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## Governor's Attainment Report Advisory Committee (ARAC) Summary Report

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July 13, 2018





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# 1.0 Introduction

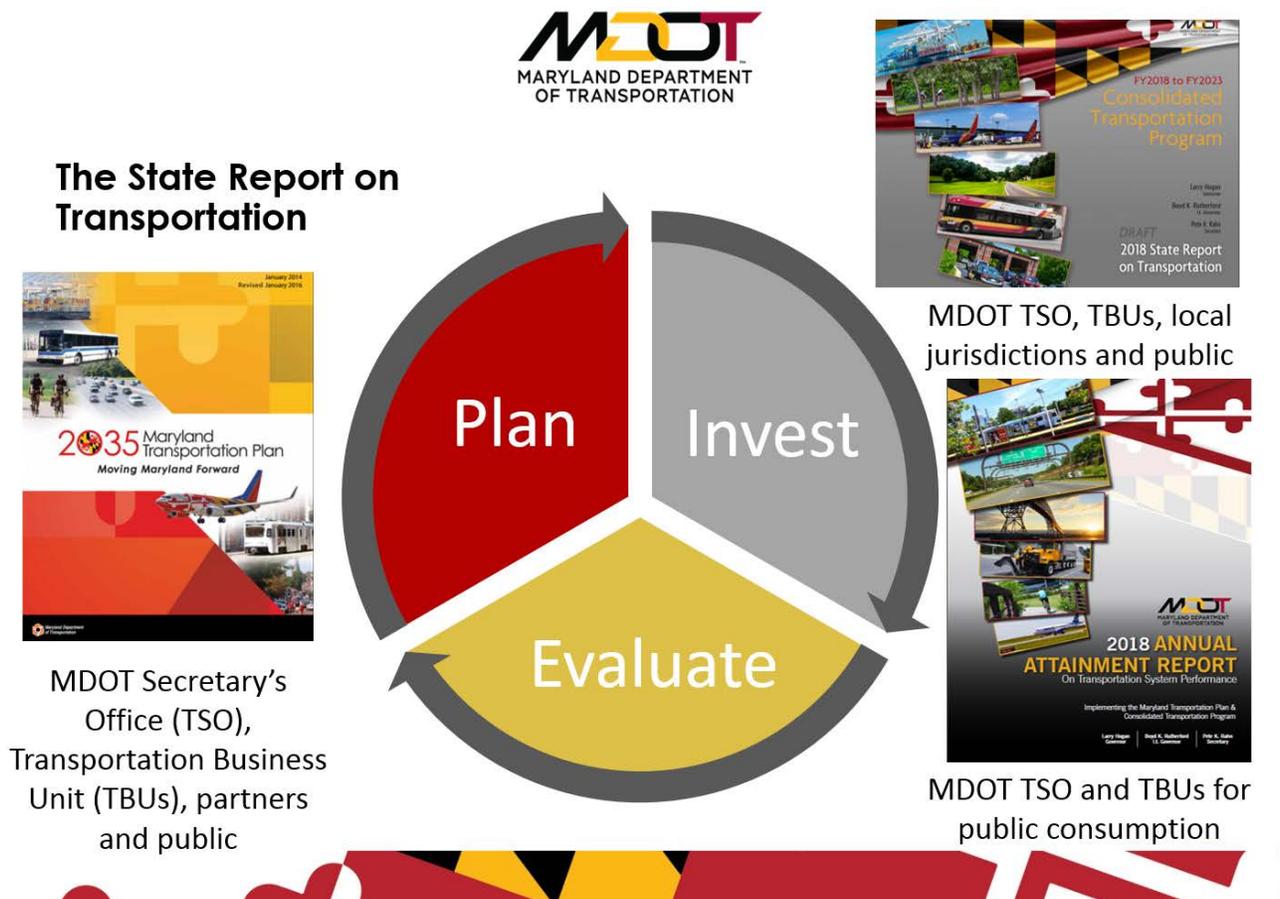
The Maryland Department of Transportation (MDOT) seeks to plan, invest in, and evaluate the transportation system to ensure efficiency in meeting our goals and objectives in order to achieve our Mission Statement:



## MISSION STATEMENT

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

Figure 1. The State Report on Transportation



MDOT's strategic approach is presented through the State Report on Transportation (SRT) which is comprised of three documents:

1. The Maryland Transportation Plan (MTP): A 20-year vision document for the State's transportation system;
2. The Consolidated Transportation Program (CTP): The six-year budget for transportation projects statewide, produced annually; and

3. 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 and MDOT including the Transportation Business Units (TBUs), for updating the AR to be responsive to the 2040 MTP.

## 1.1 Background and Legislative Requirements

The AR provides an assessment on how well MDOT is progressing to achieve our goals and objectives in the MTP through strategically aligned performance measures. It also provides an overview of the Maryland transportation system, system investment, 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 advancing the vision and selecting 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.

Per Transportation Article Section 2-103.1 of the Annotated Code of Maryland, 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 Attainment Report Advisory Committee (ARAC), a group of diverse stakeholders that represent interests that range from environmental advocates to disabled citizens.

### 1.1.1 *Maryland Legislative Requirements: Transportation Article of the Annotated Code (§2-103.1 Annual Report)*

The Transportation Performance Act (SB 731), enacted in 2000, mandates that the Maryland Department of Transportation (MDOT) develop an annual Attainment Report on Transportation System Performance (AR). This report establishes performance measures that quantify the goals and objectives in the Maryland Transportation Plan (MTP) and indicates the annual progress towards achieving those goals and objectives. When the MTP is updated, an Advisory Committee (AC) is convened to provide guidance to MDOT in the development of the Attainment Report, 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; and
- 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: (1) the environment; (2) environmental justice as defined in § 1-701 of the Environment Article; (3) communities; and (4) economic development; and
- » The Climate Action Plan goals required by the Greenhouse Gas Emissions Reduction Act of 2009 under § 2-1205(b) of the Environment Article.



## 2.0 The Attainment Report Advisory Committee (ARAC)

The Attainment Report Advisory Committee (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 comprised 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.

**Table 1. ARAC Required Representation and Actual Membership**

Required Representation	Representative	Representative Title	Organization
Maryland Business Community	Christine Ross	President/CEO	Maryland Chamber of Commerce
Disabled Citizens Community	Janice Jackson	Commissioner	Maryland Commission on Disabilities
Rural Interests	Geoff Turner	President/CEO	Choptank Transport
Auto Users Group	Ragina Cooper Averella	Public & Gov't Affairs Manager	American Automobile Association (AAA)
Transit Users Group	Steve Chan	Chairman	MARC Riders Advisory Council
Goods Movement Industry	Louis Campion	President/CEO	Maryland Motor Truck Association (MMTA)
	Geoff Turner	President/CEO	Choptank Transport
National Expert: Transportation Demand Management	Nicholas William Ramfos	Director, Transportation Operations Programs	Metropolitan Washington Council of Governments
National Expert: Pedestrian/Bike Transportation	Jennifer L. Toole, AICP, ASLA	President	Toole Design Group
National Expert: Transportation Performance Management	Matthew H. Hardy, Ph.D.	Program Director for Planning and Policy	American Association of State Highway and Transportation Officials (AASHTO)
Environmental Advocacy Organization	Joel Dunn	President/CEO	The Chesapeake Conservancy
Maryland Department of Planning	Pat Keller	Assistant Secretary for Planning Services	Maryland Department of Planning
Maryland Association of Counties	Keith Hall, AICP	Chief, Long Range and Transportation Planning	Salisbury/Wicomico Counties
	Alex Rawls	Long-Range Planner	Harford County Planning & Zoning
Maryland Municipal League	Jim Beauchamp	Town Council Vice President	Town of Centreville
	Tim Davis	Transportation Planner	City of Frederick

The ARAC reviews the AR's goals and objectives along with existing AR measures as they align with new goals. The committee also identifies measures to delete, modify, or add, compares measures against AR performance measure selection criteria, and identifies potential improvements to presentation of the AR's information.

In calendar year 2018, the ARAC met five times. A high level summary of those meetings follows.



## Table 2. ARAC Meeting Summary

<b>Meeting #1: February 5, 2018</b>
<b>Objective:</b> To become familiar with the State Report on Transportation and the AR update process. <a href="#">Agenda</a>
<b>Outcome:</b> Participants were asked to review the Attainment Report and performance measure selection criteria. They were also asked to provide feedback on draft MTP goals. <a href="#">Meeting Summary</a>
<b>Meeting #2: March 5, 2018</b>
<b>Objective:</b> To begin the process of performance measure development, addressing quantitative and qualitative measures. <a href="#">Agenda</a>
<b>Outcome:</b> New potential measures were drafted while other measures were proposed for removal. The first three goals were addressed during Meeting #2. <a href="#">Meeting Summary</a>
<b>Meeting #3: April 9, 2018</b>
<b>Objective:</b> To continue the process of performance measure development for the last four goals. <a href="#">Agenda</a>
<b>Outcome:</b> Several measures were proposed for addition to the AR. <a href="#">Meeting Summary</a>
<b>Meeting #4: May 7, 2018</b>
<b>Objective:</b> To review environmental measures, confirm measures to include in the AR, and receive input on the AR report and dashboard interface. <a href="#">Agenda</a>
<b>Outcome:</b> Overall measures were confirmed and enhancements to the AR format and dashboard were suggested. An additional June meeting was called. <a href="#">Meeting Summary</a>
<b>Meeting #5: June 11, 2018</b>
<b>Objective:</b> Review ARAC Summary Report <a href="#">Agenda</a>
<b>Outcome:</b> Overall measures were confirmed, refinement to the description of one title was advised, a potential future measure to track was clarified, and support was voiced for development of an AR story board. <a href="#">Meeting Summary</a>

## 3.0 Framework for Considering Performance Measures

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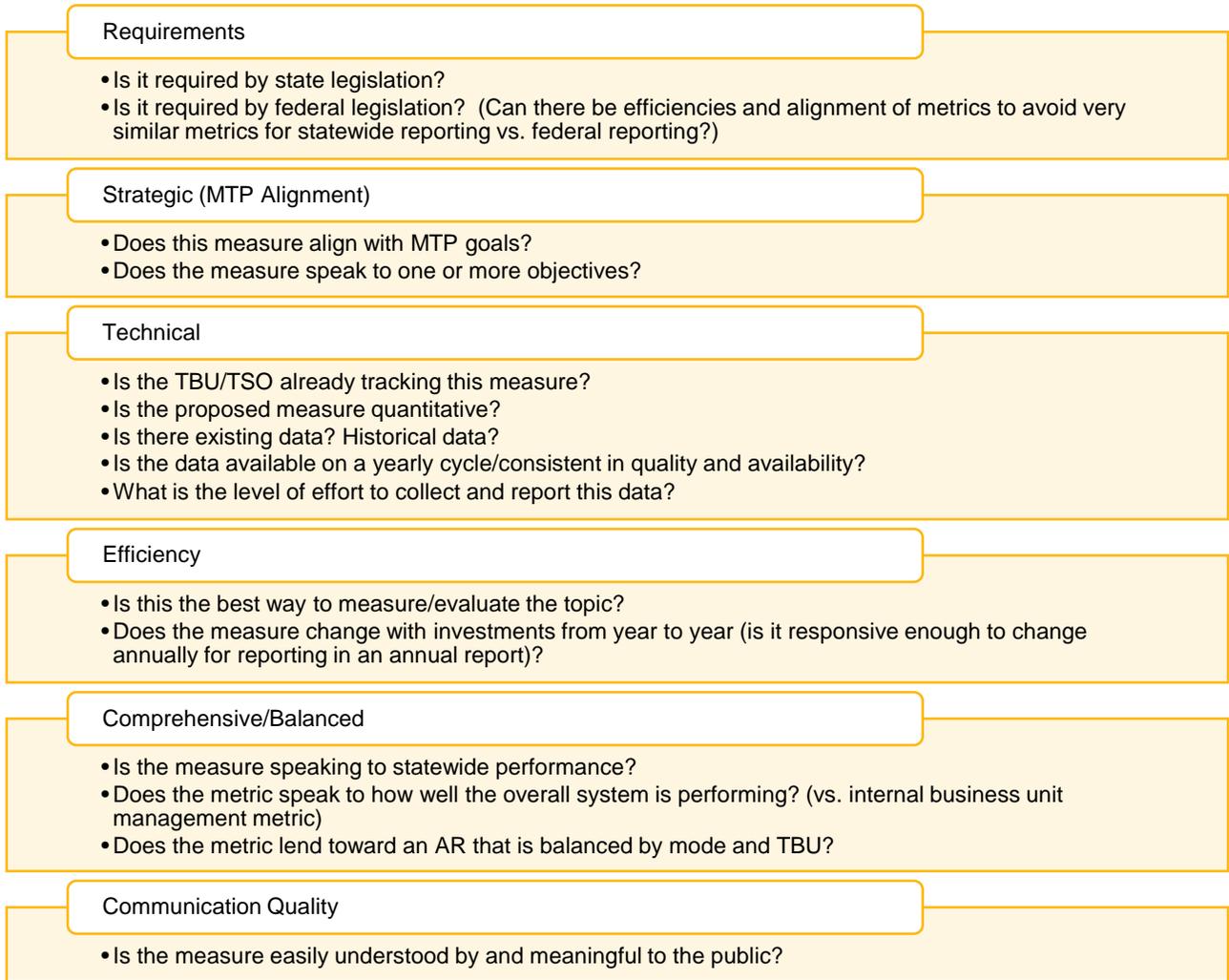
MDOT's mission is to be a "customer-driven leader that delivers safe, sustainable, intelligent, and exceptional transportation solutions in order to connect our customers to life's opportunities." In keeping with this mission, the 2040 MTP lists seven goals:

1. Ensure a Safe, Secure, and Resilient Transportation System
2. Maintain a High Standard and Modernize Maryland's Multimodal Transportation System
3. Improve the Quality and Efficiency of the Transportation System to Enhance the Customer Experience
4. Provide Better Transportation Choices and Connections
5. Facilitate Economic Opportunity and Reduce Congestion in Maryland through Strategic System Expansion
6. Ensure Environmental Protection and Sensitivity
7. Promote Fiscal Responsibility

Performance measures in the AR are used to assess progress toward the goals and objectives established in the 2040 MTP.

When considering performance measures, MDOT and the ARAC consider the requirements set forth in the Annotated Code. MDOT also considers national and regional demographic, economic, environmental and technological trends. For example the ARAC discussed the advance of new technologies affecting transportation, from ridesharing apps, to connected and autonomous vehicles, and how to consider the impacts of these technologies on transportation performance. As MDOT brings together all of the State's transportation agencies into one organization to work together seamlessly, 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 outcomes across the transportation system. MDOT also developed a set criteria to assist the ARAC in consideration of performance measures' applicability to the AR. Figure 1 breaks down that criteria by overall theme and relevant questions pertaining to that theme.

**Figure 2. Performance Measure Evaluation Criteria**



## 4.0 ARAC Performance Measures Recommendations by Goal

During the ARAC Meetings in March, April and May, MDOT and its team proposed a realignment of existing measures according to the new 2040 MTP Goals and Objectives. In a departure from the past format to the Attainment Report, MDOT and the ARAC considered how performance measures aligned by 2040 MTP Objective, in addition to by 2040 MTP Goal (in the past, measures were aligned by Goal only). The ARAC engaged in a discussion as to the alignment of the existing measures and which existing measures should be retained, modified, or removed from the 2019 AR. Detailed documentation of the ARAC feedback can be found through online links provided in Table 2, ARAC Meeting Summary. The consultant team conducted research in advance of each meeting to propose additional performance measures for the ARAC's consideration, and the ARAC was also asked to suggest measures for consideration.

The proposed measures that the ARAC has recommended for the 2019 AR, listed in Section 4.1, include existing measures, new measures (as indicated), modifications to measures, and narrative to consider for inclusion. New AR measures include newly developed measures as well as measures currently reported in the [MDOT Excellerator Quarterly Report](#), a report intended to drive business decisions through management of performance measures that correspond to ten tangible results for MDOT customers. Those measures that are recommended from the MDOT Excellerator indicate this after the measure title. A detailed matrix of the various MDOT performance measure reporting comparisons can be found in Table B1 in Appendix B in the MDOT Performance Reporting Comparison Matrix.

To the extent practicable, MDOT and the ARAC aimed to recommend at least one measure for every Objective. When this was not feasible, a narrative recommendation has been provided for MDOT's consideration.

Section 4.2 provides a list of measures that the ARAC has recommended for removal from the AR and the rationale supporting this recommendation. Section 4.3 includes a list of measures recommended for consideration in the future that are not expected to be ready for the 2019 AR. Section 4.4 includes a list of recommendations for formatting changes to the AR and the AR online Dashboard.

To the extent possible, the recommendations for new measures in the AR are drawn from existing measures being reported by MDOT and its TBUs. Measures that are new to the AR that are currently in the MDOT Excellerator quarterly performance report are indicated as such.



## 4.1 Proposed Measures by MTP Goal and Objective

### Goal: Ensure a Safe, Secure, and Resilient Transportation System

***Enhance the safety and security of Maryland's multimodal transportation system and provide a transportation system that is resilient to natural or man-made hazards.***

1. Objective: Reduce the number of lives lost and injuries sustained on Maryland's transportation system.
  - a. Annual number of traffic fatalities and personal injuries on all roads in Maryland
  - b. Annual number of bicycle and pedestrian fatalities and injuries on all Maryland roads
  - c. New measure: Number of transit passenger fatalities and injuries
2. Objective: Provide for the secure movement of people, goods, and data.
  - a. New measure: MDOT-wide overall perception of safety: crime and safe movement
  - b. Preventable accidents per 100,000 vehicle miles
  - c. Narrative recommendation: Qualitative discussion of current initiatives to address data security
3. Objective: Provide a resilient multimodal system by anticipating and planning for changing conditions, and hazards whether natural or man-made.
  - a. Narrative recommendation: Qualitative discussion of current initiatives to improve resiliency and address climate change, including resiliency efforts and vulnerability assessments
4. Objective: Improve roadway clearance times and facilitate efficient and coordinated responses to emergency and disaster events throughout the transportation system.
  - a. New measure: Average Time to Restore Normal Operations after a Weather Event – MDOT Excellerator 5.2b

### Goal: Maintain a High Standard and Modernize Maryland's Multimodal Transportation System

***Preserve, maintain, and modernize the State's existing transportation infrastructure and assets.***

1. Objective: Preserve and maintain State-owned or funded roadways, bridges, public transit, rail, bicycle and pedestrian facilities, ports, airports and other facilities in a state of good repair.
  - a. Percentage of the MDOT SHA network in overall preferred maintenance condition
  - b. Number of bridges and percent that are in poor structural condition, and (new measure component) number and percent of bridges that are weight-restricted (aka, posted) (MDOT Excellerator 2.7b/10.4) (Note, measure is calculated the same, but the measure title was revised to meet federal guidance).
  - c. Dredged material placement capacity remaining for Harbor and Poplar Island sites
  - d. New measure: Overall acceptable pavement condition – MDOT Excellerator 2.7c
  - e. New measure: Transit rolling stock within useful life benchmark (replaces measure: Average Fleet Age)

2. Objective: Strategically modernize infrastructure through new and innovative technology, enhanced partnerships, design standards, and practices to facilitate the movement of people and goods.
  - a. Average truck turn-around time at Seagirt Marine Terminal per container (this measure will be modified/replaced with a similar measure)
  - b. Percentage of State-owned roadway directional miles within urban areas that have sidewalks and percent of sidewalks that meet Americans with Disabilities Act (ADA) compliance (title to be maintained, but considerations as to what is included in compliance will be clarified in description).
3. Objective: Use asset management to optimize public investment and ensure the sustainability of transportation infrastructure.
  - a. Narrative recommendation: Discussion of MDOT's ongoing asset management initiatives

### **Goal: Improve the Quality and Efficiency of the Transportation System to Enhance the Customer Experience**

#### ***Increase the use of technologies and operational improvements to enhance transportation services and communication to satisfy our customers.***

1. Objective: Increase the efficiency of transportation services through partnerships, advanced technologies, and operational enhancements to improve service delivery methods.
  - a. MDOT MVA alternative service delivery transactions as percent of total transactions
  - b. Percent of toll transactions collected electronically (i.e. E-ZPass)
  - c. Narrative recommendation: Discussion on current use of partnerships, technologies and operational enhancements to improve service delivery methods
2. Objective: Enhance customer satisfaction with transportation services across all modes of transportation.
  - a. MDOT MVA metrics on transactions (typically in introduction section, these can be in this goal chapter or remain in introduction section)
  - b. MDOT MVA Branch office customer wait time versus customer satisfaction rating
  - c. MDOT MVA Branch office customer visit time versus customer satisfaction rating
  - d. New measure: Overall satisfaction with MDOT (new MDOT survey – MDOT Excellerator 1.1)
3. Objective: Minimize travel delays and improve predictability of travel times on Maryland's transportation system.
  - a. MDOT MTA Percent of service provided on time (this measure is slightly modified for scheduled service vs. headway-based/CityLink bus service)
  - b. Percent of VMT in congested conditions on freeways/expressways and arterials in Maryland during the evening peak hour
  - c. New measure: Annual hours (thousands) of delay on the MDOT highway network
  - d. New measure: Travel time reliability of the MDOT highway network
4. Objective: Apply enhanced technologies to improve communications with the transportation system users and to relay real time travel information.

- a. New measure: Customer satisfaction with the accuracy of real-time information systems provided – MDOT Excellerator 5.4b

## **Goal: Provide Better Transportation Choices and Connections**

### ***Improve transportation connections to support alternative transportation options for the movement of people and goods.***

- 1. Objective: Enhance, through statewide, regional and local coordination, transportation networks to improve mobility and accessibility.

- a. Total VMT and VMT per capita
- b. Transit ridership
- c. Number of Directional Miles improved for Bicycle Access  
Percentage of State-owned roadway centerline miles with a Bicycle Level of Comfort (BLOC) grade "D" or better (eventually will be replaced with a new Level of Traffic Stress (LTS) measure)

Objective: Increase and enhance multimodal connections to improve movement of people and goods within and between activity centers.

- d. New Measure: Access to Transit (Percent of population within walk/bike distance of fixed-route transit or multimodal center)
  - e. New Measure: Bicycle Access to transit
  - f. New measure: MDOT survey - Perceptions of multimodal connectivity
- 2. Objective: Inform and educate customers on transportation options and benefits.
    - a. Mode Share
    - b. Travel Demand Management; Transportation Emission Reduction Measures (TERMs) – Daily Reduction in Vehicle Trips - Table (existing park and ride measure to be incorporated into the table for this measure)
    - c. Travel Demand Management; Transportation Emission Reduction Measures (TERMs) –Estimated annual regional VMT reductions through TERMS
    - d. Narrative recommendation: Qualitative discussion of Travel Demand Management initiatives for the 2019 report

## **Goal: Facilitate Economic Opportunity and Reduce Congestion in Maryland through Strategic System Expansion**

### ***Invest in and pursue opportunities to promote system improvements that support economic development, reduce congestion, and improve the movement of people and goods.***

- 1. Objective: Pursue capital improvements to the transportation system that will improve access to jobs and tourism and leverage economic growth opportunities.
  - a. International cruises using the Port of Baltimore
  - b. BWI Total Annual Passengers

- c. New Measure: Change in Market Access due to Improvements in the Transportation Network – MDOT Excellerator 10.5
- d. New Measure: Change in Productivity due to Improvements in the Transportation Network – MDOT Excellerator 10.6
- 2. Objective: Improve the movement of goods within and through Maryland by investing in intermodal connections and improvements to reduce freight bottlenecks.
  - a. Freight originating and terminating in Maryland
  - b. Port of Baltimore foreign cargo and MDOT MPA general cargo tonnage
  - c. New Measure: Annual Hours of Delay for Trucks, and Truck Reliability Index
- 3. Objective: Strategically invest in expansion and operational improvements to reduce congestion along the multimodal transportation system.
  - a. Annual revenue vehicle miles of service provided (MDOT MTA)
  - b. New Measure: Annual cost of congestion (\$ billions) on the MDOT highway network

**Goal: Ensure Environmental Protection and Sensitivity**

***Deliver sustainable transportation infrastructure improvements that protect and reduce impacts to Maryland's natural, historic, and cultural resources.***

- 1. Objective: Protect and enhance the natural, historic and cultural environment through avoidance, minimization and mitigation of adverse impacts related to transportation infrastructure, including support for broader efforts to improve the health of the Chesapeake Bay.
  - a. Acres of wetlands or wildlife habitat created, restored or improved (Since 2000 or only 10 years) – MDOT MPA, SHA, etc.
  - b. New Measure: Water Quality Treatment to protect and restore the Chesapeake Bay – MDOT Excellerator measure PM 9.1. This measure tracks MDOT compliance with achieving impervious surface restoration as required by the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit
- 2. Objective: Employ resource protection and conservation practices in project development, construction, operations, and maintenance of transportation assets
  - a. New measure: Recycled/Reused Materials from maintenance activities and construction/demolition projects - MDOT Excellerator 9.2c
  - b. New Measure: Energy – Electricity consumption and renewable energy generation –MDOT Excellerator 9.3c (Conventional Energy Use)
  - c. New Measure: Energy – Electricity consumption and renewable energy generation – MDOT Excellerator 9.3d (Renewable Energy Generated)
- 3. Objective: Implement initiatives to reduce fossil fuel consumption, mitigate greenhouse gases, and improve air quality.
  - a. Transportation-related emissions by region
  - b. Transportation-related greenhouse gas emissions

- c. Compliance rate and number of vehicles tested for Vehicle Emissions Inspection Program (VEIP) versus customer wait time
- d. New Measure: Total EVs registered in Maryland [Recommend a density map of registrations and includes FHWA Alternative Fuel Corridors, and publicly available charging infrastructure (Item d., below)]
- e. New Measure: Total Publicly Available EV Charging Infrastructure

**Goal: Promote Fiscal Responsibility**

***Ensure responsible investment and management of taxpayer resources to add value and deliver quality transportation improvements through performance based decision-making and innovative funding mechanisms and partnerships.***

- 1. Objective: Accelerate project completion through improved and efficient use of alternative project delivery methods and strategic partnerships.
  - a. New Measure: Percent of projects completed by original contract date – MDOT Excellerator 4.3
- 2. Objective: Provide transportation services and solutions that maximize value.
  - a. Number of nonstop airline markets served
  - b. User cost savings for the traveling public due to incident management
  - c. Operating cost per revenue vehicle mile
  - d. MDOT MVA Cost per transaction
  - e. Airline cost per enplaned passenger (CPE)
- 3. Objective: Ensure a consistent revenue stream and ample financing opportunities.
  - a. Narrative recommendation: Qualitative discussion of P3 initiatives and other innovative solutions underway

**4.2 Measures Recommended for Removal from the AR**

Agency	Measure	Rationale
MDOT MAA	Rate of airfield ramp accidents	This measure is not particularly easy for the public to understand, data reporting has been changing in recent years due to the emphasis on safety which has led to the reporting of more incidents, this volatile reporting has made it difficult to track actual progress. Also, this metric does not align with the MTP objectives.
MDOT MAA	Number of repeat discrepancies in the annual Federal Aviation Administration's Federal Aviation Regulation inspection	MDOT is leaning away from metrics that speak to state or federal compliance requirements, and the agencies are committed to meeting these requirements already.

Agency	Measure	Rationale
<i>MDOT MAA</i>	Percent of BWI Marshall Airport customers rating the airport "good" or "excellent" on key services	To be replaced with one overall MDOT satisfaction measure.
<i>MDOT MAA</i>	Non-airline revenue per enplaned passenger (RPE)	The comparison airports data for RPE lags in availability for reporting by about 18 months, which always leaves a data gap in the metric for the current year. This metric does not align with the goals and objectives nor speak to the customer experience on the transportation system.
<i>MDOT MAA</i>	BWI Crime Rate	MDOT and the ARAC considered adding crime data across other TBUs, but found that this was not very practical nor strongly desired by TBUs/ARAC. As the MDOT Overall Safety survey result is recommended for addition, the ARAC found it reasonable to remove this TBU-specific measure.
<i>MDTA</i>	Overall customer satisfaction of E-ZPass® customers	To be replaced with one overall MDOT satisfaction measure.
<i>MDTA</i>	Overall customer satisfaction of E-ZPass® customers	To be replaced with one overall MDOT satisfaction measure.
<i>MDOT MTA</i>	MDOT MTA Customer satisfaction rating	To be replaced with one overall MDOT satisfaction measure.
<i>MDOT MTA</i>	Customer perceptions of safety	To be replaced with one overall MDOT safety survey measure.
<i>MDOT MTA</i>	Operating cost per passenger trip	With ridership dropping this measure looks worse because transit ridership is a component of the measure (Denominator). However, the cost increase per passenger trip is not due to cost-related changes, therefore, reporting this data can cause confusion. Ridership itself is already reported.
<i>MDOT MPA</i>	Revenue operating expense and net income	This measure could be reported for other TBUs, but it does not speak to the customer experience. Measure to be reported in Managing for Results (MFR) not AR, which is a more appropriate place for this type of business measure.
<i>MDOT MPA</i>	Intermodal Containers moved by Rail	At this time the MDOT MPA would like to remove this measure as the number is an estimate and is no longer considered adequate for AR reporting standards.
<i>MDOT MPA</i>	MDOT MPA compliance with the Maritime Transportation Security Act of 2002	MDOT is leaning away from metrics that speak to state or federal compliance requirements, and the agencies are committed to meeting these requirements already.

Agency	Measure	Rationale
MDOT SHA	Percent of compliance on erosion and sediment control ratings	This measure addresses an important issue, but the data is almost always the same (which is a near 100% rating). MDOT is leaning away from metrics that speak to state or federal compliance requirements, and the agencies are committed to meeting these requirements already.
MDOT SHA	Total fuel usage of the light fleet	This measure to be removed as the actions MDOT SHA has taken to reduce fuel usage have plateaued, making the measure relatively meaningless. Also, as construction increases due to capital projects, fuel usage increases.
MDOT SHA	Maryland driver satisfaction rating	To be replaced with one overall MDOT satisfaction measure.
MDOT SHA	Percent of roadway access permits issued within 21 days or less (after receipt of a complete application package)	This measure is no longer necessary as MDOT SHA has made recent changes that have been very successful, so that MDOT SHA has, and can expect to have nearly 100% of permits issued within this timeframe.
MDOT MVA	Percent of information system availability compared to total number of records maintained	This metric is always almost 100% and is not meaningful to the public. This metric does not address the objectives or meet AR selection criteria.
MDOT MVA	Percent of Homeland Security REAL ID Act benchmarks achieved	MDOT is leaning away from metrics that speak to state or federal compliance requirements, and the agencies are committed to meeting these requirements already.

**Table 3. Updated or Replaced Performance Measures**

Agency	Measure	Rationale
MDOT MTA	Average fleet age of transit revenue vehicles	This measure is being replaced by the measure, 'transit rolling stock within useful life benchmark', which is quite similar to the removed measure. The replacement measure is proposed for reporting in the AR as it is consistent with the MAP-21 and FAST-ACT requirements and there is an interest in aligning and consolidating measures.
MDOT MPA	Truck turnaround time	The 'truck turn time' measure is evolving. Trucking community isn't pleased with how long it is taking to get through the terminal now. Previously focused on how many boxes were moved. MPA's focus will now be on how long a truck is on the terminal by using RFID time when truck is at Security check point, which captures more of the queue before the gate building. The Port is also taking proactive steps to address congestion with Post-Panamax ships and 12 new Rubber-Tired Gantry (RTG) cranes, which will be able to move more containers at once, and recommended this information for inclusion in the AR.

Agency	Measure	Rationale
MDOT SHA	Percent of roadway miles with acceptable ride quality	The 'Ride quality measure is being replaced by Overall acceptable pavement condition.' The 'Ride quality' measure addresses only 1 of 4 components of pavement health. In addition to ride quality, cracking indicates a potential for potholes, which is a public concern. Rutting, which affects hydroplaning, and friction are important safety parameters.

### 4.3 Future Measures to Track

Potential New Future Measures – not expected ready for 2019 AR:

- Travel Demand Management (TDM) measure: Awareness and use of commuter assistance resources
- TDM Measure: Formal or informal telework arrangements by employer type; availability of flexible work schedules
- TDM Measure Percent of employers working with TDM programs that provide a transit benefit and/or number of employees using these benefits
- Percent of transit transactions made electronically
- Bicycle Level of Comfort (BLOC) measure – future measure in development as replacement
- Percentage of passengers who travel to BWI Airport via transit
- Water Quality Treatment: standardized measures of estimated performance for delivery of ecosystem services (e.g. drainage area treated or lbs. of pollution reduced)

### 4.4 Recommendations of the AR Report and Dashboard Format

Several recommendations were made regarding the way that the AR's information is presented. The recommendations include:

- Using graphics to indicate whether performance is on track
- Using graphics and language to show the desired direction of change
- Using the term "Highlights" to refer to measures selected for the dashboard
- Using innovative techniques to show the bigger picture, such as Story Maps
- Providing hyperlinks to policy documents pertaining to each measure
- The group proposed including national (or even international) data for perspective on the trends when there is a spike or significant change in performance

Also, consider acknowledging the ARAC members in the AR.



## Appendix A. Attainment Report Advisory Committee – Attendance

Table A1 lists the representation required per State regulation, along with the name, title, and organization of the appointed representative.

**Table A1 ARAC Required Representation and Actual Membership**

Required Representation	Representative	Representative Title	Organization	Meeting #1	Meeting #2	Meeting #3	Meeting #4	Meeting #5 (online)
Maryland Business Community	Christine Ross	President/CEO	MD Chamber of Commerce	X	X		X	X
Disabled Citizens Community	Janice Jackson	Commissioner	Maryland Commission on Disabilities	X	X	X	X	
Rural Interests	Geoff Turner	President/CEO	Choptank Transport	X	X			
Auto Users Group	Ragina Cooper Averella	Public & Gov't Affairs Manager	AAA	X	X	X	X	
Transit Users Group	Steve Chan	Chairman	MARC Riders Advisory Council	X	X	X	X	X
Goods Movement Industry	Louis Campion	President/CEO	MMTA	Mr. Campion had accepted the invitation to serve on the ARAC but was unable to attend meetings due to conflicts.				
	Geoff Turner	President/CEO	Choptank Transport	X	X			
National Expert: Transportation Demand Management	Nicholas William Ramfos	Director, Transportation Operations Programs	Metropolitan Washington Council of Governments	X	X	X		X
National Expert: Pedestrian/Bike Transportation	Jennifer L. Toole, AICP, ASLA	President	Toole Design Group	X			X	X
National Expert: Transportation Performance Management	Matthew H. Hardy, Ph.D.	Program Director for Planning and Policy	American Association of State Highway and Transportation Officials (AASHTO)	X		X		

Required Representation	Representative	Representative Title	Organization	Meeting #1	Meeting #2	Meeting #3	Meeting #4	Meeting #5 (online)
Environmental Advocacy Organization	Joel Dunn	President/CEO	The Chesapeake Conservancy	X	X		X	X
Maryland Department of Planning	Pat Keller	Assistant Secretary for Planning Services	Maryland Department of Planning	X	X	X	X	X
Maryland Association of Counties	Keith Hall, AICP	Chief, Long Range and Transportation Planning	Salisbury/Wicomico Co.	Mr. Hall had accepted the invitation to serve on the ARAC but was unable to attend meetings due to conflicts.				
	Alex Rawls	Long-Range Planner	Harford County Planning & Zoning	X	X	X	X	X
Maryland Municipal League	Jim Beauchamp	Town Council Vice President	Town of Centreville	X	X	X	X	X
	Tim Davis	Transportation Planner	City of Frederick	X	X	X	X	X

## Appendix B. MDOT Performance Reporting Comparison Matrix

The measures in the following Table B2 represent the performance measures reported as of April 2018, for the MDOT Excellerator, as in the Managing for Results (MFR) FY 2019, and as proposed by the ARAC for alignment with the 2040 MTP.

**Table B1**

MTP 2040 Goals and Objectives, and Excellerator Tangible Results PM# Where Applicable	Performance Measure	Proposed for 2019 AR	Reported in April 2018 Excellerator	Reported in the MFR
<b>Goal: Ensure a Safe, Secure, and Resilient Transportation System</b>				
3.2 - 3.5	Annual number and rate of traffic fatalities and personal injuries on all roads in Maryland	x	x	x
3.2-3.5	Annual number of bicycle and pedestrian fatalities and injuries on all Maryland roads	x	x	x
	Number of transit passenger fatalities and injuries	x		
	MDOT- wide overall perception of safety: crime and safe movement	x		
	Preventable accidents per 100,000 vehicle miles	x		
5.2b	New measure: Average Time to Restore Normal Operations After a Weather Event	x	x	
3.6	Number of Crimes Against Persons and Property Committed at MDOT Facilities		x	
3.7	Maryland Seat Belt Usage Rate		x	
3.8	Travelers Assisted by MDOT		x	
3.9	Number of Employees Trained Under National Incident Management System (NIMS)		x	
3.9	Number of Employee Lost Work Days Due to Injuries		x	
3.1	Number of Customer Incidents at MDOT Facilities		x	
	BWI Crime Rate			X
	Number of 16-20 year old driver's license holders			x
	Number of young (16-20) driver-related fatalities on all roads in Maryland			x
	Number of young (16-20) driver-related serious injuries on all roads in Maryland			
	Number of Patrol Hours Logged			x

MTP 2040 Goals and Objectives	Performance Measure	Proposed for 2019 AR	Reported in April 2018 Excellerator	Reported in the MFR
<b>Goal: Maintain a High Standard and Modernize Maryland's Multimodal Transportation System</b>				
	Percentage of the MDOT SHA network in overall preferred maintenance condition	x		x
2.7a/10.4	Number of bridges and percent that are in poor structural condition, and (new measure component) number and percent of bridges that are weight-restricted (aka, posted) (Excellerator 2.7b/10.4) (Note, measure is calculated the same but measure title revised to meet federal guidance).	x	x	x (2.7, not 10.4)
	Dredged material placement capacity remaining for Harbor and Poplar Island sites	x		x
2.7b	New measure: Overall acceptable pavement condition	x	x	x
	New measure: Transit rolling stock within useful life benchmark	x		
5.1b	Average truck turn-around time at Seagirt Marine Terminal per container	x		x
	Percentage of State-owned roadway directional miles within urban areas that have sidewalks and percent of sidewalks that meet Americans with Disabilities Act (ADA) compliance	x		
5.1a	Percentage of Tolls Collected as Cash		x	
	The total number of toll transactions (in thousands)			x
	Total Active E-ZPass® Accounts			x
	The percentage of E-ZPass® toll transactions			x
5.1e	Planning Time Index for Highway Travel		x	
5.2a	Average Time to Restore Normal Operations After Disruptions		x	
5.4a	Percent of Functional Real- Time Information Systems Provided		x	
5.4b	Customer Satisfaction with Helpfulness and Accuracy of Real- Time Systems Provided		x	
	System preservation funding levels in CTP (millions)	x		x
	Number of SHA lane-miles maintained			x
	SHA maintenance activity expenditures (millions)			x
	SHA maintenance activity expenditures per lane mile			x
	Preventative maintenance work order			x
	Corrective maintenance work order			x

MTP 2040 Goals and Objectives	Performance Measure	Proposed for 2019 AR	Reported in April 2018 Excellerator	Reported in the MFR
<b>Goal: Improve the Quality and Efficiency of the Transportation System to enhance the customer experience</b>				
5.3	MDOT MVA alternative service delivery (ASD) transactions as percent of total transactions	x		x
	Percent of toll transactions collected electronically (i.e. E-ZPass)	x		x
	MDOT MVA metrics on transactions (typically in introduction section, these can be in this goal chapter or remain in introduction section)	x		
5.1c	MDOT MVA Branch office customer wait time versus customer satisfaction rating		x	x
	MDOT MVA Branch office customer visit time versus customer satisfaction rating	x		x
1.1	New measure: Overall satisfaction with MDOT /Percent of Overall Customer Satisfaction(new MDOT survey)	x	x	
5.1d	MDOT MTA Percent of service provided on time (this measure is slightly modified for scheduled service vs. headway based/CityLink bus service)	x	x	x
	Percent of VMT in congested conditions on freeways/expressways and arterials in Maryland during the evening peak hour	x		x
	New measure: Annual hours (thousands) of delay on the MDOT highway network	x		
	New measure: Travel time reliability of the MDOT highway network	x		
5.4b	New measure: Customer satisfaction with the accuracy of real-time information systems provided	x	x	
1.2a	Average Number of Days for Correspondence in the MDOT IQ System		x	
1.2b	Percent of Customer Contact Responded to within 24 hours (One Business Day)		x	
1.3a	Percent of Abandoned Calls at Call Centers		x	
1.3b	Average Call Wait Times at Call Centers		x	
1.3c	Level of Satisfaction with Resolving Call Inquiries at Call Centers - Level of Satisfaction with Resolving Call Inquiries at Call Centers		x	
1.4	Customer Satisfaction with Interactions with MDOT Representatives		x	
1.5a	Percent of Customers Who Felt MDOT Websites Met Their Needs		x	
1.5b	Percent of Customers Who Felt that it was Easy to Find Desired Information on MDOT Websites		x	
6.1a	Social Reach			
6.1b	Social Engagement		x	
6.3a	Number of News Stories Generated from Major Releases		x	
6.3b	Earned Media Value of Print and Broadcast Coverage Generated by News Releases		x	
6.3c	Evaluate Tone of News Stories by Publications Generated from MDOT Releases		x	
6.4a	Audience for Proactive Stories Picked Up By Media		x	
6.4b	Audience for MDOT-Produced Proactive Content		x	
6.4c	Audience of Proactive Stories Published on Social Media		x	
6.4d	Interactions with Proactive Posts on Social Media		x	
8.1	Percent of MDOT Facilities that Meet or Exceed Our Neighbor's Expectations		x	
8.2	Percent of MDOT Facilities that are ADA Compliant		x	
8.3	Property Damage Claims		x	
8.3a	Number of Property Damage Claims		x	
8.b	Percent of Customers Satisfied with How Their Property Claim was Handled		x	
8.4	Number of Traffic Violations While Driving a State Vehicle		x	
	Percent of excellent/good BWI passenger rating			x
	Number of MVA walk-in transactions (millions)			x

MTP 2040 Goals and Objectives	Performance Measure	Proposed for 2019 AR	Reported in April 2018 Excellerator	Reported in the MFR
<b>Goal: Provide Better Transportation Choices and Connections</b>				
	Total VMT and VMT per capita	x		x
	Transit ridership	x		x
	Number of Directional Miles improved for Bicycle Access	x		
	Percentage of State owned roadway centerline miles with a Bicycle Level of Comfort (BLOC) grade "D" or better (to replace over time with a future measure Level of Traffic Stress (LTS) measure)	x		
	New Measure: Access to Transit (Percent of population within walk/bike distance of fixed route transit or multimodal center)	x		
	New Measure: Bicycle Access to transit	x		
	New measure: MDOT survey Perceptions of multimodal connectivity	x		
	Mode Share	x		
	Travel Demand Management; Transportation Emission Reduction Measures (TERMs) – Daily Reduction in Vehicle Trips Table (existing park and ride measure to be incorporated into the table for this measure)	x		
	Travel Demand Management; Transportation Emission Reduction Measures (TERMs) –Estimated annual regional VMT reductions through TERMS	x		

MTP 2040 Goals and Objectives	Performance Measure	Proposed for 2019 AR	Reported in April 2018 Excellerator	Reported in the MFR
<b>Goal: Facilitate Economic Opportunity and Reduce Congestion in Maryland through Strategic System Expansion</b>				
	International cruises using the Port of Baltimore	x		x
	Ports of Call			x
	Cruise passengers, embarking and debarking MPA's terminal			x
	Revenues related to cruise operations			x
	Direct Expenditures related to cruise operations			x
	BWI Passenger Growth Rate			x
	BWI Total Annual Passengers	x		x
10.5	New Measure: Change in Market Access due to Improvements in the Transportation Network	x	x	
10.6	New Measure: Change in Productivity due to Improvements in the Transportation Network	x	x	
10.3a	Freight originating and terminating in Maryland	x	x	
	MDOT MPA Containers (Loaded TEUs) (thousands)			
10.3c	Port of Baltimore foreign cargo and MDOT MPA general cargo tonnage	x	x	x
	New Measure: Annual Hours of Delay for Trucks, and Truck Reliability Index	x		
	Annual revenue vehicle miles of service provided (MDOT MTA)	x		
	New Measure: Annual cost of congestion (\$ billions) on the MDOT highway network	x		
7.1	Percentage of Minority Business Enterprise (MBE) Participation Achieved by Each TBU		x	
7.2	Number and Percent of Contracts Awarded to MBE Firms as the Prime Contractor		x	
7.3	Percent of Payments Awarded to Small Business Reserve (SBR) Contracts		x	
7.4	Percent of Veteran Owned Small Business Enterprise (VSBE) Participation		x	
7.5	Level of Satisfaction of Our Business Partners		x	
7.6	Number and Percent of Invoices Properly Paid to Partners in Compliance with State Requirements		x	
7.7	Number of MDOT Procurement Protests Filed and Percent of Protests Upheld by the Board of Contract Appeals		x	
10.1	Economic Return from Transportation Investment (Jobs Generated by Total Capital Program Construction Investments)		x	
10.2	Maryland's Ranking in National Transportation Infrastructure Assessment		x	
10.3b	Port of Baltimore International Cargo Market Share and Rankings		x	x (roro, forest products)

<b>Goal: Ensure Environmental Protection and Sensitivity</b>				
	New measure: Acres of wetlands or wildlife habitat created, restored or improved since 2000	x		
9.1	New Measure: Water Quality Treatment to protect and restore the Chesapeake Bay – Excellerator measure PM 9.1. This measure tracks MDOT compliance with achieving impervious surface restoration as required by the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit	x	x	
9.2c	New measure: Recycled/Reused Materials from maintenance activities and construction/demolition projects	x	x	
9.3c	New Measure: Energy – Electricity consumption and renewable energy generation –Excellerator 9.3c (Conventional Energy Use)	x	x	
9.3d	New Measure: Energy – Electricity consumption and renewable energy generation – Excellerator 9.3d (Renewable Energy Generated)	x	x	
	Transportation related emissions by region	x		
	Transportation related greenhouse gas emissions	x		
	Compliance rate and number of vehicles tested for Vehicle Emissions Inspection Program (VEIP) versus customer wait time	x		
	New Measure: Total EVs registered in Maryland [Recommend a density map of registrations and includes FHWA Alternative Fuel Corridors, and publicly available charging infrastructure (Item d., below)]	x		
	New Measure: Total Publicly Available EV Charging Infrastructure	x		
9.1c	Bay Restoration Program Spending		x	
9.2a	Office Waste Recycled		x	
9.2b	Non-Office Waste Recycled		x	
9.3a	Energy: Miles Per Gallon		x	
9.3b	Energy: Total Gallons Consumed		x	
	Percent of vehicles registered in the State that are alternative fuel, electric or hybrid-electric			x

MTP 2040 Goals and Objectives	Performance Measure	Proposed for 2019 AR	Reported in April 2018 Excellerator	Reported in the MFR
<b>Goal: Promote Fiscal Responsibility</b>				
4.3	New Measure: Percent of projects completed by original contract date – Excellerator 4.3	x	x	
	Number of nonstop airline markets served	x		x
	User cost savings for the traveling public due to incident management	x		x
	Operating cost per revenue vehicle mile	x		x
4.4j	MDOT MVA Cost per transaction	x	x	x
	Airline cost per enplaned passenger (CPE)	x		x
2.1	Percent Capital Dollars Spent as Programmed		x	
2.2	Percent of Projects Leveraging Other Funding Sources		x	
2.3	Employee Engagement		x	
2.4	Employee Turnover Rate		x	
2.5	Time to Fill Vacancies		x	
2.6	Percentage of Fixed Asset Units Identified or Accounted for During the Annual Physical Inventory of Fixed Assets		x	
2.7	Managing Capital Assets		x	
2.7c	Rating of Rail in "Good" Condition		x	
2.7d	Percent of Channel Segments with U.S. Army Corps of Engineers Inspection Surveys Less Than or Equal to 1 Year Old		x	
2.7e	Percent of Interstate Pavement in "Acceptable" Condition		x	
2.7f	Percent of Non- Interstate NHS Pavement in "Acceptable" Condition		x	
2.8	Percent of Procurements on Time and on Budget		x	
2.9	Percent and Value of Unanticipated Contract Modifications		x	
2.1	Relationship Between Procurement Competition and Cost		x	
2.11	Number of Internal Audit Findings and Number of Repeat Internal Audit Findings		x	x
2.12	Number of Legislative Repeat Audit Findings		x	x
2.13	MDOT Fleet Vehicle On-Time Preventive Maintenance		x	
4.1	Percent of Estimated Project Budget as Compared to Final Project Award		x	
4.2	Percent of Change for Finalized Contracts		x	
4.4a	Minor Road Resurfacing		x	
4.4b	Major Road Resurfacing		x	
4.4c	Interstate Resurfacing		x	
4.4d	Average Bridge Replacement Cost		x	
4.4e	Average Bridge Redecking Cost		x	
4.4f	Operating Cost Per Passenger Trip		x	x
4.4g	Passenger Trip Per Revenue Vehicle Mile		x	x
4.4i	Farebox Recovery Ratio		x	x
	MDTA debt service coverage ratio			x
	MDTA unrestricted cash balance at fiscal year-end (millions)			x
	MDTA legal coverage ratio (Rate Covenant)			x
	Percentage of MPA Operating Budget recovered by revenues			x
	MVA alternative service delivery transactions as percent of total transactions			x
	MVA operating expenditures (millions)			x
	MAA Percent revenue over operating expenses			x
	Bond coverage ratio of net revenues to maximum annual debt service			x

<b>Other Measures</b>				
	Average number of MBE investigated reports completed quarterly			x
	New/previously unusable acres developed for port operations since fiscal year 2000			x