federal guidance and requirements.

In utilizing ETC Explorer, the website interface provides context on different types of disadvantage: health vulnerability, social vulnerability (including income, disability, and language isolation), environmental burden, transportation insecurity (such as access to transit), and climate and disaster risk burden. These factors are in line with many of the new performance measure developed under the equity principle of the 2050 MTP. Disadvantage is defined at a 65th percentile ranking or above (available at both state or federal levels; MDOT staff recommends using state-level data). This is a similar measurement of overburden in the CSNA-guided MDE screening tool, which evaluates 21 environmental factors at the 75th percentile ranking in defining communities as overburdened. **Both the MDE screening tool and ETC Explorer are available for download for deeper analysis.**

Additional discussion on environmental justice led to an ARAC request for a performance measure on criteria air pollutants in overburdened and underserved communities. Criteria air pollutants include ozone, carbon monoxide, nitrogen oxide, sulfur dioxide, particulate matter 2.5 (PM2.5), and particulate matter 10 (PM10). Both tools include factors for two of the criteria air pollutants: ozone and PM 2.5. This is in alignment with state law (CSNA), which includes 19 other environmental factors. MDOT will actively continue to explore appropriate performance measures. The agency will continue

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[1] Maryland General Assembly. Environment Article §1-701.

to evaluate the use of equity analysis tools in service of addressing historic impacts to overburdened and underserved communities.

Below, Table 3 outlines the principles, goals, and objectives that inform the organization of current performance measures and the development of new and updated measures.

Table 3: Proposed Goals, Objectives, and Guiding Principles

Goal	Objectives	Guiding Principles				
		Equity	Resilience	Preservation	Experience	Modernization
Enhance Safety and Security	Reduce the number of lives lost and injuries sustained on Maryland's transportation system			●	●	●
	Minimize disparities in safety across Maryland's diverse communities	●				
	Address multimodal safety needs to support a safe, low stress, and secure transportation system				●	●
	Maintain a safe system during adverse weather events, man-made threats, and other system disruptions		●	●		
Deliver System Quality	Increase the percentage of state-owned or funded facilities and assets in a state of good repair.		●	●	●	●
	Minimize travel delays and improve reliability and quality	●			●	●
	Provide a multimodal system resilient to changing conditions and hazards		●	●		●
	Accelerate project completion through improved project delivery		●	●		●

Goal	Objectives	Guiding Principles				
		Equity	Resilience	Preservation	Experience	Modernization
Serve Communities and Support the Economy	Enhance Marylanders' satisfaction with the transportation system and MDOT services	•	•	•	•	•
	Apply enhanced technologies to improve communication and relay real-time information				•	•
	Increase transit use, active transportation, and transit-oriented development (TOD)	•			•	
	Improve quality of life by providing active transportation and transit access to jobs and opportunities	•			•	
	Prioritize the transportation needs of underserved and overburdened communities in project selection and scoping	•				
	Improve the efficiency and competitiveness of the Port of Baltimore and BWI Thurgood Marshall Airport	•	•	•	•	•
Promote Environmental Stewardship	Minimize fossil fuel consumption, reduce greenhouse gas emissions, and improve air quality	•		•	•	•
	Support the widespread adoption of alternative fuels, electric vehicles, and innovative technologies	•		•	•	•
	Protect and enhance the natural environment through avoidance, minimization, and mitigation of adverse impacts related to transportation infrastructure		•	•		•
	Employ resource protection and conservation practices in project development, construction, operations, and maintenance of transportation assets		•	•		•

Performance measures in the AR are used to assess progress toward the goals and objectives established in the 2050 MTP. When determining performance measures, MDOT and the ARAC consider the requirements set forth in law and regulation, as well as national and regional demographic, economic, environmental, and technological trends. For example, the ARAC discussed the impacts of equity and climate change on transportation performance. As MDOT brings together all of the state's transportation agencies into one organization, the ARAC considered whether or not the performance measures reflected this ONE MDOT approach. To the extent feasible, performance measures were selected that represented MDOT's desired outcomes across the transportation system. Figure 1 shows criteria to assist the ARAC in consideration of performance measures for the AR.

Figure 1: Performance Measure Evaluation Criteria

State and / or Federally Required

- Is it required by state legislation?
- Is it required by federal legislation?
- Can there be efficiencies and alignment of metrics to avoid very similar metrics for statewide reporting vs. federal reporting?

Strategic (Alignment with the MTP)

- Does this measure align with MTP goals?
- Does the measure speak to one or more of the objectives?

Technically Feasible

- Is the Modal Administration already tracking this measure?
- Is the proposed measure quantitative?
- Is there existing data? Historical data?
- Is the data available on a yearly cycle/ consistent in quality and availability?
- What is the level of effort to collect and report this data?

Efficient, Comprehensive, and Balanced

- Is this the best way to measure/evaluate the topic?
- Does the measure speak to how well the system is performing?
- Does the measure change with investments from year to year - is it responsive enough to change annually for reporting in an annual report?
- Does the metric lend itself toward an AR that is balanced by mode or modal administration?

Understandable, Easily Communicated

- Is the measure easily understood by the public?
- Is the measure meaningful?

In meeting #2, MDOT staff shared that the audience is both the general public and the legislators and the ARAC discussed accessibility of the AR. In meeting #4, the ARAC noted that some of targets provided for the performance measures in Section 4 are aspirational to allow MDOT to strive towards loftier goals; however, depending on resources, some of these targets may be difficult to achieve.

4. ARAC Performance Measure Recommendations

The following performance measures integrate the mission, guiding principles, goals, and objectives of the 2050 MTP discussed in the previous section. Proposed key outcomes and proposed targets are listed, along with the MDOT modal administration that will report the data. Please note that the Key Outcomes will be further informed through the public survey process and finalized through the Maryland Transportation Plan process. Performance measures slated for the executive summary of the AR are shown in **bold** in the tables below. The AR full technical report will include all performance measures.

Enhance Safety and Security

Protect the safety and security of all residents, workers, and visitors.

Key Outcomes for this Goal to achieve through the 2050 MTP:

If we protect the safety of all residents, workers, and visitors, we will achieve zero traffic-related fatalities and serious injuries across all modes (roadway, active transportation, transit, at-grade railroad crossings).

Objective	Performance Measures	2030 Target / 2050 Target	Modal Administration
Reduce the number of lives lost and injuries sustained on Maryland's transportation system	**Annual number of fatalities and serious injuries on all roads in Maryland (MFR)**	Zero (0) / Zero (0)	MHSO
	Annual number of bicycle fatalities and serious injuries (MFR)	Zero (0) / Zero (0)	MHSO
	Annual number of pedestrian fatalities and serious injuries (MFR)	Zero (0) / Zero (0)	MHSO
	Annual number of transit passenger fatalities and serious injuries	Zero (0) / Zero (0)	MTA
	Annual number of at-grade railroad crossing incidents resulting in injury or fatality	Zero (0) / Zero (0)	TSO

Objective	Performance Measures	2030 Target / 2050 Target	Modal Administration
Minimize disparities in safety across Maryland's diverse communities	**Annual number of fatalities and serious injuries in historically disadvantaged communities on all roads in Maryland[2]**	Zero (0) / Zero (0)	MVA
Address multimodal safety needs to support a safe, low stress, and secure transportation system	Preventable incidents per 100,000 vehicle miles traveled on transit	Zero (0) / Zero (0)	MTA
	Percentage of state-owned roadway directional miles within urban areas that have sidewalks (MFR)	TBD annually / TBD	SHA
	Percent of sidewalks that meet ADA compliance	TBD / TBD	SHA
	Miles of lower level of traffic stress (LTS 2 or better)	TBD as this is a newer measure	TSO
Maintain a safe system during adverse weather events, man-made threats, and other system disruptions	Clearance times for weather events	90 minutes / 90 minutes	SHA
	Incident (CHART) response rates/times	15 minutes / 15 minutes	SHA

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[2]   Performance measure uses the U.S. DOT Equitable Transportation Community (ETC) Tool.

Deliver System Quality

Deliver a reliable, high-quality, integrated transportation system.

Key Outcomes for this Goal to achieve through the 2050 MTP:

If we deliver a reliable, high-quality, integrated transportation system, the budget will be effectively managed to deliver the greatest impact for our investments.

Objectives	Performance Measures	2030 Target / 2050 Target	Modal Administration
Provide a multimodal system resilient to changing conditions and hazards	**Preparedness of the transportation system for weather conditions and hazards**	Baseline trend for the first year Target / TBD as this is a new measure	SHA
	Percentage of lane-miles/fixed guideway transit-miles susceptible to flooding and storm surge	Baseline trend for the first year / TBD as this is a new measure	TSO
Increase the percentage of state-owned or funded facilities and assets in a state of good repair	**Unfunded State of Good Repair backlog**	Baseline trend for the first year / TBD as this is a new measure	TSO
	Percentage of the Maryland state highway network in overall preferred maintenance condition (MFR)	85% / TBD	SHA
	Overall Acceptable Pavement Condition (MFR)	90% / 95%	SHA
	Percentage of all Maryland Bridges that are in Poor Condition (MFR)	TBD / TBD	SHA
Minimize travel delays and improve reliability and quality	**Percent of all MDOT Transit Service Provided On Time (MFR)**	99% for all except Local Bus / 90%	MTA
	Truck hours of delay (all traffic hours of delay in full report) (MFR)	5.3 million hours / 5.3 million hours	SHA
	Annual Cost of Congestion (Billions) on the MDOT highway network (MFR)	$4.5 billion / $4.5 billion	SHA/MDTA
	User cost savings for the traveling public due to incident management (MFR)	$2.2 billion / $3 billion	SHA/MDTA

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Objectives	Performance Measures	2030 Target / 2050 Target	Modal Administration
Accelerate project completion through improved project delivery	**Percent of CTP program that is funded with Federal dollars**	Baseline in first year / TBD	TSO
	Percent of projects delivered on-time across MDOT	Baseline in first year / TBD	TSO
	Percent of projects delivered on-budget across MDOT	Baseline in first year / TBD	TSO
	Percent of toll transactions collected by *E-ZPass®* versus video tolls (MFR)	Baseline trends in first year to measure video tolls / TBD	MDTA
	MDOT MVA Alternative Service Delivery (ASD) Transactions as Percent of Total Transactions (MFR)	85% / 90%	MVA
	MDOT MVA Average Cost Per Transaction (MFR)	$18.31 / $18.00	MVA

Serve Communities and Support the Economy

Expand transportation options to allow Maryland's diverse communities to access opportunities and to support the movement of goods.

Key Outcomes for this Goal to achieve through the 2050 MTP:

If we expand transportation options to allow Maryland's diverse communities to access opportunities and to support the movement of goods, we will expand transit and active transportation use, and drive a regional economy.

Objectives	Performance Measures	2030 Target / 2050 Target	Modal Administration
Enhance Marylanders' satisfaction with the transportation system and MDOT services	**Overall Satisfaction with MDOT (survey)**	Baseline and trend first year / TBD	TSO/MTA
	Percentage of MVA Branch Offices with a Wait Time under 10 Minutes (MFR)	90% in under 10 minutes by 2030 and 100% in under 10 minutes by 2050	MVA
Apply enhanced technologies to improve communication and relay real-time information	Percentage of modal administration services that provide real-time information	Baseline trend in first year / TBD	All Modal Admins
Prioritize the transportation needs of underserved and overburdened communities in project selection and scoping	**Access to transit (within ½ mile of a transit station/stop) by people who live in an overburdened and underserved areas as defined by CSNA**	Baseline trend in first year / TBD	MTA
	Relative percentage of CTP investment that is in overburdened and underserved communities	Baseline trend in first year	TSO
Improve quality of life by providing active transportation and transit access to jobs and opportunities	**Commute mode share**	No Target	TSO
	Multimodal access to essential services/destinations	May be a first-year measure / executive summary to show a statewide map of this.	TSO/MDP

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Objectives	Performance Measures	2030 Target / 2050 Target	Modal Administration
Increase transit use, active transportation, and transit-oriented development (TOD)	**Annual transit ridership— Contracted services and LOTS (thousands) (MFR), including paratransit ridership**	Overall Increase	MTA
	Population within ½ mile of a transit station/stop	Baseline trend in first year / TBD	MTA
	Number of jobs within ½ mile of a transit station/stop	Baseline trend in first year / TBD	MTA
	MDOT MTA average weekday transit ridership (MFR)	Overall Increase	MTA
	Annual Transit ridership—MDOT MTA direct-operated services (thousands) (MFR)	Overall Increase	MTA
	Fixed-route ridership by seniors and people with disabilities (a combined data point)	TBD	MTA
	Total Maryland—only WMATA annual ridership (MFR)	Overall Increase	WMATA
	Annual revenue vehicle miles of MDOT MTA service provided (MFR)	Overall Increase	MTA
Improve the efficiency and competitiveness of the Port of Baltimore and BWI Thurgood Marshall Airport	**Port of Baltimore foreign cargo tonnage and MPA general cargo tonnage (MFR)**	No Target	MPA
	Percentage of MPA Operating budget recovered by revenues (MFR)	No Target	MPA
	BWI Marshall Airport total annual passengers (MFR)	Increase	MAA
	Comparative airline cost per enplaned passenger (CPE) (MFR)	Below the mean of comparable airports	MAA
	Freight originating and terminating in Maryland by mode—total tonnage	No Target	TSO
	Freight originating and terminating in Maryland by mode—total value	No Target	TSO

Objectives	Performance Measures	2030 Target / 2050 Target	Modal Administration
	Number of nonstop airline markets served (MFR)	80 / TBD	MAA

Promote Environmental Stewardship

Minimize and mitigate the environmental effects of transportation.

Key Outcomes for this Goal to achieve through the 2050 MTP:

If we minimize and mitigate the environmental effects of transportation, we will achieve a 20 percent reduction in vehicle-miles traveled per capita and a 40 percent reduction in transportation sector GHG emissions by 2031 to net-zero by 2045.

Objectives	Performance Measures	2030 Target / 2050 Target	Modal Administration
Protect and enhance the natural environment through avoidance, minimization, and mitigation of adverse impacts related to transportation infrastructure	Percent of MDOT's 5-year MS4 Permits attained	Baseline trends first year / TBD	TSO/OE
Employ resource protection and conservation practices in project development, construction, operations, and maintenance of transportation assets	Diversion rate and cost of disposing construction, demolition, and maintenance materials in landfills and incinerators	Baseline trends first year / TBD	TSO/OE
	Annual Dredged Material Capacity Remaining for Harbor and Poplar Island Material (cubic yards) (millions) (MFR)	Long-term: 20-year capacity	MPA
	Increase the Beneficial Use and Innovative Reuse of Dredged Materials	Long-term: 500,000 cubic yards of dredged	MPA

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Objectives	Performance Measures	2030 Target / 2050 Target	Modal Administration
Minimize fossil fuel consumption, reduce greenhouse gas emissions, and improve air quality and support the growth of alternative fuels.	**VMT/VMT per capita (MFR)**	Decrease of VMT per capita 10% by 2030 and 20% by 2050	TSO/SHA
	Number of employee partners in statewide TDM programs	500 / 1,000	TSO
	Transportation-Related Air Pollution Reduction (TPM)	Overall decrease	TSO
	GHG emissions from LDV VMT (light-duty) vehicles and MHDV VMT (medium-heavy-duty) vehicles	Baseline target in first year	TSO
	Statewide VEIP testing compliance rate	100% / 100%	MVA
Support the widespread adoption of alternative fuels, electric vehicles, and innovative technologies	**Percentage of MDOT fleet composed of EVs**	Baseline trend in first year / TBD	TSO
	Percent of Electric Vehicles (EVs) registered from Total Registered Vehicles (MFR)	Baseline trend in first year (1 million of the total in 2050)	MVA
	Level 2 and DC Fast Charging ports per 1000 residents	Baseline trend in first year / TBD	TSO

5. ARAC Recommendations on AR Format

The audience for the AR ranges from community members, state government leadership and staff, as well as legislators. The ARAC and MDOT staff have discussed three options for presenting the AR Report. As discussed below, MDOT staff recommend both of the first two options be advanced for the AR.

1. High-Level Visual Executive Summary PDF: This method involves creating a visually appealing executive summary document of select performance measures (bolded in the previous section) that is no more than 12 pages in length. Visual elements such as charts, graphs, and infographics would be used to enhance understanding and engagement.

2. Full Technical Report: This method is a PDF of all of the performance measures with a hosted webpage for users to delve into modal administration information. The full report will provide a transparent platform on the methodologies, trends, and strategies aligned with the MTP.

3. Online Dashboard: Another method of communication is to develop an online dashboard that provides an interactive summary of the AR Report. Users could navigate through different sections, drill down into specific data points, and interact with charts and graphs for a comprehensive understanding of the report's findings. However, the ARAC and MDOT staff both expressed concerns that the data is updated annually and does not change often enough to provide the value-add of a dashboard, nor is the current AR story map visited often.

After much consideration of the options, MDOT staff recommends the first and second option: a high-level executive summary and a full technical report. MDOT staff decided to discontinue the online dashboard, which has a low volume of engagement by the public.

The ARAC also recommended that MDOT host a webpage that provides links to all of the MDOT modal administrations' performance management resources.

Appendix A—ARAC Meeting Attendance

ARAC Member	Meeting 1	Meeting 2	Meeting 3	Meeting 4
Alexander Austin	●	●	●	●
Ben Groff	●	●	●	●
Brian Patrick Wivell	●		●	●
Charlotte Davis			●	●
Dr. Chester Harvey	●	●	●	●
Deborah Price	●	●	●	●
Dennis Enslinger	●	●	●	●
Derrick Waters	●	●		
Gustavo Torres	●	●	●	●
Jacqueline Allsup		●		
Jaime McKay	●	●	●	●
Lindsey Mendelson	●	●	●	●
Louis Campion	●		●	●
Dr. Mansoureh Jeihani	●	●		●
Regina Ali	●		●	
Robert A. Holsey, Jr	●	●	●	●
Sheila Somashekhar	●	●	●	
Shima Hamidi	●	●		●
Dr. Ting Ma	●	●	●	●
Valdis Lazdins[3]	●			
Charles Boyd[4]		●	●	●

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[3]   Valdis Lazdins represented Dept of Planning, Maryland for the first ARAC Meeting.

[4]   Charles Boyd represented Dept of Planning, Maryland for all ARAC Meetings except the first one.

Appendix B—Summary of New and Updated Performance Measures

Updated and New Performance Measures

MDOT conducted an internal review of performance measures. The process uncovered performance measures in which targets had been met or results were flat and therefore not as useful, surveys were discontinued, or methodologies required updating. Additionally, through the update of the 2050 MTP, goals and objectives had changed and rendered some performance measures obsolete. The ARAC provided recommendations that were incorporated into the final AR performance measures. The following tables describe the updated and new performance measures. Performance measures in bold indicate that they planned for inclusion in the executive summary as well as the full technical report.

Table 4: Enhance Safety and Security: Updated and New Performance Measures

New Measure	Rationale
Annual number of fatalities and serious injuries on all roads in Maryland (MFR)	Aligns crash types across equity and statewide measures
Annual number of bicycle fatalities and serious injuries (MFR)	Aligns crash types across equity and statewide measures
Number of pedestrian fatalities and serious injuries (MFR)	Aligns crash types across equity and statewide measures
Annual number of fatalities and serious injuries on all roads in Maryland in historically disadvantaged communities	Aligns with 2030 goal from legislature
Miles of lower level of traffic stress (LTS 2 or better)	This measure was introduced in previous ARs (2022 and 2023) but had not been measured
Annual number of transit passenger fatalities and serious injuries	Aligns crash types across equity and statewide measures
Number of at-grade railroad crossing incidents resulting in injury or fatality	This measure is captured in the Maryland State Rail Plan
Preventable incidents per 100,000 vehicle miles traveled on transit	Wording clarifies that the incidents are related to transit
Clearance times for weather events	Clarifies from roadway clearance times to include all modes
Incident (CHART) response rates/times	This metric is captured in CHART's annual report released in August

Table 5: Deliver System Quality: Updated and New Performance Measures

New Measure	Rationale
Preparedness of the transportation system for weather conditions and hazards	Added measure aligned with resilience principle and new goal
Percentage of lane-miles/fixed guideway transit-miles susceptible to flooding and storm surge	Added measure aligned with resilience principle and new goal
Unfunded State of Good Repair Backlog	Added measure for transparency and alignment with goal
Truck hours of delay (All traffic hours of delay in full report)	Updated from truck travel time reliability index for better tracking
Percent of CTP program that is funded with Federal dollars	Added measure for transparency and alignment with goal
Percent of projects delivered on-time across MDOT	Added measure to incorporate internal performance metrics to align with goal
Percent of projects delivered on-budget across MDOT	Added measure to incorporate internal performance metrics to align with goal

Table 6: Serve Communities and Support the Economy: Updated and New Performance Measures

New Measure	Rationale
Percentage of MPA operating budget recovered by revenues (MFR)	Aligned with similar measure for BWI Marshall Airport and already captured in the MFR
Access to transit (within $\frac{1}{2}$ mile of a transit station/stop) by people who live in an area of overburdened and underserved areas as defined by CSNA	Aligned with equity and experience principles as well as new goal
Overall Satisfaction with MDOT (survey)	Updated methodology to University of Maryland survey
Percentage of MVA Branch Offices with a wait time under 10 Minutes (MFR)	Updated from reporting of wait times to include target wait time within performance measure
Percentage of modal administration services that provide real-time information	Replaced survey of transportation system users with modal administration reporting of real-time information provision
Ratio of percentage of CTP investment that is in overburdened and underserved communities to the percentage of the statewide population	Aligned with equity principle and new goal
Multimodal access to essential services/destinations	Aligned with equity and experience principles as well as new goal
Population within ½ mile of a transit station/stop	Aligned with equity and experience principles as well as new goal

New Measure	Rationale
Number of jobs within ½ mile of a transit station/stop	Aligned with equity and experience principles as well as new goal
Fixed-route transit ridership by seniors and people with disabilities	Aligned with Equity in the Transportation Sector (2023) law.

Table 7: Promote Environmental Stewardship: Updated and New Performance Measures

New Measure	Rationale
Percent of vehicles registered in the state that are alternative fuel, electric, or hybrid electric (MFR)	Updated methodology from number of EVs to represent proportion of vehicles statewide
Percentage of MDOT fleet comprising EVs	Added to provide internal performance measure aligned with goal
Percent of MDOT's five-year MS4 Permits attained	Updated from previous measure of impervious surface restoration to a measure that tracks MDOT processes (permits)
Increase the beneficial use and innovative reuse of dredged materials	Updated to "increase" the types of use for dredged materials
Greenhouse gas (GHG) emissions from light-duty vehicle (LDV) vehicle miles traveled (VMT) and medium-heavy-duty vehicles (MHDV) VMT	Added tracking of segments of vehicle types contributing to GHG emissions through VMT
Number of employee partners in statewide transportation demand management (TDM) programs	Updated to focus MDOT TDM partnerships
Level 2 and DC fast charging ports per 1,000 residents	Aligned with the 2022 Climate Solutions Now Act (CSNA) and goal

Appendix C—MTP Survey Results

1. Introduction/Overview

Maryland launched an effort to create a new long-range transportation plan, the 2050 Maryland Transportation Plan (MTP). The new 2050 MTP establishes a 20-year vision for statewide transportation and provides policy direction to inform transportation investments. The Maryland Department of Transportation (MDOT) conducted outreach to Maryland's transportation system users and residents between June 8th and July 10th, 2023.

As part of the MTP process, MDOT conducted extensive engagement both internally throughout MDOT and externally with its local, state, and regional planning partners and the wider public.

Outreach Methods

Survey #2 was provided via a hyperlink on MDOT's website. It was promoted on MDOT social media, paid social media through MDOT News, and via email blasts. In person promotion was made available through signs and bookmarks placed at libraries across the state. MDOT also coordinated with local Government agencies and partner organizations to encourage a wide range of experience and perspectives from participants. An inactive version of the survey can be viewed here.

2. Public Feedback

Public Surveys

The public provided feedback on the draft strategic direction, transportation needs, and budget allocation. Over 2,000 survey responses were collected from the public survey effort. Participants also submitted a total of 3,072 comments that provided additional insight into their transportation priorities. Surveys were developed in MetroQuest and were available in Spanish, French, and an accessible fillable Word document. MDOT also coordinated with local Government agencies and partner organizations to encourage a wide range of experience and perspectives from participants. The accessible fillable version of the survey received four responses. There have been 11 submissions from Maryland local, state, and regional planning partners and elected officials.
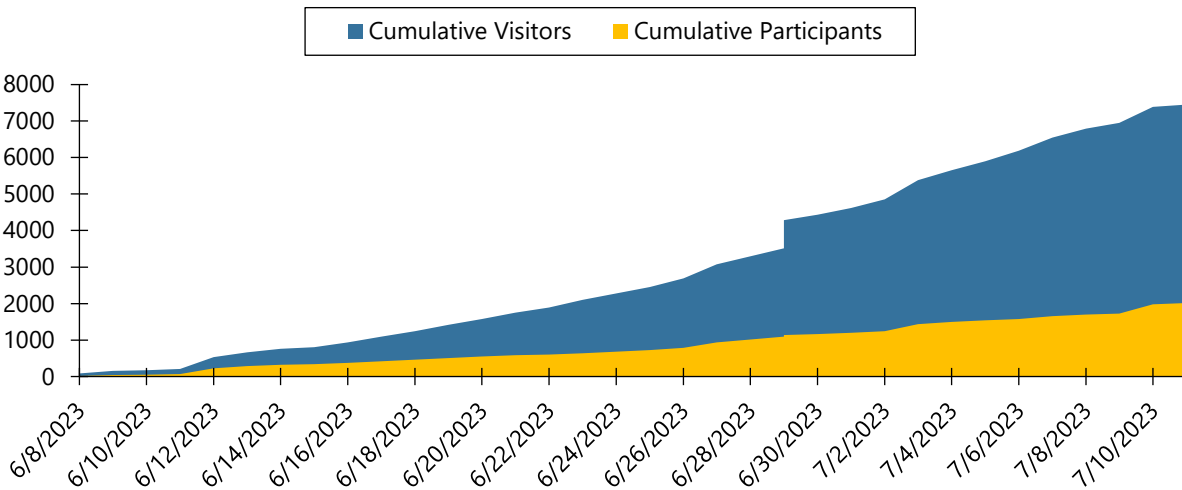
Survey #2 Traffic

The survey received 2,017 responses. In general, the more traffic the survey received, resulted in more participation.

Survey #2 Daily Traffic and Participation
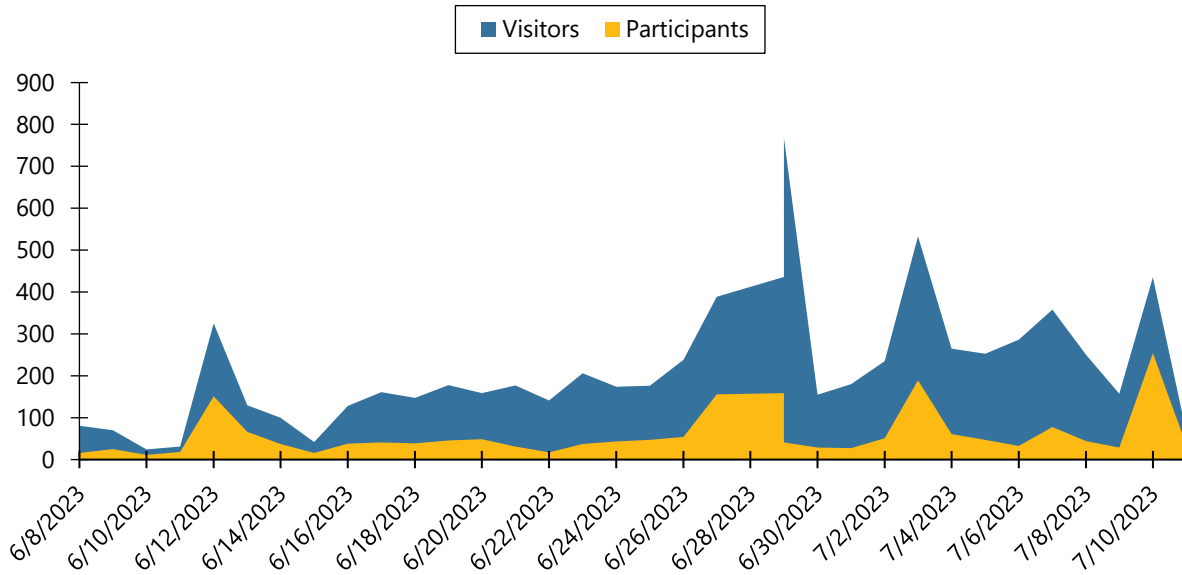
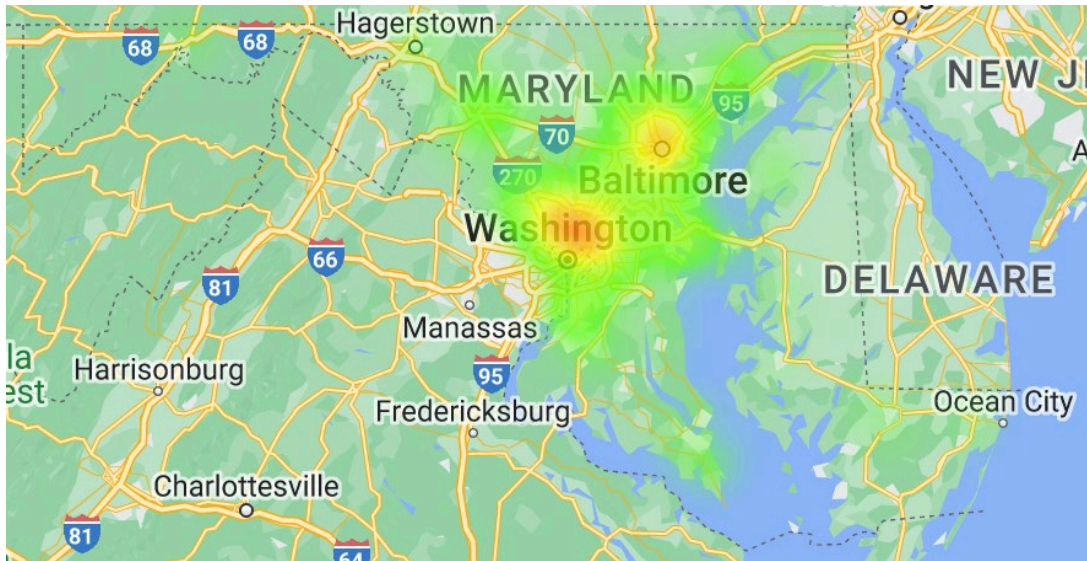## Survey #2 Cumulative Traffic and Participation

Demographics

Location

Survey responses were concentrated in the center of the state. Baltimore City (130) and Montgomery County (177) had the largest response rate with more than 50 responses each. The survey also was taken by 185 participants that listed their residence as "out of state."
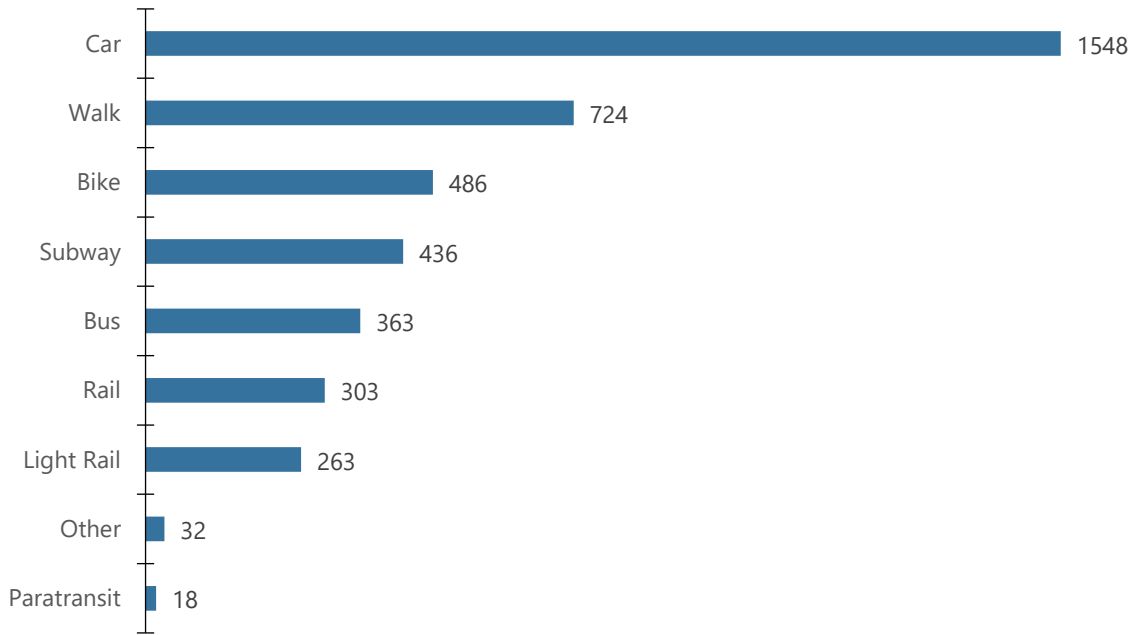
Zooming in further reveals urban center concentrations other than the Washington, DC and Baltimore areas. Smaller green highlighted areas reveal that many responses also were from smaller centers such as Hagerstown, Frederick, Owings Mills, Kent Island, and Fort Washington, among others.
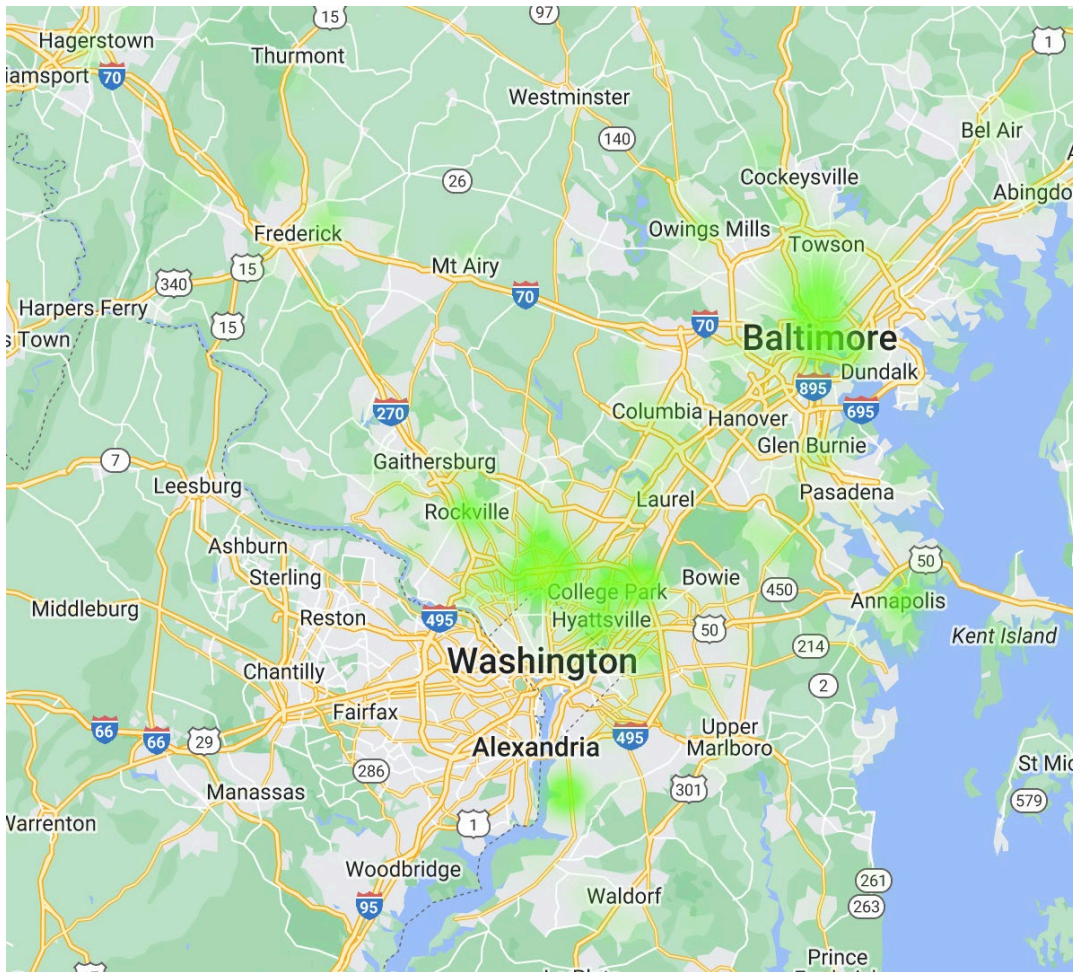
Mode Use

Participants were asked to select all of the transportation modes they use on a regular basis. Cars were the most used transportation mode, followed by walking and biking.

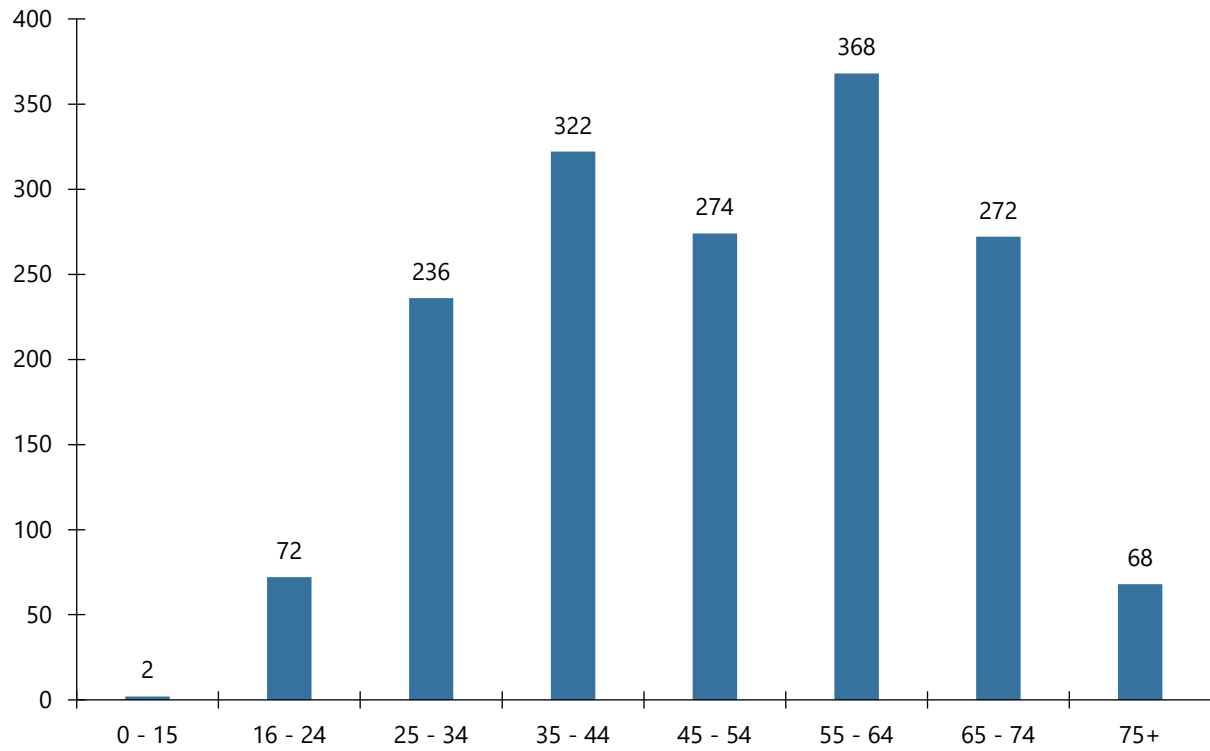| Mode	Count
Car	1548
Walk	724
Bike	486
Subway	436
Bus	363
Rail	303
Light Rail	263
Other	32
Paratransit	18

Age

Participants' ages ranged from 15 to 75+. Most responses were from participants that were between the ages of 35 and 74.

Work Environment

Out of 1,273 responses, most participants work in either a hybrid (33 percent) or remote (17 percent) work environments. A little under a fourth of participants work in a fully in-person work environment (23 percent).
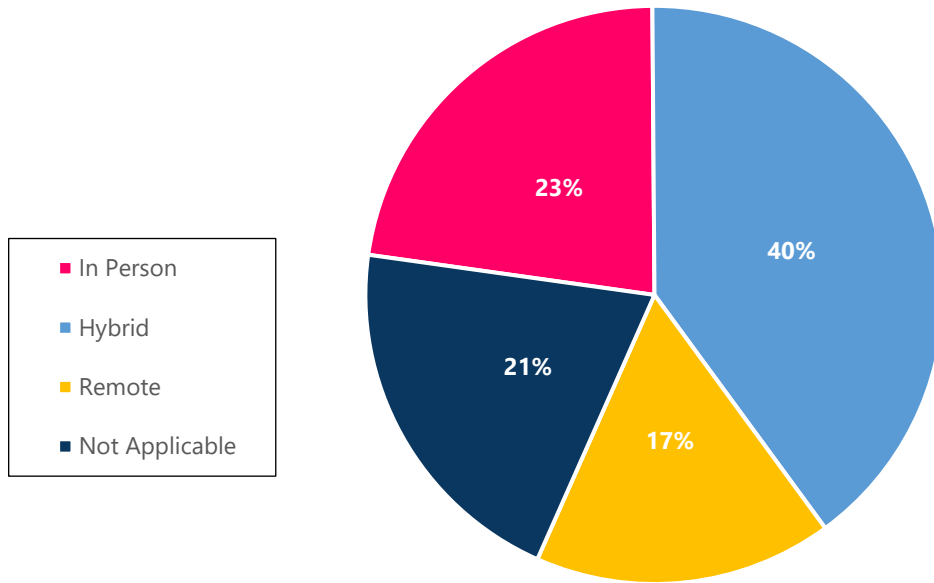
Language

The 2050 MTP Survey was offered in three languages: English, French, and Spanish. Of the 2,017 survey participants, 2,009 completed the survey in English, one in French and seven in Spanish.
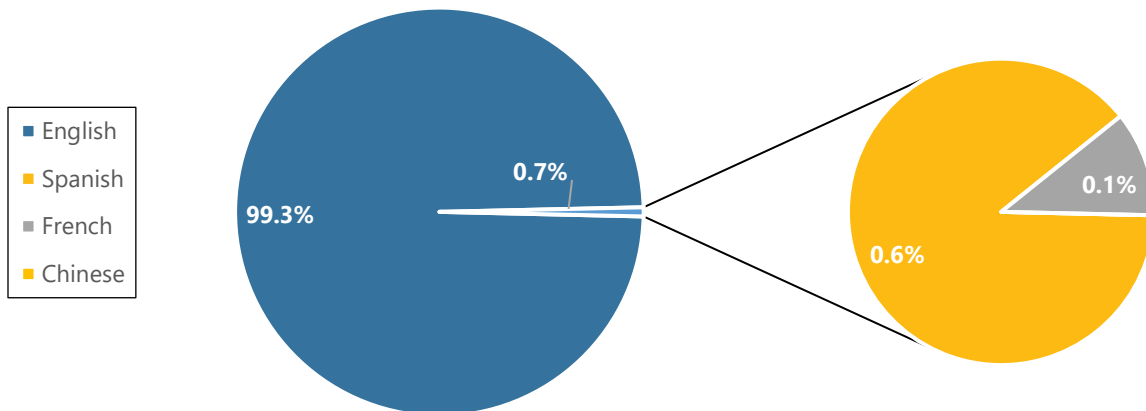
3. Survey Results

Key Outcomes

Key outcomes were measured at both the halfway mark and end of the survey. During that time, the leading key outcome remained the same throughout. The charts below list the top key outcome from each category.

Figure 2: Delivery System Quality

Outcome	Value
Increase the percentage of Marylanders living in transit-oriented developments	521
Improve the percentage of state-maintained multimodal assets in good condition	410
Decrease the size of State of Good Repair backlog	381
Improve the percentage of state-maintained bridges in good condition	344
Increase the percentage of containers that move by rail in/out of the Port of Baltimore	47
Increase the number of regional air passengers at BWI	22

Figure 3: Enhance Safety and Security

Outcome	Value
Achieve a low stress statewide transportation infrastructure across all modes	1177
Achieve zero traffic-related deaths	427
Achieve roadway clearance within 60 minutes of an emergency	159
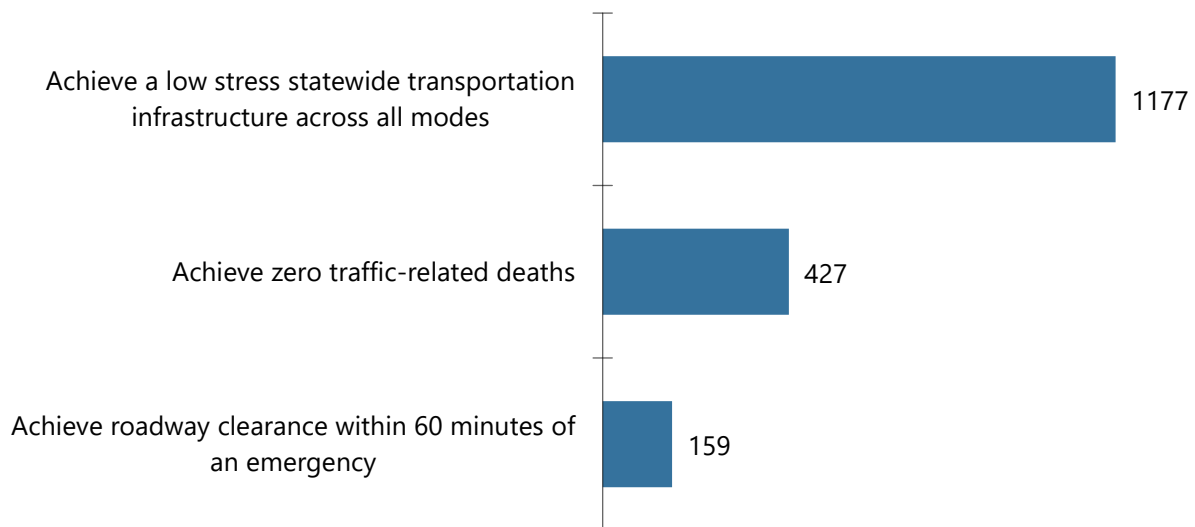
Figure 4: Promote Environmental Stewardship

Category	Value
Reduce vehicle-miles-of-travel (VMT) per capita	610
Ensure that there are alternative fuel stations within 50 miles on all Maryland roadways	392
Reduce transportation sector GHG emissions towards net-zero emissions by 2045	280
Reduce transportation GHG emissions towards overall reduction of 60% by 2031	253
Improve Vehicle Emissions Inspection Program Testing compliance rate	97

Figure 5: Serve Communities and Support the Economy

Category	Value
Increase the mode share of non-single occupant vehicle modes of travel (pedestrian, transit, bicycling, etc.)	781
Increase the percentage of population within 60 minutes of a job center (via transit or non-auto modes)	435
Increase the percentage of real-time info available for all transportation facilities/services	434
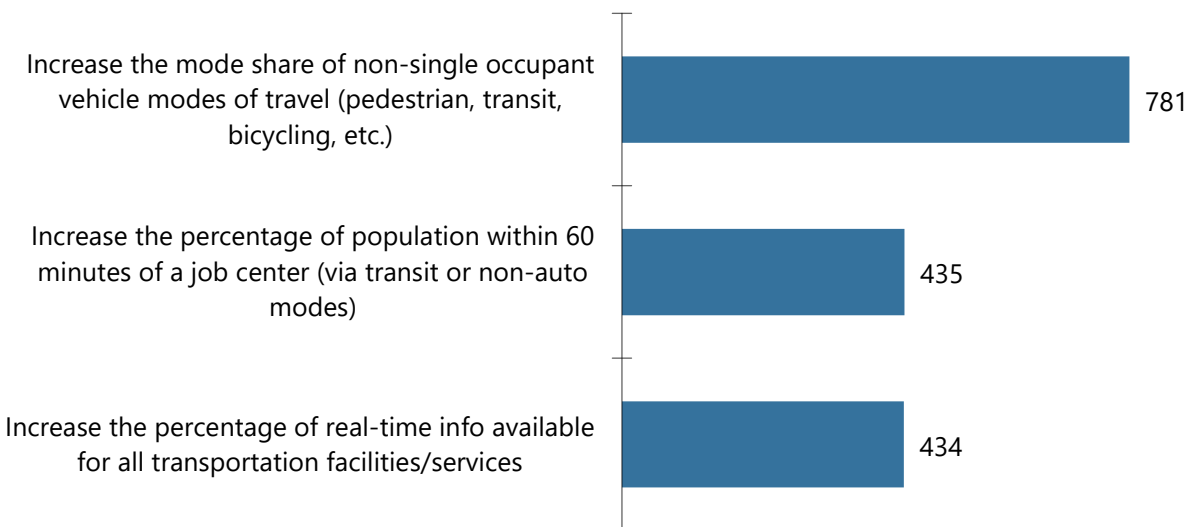
Allocate a Budget

Participants were asked to assign a budget based on a finite amount represented by coins that could be placed in given budget categories. Participants also were able to make custom comments about the survey exercise. Public transit, maintenance, safety and complete streets and trails were the top budget choices by a wide margin over all other options. Highway expansion was the top choice for the bottom half of the budget and MDOT buildings and facilities received the least amount of funding.

Figure 6: All Inputs Average Bar Chart

Category	Value
Public Transit	16.89
Passenger and Commuter Rail	14.45
Maintenance	14.36
Safety	13.27
Complete Streets and Trails	12.24
Highway Expansion	7.76
Technology	6.04
Airports	3.54
Freight Rail	3.19
Port	2.69
MDOT Buildings and Facilities	1.8
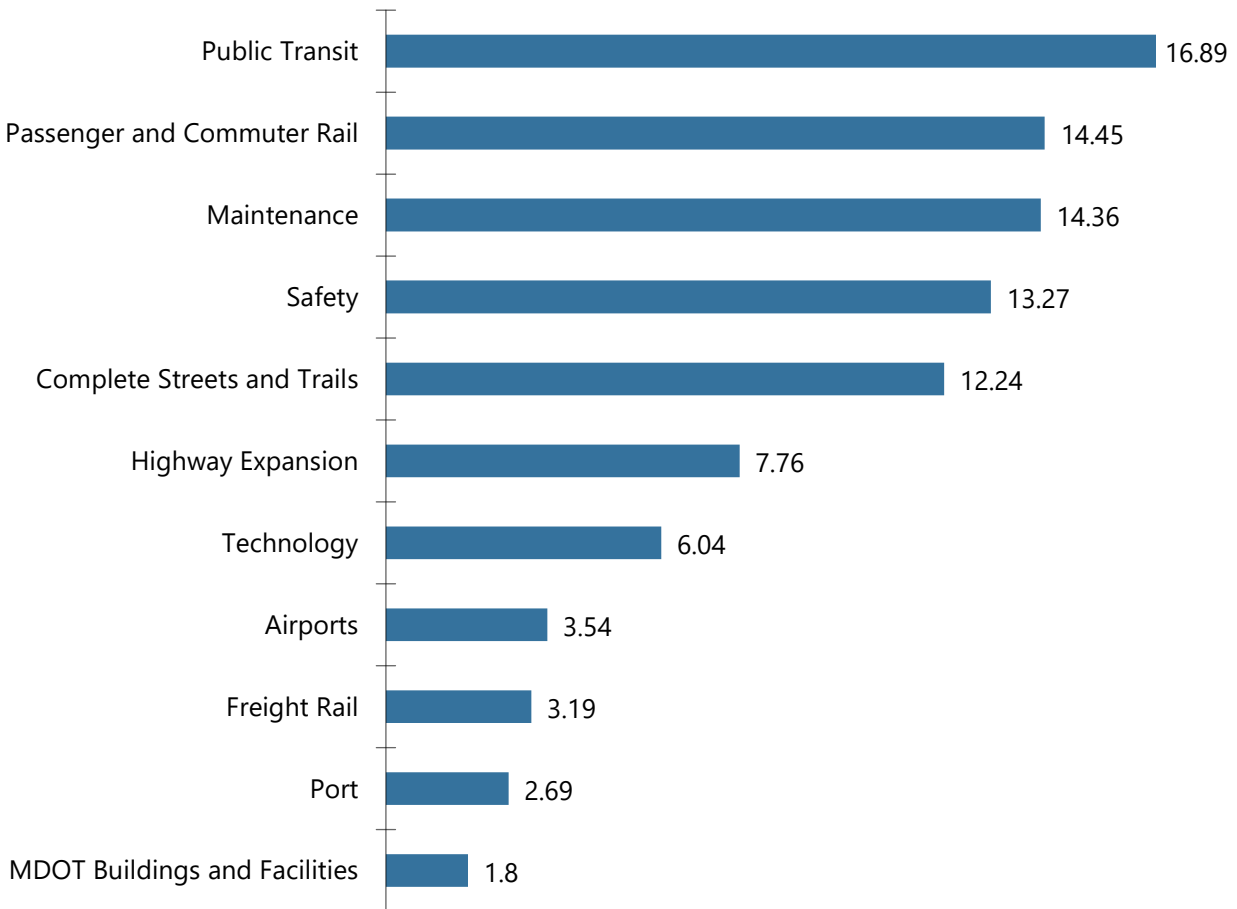
Mapping Transportation Needs

Participants were asked to place markers indicating areas needing transportation improvement. Six categories were provided with a seventh category offered to provide participants with a custom input option. Transit, biking, and road issues were the top pins placed on the map.

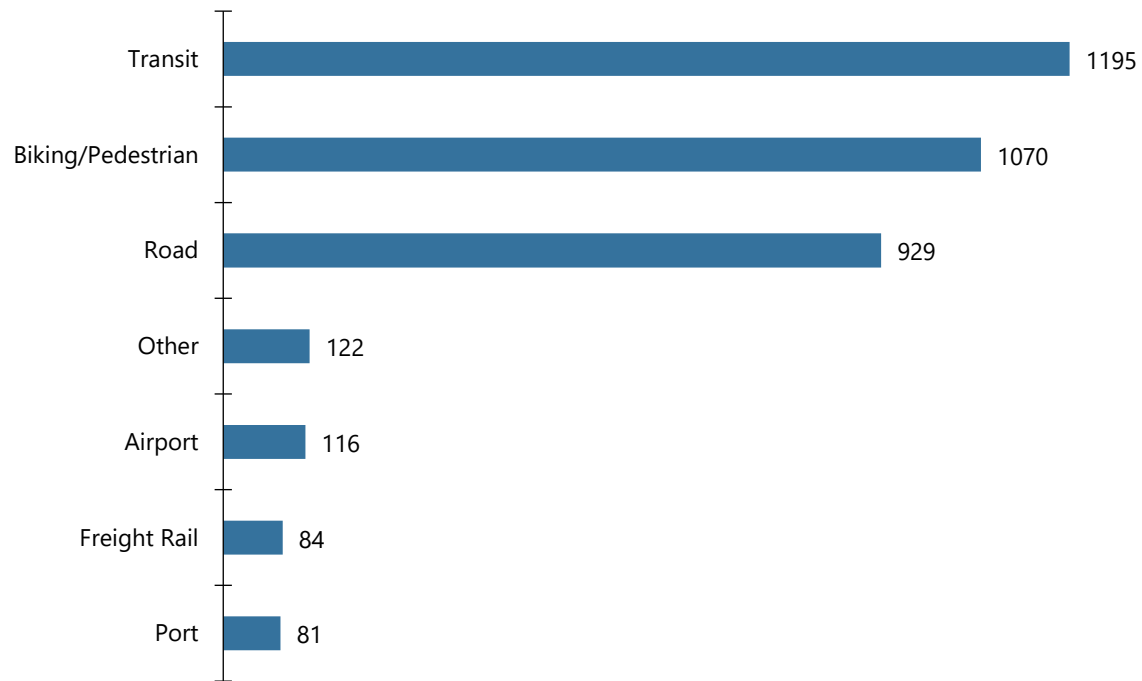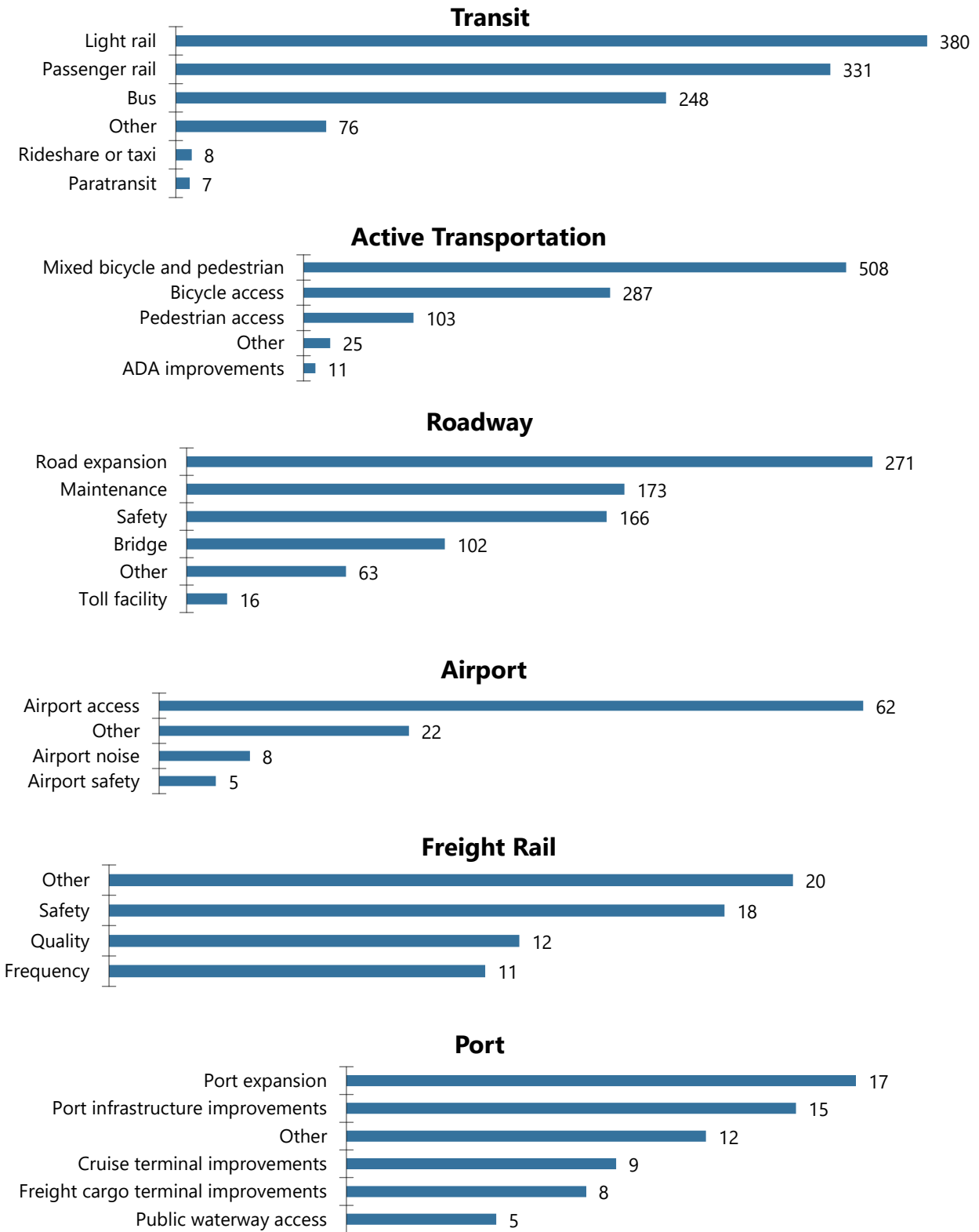*Figure 7: Transportation Needs by Category*

Category	Count
Transit	1195
Biking/Pedestrian	1070
Road	929
Other	122
Airport	116
Freight Rail	84
Port	81

Figure 8. Needs by Category of Improvement

Transit

Light rail	380
Passenger rail	331
Bus	248
Other	76
Rideshare or taxi	8
Paratransit	7

Active Transportation

Mixed bicycle and pedestrian	508
Bicycle access	287
Pedestrian access	103
Other	25
ADA improvements	11

Roadway

Road expansion	271
Maintenance	173
Safety	166
Bridge	102
Other	63
Toll facility	16

Airport

Airport access	62
Other	22
Airport noise	8
Airport safety	5

Freight Rail

Other	20
Safety	18
Quality	12
Frequency	11

Port

Port expansion	17
Port infrastructure improvements	15
Other	12
Cruise terminal improvements	9
Freight cargo terminal improvements	8
Public waterway access	5

The figures below demonstrate how MDOT received suggestions from throughout the state and throughout the Washington and Baltimore metropolitan areas.
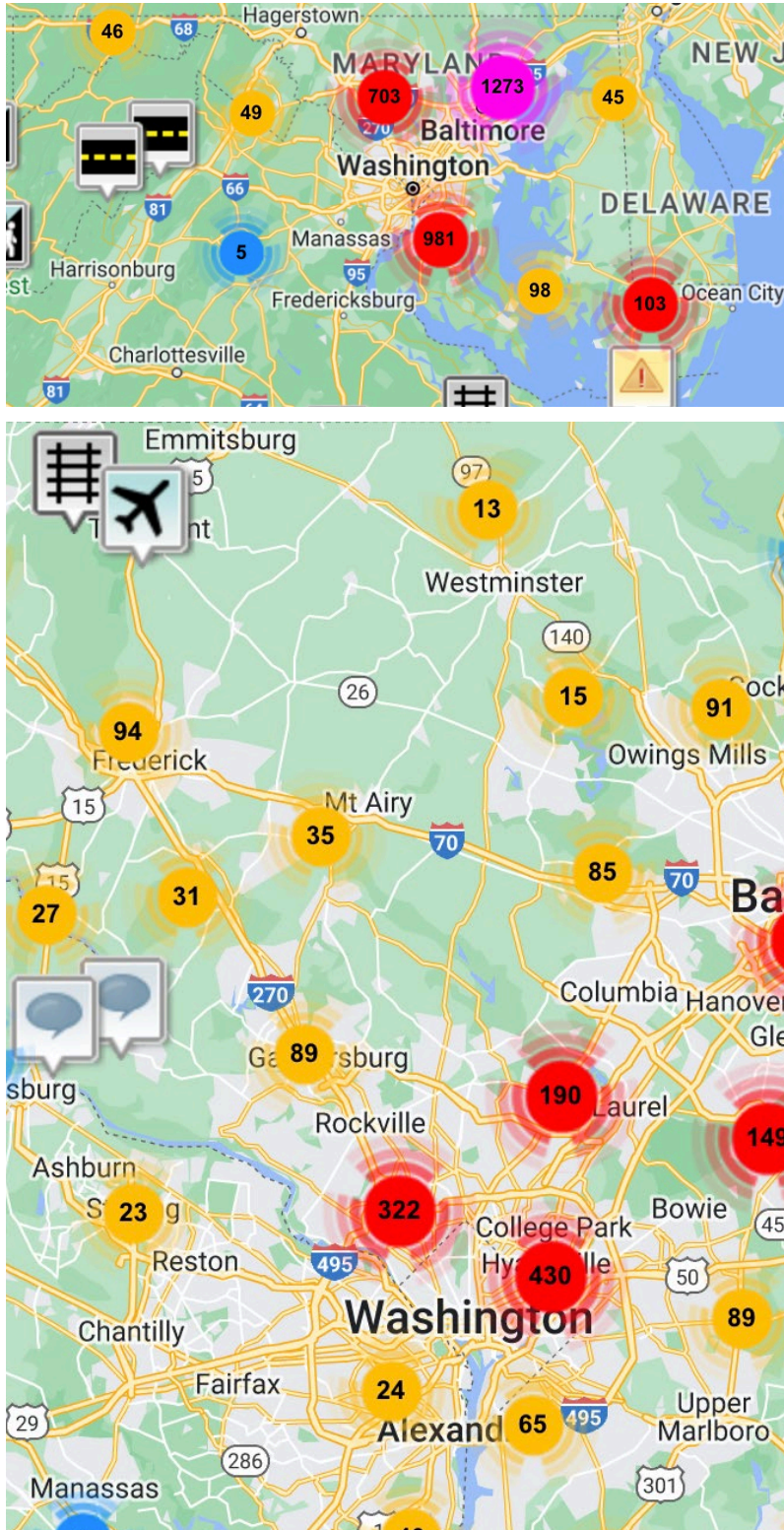
Figure 9: Central Maryland—Washington, DC
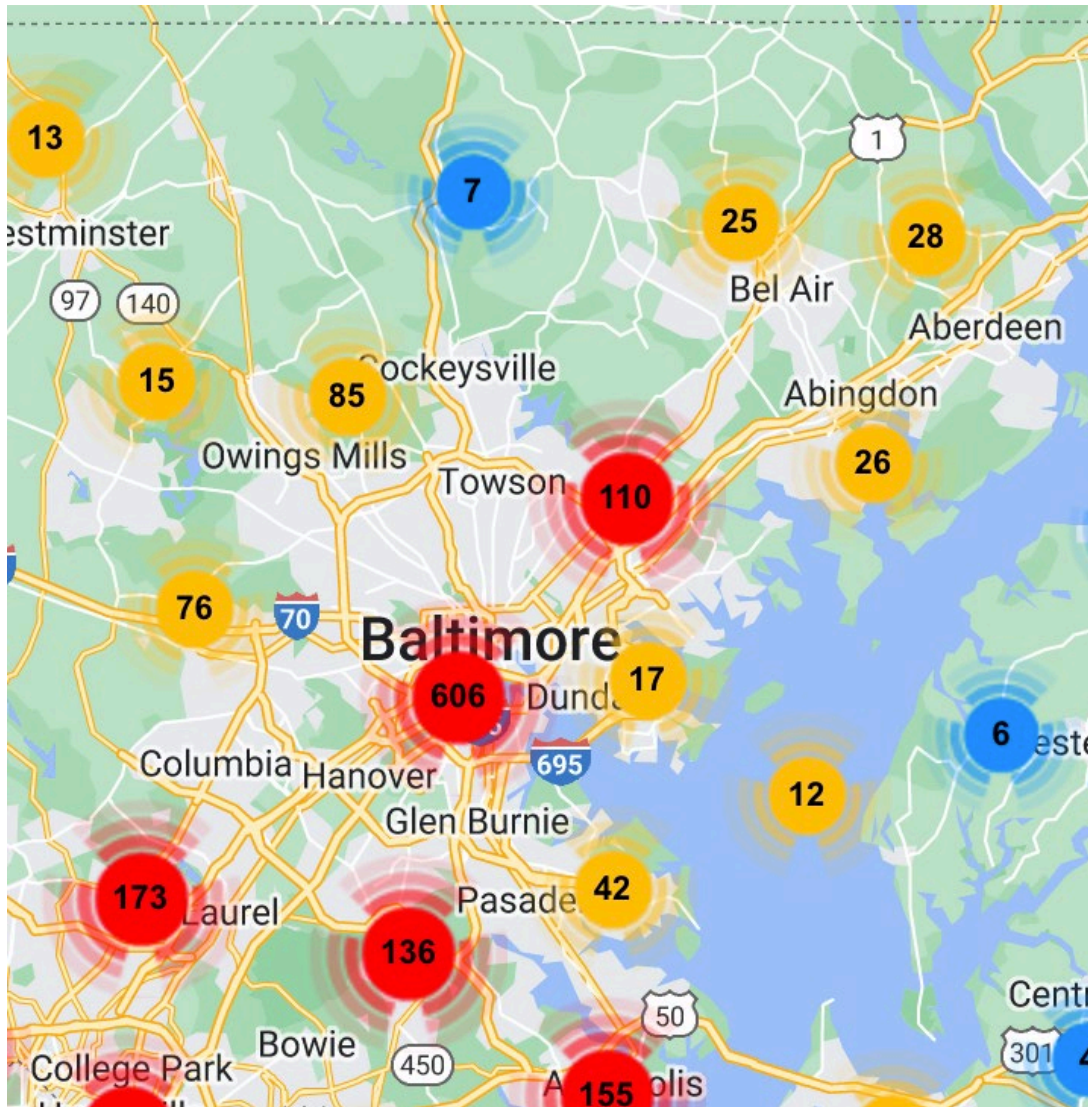
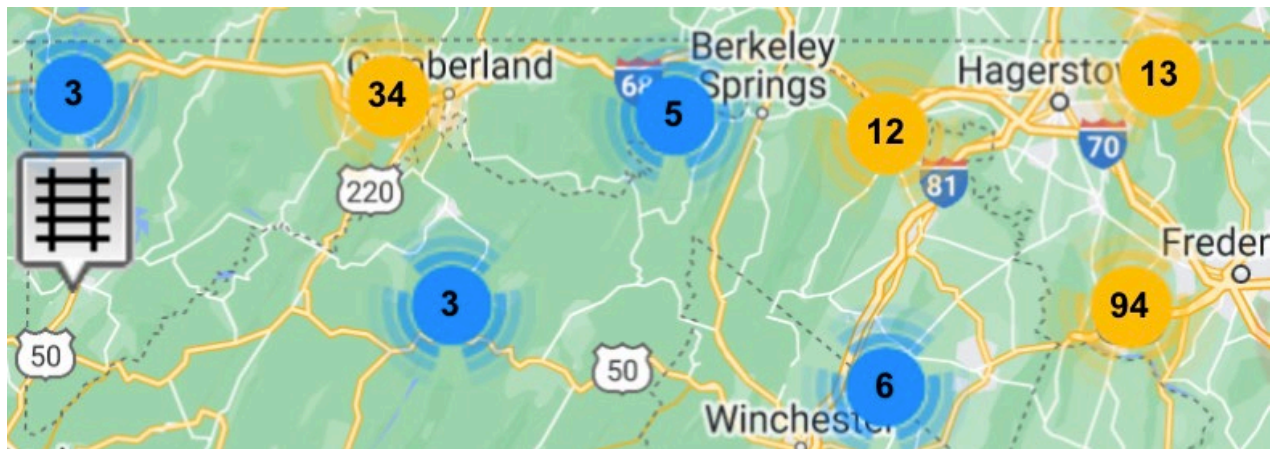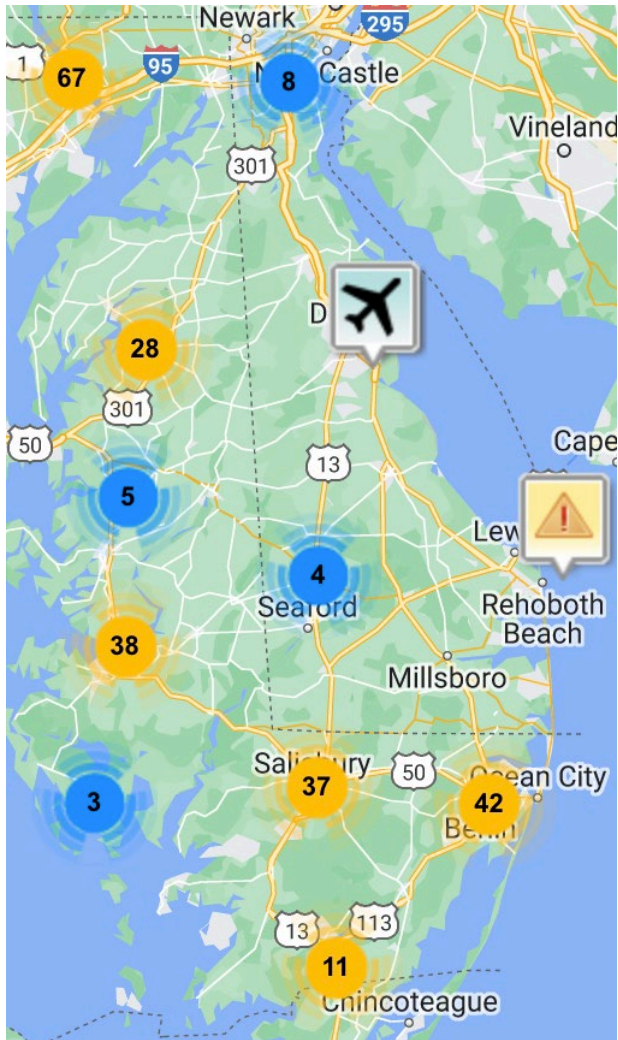*Figure 10: Central Maryland—Baltimore*

Figure 11: Western Maryland

Figure 12: Eastern Shore Maryland

Figure 13: Southern Maryland